KIWA INITIATIVE

Nature-based solutions for climate resilience

Kiwa Initiative Capacity Needs Assessment for Implementing Nature-based Solutions for Climate Change Adaptation

IN PARTNERSHIP WITH:

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L'Initiative Kiwa – Des Solutions fondées sur la Nature (SfN) pour la résilience climatique vise à renforcer la résilience au changement climatique des écosystèmes, des communautés et des économies des îles du Pacifique grâce aux Solutions fondées sur la Nature (SfN) en protégeant, en gérant durablement et en restaurant la biodiversité. Elle est basée sur un accès simplifié aux financements de l'adaptation au changement climatique et la conservation de la biodiversité pour les autorités locales, nationales, la société civile et les organisations régionales des Etats et territoires insulaires du Pacifique dont les trois territoires français. L'Initiative est financée par l'Union européenne (UE), l'Agence Française de Développement (AFD), Affaires mondiales Canada (GAC), le ministère des Affaires étrangères et du Commerce de l'Australie (DFAT) et le ministère des Affaires étrangères et du Commerce de la Nouvelle-Zélande (MFAT). Elle a établi des partenariats avec la Communauté du Pacifique (CPS), le Programme Régional Océanien de l'Environnement (PROE) et le bureau régional pour l'Océanie de l'Union Internationale pour la Conservation de la Nature (UICN). Pour plus d'informations : www.kiwainitiative.org

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The Kiwa Initiative – Nature-based Solutions (NbS) for Climate Resilience aims to strengthen the climate change resilience of Pacific Islands ecosystems, communities and economies through Nature-based Solutions (NbS) by protecting, sustainably managing and restoring biodiversity. It is based on creating easier access to funding for climate change adaptation and NbS for local, national authorities, civil society and regional organisations of Pacific Island countries and territories, including the three French overseas territories. The initiative is funded by the European Union, Agence Française de Développement, Global Affairs Canada, Australian Government Department of Foreign Affairs and Trade (DFAT) and New Zealand Ministry of Foreign Affairs and Trade (MFAT). The Kiwa Initiative has established partnerships with the Pacific Community (SPC), the Secretariat of the Pacific Regional Environment Programme (SPREP) and the regional office of the International Union for Conservation of Nature. More information is available at www.kiwainitiative.org

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Cover photo: Woman showing vanilla production in Papua New Guinea during the team visit of the Kiwa WISH+ project led by WCS. M.NICK © Kiwa Initiative 2023

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Abbreviations

ACP	African, Caribbean and Pacific
AFD	Agence Française de Développement
CCA	climate change adaptation
CROP	Council of Regional Organisations of the Pacific
CSO	civil society organisation
DRM	disaster risk management
DRR	disaster risk reduction
EbA	ecosystem-based adaptation
EQAP	Educational Quality and Assessment Programme
EU	European Union
EU PacTVET	European Union Pacific Technical and Vocational Education and Training on Sustainable Energy and Climate Change Adaptation
FFA	Forum Fisheries Agency
FNU	Fiji National University
FRDP	Framework for Resilience Development in the Pacific
FtF	face-to-face
GEDSI	gender equity, disability and social inclusion
GEF	Global Environment Facility
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IUCN	International Union for Conservation of Nature
JNAP	joint national adaptation plan
LITK	local, Indigenous and traditional knowledge
LMMA	Locally Managed Marine Area network
MEL	monitoring, evaluation and learning
MOOC	massive open online course
MPA	marine protected area
NAP	national adaptation plan
NbS	Nature-based Solutions
NGO	non-governmental agency
NVU	National University of Vanuatu
OCTs	overseas countries and territories
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation Development
PACRES	Intra-ACP Global Climate Change Alliance Plus Pacific Adaptation to Climate Change and Resilience Building
PEBACC	Pacific Ecosystem-Based Adaptation to Climate Change
PEUMP	Pacific-European Union Marine Partnership

PICs	Pacific Island countries
PICTs	Pacific Island countries and territories
PIFS	Pacific Islands Forum Secretariat
PNG	Papua New Guinea
PQF	Pacific Qualifications Framework
PRFRP	Pacific Regional Federation of Resilience Professionals
PRP	Pacific Resilience Partnership
PRS	Pacific Resilience Standards
RMI	Republic of the Marshall Islands
SPC	Pacific Community
SPREP	The Secretariat of the Pacific Regional Environment Programme
UN	United Nations
UNDP	United Nations Development Programme
USP	The University of the South Pacific
USP Pacific TAFE	USP Pacific Technical and Further Education
USP EU GCCA	USP European Union Global Climate Change Alliance
TA	technical assistance
ToT	training of trainers
TVET	technical vocational education and training
VIT	Vanuatu Institute of Technology
WCS	Wildlife Conservation Society
WWF	World Wildlife Fund

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- Fisheries Department, Tuvalu
- Agriculture Department, Tuvalu
- Environment Department, Tuvalu
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- Tookina Tribal Land Conservation Association, Solomon Islands
- Live and Learn, Tonga
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Members of the Kiwa Initiative Steering Committee meeting gathered in Suva, Fiji © Kiwa Initiative 2022

01 | EXECUTIVE SUMMARY

Mangrove planting with donors and partners during a visit of the Kiwa local project led by C3 in Raviravi, Vanua Levu, Fiji.
M.CHARLES © Kiwa Initiative 2023

1.1 Background

The Kiwa Initiative is a multi-donor programme that aims to strengthen the climate change resilience of Pacific Island ecosystems, communities and economies through Nature-based Solutions (NbS) by protecting, sustainably managing and restoring biodiversity. The Kiwa Initiative is designed to address the following challenges:

- Implementing NbS for climate change adaptation (CCA).
- Increasing the capacities of national and local authorities, civil society groups, international and local non-governmental organisations (NGOs) and regional organisations in Pacific Islands countries and territories (PICTs), including Timor-Leste, to access climate funding mechanisms.
- Mainstreaming NbS in local, national and regional policies.

The Pacific Community (SPC) and the Secretariat of the Pacific Regional Environment Programme (SPREP), in partnership with the International Union for Conservation of Nature (IUCN), are tasked with developing and delivering a joint capacity-building training programme to support PICTs to address challenges in the implementation of NbS for CCA. The Kiwa Initiative provides access to financing and technical assistance for the implementation of projects based on NbS at the local or regional level. In this way, it contributes to building the resilience of communities, ecosystems and economies of Pacific Island states and territories to climate change.

This assessment identifies the capacity-building needs and priorities of local and national public authorities and institutions, representatives from civil societies and communities, and NGOs from the 19 Kiwa-eligible PICTs[1] to:

1. Better develop, implement and monitor rights-based, gender-sensitive and socially inclusive NbS projects for CCA and biodiversity conservation.
2. Mainstream these NbS approaches in CCA and other relevant sectoral policies and strategic frameworks.

Consultations were undertaken in a highly participatory manner with detailed discussions at regional, national and subnational levels via in-country workshops (in Fiji, Kiribati, Palau, Solomon Islands, Tuvalu and Vanuatu – a regional spread of countries representing Melanesia, Micronesia and Polynesia, with a total of 133 participants across all Kiwa-eligible PICTs), surveys (153 participants from the 19 Kiwa-eligible PICTs) and interviews (23 key informants and an additional online community focus group of seven participants). Respondent-driven sampling was used to identify interview participants, and sampling continued until no further new data/information was being revealed. In total, 316 people (45% of whom identified as male, 53% as female, 2% non-binary/preferred not to say) participated in the various consultation processes.

1.2 Policy review

1.2.1 Status of implementation of NbS and resilience in the Pacific context

There has been a relatively thorough inclusion and integration of ecosystem and/or nature-based concepts and approaches into the regional and national policies, plans, strategies and legislation associated with CCA, disaster risk reduction (DRR) and biodiversity conservation in PICTs. While the regional policy review indicates that NbS is integrated into some Pacific regional frameworks as ecosystem-based approaches and biodiversity conservation, they are not necessarily integrated directly as NbS, including in the Pacific Islands Framework for Nature Conservation and Protected Areas (2020), the Framework for Resilient Development in the Pacific (2016), the complementary Pacific Resilience Standards (2021) and the Pacific Coral Reef Action Plan (2021). Although the Framework for Resilient Development in the Pacific does not contain direct references to NbS, it recognises and emphasises ecosystem and/or nature-based approaches to

1 Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, New Caledonia, Niue, Palau, Papua New Guinea, French Polynesia, Solomon Islands, Samoa, Timor-Leste, Tonga, Tokelau, Tuvalu, Vanuatu, and Wallis and Futuna.

addressing CCA and DRR in an integrated way. Furthermore, the implementation of the Framework for Resilient Development in the Pacific is guided by the Pacific Resilience Standards, which includes and integrates NbS both as a concept and terminology. Other prominent regional frameworks, however, such as Pacific Regional Education Framework 2018–2030, do not integrate NbS and/or ecosystem-based approaches.

Regional plans and policies place particular emphasis on community-based adaptation and consideration for local, Indigenous and traditional knowledge (LITK) and practices, and its links to natural resource management are highlighted. Various elements of LITK relevant to nature-based adaptation are included and are aimed at:

- Strengthening engagements with communities.
- Working closely with traditional governing and land tenure systems.
- Integration of LITK with science and modern approaches, documentation and storage of LITK.
- Conservation of indigenous agricultural crops, promoting traditional agroforestry practices for food security.
- Promoting LITK and practices for natural resource conservation and management, involving local communities for CCA/DRR planning and decision-making.
- Addressing capacity development needs of local communities to empower them to address climate change issues, people-centred approaches for CCA/DRR etc.

Two prominent areas associated with LITK for CCA appeared frequently across the various national frameworks, policies, plans and strategies:

- The implementation of actions in close consultation and engagement with local communities and their traditional governing systems.
- Land tenure systems and challenges associated with setting up protected areas for natural resource management and conservation.

1.2.2 National policy implementation of NbS for CCA

Several countries are specifically integrating NbS into their national adaptation plans (NAPs) and joint national adaptation plans (JNAPs), which should also promote NbS for CCA implementation. However, consultations and literature reviews illustrate that policy on its own does not lead to implementation. Key informant interviews found many PICTs have national policies and plans in place that integrate nature/ecosystem-based elements but do not have the resources to implement the policies. Mainstreaming NbS both as terminology and as a concept is an ongoing process. Some countries have commenced work on mainstreaming NbS into their national policies and plans. Prominent national policies, plans and strategies in PICTs that are relevant to CCA, DRR and biodiversity conservation include national adaptation plans, national biodiversity strategies and action plans (NBSAPs), climate change policies, DRR and disaster risk management (DRM) plans and JNAPs. Ecosystem and/or nature-based approaches and concepts are thoroughly included and integrated in all national CCA, DRR and biodiversity conservation plans. There are, however, no direct references to NbS as terminology. Fiji's NAP is a rare case where NbS is included as terminology for nature-based approaches to address climate change impacts. This is consistent with the findings from the online surveys. Most of the survey respondents indicated that NbS concepts have been integrated into prominent national policies and plans and a considerable number of respondents were also involved in the development and/or review of NbS-related plans and policies.

Both the interview and survey findings emphasised the importance of working with traditional governing systems to implement NbS initiatives. Working with the traditional governing systems will not only promote a sense of ownership of NbS initiatives among local communities but ensure sustainability of the interventions to create a more resilient society.

1.3 Main findings

A situational analysis was conducted to assess and evaluate the current internal and external factors that affect NbS implementation and mainstreaming.

The situational analysis revealed that almost all CCA-related policies analysed (international, Pacific regional and national) requested some degree of formal education to aid implementation. The survey results indicate that future capacity-building programmes should focus on formal education as the most effective and impactful means of capacity development. The impact of formal education is not limited to achieving project outcomes but also has tangible and measurable impacts on:

- An individual's career and employment prospects.
- Institutional/community development and organisational capacity.
- Achievement of subnational strategies and activities, and national and regional policy goals and implementation.
- An increase in institutional capacity and achievement of wider goals.
- Sustainability and long-term capacity development.

For any formal full or micro-qualifications or non-formal professional training courses developed or used, the following points need to be taken into consideration:

- NbS for CCA needs to be contextualised for local audiences.
- Course content needs to be closely aligned with identified needs/work responsibilities.
- Individuals must have opportunities to apply learning in practical assignments or in their jobs.
- Available training needs to be accessible to marginalised groups.
- Training needs to fit into broader development strategies – either for the institution, community or PICTs more broadly.
- Education and training are most effective when delivered face-to-face.
- With any training/educational delivery, the focus must be on learning rather than teaching. In community settings, pedagogical strategies such as cooperative learning, discovery learning, role plays and mutual instruction (peer-to-peer) – preferably in the field – are essential.
- Delivery of any training provision should be by a trained instructor who is aware of learning styles, pedagogies and methods of assessment.
- The literature survey highlighted that effective learning and teaching resources that incorporate discovery and peer-to-peer learning are highly effective for attaining the knowledge, skills and behaviours required for climate change adaptation in a Pacific context.
- In all cases, there should be some degree of quality control on the resources developed and the training provided.

In addition, linked to social inclusion elements are the prominence of traditional governing and customary land tenure systems, which define ownership and use of natural resources in the PICTs. It is important to work with both these related systems to enable successful and effective implementation of NbS for CCA in the PICTs. Capacity development of local village communities is essential for sustainable NbS initiatives and to mainstream nature-based initiatives in the local communities.

1.3.1 Findings per training modality

Formal education

The transformational contribution formal education can make to resilient development has yet to penetrate mainstream development thinking. The call to support regionally owned education and training provision at all levels, developed and accredited by the Pacific region, needs emphasising with development partners. This will ensure:

- Capacity development is sustainable, not relying on an ad-hoc project approach.
- Education and training provision is programmed and demand-driven, not simply a means of achieving project outcomes.
- Local capacity to build capacity is enhanced (education and training is delivered by local trainers from local institutions).
- NbS for CCA educational provision is grounded in a Pacific/local context.

Since 2014, formal educational structures initiated under the EU Pacific Technical Vocational Education and Training in Sustainable Energy and Climate Change Adaptation (EU PacTVET) project are the global "best practice" in terms of progress on vocational education for resilient development in the Pacific Islands region.

The needs-based development of regionally specific, accredited qualifications in the context of regional (as opposed to national) quality assurance is a game-changer for the Pacific region that the Kiwa Initiative can build on. This analysis concludes that future capacity-building programmes should build upon – and use – the existing formal educational provisions available from local institutions. Training could be delivered as regional qualifications, course units and micro-qualifications on a "cohort basis", which means on-demand, face-to-face or online delivery through various national and regional educational institutions and to a timeframe that suits project delivery. Where formal provision is offered, it is quality-assured by national government and/or regional accreditation processes.

The time is right for the Kiwa Initiative to usher in and support the new regionally accredited approach to educational provision, and certain activities can be undertaken by the Kiwa Initiative which support existing educational structures for quality-assured formal and non-formal (professional development) provision.

At the outset of this consultancy, education at primary and secondary level was not considered as primary and secondary students are not part of the direct targeted beneficiaries. However, resilience education at primary and secondary school levels needs immediate attention in most PICTs to build community awareness and capacity development, and to promote the transmission of appropriate LITK, potentially also through formal education, especially at the primary level.

Non-formal education

Public and community education (i.e. non-formal education and training) related to ecosystem-based adaptation, disasters and climate change, water management, fisheries, forest restoration, agricultural extension, invasive species, etc., take place through alerts, short courses and workshops effected by government, international organisations, NGOs and civil society organisations. Non-formal training is an excellent means of achieving project outputs and outcomes, and through a "training-of-trainers" approach, it can train many community members in awareness and specific subject areas/skills over short project timeframes. However, non-formal training is not sustainable after the completion of the project cycle, generally has no quality control and does not genuinely build individual or local institutional capacities.

More effort also needs to be placed on sharing non-formal learning resources. Many projects in the Pacific have a capacity development component, with associated training and capacity-building technical assistance. Resources need to be made available for others to use and build upon, if relevant. This could be a development partner reporting requirement, and the collation of learning resources could be a role for the Pacific Climate Change Centre portal.

1.4 Challenges and barriers to implementation

1.4.1 Lack of human capacity

Based on the literature review and survey responses, lack of skilled human capacity at all levels to enable resilient development is a long-term issue. Decades of ad-hoc, project-based training, with no quality assurance, has assisted project outcomes, particularly regarding community activities, but has not built local capacity – either in terms of improved local capacity for training provision or in terms of skilled human capacity for resilient development. It has also contributed to the current lack of capacity for implementing NbS for CCA initiatives and mainstreaming NbS for CCA into related policies. Expertise in implementing NbS for CCA education and training (particularly non-formal training) in PICTs is variable both across and within countries, with a lack of trained trainers being a key issue.

1.4.2 Challenges and barriers to implementation of NbS projects for CCA

The assessment highlighted a lack of implementation of NbS for CCA initiatives across the region, particularly around targets outlined in the Sustainable Development Goals, the Sendai Framework, the Framework for Resilient Development in the Pacific and NAPs. It is also clear that there is a need for greater awareness among high-level decision-makers about how NbS can fulfil various aspects of policy implementation.

Consultations illustrated several barriers to implementation, including:

- A lack of localisation and implementation of CCA-related policies.
- Limited finance and funding for creating enabling policy environments rather than on implementation at the local level.
- Short project timeframes (less than five years).
- Lack of long-term monitoring and evaluation of NbS initiatives.
- Lack of understanding and capacity to carry out cost–benefit analysis of NbS for CCA initiatives.
- Failure to consider the critical role of traditional governance and customary tenure systems in enabling successful and sustainable NbS initiatives.

1.4.3 Challenges and barriers to implementation of capacity-building activities for NbS

The literature review and survey responses highlighted that specific barriers and challenges to capacity development for effective implementation of NbS for CCA and mainstreaming included:

- A lack of local trained trainers to deliver general awareness training on NbS for CCA.
- A lack of local context for NbS (links with LITK need to be highlighted).
- Past lack of sustainable educational provision (a short-term, project-based approach to training).
- Lack of implementation of NbS initiatives as the link between these initiatives and the achievement of policy outcomes has not been made by decision-makers.
- Lack of financing for sustainable capacity development initiatives and lack of engagement with local educational systems.
- Lack of DRR/CCA/biodiversity and related NbS policy implementation with regard to policy-requested educational provision.
- Lack of gender equality and social inclusion in training and educational provision.
- Lack of formal upskilling of stakeholders with practical skills for NbS implementation, project management, and monitoring and evaluation.

1.5 Main recommendations per identified categories of stakeholders

Based on the results of the regional consultation, the following stakeholder categories and recommendations per capacity-building objective have been identified:

Objective 1: Better develop, implement and monitor rights-based, gender-sensitive and socially inclusive NbS projects for CCA and biodiversity conservation.	
Identified stakeholder group	**Main recommendations for capacity building**
NbS managers Those involved in planning, monitoring and management of NbS for CCA projects and programmes	For management-level personnel, expertise would need to be bolstered in all areas of NbS for CCA project development and management, such as reporting, community development process, financial management, cost–benefit and socioeconomic analysis, work and process planning, awareness of NbS standards/criteria, and monitoring and evaluation, including effective integration of qualitative approaches for gender equity, disability and social inclusion, and access to finance for NbS for CCA.
NbS technical personnel Those involved in grassroots implementation of NbS for CCA activities	Technical personnel are critical for leading the community implementation of NbS for CCA activities. Specific focuses are required in subject areas related to forestry, agriculture, fisheries and local, Indigenous and traditional knowledge.
Objective 2: Mainstream these NbS approaches in CCA and other relevant sectoral policies and strategic frameworks	
Identified stakeholder group	**Main recommendations for capacity building**
Decision-makers High-level decision-makers at national and local levels	Among high-level decision-makers, there needs to be awareness-raising around NbS for CCA mainstreaming into policies, strategies and planning, and implementation of NbS-related policies. This would include presenting socioeconomic advantages of NbS interventions, highlighting the role of healthy ecosystems in achieving various policy objectives, highlighting the importance of NbS to resilient communities, and documenting Pacific NbS lessons learnt to promote successful interventions and role in policy implementation.
Communities PICTs community members	For community members, contextualising the terminology and criteria around NbS with local examples would emphasise the relevance and highlight the complementarity of longstanding traditional practices, knowledge and ways of knowing, including traditional governance systems.

1.5.1 Specific recommendations for local Indigenous traditional knowledge, gender equity and social inclusion, and community empowerment

Local, indigenous and traditional knowledge

Most respondents felt it would be difficult for local communities to understand NbS as a specific framework and terminology. However, contextualising NbS in terms of LITK would enable local communities to comprehend the concept, particularly due to its strong links with traditional natural resource management systems. A major component of informal learning for many PICTs communities is through traditional/Indigenous knowledge, wisdom and values transmitted intergenerationally and/or through mentoring. This analysis highlighted that LITK is extremely important for presenting NbS in a Pacific context, and any capacity development intervention involving NbS for CCA must include the contribution of this form of learning.

Gender equity, disability and social inclusion

Gender equity, disability and social inclusion (GEDSI) is an emerging theme across various sectors in PICTs, particularly the fisheries sector. GEDSI elements are prominent in both regional and national policies, plans and strategies, however, implementation is lacking, and they are not yet prominent in NbS programmes. There is limited capacity to carry out GEDSI integration in NbS programmes, and there is a corresponding need for extensive tools and capacity development in this area. Online surveys on GEDSI and NbS indicate less than 50% of the respondents were aware of GEDSI elements in national plans and policies related to NbS. As such, there is a need for awareness of GEDSI and its links to NbS concepts and ideas.

Sustainability and community empowerment

The long-term sustainability of NbS projects in the Pacific is challenging. Most NbS projects are supported through short funding cycles, and interventions are not sustained beyond the timeframe of the project. Therefore, the need for community-based holistic approaches to ensure the existence of NbS interventions beyond the life of projects is crucial. Capacity development of key national and local community stakeholders through sustainable, quality-assured education/training aligned with the NbS interventions will promote ownership and empower Pacific communities to sustainably implement and manage NbS projects after the completion of the project cycle that implemented them.

1.6 Recommended activities

Based on interviews, reviews and survey findings, a "menu" of 11 activities has been devised. These activities represent what is needed across the region. Activities 1, 3, 6, 7, 8, 9 and 11 are highlighted as achievable for the Kiwa Initiative capacity-building programme in terms of budget available and timeframe and building on previous efforts and resources currently available in PICTs. All activities identified would have some impact as standalone initiatives. Specific activities are suggested for each identified stakeholder group (technicians, managers, communities and decision-makers) and operate over short-, medium- and long-term timeframes.

The 11 individual activities on the menu work together in a way that will:

1. Provide information to high-level stakeholders in order to mainstream NbS for CCA into policies, strategies and plans.
2. Raise awareness in communities about NbS for CCA and links to LITK.
3. Upskill management and technical stakeholder groups in priority identified needs via formal courses/non-formal professional training.
4. Provide a training-of-trainers (ToT) approach to non-formal upskilling of management, technical and community stakeholders.
5. Provide a long-term solution for improving community adaptive capacity via relevant education in schools.

Consistency and quality of educational/training provision will be provided by Activity 8 and Activity 9. By embedding NbS for CCA capacity development into existing educational structures, Activities 8 and 9 will provide sustainable outcomes for NbS for CCA that will outlive the project-cycle of the Kiwa Initiative capacity-building programme.

Menu of activities for capacity development and mainstreaming NbS for CCA

TIMEFRAME	BUDGET RANGE (EUR) (Based on local consultant fees charged by PICT national/regional universities)	TARGET BENEFICIARIES	ESTIMATED IMPACT FOR PROJECT DEVELOPMENT AND IMPLEMENTATION	ESTIMATED IMPACT FOR MINSTREAMING NBS	EXPECTED OUTCOMES
Activity 1: Develop learning and teaching resources for primary schools and community use without re-inventing the wheel. Re-develop effective learning resources to specifically place NbS for CCA in a Pacific context (priority themes are proposed in the full report). Distribute and use these resources to raise awareness at various levels.					
3–6 months	Updating existing resources = EUR 4,000 per country Developing new resources = EUR 6,000 per country	Communities Practitioners	++	+	Raised awareness in communities about NbS for CCA and links to local, Indigenous and traditional knowledge (LITK). Provision of a long-term solution for improving community adaptive capacity via relevant education in schools.
Activity 2 (optional): Create an inventory/database of local, trained teachers and trainers available to assist with formal education and non-formal awareness raising on NbS for CCA.					
3 months	Consultancy for 15 days over 3 months = EUR 7,500	Practitioners Communities	+	+	Provide a training-of-trainers (ToT) approach to non-formal up-skilling of management, technical and community stakeholders.
Activity 3: Training-of-trainers programme – Train trainers and assessors formally so they are accredited at Certificate IV level, and trained in work-based assessment. Or, non-formal professional development training-of-trainers to assist with community awareness raising.					
7–9 months for online on a cohort basis 2 months if full time face-to-face	Online delivery = EUR 1,000 per student + EUR 500 for bursary to cover associated expenses Face-to-face delivery for in-country cohort= EUR 6000 per person	Practitioners	++	++	Increased awareness in communities about NbS for CCA and links to LITK through provision of a training-of-trainers (ToT) approach to non-formal up-skilling of management, technical and community stakeholders.
Activity 4: Mainstreaming activity – Analysis of the alignment of PICT school curricular with national and regional policies related to resilient development, including NbS for CCA.					
3–8 months	Analysis per country = EUR 6,000 114,000 for all 19 Kiwa countries and territories	Communities	+	+	Provision of a long-term solution for improving community adaptive capacity via relevant education in schools.
Activity 5: School curricular redesign in line with national and regional policies related to resilient development, and implementation of curricula, including teacher training.					
7 years (after Activity 4)	Depends on results of Activity 4	Communities	+++	++	Provision of a long-term solution for improving community adaptive capacity via relevant education in schools.
Activity 6: Mainstreaming activity – Awareness raising for decision-makers. A variety of options are included such as a MOOC, executive course, online conference, face-to-face conference.					
3–12 months	MOOC development = EUR 40,000 Online conference = EUR 1,000 Face-to-face event = EUR 3,000 (more if regional event with travel)	High-level decision-makers	+	+++	Provision of information to high-level stakeholders in order to mainstream NbS for CCA into policies, strategies and plans.
Activity 7: Awareness raising for communities – A variety of options include face-to-face/peer-to-peer learning (incorporating LITK), online resources (MOOC), social media.					
3–12 months	MOOC development = EUR 40,000 Social media campaign = EUR 5,000 (more if done by consultants) Trainer visits to communities = EUR 2,000 per community visited	Communities	++	+	Increased awareness in communities about NbS for CCA and links to local, Indigenous and traditional knowledge (LITK).
Activity 8: Integrating NbS for CCA into Regional Certs II–VI Resilience qualification learning resources and qualification delivery.					
3 months for updating Certs I–IV 12 months for updating Certs V and VI 12 months for delivery to student cohort Total timeframe of 2.5 years	Updating Certs I–IV = EUR 40,000 Delivery online = EUR 2,000 per student Delivery face to face = EUR 8,000	Managers Practitioners Communities	++	++	Upskilling of management and technical stakeholder groups in priority identified needs via formal courses/non-formal professional training. Provision of training-of-trainers approach to non-formal up-skilling.
Activity 9: Developing and delivering micro-qualifications or professional short courses.					
3–6 months for update of existing micro-qualifications 12–18 months to develop new micro-qualifications 3–26 months for delivery	Update of existing qualification = EUR 3,000 Student fees = EUR 150–600 Cost for developing new qualification = EUR 7,000	Managers Practitioners Communities	++	++	Upskilling of management and technical stakeholder groups in priority identified needs via formal courses/non-formal professional training. Provision of training-of-trainers approach to non-formal up-skilling.
Activity 10: Develop TVET NbS for CCA regional qualifications (Regional Certificates I–VI in NbS for Climate Change) and related learning and teaching resources.					
12–24 months for Certs I–VI 9–12 months for development of new resources 12 months for delivery to student cohort Total timeframe = 36 months	Development of certificates I–IV = EUR 150,000 Development of learning resources = EUR 60,000 Delivery online = EUR 2,000per student Delivery face-to-face = EUR 8,000	Managers Practitioners Communities	++	++	Upskilling of management and technical stakeholder groups in priority identified needs via formal courses/non-formal professional training. Provision of training-of-trainers approach to non-formal up-skilling.
Activity 11: Cohort training for management and technical stakeholder groups.					
3 months for existing micro-qualifications and professional short courses; 6 months for existing certificate-level courses; 6–24 months for development and delivery of new qualifications/professional courses.	Online delivery = EUR 1,000 per student + EUR 500 for bursary Face-to-face delivery for in-country cohort= EUR 6000 per person	Managers Practitioners Communities	+++	+++	Upskilling of management and technical stakeholder groups in priority identified needs via formal courses/non-formal professional training. Provision of training-of-trainers approach to non-formal up-skilling.

Based on the consultation results and analysis of the consultancy team, the Kiwa Initiative is encouraged to focus on the following ACTIVITIES: 1, 3, 6, 7, 8, 9, 11

02 | INTRODUCTION

Site of a Kiwa local project led by LAMACCA in Vanuatu © Kiwa Initiative 2023

The Pacific Island countries and territories (PICTs) are extremely vulnerable to the impacts of climate change and other disasters, including cyclones, floods, droughts, sea-level rise, coastal erosion, saltwater intrusion, coral bleaching, earthquakes and tsunamis (Jentsch et al. 2007; Simpson et al. 2009; Veitayaki et al. 2021). Each year these small island nations suffer severe economic losses as a result of the above-mentioned disasters, which cause damage to housing, infrastructure, and the agriculture, fisheries and tourism industries (Holland 2009; Chandra and Gaganis 2016; Weir et al. 2017; Veitayki et al. 2021).

Addressing these challenges calls for an integrated approach that reduces trade-offs and promotes synergies across the interdependent issues. Using Nature-based Solutions (NbS) for climate change adaptation (CCA), biodiversity protection and human well-being is one such strategy (Seddon et al. 2020). Taking an integrated approach to those areas identified as intersecting with NbS for CCA will allow related actions to be included in needs assessments (e.g. forestry activities based on mitigation or fisheries management for biodiversity). This approach is being adopted to ensure silos are broken down and no area that can benefit from the use of NbS for CCA is excluded at this stage.

According to the International Union for Conservation of Nature (IUCN), "Nature-based Solutions address societal challenges through the protection, sustainable management and restoration of both natural and modified ecosystems, benefiting both biodiversity and human well-being. Nature-based Solutions are underpinned by benefits that flow from healthy ecosystems. They target major challenges like climate change, disaster risk reduction, food and water security, biodiversity loss and human health, and are critical to sustainable economic development."[2] Similarly, the UN Environment Assembly[3] defines the concept of NbS as actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems and calls for more collaboration and resources.

The use of NbS is particularly suitable in the PICT context since it places emphasis on participatory community-based adaptation, taking into account the social, economic and cultural elements for sustainable management of natural systems as part of an overall adaptation strategy (SCBD 2009; Seddon et al. 2020). Capacity development of and engagement with local communities to implement NbS for CCA projects will encourage inclusive approaches, promoting sustainability and more resilient systems. Capacity development is about transformations that empower individuals, leaders, organizations and societies. If change is not generated, guided and sustained by those whom it is meant to benefit, then it cannot be said to have enhanced capacity, even if it has served a valid development purpose.

Introduction of the Kiwa WISH+ project led by WCS to the communities in Dama, Fiji. W.NAISILISILI © Kiwa Initiative 2023

2 https://www.iucn.org/our-work/nature-based-solutions

3 https://www.unep.org/resources/resolutions-treaties-and-decisions/UN-Environment-Assembly-5-2#:~:text=Resolution%205%20defines%20the%20concept,for%20more%20collaboration%20and%20resources

2.1 Kiwa and NbS for CCA

The Kiwa Initiative[4] is a multi-donor programme that aims to strengthen the climate change resilience of Pacific Island ecosystems, communities and economies through NbS by protecting, sustainably managing and restoring biodiversity. The Kiwa Initiative is designed to address the following challenges:

- Implementing NbS for CCA.
- Increasing the capacities of national and local authorities, civil society groups, international and local non-governmental organisations (NGOs) and regional organisations in PICTs, including Timor-Leste, to access climate funding mechanisms.
- Mainstreaming NbS in local, national and regional policies.

The Pacific Community (SPC) and the Secretariat of the Pacific Regional Environment Programme (SPREP), in partnership with IUCN, are tasked with developing and delivering a joint capacity-building training programme to support PICTs to address challenges in the implementation of NbS for CCA. The Kiwa Initiative provides access to financing and technical assistance for the implementation of projects based on NbS at the local or regional level. In this way, it contributes to building the resilience of communities, ecosystems and economies of Pacific Island states and territories to climate change.

This assessment identifies the capacity-building needs and priorities of local and national public authorities and institutions, representatives from civil societies and communities, and NGOs from the 19 Kiwa-eligible PICTs[5] to:

1. Better develop, implement and monitor rights-based, gender-sensitive and socially inclusive NbS projects for CCA and biodiversity conservation.
2. Mainstream these NbS approaches in CCA and other relevant sectoral policies and strategic frameworks.

2.2 Methodology

2.2.1 Scope of work

A situational analysis was conducted to assess and evaluate the current internal and external factors that affect NbS implementation and mainstreaming. Consultations were undertaken in a highly participatory manner with detailed discussions at regional, national and subnational levels via in-country workshops (in Fiji, Kiribati, Palau, Solomon Islands, Tuvalu and Vanuatu – a regional spread of countries representing Melanesia, Micronesia and Polynesia, with a total of 133 participants across all Kiwa-eligible PICTs), surveys (153 participants from the 19 Kiwa-eligible PICTs) and interviews (23 key informants and an additional online community focus group of seven participants). Respondent-driven sampling was used to identify interview participants and sampling continued until no further new data/information was being revealed. In total, 316 people (45% of whom identified as male, 53% as female, 2% non-binary/preferred not to say) participated in the various consultation processes.

2.2.2 Key stakeholders and actors

The numerous stakeholders and actors participating in the capacity needs assessment fall broadly into the following categories.

- National government: representatives from relevant ministries and departments, including Home Affairs, Education, Employment, Environment, Forestry, Fisheries, Agriculture, Climate Change, Disaster Management and Tourism.
- Subnational/community: representatives from Provincial, District and Municipality offices, and community representatives from local villages involved in NbS programmes.
- Council of Regional Organisations in the Pacific (CROP) agencies, international agencies and development partners: representatives from regional agencies that implement CCA programmes, including SPC, SPREP, the Pacific Islands Forum Secretariat (PIFS), Forum Fisheries Agency (FFA), University of the South Pacific (USP), UN agencies and donors.
- Civil society organisations (CSOs): representatives from prominent CSOs working in the area of NbS in the Pacific region, including IUCN, Wildlife Conservation Society (WCS), World Wildlife Fund (WWF), Women in Fisheries (Fiji-based), Locally Managed Marine Area (LMMA) Network, church groups (as many churches have access to land and water resources),

4 https://kiwainitiative.org/en/about-kiwa-initiative;

5 Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, New Caledonia, Niue, Palau, Papua New Guinea, French Polynesia, Solomon Islands, Samoa, Timor-Leste, Tonga, Tokelau, Tuvalu, Vanuatu, and Wallis and Futuna.

special interest groups (gender, youth, disability), training and educational institutions, academia, and regional CSOs and NGOs.

- Others: representatives from the Pacific Resilience Partnership (PRP).

2.2.3 Activities

A literature review was undertaken to review existing policies and frameworks related to NbS for CCA at the regional and national levels, research on capacity development (formal, non-formal and informal) for NbS at regional and national levels, and existing relevant NbS for CCA educational provision.

In-country consultative workshops for selected PICTs (Fiji, Kiribati, Palau, Solomon Islands, Tuvalu, Vanuatu, with 133 participants across all countries) brought together key relevant national and local stakeholders to:

- Share and exchange information and lessons learned on past and present NbS-related interventions.
- Identify the main players and respective roles to ensure inclusiveness in mainstreaming NbS for CCA.
- Identify challenges and gaps that are hindering effective progress for such interventions at all levels.
- Explore options to firstly identify local training providers and map out recommendations to pave the way forward for each country.

Key informant interviews and online surveys were carried out across the Kiwa PICTs to complement the consultative process.

From the initial stakeholder list provided by the Kiwa Secretariat, SPC and SPREP, and the consultants holding in-country consultations, respondent-driven sampling was used until information saturation was reached.

Interviews

Stakeholders from various PICTs and CROP agencies were interviewed to obtain information on NbS for CCA in the PICTs. The 31 interviewees, 15 women and 16 men, were from 12 PICTs and three CROP agencies, SPC, SPREP and USP (Figure 1).

Online survey

A total of 108 (46% men and 52% women) responses were received for the NbS for CCA online surveys. Most respondents were greater than 40 years old. Between 12–19% of the respondents were from Palau, Fiji, New Caledonia and Tuvalu. Less than 5% of respondents represented the remaining PICTs, and 8% of the respondents did not disclose information on the countries they represented. Most respondents (greater than 25%) were affiliated with NGOs/CSOs and national governments, with less than 10% from

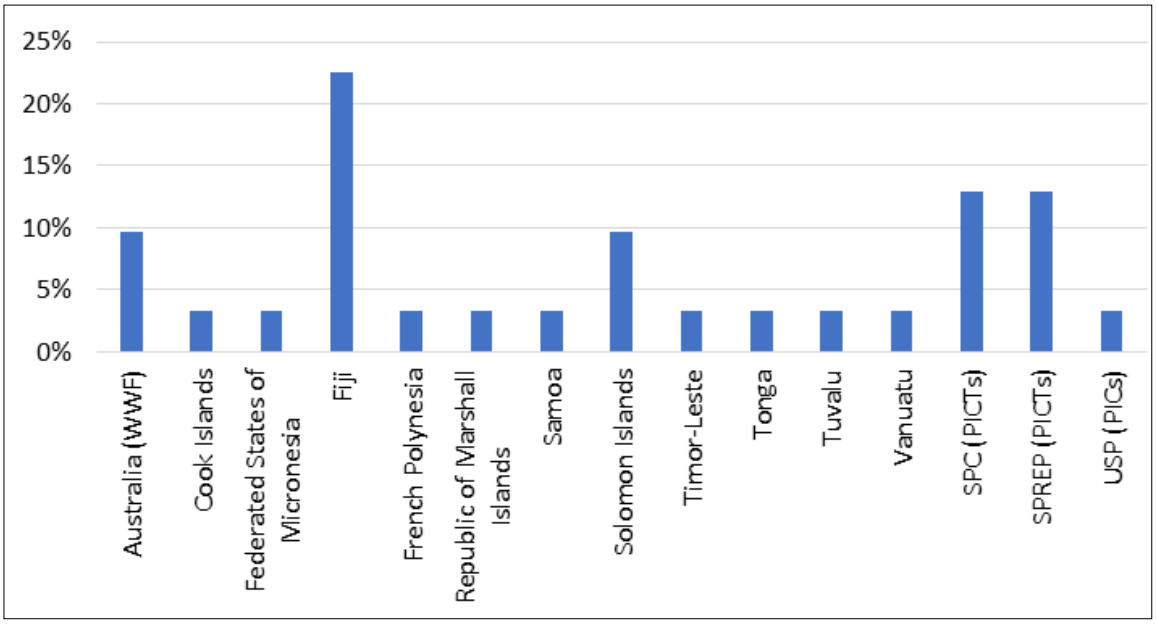


Figure 1: Interviewees were from 12 PICTs and three CROP agencies: SPC and SPREP, which work in 19 PICTs, and USP which works with 12 PICs.

local governments, local community, the UN and other intergovernmental agencies, and less than 5% from the private sector, university and research organizations, CROP agencies and others.

Survey on gender equity, disability and social inclusion and nbs

A total of 45 (49% men and 49% women) responses were received for the gender equity and social inclusion (GEDSI) and NbS online surveys. Most respondents were greater than 40 years old. Most respondents for the GEDSI and NbS survey (greater than 25%) were affiliated with national governments and NGOs/CSOs, with less than 10% from the UN and other intergovernmental agencies, local community, local government, CROP agencies, university and research organisations, private sector and others.

Capacity development needs assessment

Capacity development needs and priorities were assessed for the identified stakeholders at individual, institutional and systematic levels. The assessment covered various aspects of developing human capacity, formal, non-formal and informal learning relevant to NbS, and the facilitation of that learning. These included:

- Training modalities and requirements for successful learning outcomes, e.g. provision of trained trainers and effective learning and teaching resources.
- The preference for formal education/qualifications identified by stakeholder groups.
- Accreditation
- Where/how training can be provided – existing expertise and accredited provision at validated PICT institutions.

Development of capacity-building activities

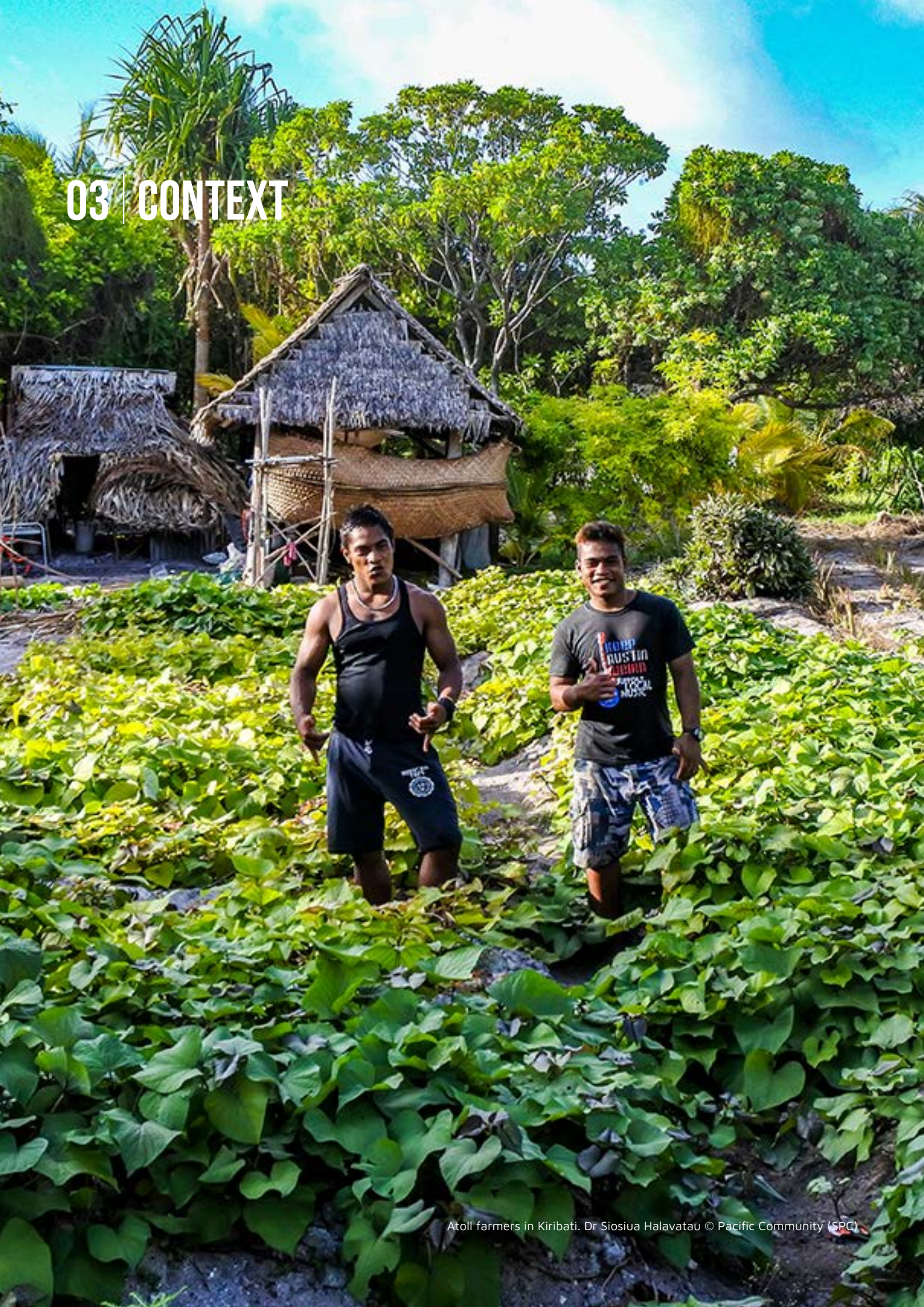
Based on the findings from the needs assessment and the Kiwa Initiative's capacity-building training programme timeline and budget, adequate and cost-efficient capacity-building modalities for each identified stakeholder category (who, what type, how and when) were identified. Budgeted capacity-building options, including a geographic coverage approach, where the programme could have most added-value and impact given the financial resources and timeline of the Kiwa Initiative Technical Assistance component, identified needs and complementary capacity-building activities from identified partners are proposed.

Donors and partners visiting a Kiwa local project led by C3 in Raviravi, Vanua Levu, Fiji

M. CHARLES © Kiwa initiative 2023

GPS training for rangers for the Kiwa local project led by BirdLife Int. in Solomon Islands © Kiwa initiative 2023

03 | CONTEXT



Atoll farmers in Kiribati. Dr Siosiua Halavatau © Pacific Community (SPC)

This section presents an analysis of the situation in the PICTs in relation to NbS for CCA, considering the wider regional integrated policy context and GEDSI in the context of resilient development.

3.1 Status of implementation of NbS and resilience in the Pacific context

There has been a relatively thorough inclusion and integration of ecosystem and/or nature-based concepts and approaches into the regional and national policies, plans, strategies and legislation associated with CCA, disaster risk reduction (DRR) and biodiversity conservation in PICTs. The process of integration is continuous and has led to the development and support of the regional Framework for Resilient Development in the Pacific (FRDP), which is a set of voluntary guidelines for the Pacific region currently being implemented by SPREP and SPC member states. The Pacific Resilience Standards (PRS) operationalise the 10 guiding principles of FRDP (2016), and one of the four standards recognises resilience building by incorporating ecosystem-based management and guardianship.

FRDP advocates for the adoption of integrated approaches, whenever possible, for coping with and managing climate change and disaster risks in order to make more efficient use of resources, to rationalise multiple sources of funding which address similar needs, and for more effective mainstreaming of risks into development planning and budgets. Development sectors (such as health, education, water and sanitation, social assistance, energy, agriculture, fisheries, forestry, tourism, mining, culture, environment, transport and infrastructure) are recognised as having a particularly important role to play in owning and implementing resilient development measures. This integrated approach is important for breaking down currently existing silos and ensuring inclusion of all appropriate sectors that can benefit from the use of NbS for CCA in relation to capacity development, policy and general mainstreaming.

When developing FRDP, it was realised that to use the term "integrated CCA and DRM" was too long and complex, and thus 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" (FRDP 2016). There was a recognition from interview respondents, that at the level of community implementation, the difference between "ecosystem-based approaches to adaptation and biodiversity conservation" and "NbS for CCA" is somewhat academic.

The policy review found that although NbS for CCA is not always mentioned directly, it is implied in terms of ecosystem-based approaches and biodiversity conservation, which are mentioned/integrated in some Pacific regional frameworks, including the Pacific Islands Framework for Nature Conservation and Protected Areas (2020)[6], FRDP (2016), the complementary PRS (2021), which includes and integrates NbS both as a concept and terminology, and the Pacific Coral Reef Action Plan (2021). There are, however, other prominent regional frameworks, such as the Pacific Regional Education Framework[7] and the Pacific Strategic Plan for Agricultural and Fisheries Statistics[8], which do not integrate NbS and/or ecosystem-based approaches.

Although the terminology is recent, the concept of NbS has been employed extensively for sustainable natural resource management both by modern practitioners and traditional Indigenous communities. Where information exists on NbS initiatives addressing CCA in the PICTs, they are mostly donor-funded and implemented by NGOs and/or CROPs including SPC, SPREP and USP. In many instances, NbS initiatives are implemented/overseen by local government structures in partnership with technical supporting organizations such as Live and Learn in Tonga or Blue Ventures in Timor-Leste, and local village communities. NbS initiatives include:

- Biodiversity conservation and establishment of nature reserves: protection, restoration and management of ecosystems including wetlands, coral reefs and forests, reforestation, setting up marine and forest reserves, national forest park restoration, setting up plant nurseries, removal of exotic species and rehabilitation of indigenous trees, turtle conservation, conservation of endemic species (e.g. Fiji crested iguana), forest carbon financing developed as co-financing and community-based

6 https://www.pacificnatureconference.com/framework-for-conservation

7 https://www.forumsec.org/wp-content/uploads/2018/10/Pacific-Regional-Education-Framework-PacREF-2018-2030.pdf

8 https://pafpnet.spc.int/attachments/article/797/PSPAFS.pdf

natural resource management, marine spatial planning and urban greening.

- Food security: climate resilient food systems, restoration and strengthening of food systems using local, Indigenous and traditional knowledge, agroforestry (training women on agroforestry techniques), growing organic gardens, aquaculture, scaling up small-scale fishing as a livelihood through sustainable fishing methods and use of suitable fishing gear, overall sustainable fisheries practices and management, poultry farming as an alternative livelihood linked to sustainable fisheries and marine resource management.
- Coastal protection: mangrove restoration and management, coastal restoration using vetiver grass.
- Riverbank stabilization: riparian zone rehabilitation through planting trees and using bamboo to rehabilitate eroded banks.
- Water security: riparian zone restoration, planting trees to protect water catchments and wells.
- Invasive species management for biodiversity protection: national and inter-island biosecurity and early detection and rapid response (EDRR), removal of invasive mammalian predators from islands, management of high priority weeds, biological controls of widespread weeds, and priority area ecological restoration for resilient ecosystems and communities.
- Knowledge transmission: advice, awareness and technical knowledge transfer on marine fisheries management, including information on sustainable and suitable fisheries practices and fisheries, coral reefs and seagrass monitoring programmes.
- Awareness-raising and education: raising awareness of ecosystem management and biodiversity conservation, climate change impacts and adaptation, capacity development through non-formal and formal training (short non-formal training programmes delivered by NGOs, and micro-qualifications and vocational training programmes delivered through USP and SPC).

Regional plans and policies place particular emphasis on community-based adaptation and consideration for local, Indigenous and traditional knowledge (LITK) and practices, and its links to natural resource management are highlighted. Various elements of LITK relevant to nature-based adaptation are included and are aimed at:

- Strengthening engagement with communities.
- Working closely with traditional governing and land tenure systems.
- Integration of LITK with science and modern approaches, documentation and storage of LITK.
- Conservation of indigenous agricultural crops, promoting traditional agroforestry practices for food security.
- Promoting LITK and practices for natural resource conservation and management, involving local communities for CCA/DRR planning and decision-making.
- Addressing capacity development needs of local communities to empower them to address climate change issues, people-centred approaches for CCA/DRR etc.

3.2 National policy implementation of NbS for CCA

Ecosystem and/or nature-based approaches and concepts are thoroughly included and integrated in all national CCA, DRR and biodiversity conservation plans. There are, however, no direct references to NbS as terminology. Fiji's NAP is a rare case where NbS is included as terminology for nature-based approaches to address climate change impacts. This is consistent with the findings from the online surveys. Most of the survey respondents indicated that NbS concepts have been integrated into prominent national policies and plans, and a considerable number of respondents were also involved in the development and/or review of NbS-related plans and policies.

Several countries are specifically integrating NbS into their national adaptation plans (NAPs) and joint national adaptation plans (JNAPs), which should also promote NbS for CCA implementation. However, consultations and literature reviews illustrate that policy on its own does not lead to implementation. Key informant interviews found many PICTs have national policies and plans in place that integrate nature/ecosystem-based elements but do not have the resources to implement the policies. Mainstreaming NbS both as terminology and as a concept is an ongoing process. Some countries have commenced work on mainstreaming NbS into their national policies and plans. Prominent national policies, plans and strategies in PICTs that are relevant to CCA, DRR and biodiversity conservation include NAPs, national biodiversity strategies and action plans (NBSAPs), climate change policies, disaster risk reduction (DRR) and disaster risk management (DRM) plans and JNAPs.

Both the interview and survey findings emphasised the importance of working with traditional governing systems to implement NbS initiatives. Working with the traditional governing systems will not only promote a sense of ownership of NbS initiatives among local communities but ensure sustainability of the interventions to create a more resilient society. Two prominent areas associated with LITK for CCA appeared frequently across the various national frameworks, policies, plans and strategies:

- The implementation of actions in close consultation and engagement with local communities and their traditional governing systems.
- Land tenure systems and challenges associated with setting up protected areas for natural resource management and conservation.

How these policies are interpreted by stakeholders is very positive in terms of NbS for CCA integration, since most of the survey respondents (67%) indicated that NbS for CCA and resilience building elements were integrated in national climate change policies, plans and strategies. Fifty-one percent of the respondents indicated sector policies on agriculture, forestry, fisheries and/or food security include NbS elements. About 40% of the respondents indicated NbS integration in the following plans and strategies: Disaster Management Plan (42%), Biodiversity Conservation Strategy (42%), National Development Plan (41%) and NAP (38%). Ten percent of the respondents indicated that NbS elements were indicated in JNAPs. There appears to be a recognition amongst practitioners of the links between NbS for CCA and appropriate local, Indigenous and traditional knowledge, which is often mentioned directly in many of the policies reviewed.

Five percent of the respondents indicated NbS for CCA was integrated in other plans and policies, including the Kiribati Integrated Environment Policy KIEP 2021–2036, waterways and environment corporate plan, integrated coastal management frameworks, community fisheries reserves and community ecosystems mangrove conservation and management plans, Northern Province Climate Plan (New Caledonia) and Northern Province Climate/Energy Action Plan (New Caledonia). In PNG climate change plans, policies and sector plans, including for agriculture, forestry, fisheries and food security, have been developed and/or adapted; however, implementation of these plans is lacking.

Table 1 below provides details of the national policies, plans and legislation relevant to CCA, DRR and biodiversity conservation in the PICTs.

Table 1: National policies, plans, strategies and legislation relevant to CCA, DRR and biodiversity conservation in the PICTs

Country	National policies, plans and strategies associated with CCA and biodiversity conservation
Cook Islands	☐ Cook Islands Biodiversity Strategy and Action Plan (NBSAP) 2002 ☐ Joint National Action Plan for Disaster Risk Management and Climate Change Adaptation (JNAP) 2011–2015 ☐ Cook Islands Climate Change Policy 2018–2028 ☐ Te Kaveinga Nui National Sustainable Development Plan 2016–2020 ☐ Cook Islands National Invasive Species Strategy and Action Plan 2019–2025 ☐ Cook Islands National Environment Policy 2022–2032
Federated States of Micronesia	☐ Federated States of Micronesia Biodiversity Strategy and Action Plan: 2018–2023 ☐ Federated States of Micronesia National Disaster Response Plan 2016 ☐ FSM National Wide Integrated Disaster Risk Management and Climate Change Policy ☐ Federated State of Micronesia's Strategic Development Plan (2004–2023) Achieving Economic Growth & Self Reliance Vol 1: Policies and Strategies Development ☐ Federated States of Micronesia Second National Communication to the United Nations Framework Convention on Climate Change ☐ Federated States of Micronesia Climate Change Act 2013
Fiji	☐ National Biodiversity and Action Plan for Fiji: 2020–2025 ☐ The Republic of Fiji National Disaster Risk Reduction Policy 2018–2030 ☐ Republic of Fiji National Adaptation Plan ☐ Republic of Fiji National Climate Change Policy ☐ Fiji's National Adaptation Plan Framework ☐ Nationally Determined Contributions: Fiji ☐ Fiji NDC Implementation Roadmap 2017–2030, Setting a pathway for emissions reduction target under the Paris Agreement ☐ 5-Year & 20-Year National Development Plan ☐ Fiji 2020 Agriculture Sector Policy Agenda ☐ Republic of Fiji: Second National Communication to the United Nations ☐ Fiji National Gender Policy 2014
French Polynesia	☐ Action Plan 2021–2023, 2030 National Strategy for Protected Areas ☐ **Unable to access other CCA/DRR plans, policies, strategies*
Kiribati	☐ Kiribati National Biodiversity Strategy and Action Plan 2016–2020 ☐ Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management (KJIP) 2014–2023 ☐ Kiribati Development Plan, 2016–2019 ☐ Kiribati National Framework for Climate Change and Climate Change Adaptation ☐ Nationally Determined Contributions: Kiribati ☐ Kiribati National Fisheries Policy 2013–2025 ☐ Kiribati National Adaptation Programme of Action [Report] ☐ Kiribati National Water Resources Implementation Plan: Sustainable Water Resource Management, Use, Protection and Conservation

Table 1: National policies, plans, strategies and legislation relevant to CCA, DRR and biodiversity conservation in the PICTs

Country	National policies, plans and strategies associated with CCA and biodiversity conservation
Marshall Islands	☐ The Republic of Marshall Islands Biodiversity Strategy and Action Plan ☐ National Disaster Risk Management Arrangements ☐ Adaptation Communication ☐ Reimaanlok: National Conservation Area Plan for the Marshall Islands 2007–2012 ☐ The Strategic Development Plan Framework 2003–2018 (RMI) — Vision 2018 ☐ Nationally Determined Contributions: Republic of the Marshall Islands ☐ Republic of the Marshall Islands National Climate Change Policy Framework (1)
Nauru	☐ Nauru's Biodiversity Strategy and Action Plan ☐ Republic of Nauru Framework for Climate Change Adaptation and Disaster Risk Reduction ☐ Republic of Nauru National Sustainable Development Strategy 2005–2025 ☐ Republic of Nauru Framework for Climate Change Adaptation and Disaster Risk Reduction (RONAdapt) ☐ Nationally Determined Contributions: Nauru ☐ Republic of Nauru Second National Communication
New Caledonia	☐ Action Plan New Caledonia: 2014–2018 ☐ **Unable to access other CCA/DRR plans, policies, strategies*
Niue	☐ Niue National Biodiversity Strategy and Action Plan 2015 ☐ Niue's Joint National Action Plan for Disaster Risk Management and Climate Change ☐ Government of Niue National Climate Change Policy ☐ Niue National Strategic Plan 2016–2026
Palau	☐ Republic of Palau Revised National Biodiversity Strategy and Action Plan 2015–2025 ☐ National Disaster Risk Management Framework 2010 (Amended in 2016) ☐ Palau Climate Change Policy – for climate and disaster resilient low emissions development 2015 ☐ Palau Marine Sanctuary Act ☐ Nationally Determined Contributions: Palau ☐ Republic of Palau, National Disaster Risk Management Framework 2010 ☐ Palau. First national communication to the United Nations Framework Convention on Climate Change. [Report] ☐ Palau's Medium Term Development Strategy – Action for Palau's Future 2009–2014
Papua New Guinea	☐ Papua New Guinea National Biodiversity Strategy and Action Plan 2019–2024 ☐ National Disaster Risk Reduction Framework 2017¬–2030 ☐ Papua New Guinea National Climate Compatible Development Management Policy ☐ Papua New Guinea Development Strategic Plan, 2010–2030 ☐ Nationally Determined Contributions: Papua New Guinea ☐ Papua New Guinea National Disaster Mitigation Policy
Samoa	☐ Samoa's National Biodiversity Strategy and Action Plan 2015–2020 ☐ Samoa National Disaster Management Plan 2017–2020 ☐ Samoa Climate Change Policy 2020 ☐ Strategy for the Development of Samoa 2016/17–2019/20 ☐ Samoa Energy Sector Plan (SESP) 2017–2022 ☐ Samoa National Environment Sector Plan (2017–2021) ☐ Samoa National Policy for Gender Equality 2016–2020 ☐ Nationally Determined Contributions: Samoa ☐ Samoa Strategic Programme for Climate Resilience 2011
Solomon Islands	☐ Solomon Islands National Biodiversity Strategy and Action Plan 2016–2020 ☐ National Disaster Management Plan 2018 ☐ Solomon Islands National Climate Change Policy 2012–2017 ☐ Solomon Islands National Development Strategy 2011 to 2020 ☐ Nationally Determined Contributions: Solomon Islands ☐ Solomon Islands National Adaptation Programme of Action ☐ Solomon Islands National Gender Equality and Women's Development Policy 2016–2020 ☐ Solomon Islands Agriculture and Livestock Sector Policy 2015–2019 ☐ Solomon Islands National Water and Sanitation Sector Plan ☐ Solomon Islands National Economic Recovery, Reform and Development Plan 2003–2006, Strategic and Action Framework
Timor-Leste	☐ National Biodiversity Strategy and Action Plan for Timor-Leste 2011–2020 ☐ Timor-Leste's National Adaptation Plan Addressing Climate Risks and Building Climate Resilience ☐ Timor-Leste Disaster Management Reference Handbook ☐ Timor-Leste Strategic Development Plan 2011–2030 ☐ UN Sustainable Development Cooperation Framework 2021–2025 (UNSDCF) ☐ Timor-Leste's National Adaptation Plan (NAP) ☐ Intended Nationally Determined Contributions (INDC) ☐ National Disaster Risk Management Policy
Tonga	☐ Kingdom of Tonga National Biodiversity Strategy and Action Plan ☐ Tonga Strategic Roadmap for Emergency and Disaster Risk Management 2021–2023 ☐ National Emergency Management Plan ☐ Joint National Action Plan (JNAP) 2 on Climate Change and Disaster Risk Management 2018–2028 ☐ Tonga Climate Change Policy – A Resilient Tonga by 2035 ☐ Nationally Determined Contributions: Tonga ☐ The Kingdom of Tonga's Initial National Communication in Response to its Commitments Under the United Nations Framework Convention on Climate Change. ☐ Tonga Strategic Development Framework (TSDF) ☐ Tonga Joint National Action Plan (JNAP) on Climate Change Adaptation and Disaster Risk Management 2010–2015
Tokelau	☐ Tokelau Invasive Species Strategy and Action Plan (TISSAP) 2020–2027 ☐ Tokelau National Strategic Plan 2010–2015 ☐ Tokelau National Disaster Risk Reduction, Response, and Resilience Plan (TDR4) ☐ Living with Change (LivC): An Integrated National Strategy for Enhancing the Resilience of Tokelau to Climate Change and Related Hazards, 2017-2030 ☐ Living with Change (LivC): An Integrated National Strategy for Enhancing the Resilience of Tokelau to Climate Change and Related Hazards, 2017-2030 — Implementation Plan 2017–2022
Tuvalu	☐ Tuvalu National Biodiversity Strategy and Action Plan 2012–2016 ☐ Te Kakeega III National Strategy for Sustainable Development 2016 to 2020 ☐ Tuvalu's National Adaptation Programme of Action [Report] ☐ Tuvalu National Strategic Action Plan for Climate Change and Disaster Risk Management 2012–2016 ☐ Tuvalu National Gender Policy ☐ Te Kaniva: Tuvalu Climate Change Policy 2012 ☐ Te Kakeega 2: National Strategy for Sustainable Development 2005–2015
Vanuatu	☐ Vanuatu National Biodiversity Strategy and Action Plan 2018–2030 ☐ Vanuatu Climate Change and Disaster Risk Reduction Policy 2016-2030 ☐ Vanuatu 2030 The People's Plan, National Sustainable Development Plan 2016–2030 ☐ Nationally Determined Contributions: Vanuatu ☐ Vanuatu Provincial Disaster & Climate Response Plan
Wallis and Futuna	☐ Action Plan Wallis & Futuna 2014–2018 ☐ https://www.wallis-et-futuna.gouv.fr/Politiques-publiques

3.3 GEDSI, NbS and CCA

Climate change impacts and natural disasters further exacerbate existing social challenges in PICTs. Women, girls, the elderly and persons with disabilities (PWDs) are particularly vulnerable to the impacts of climate change and reliant on ecosystem services. On the other hand, they are also potential change agents with untapped potential in terms of unique knowledge and adaptation priorities.

Interviews for this analysis revealed that GEDSI is an emerging theme across various sectors in the PICTs, particularly the fisheries sector. However, not many projects integrate it. GEDSI appears to be strategized for on paper but is difficult to implement, monitor and evaluate. While national policies, plans and strategies include GEDSI elements, implementation is still lacking. There is limited capacity to carry out GEDSI integration in NbS programmes, and there is a corresponding need for extensive tools and capacity development in this area. Nonetheless, selected NbS initiatives try to include GEDSI elements into their programme.

Indeed, incorporating GEDSI considerations ensures that NbS initiatives are inclusive, equitable and sustainable. Gender equity recognises the unique roles, needs, and knowledge of women, men, and gender-diverse individuals in relation to NbS. It promotes equal participation, decision-making power and benefits for all genders, addressing gender-based inequalities. Disability inclusion ensures that NbS is accessible, accommodating and respectful of the rights and needs of persons with disabilities, providing equal opportunities for their engagement and participation. Social inclusion focuses on involving marginalized and vulnerable communities, ensuring their meaningful participation, addressing power imbalances and avoiding exacerbation of existing inequalities. By integrating GEDSI principles into NbS, we foster more inclusive and just outcomes, enhance community resilience and create opportunities for diverse voices to contribute to sustainable and equitable environmental solutions.

3.4 Challenges and barriers to implementation

This section describes the challenges and barriers PICTs face in implementing NbS for CCA projects and capacity-building activities, the specific issues related to GEDSI, and the general challenges experienced by the region that impact on NbS for CAA.

3.4.1 Lack of human capacity

Based on the literature review and survey responses, lack of skilled human capacity at all levels to enable resilient development is a long-term issue. Decades of ad-hoc, project-based training, with no quality assurance, has assisted project outcomes, particularly regarding community activities, but has not built local capacity – either in terms of improved local capacity for training provision or in terms of skilled human capacity for resilient development. It has also contributed to the current lack of capacity for implementing NbS for CCA initiatives and mainstreaming NbS for CCA into related policies. Expertise in implementing NbS for CCA education and training (particularly non-formal training) in PICTs is variable both across and within countries, with a lack of trained trainers being a key issue.

3.4.2 Challenges and barriers associated with implementing NbS for CCA projects

Interviewees and survey participants highlighted barriers and challenges to implementing NbS for CCA based around the following themes: awareness, implementation of NbS initiatives, financing for NbS initiatives, and regional and national integration. These findings are consistent with the lessons learned from SPC, SPREP and the Pacific Climate Change Centre (PCCC) capacity-building programmes, and the Organisation for Economic Co-operation and Development (OECD) reports.[9]

Awareness of NbS

- There is a lack of awareness of NbS at the local community level. The language barrier is a prominent issue when interacting with local communities for awareness-raising and NbS project implementation.

9 OECD 2020. Nature-based Solutions for adapting to water-related climate risks. Policy perspectives. OECD Environment Policy Paper No. 21.

- There is a lack of awareness of NbS for CCA at the decision-making/political level.
- There is confusion between modern approaches to protected areas and customary protected areas, and insufficient awareness and knowledge at both local village community and decision-making levels.
- Misinformation as a result of modern technology; while social media can reach a wider audience, it can also promote misinformation and confusion among people. Awareness-raising using local languages is crucial to address this issue.
- Nature-based activities and actions are prominent in the Pacific region; however, there is no direct reference to NbS as terminology.
- Limited awareness of the importance of ecosystems and/or their importance to resilient communities, and limited awareness of the role of ecosystems in meeting policy objectives.
- Entrenched attitudes that grey or engineered solutions are superior to natural solutions.
- Few examples of NbS in the Oceania region and their benefits (protect, restore and enhance biodiversity) in order to adapt to climate change impacts and to strengthen the resilience of their socio-ecological systems.

Implementing NbS interventions

- There is lack of localisation and implementation of CCA-related policies and failure to consider the critical role of traditional governance and customary tenure systems in enabling successful and sustainable NbS initiatives.
- Lack of implementation of NbS initiatives as the link between these initiatives and the achievement of policy outcomes has not been made by decision-makers.
- Lack of DRR/CCA/biodiversity and related NbS policy implementation with regard to policy-requested educational provision.
- There is limited capacity to design NbS projects and associated monitoring, evaluation and learning (MEL) and risk assessments. Preliminary findings indicate that there are not many MEL professionals or roles at national government levels, and that many government staff multitask to take on MEL responsibilities.
- There is limited technical knowledge, skills and expertise to implement NbS initiatives, particularly in the following areas: reforestation, urban greening, shoreline protection, natural resource management and biodiversity conservation, nurseries for setting up terrestrial and coastal plants, agriculture, terrestrial, freshwater and marine ecology, coastal geomorphology, fisheries biology, ecology and economics. The fisheries officers working for national governments need more support on the technical side of resource management and socioeconomic considerations.
- There is a lack of formal upskilling of stakeholders with practical skills for NbS implementation, project management, and monitoring and evaluation.
- NbS is viewed as too difficult to implement, particularly as project cycles do not exceed five years.
- NbS intervention timeframes are challenging; much is expected to be achieved over a short amount of time for projects that would take decades to be well established. Linked to this are community expectations of immediate outcomes from NbS projects because they are not communicated realistically. Therefore, local communities are disappointed when they do not see results over short timeframes.
- NbS projects take a long time to show results and do not have obvious tangible outputs that can serve as a visible indicator. In addition, there is a lack of long-term monitoring and evaluation of NbS initiatives.
- Climate science and climate change research in developing, low-capacity countries is lacking. When developing the proposal, one of the biggest challenges was developing a rationale because of lack of scientifically sound data.

Financing NbS initiatives

- There is a lack of funding to continue supporting long-term NbS initiatives. Most donor-funded initiatives have short project cycles (less than five years). Lack of understanding of the costs (and benefits) of NbS and how to offset the costs
- There are challenges in accessing finances for NbS projects due to stringent requirements associated with climate funding.
- Much of the work in the NbS space is supported through short-term donor-funded projects, hence sustainability is an issue.
- There is a lack of funding to develop evidence-based pilots and research.

- There is lack of understanding and capacity to carry out cost–benefit analysis of NbS for CCA initiatives.
- There is limited finance and funding for creating enabling policy environments rather than on implementation at the local level.
- The length of the initiative and the continuous face-to-face check-in requires a lot of human capacity, which is challenging for small departments with small numbers of staff. The highest cost in funding proposals is human resources, which is not favoured by donors. However, this is essential to ensure sustainability and long-term work.
- There is insufficient funding to support the high labour costs associated with invasive species management. Although small projects (e.g. SPREP's project on the removal of rats from small islands in the outer Lau Group) can be supported through community-based efforts and require very little funding, larger projects require higher funding to cater for labourers.

Regional and national integration of NbS initiatives

- There is a lack of national and policy frameworks for NbS and a siloed approach to national development governance.
- Although ecosystem/nature-based elements are emphasized in a number of national policies and plans, in most countries they do not have direct reference to NbS as terminology.
- There is a lack of integration of invasive species elements in higher-level national plans and implementation and integration at lower-level local plans. Although there are National Invasive Species Strategy and Action Plans to guide invasive species management in the PICTs, there is a need to integrate invasive species management in other key national plans, policies and strategies, such as NAPs, JNAPs, climate change documents, DRR and DRM policies etc. Most adaptation plans mention diversity but do not delve deeper into invasive species management.
- There are disconnects between national and community levels when it comes to implementation of policy actions. Many countries have national policies in place that integrate NbS elements but not the resources to implement the policies.

3.4.3 Challenges and barriers associated with implementing NbS for CCA capacity-building activities

Interviewees and survey participants highlighted barriers and challenges to building capacity for effective implementation of NbS for CCA and mainstreaming as follows:

- Past lack of sustainable educational provision (a short-term, project-based approach to training). Although short, non-formal training programmes are supported through many short-cycle donor-funded programmes, the training programmes are mostly ad hoc, lack MEL and impact assessments and sustainability plans.
- A lack of local trained trainers to deliver general awareness training on NbS for CCA.
- A lack of capacity to design, plan and implement capacity development programmes.
- Lack of gender equality and social inclusion in training and educational provision.
- Logistics is an issue when bringing trainers into remote village/island community settings to deliver NbS training programmes. The remote islands have small populations and hence, financing these activities is difficult. Students from the remote islands require relocation to urban areas to participate in formal face-to-face training.
- The employee turnover rate is high and trained personnel often leave workplaces for better offers. Continuous training processes are required to maintain NbS capacity in institutions.
- Although there are NbS-related courses and qualifications available through the regional USP campuses, only a handful of people are trained through these programmes. Many of the qualifications associated with NbS and CCA are at postgraduate levels that require prerequisites that many lack.
- Lack of finances to support capacity development activities on NbS for CCA and lack of engagement with local educational systems.

The situation in the French territories varies from other PICTs:

- It would be challenging to integrate NbS elements linked to traditional systems in the school curricula in the French territories due to prominent cultural and language barriers. Formal education systems in the French territories employ French teachers who are not locals and as such, LITK and associated NbS practices would be difficult to integrate due to cultural differences.

- Existing training materials (mostly in English) from other PICTs will require translation into local languages for effective delivery.
- Personnel at local NGOs in the French territories do not receive tertiary education, nor meet the pre-requisite for formal training programmes, hence they are only able to receive very basic, short, non-formal training programmes. The NGOs usually ask for specific training for their organisations, which consist of mostly volunteers.

3.4.4 Gender equality and social inclusion

Despite the growing number of people attending technical and vocational schools, gender inequality remains an issue. Domestic industries within the Pacific ACP (African, Caribbean and Pacific) countries are highly dominated by males, with women representing a very small percentage of the workforce. Traditionally, women and men have specific expected roles in societies; these 'gender roles' influence the choices people make with regards to their academic and professional career. Despite many efforts globally to reduce gender gaps in access to economic and environmental resources, as well as tackle social and legal discrimination against women and girls and their disproportionate burden of unpaid work, these gaps persist. These factors, together with gender-based violence, have slowed down economic and resilient development in most PICTs.

The following challenges are highlighted as barriers to participation in NbS training programmes for the different social groups and people with disabilities:

- Inappropriate timing of courses given women's care-giving roles.
- Perceptions that the subject is for men.
- Prevailing culture is unwelcoming to women and other social groups, and a lack of special measures to attract women and other social groups.
- Lack of money if vulnerable people are single and do not make decisions on household expenditure.
- Lack of childcare, inaccessible and unsafe access to training venues.
- Perceptions that the course (tutor, venue, language, content, timing) is biased against women and other social groups, and perceptions that the different social groups will be discriminated against after the course in searching for work.
- Lack of capacity and skills to design and manage GEDSI plans and strategies for NbS activities.
- In order for NbS programmes to work effectively, it is crucial to form strong collaborations with local communities, which requires time.
- Attempts to integrate LITK into NbS programmes are often not successful. It may be because LITK elements are included as an afterthought, and not integrated at the design phase of the projects.

3.4.5 General challenges for the region

Some general challenges in the PICTs associated with implementing NbS for CCA and DRR include:

- Fast growing populations in the urban centres of PICTs, with ongoing urbanization. Informal settlements are also rising rapidly in urban areas.
- Both the urban and remote communities of the PICTs, and the ecosystems they depend on, are vulnerable to the impacts of climate change and other disasters, including cyclones, storms, floods, droughts, earthquakes, tsunamis etc. The changing climate aggravates several risk and vulnerability factors, and the PICTs communities have limited capacities to address these.
- Food, water and energy security and resources are under pressure, while waste management is challenging in many urban and local areas. Eutrophication is a concern in marine ecosystems in many of the PICTs. The PICTs are dependent on healthy terrestrial, coastal and ocean ecosystems to meet their food and other economic necessities, such as income from tourism.
- Land and sea tenure systems in the PICTs are complex. Although there are both state (government) owned land and land and sea under customary tenure in the PICs, about 80% of the land and sea, and the resources they contain, are subject to customary tenure (Tobin 2013). Local communities and CSO initiatives in the Pacific support various forms of natural resource management, including community-based land and marine reserves that are governed by customary regulations. Therefore, in order to set up successful resource management systems, it is crucial for decision-makers in local communities, national governments and participating CSOs to engage constructively.

Exchange with coastal communities in Atauru for the Kiwa local project led by Blue Ventures in Timor Leste. J.SILVADEJESUS © Kiwa Initiative 2023

04 | RESILIENCE EDUCATION IN THE PACIFIC ISLAND REGION

Woman in the Mahuleva organic learning farm part of the Kiwa POLFN project led by POETCom © Kiwa Initiative 2023

Evidence from academic literature shows that resilience educational interventions (formal and non-formal) are generally most successful when they focus on local, tangible and actionable aspects of sustainable development, climate change and environmental education, especially those that can be addressed by individual behaviours (Bangay and Blum 2010; Anderson 2012).

This section provides information on the status of the different training types and modalities for resilience education in the Pacific Island region.

4.1 Formal, non-formal and informal training

4.1.1 Formal training

The transformational contribution formal education can make to resilient development has yet to penetrate mainstream development thinking. The call to support regionally owned education and training provision at all levels, developed and accredited by the Pacific region, needs emphasising with development partners. This will ensure:

- Capacity development is sustainable, not relying on an ad-hoc project approach.
- Education and training provision is programmed and demand-driven, not simply a means of achieving project outcomes.
- Local capacity to build capacity is enhanced (education and training is delivered by local trainers from local institutions).
- NbS for CCA educational provision is grounded in a Pacific/local context.

Since 2014, formal educational structures initiated under the EU Pacific Technical Vocational Education and Training in Sustainable Energy and Climate Change Adaptation (EU PacTVET) project are the global "best practice" in terms of progress on vocational education for resilient development in the Pacific Island region.

The needs-based development of regionally specific, accredited qualifications in the context of regional (as opposed to national) quality assurance is a game-changer for the Pacific region that the Kiwa Initiative can build on. This analysis concludes that future capacity-building programmes should build upon – and use – the existing formal educational provisions available from local institutions. Training could be delivered as regional qualifications, course units and micro-qualifications on a "cohort basis", which means on-demand, face-to-face or online delivery through various national and regional educational institutions and to a timeframe that suits project delivery. Where formal provision is offered it is quality-assured by national government and/or regional accreditation processes. As qualifications are regional, skill sets are mutually recognised and can be built upon by completing competencies/skill sets at more than one educational provider. Another advantage of this approach is that the curriculum is capable of operating in the local context and responds to identifiable stakeholder needs.

The time is right for the Kiwa Initiative and partners to usher in and support the new regionally accredited approach to educational provision. Furthermore, certain activities can be undertaken by the Kiwa Initiative which support existing educational structures for quality-assured formal and non-formal (professional development) provision.

At the outset of this consultancy, education at the primary and secondary level was not considered as primary and secondary students are not part of the direct targeted beneficiaries. However, resilience education at primary and secondary school levels needs immediate attention in most PICTs to build community awareness and capacity development, and to promote the transmission of appropriate LITK, potentially also through formal education, especially at the primary level.

The following section provides examples of tertiary education provision in resilience in the Pacific Island region, followed by an analysis of the strengths, weaknesses, opportunities and threats (SWOT) of formal education in the context NbS for CAA.

Resilience education in Vanuatu

A number of institutions in the Pacific Island region already offer relevant tertiary courses in resilience that are available in both French and English. These institutions can develop bespoke training programmes based on the formal educational provision.

Table 2: Tertiary educational establishments in Vanuatu offering courses in climate and resilience with relevance to NbS for CCA (2022)

Name	Location	Courses in resilience		Comment
		Dedicated course	Included in other courses	
National University of Vanuatu (NUV)	Port Vila	In progress Cert. III in Resilience	Bachelor of Environmental Planning	In preparation: Diploma, Advanced Diploma & Degree in Climate Resilience and Humanitarian Action
University of the South Pacific (USP) (English only)	Port Vila Suva, Fiji	PGDCC	Bachelor of Geography	Postgraduate Diploma in Climate Change offered since 2010. Online
University of the South Pacific (English only)	Port Vila Suva, Fiji	Cert. IV in Resilience	No	Dedicated technical vocational education and training (TVET) course since 2020. Online
University of New Caledonia (UNC) (French only)	Port Vila Nouméa	No	Bachelor of Environmental Science	
NUV School of Education (formerly Vanuatu Institute of Teacher Education)	Port Vila	No	Bachelor of Science	From 2010 to 2019, climate change featured in Certificate and Diploma programmes offered by VITE.
Vanuatu Institute of Technology (VIT)	Port Vila	Cert. III in Resilience	No	Dedicated TVET course in Climate Change and Disaster Risk Reduction since 2017
Vanuatu Agricultural College	Luganville	No	Certificates in Crop & Animal Science, Diploma in Agriculture	
Vanuatu Nursing School	Port Vila	No	No	
Vanuatu Maritime College	Luganville	No	No	
Vanuatu Police Training College	Port Vila	No	No	

Source: Pierce 2022

Table 2 above shows the tertiary educational establishments in Vanuatu offering courses in resilience in 2022, either as dedicated programmes or included within other degree or diploma programmes. The National University of Vanuatu (NUV) first opened in 2021 and includes climate change and disasters in its Bachelor of Environmental Science. Dedicated diploma and degree courses in Climate Change and Humanitarian Action are in the process of development.

Face-to-face delivery of the Vanuatu Certificates in Resilience by Vanuatu Institute of Technology[10]

The Vanuatu Institute of Technology (VIT) began delivering certificate courses on climate change and disaster risk reduction in February 2017. Materials were produced in English and French and trialled in the outer islands. Pierce (2022) completed a comprehensive analysis of the effectiveness of the resilience courses through questionnaires completed by three separate cohorts of learners (average age was 26 years, with Year 13 as the highest previous educational attainment) and their facilitators. Findings relevant to this report include:

- The importance of the quality of delivery.
- The request from students that materials and delivery be in local languages (English and French).
- The visual and practical learning resources developed for these certificates were very effective.
- The most effective way to learn was via practical fieldwork. Getting out into the field allowed students to easily contextualise their studies.

Virtual delivery of the Pacific Regional Certificates in Resilience by USP

In 2020 USP began offering Certificate IV in Resilience online for students in Vanuatu, Solomon Islands, Fiji and Papua New Guinea, with course fees paid by USAID under its Climate Ready and Resilience Education programme (Pierce 2022). The course was aimed at people already working in a field related to resilience or those with relevant work experience wishing to pursue a career in resilience. In March 2020, 43 students embarked upon this semester-long course through USP's Vanuatu campuses but despite being fully funded, only 20 successfully graduated.

10 Source: Pierce 2022

According to the Campus Coordinator of USP's Pacific Technical and Further Education (TAFE) programmes in Port Vila, the students faced difficulties in completing their assignments since nearly all of them were in full-time employment.

Overall, the online Certificate IV course in resilience offered through USP was evaluated to be effective – by those who complete it. While the online learning environment promotes independent learning, the range of pedagogical techniques is necessarily more limited than with the face-to-face courses presently being conducted through VIT, and there is notably less emphasis on practical and field experience. For improvements to the course, the most common response was to have face-to-face sessions to clarify understanding.

SWOT analysis for formal education

Table 3 below summarises the strengths, weaknesses, opportunities and threats associated with formal education in the Pacific Island region.

Table 3: SWOT analysis for formal education

Strengths	Weaknesses
• The Educational Quality and Assessment Programme (EQAP) provides a method for regional qualification accreditation and educational quality assurance based around the Pacific Qualifications Framework (PQF), which is underpinned by the Pacific Quality Assurance Framework (PQAF) that provides minimum quality standards and guidelines for accrediting agencies, institutions, programmes and courses. • Regional and national universities can be used to deliver resulting educational provision. • Delivery by local educational providers will provide local context. • Sustainable strategies that will outlive the Kiwa project cycle – business plans developed for delivery of new modules/programmes/courses (this is standard practice for universities). • Training is available on a permanent basis (as opposed to an ad-hoc project-based training), so high staff turnover at management level is less of an issue. • The "Resilience" qualifications are already established, so Kiwa does not have to re-invent the wheel. • Sustainable – embedded in the educational system regionally. • Can be used by all CCA projects and programmes. • Opportunity for "genuine" capacity development – increases employment and livelihood capabilities	• Development partners and CROPs are not interested in promoting formal capacity development initiatives delivered by local educational providers. • Current formal NbS for CCA-related educational offerings delivered by Pacific institutions are not fully accessible to PWDs. • High staff turnover at management level. • Need qualified trainers in country for face-to-face delivery. • Limited in scope as to what can be integrated into existing learning resources. • Developing an additional qualifications stream may be expensive and time consuming. • Doesn't respond to immediate capacity needs as will take time to implement and deliver.
Opportunities	**Threats**
• A "regional" model for quality assurance and recognition of TVET qualifications is already in place. • 86% of funding for DRR and CCA is delivered via projects, so there is an opportunity to include scholarships for any resulting formal educational initiatives in project proposals. This will include raising awareness amongst development partners and CROPs about the educational and training initiatives on offer. • Opportunity for Kiwa projects to pool resources and develop cohorts for existing educational provision that covers a number of project needs. • The Pacific Regional Federation of Resilience Professionals (PRFRP)[11] can provide support via "ownership" and updating of the regional qualifications and learning resources. • Improve the capacity of local educational providers via training of staff to deliver course content. • Opportunity to break down existing silos within CROPs and development partners as NbS is a cross-cutting issue. • Opportunity to re-evaluate monitoring and evaluation to cascade from local project reporting to input on reporting for international frameworks. • Develop and implement GEDSI strategies to ensure diversity in participation. • Opportunity for innovative delivery modes and pedagogies provided by professional educators (e.g. peer-to-peer learning, etc.)	• Local educational providers do not have staff skilled in NbS for CCA. • Issues over "ownership" of qualifications, who is responsible for updates etc… This could be a role for the PRFRP. • Issues over "ownership" and sharing of materials and learning resources (mostly applicable to ad-hoc training rather than formal). • No funding available. • Lack of interest – no participants. • What is developed may not be accredited, so will take additional time and expense. • Take-up of training/education offered is low and/or targeted at the "wrong" people. Training must be delivered to people who will use the knowledge, skills and behaviours gained in their day-to-day jobs/community/livelihood activities.

11 Source: https://prfrp.net/

4.1.2 Non-formal training

Outside the formal education system, public and community education about ecosystem-based adaptation (EbA), disasters and climate change, water management, fisheries, forest restoration, agricultural extension, etc. takes place across the PICTs through warnings, short courses and workshops effected by international organisations, regional agencies, government, NGOs and CSOs.

Non-formal training is an excellent means of achieving project outputs and outcomes, and through a "training-of-trainers" approach, it can train many community members in awareness and specific subject areas/skills over short project timeframes. However, non-formal training is not sustainable after the completion of the project cycle, generally has no quality control and does not genuinely build individual or local institutional capacities.

More effort also needs to be placed on sharing non-formal learning resources. Many projects in the Pacific have a capacity development component, with associated training and capacity-building technical assistance. Resources need to be made available for others to use and build upon, if relevant. This could be a development partner reporting requirement, and the collation of learning resources could be a role for the Pacific Climate Change Centre portal.

Given that the majority of evidence that exists in support of non-formal education is anecdotal, without consistent and comparable monitoring and evaluation processes, this section highlights successful Pacific case studies which have undergone some degree of evaluation. The selected case studies are typical examples of the many NbS for CCA related projects operating in the Pacific.

Case study: EU global climate change alliance project

The USP EU Global Climate Change Alliance (GCCA)[12] project had three components: capacity building (formal and non-formal), community development and applied research. This project was implemented by USP from 2010 to 2017. The overall objective of the USP EU GCCA project was to develop and strengthen the Pacific ACP countries' capacity to adapt to the impacts of climate change by improving the level of understanding of climate change in the region through formal and informal training, on-the-ground adaptation activities (including NbS for CCA) and applied research.

Non-formal training focused on organising capacity-building workshops on appropriate climate change and climate change adaptation themes and constructing a train-the-trainers programme to improve the knowledge and skills of the climate change practitioners in the communities, subnational and national governments, and stakeholders of 15 Pacific ACP countries.

Capacity development was the keystone joining all components of the project. The Community Engagement component facilitated and equipped 59 communities across the 15 Pacific ACP countries with "on the ground" implementation of adaptation measures to climate change. Adaptation projects in the communities covered a host of the vulnerable sectors and their solutions identified in each country. Trainers were trained and were active in all communities, providing non-formal training in communities on the activities undertaken. Initially, communities were trained to undertake and contribute to their own vulnerability and adaptation assessment and community planning. After CCA interventions were selected by the communities themselves, they were trained on implementation and maintenance of activities and installed technology. Some elements of the research component (via MSc and PhD research and project monitoring and evaluation) looked at how effective interventions had been.

Some of the success of this project is down to the fact that "trainers" were trained (formally and non-formally) on both "how to train" (learning styles – individual approaches to how people learn, different pedagogies such as peer-to-peer, flipped classroom, discovery learning, etc.) and on content.

What is interesting to note here is that the majority of trainers who received formal training (Certificate IV Professional Training and Assessment) were professionally engaged in work involving training some 24 months after project completion. The community members who received non-formal training did improve their livelihoods and lifestyles, but the biggest impact from their training was ensuring project outcomes remained sustainable over the long-term. These are obviously very valuable outcomes for the non-formal training and demonstrate a positive impact. Additionally, non-formal training is low cost in comparison to formal education. However, the benefits of non-formal training are not as impactful for the individuals concerned as formal training.

12 https://www.usp.ac.fj/pace-sd/projects/eugcca-project/

Case study: The Pacific Ecosystem-based Adaptation to Climate Change project[13]

The Pacific Ecosystem-based Adaptation to Climate Change (PEBACC) project was funded by the International Climate Initiative (IKI) and operated in Fiji, Vanuatu and Solomon Islands from 2015 to September 2020. PEBACC+ is a current Kiwa Initiative regional project, implemented by SPREP in Fiji, New Caledonia, Solomon Islands, Vanuatu, and Wallis and Futuna. This project aims to develop, support and institutionalise ecosystem-based climate change adaptation in these countries.

The original PEBACC project trialled a systematic approach for identifying and prioritising EbA options based on analysis of social and ecological factors in the context of climate change and non-climate change threats. PEBACC has helped to prove the value of the EbA approach, and the methodologies employed by PEBACC have been well received by national governments and communities. The approach involved four stages: 1) ecosystem and socioeconomic resilience analysis and mapping studies (ESRAMs), 2) EbA options assessments, 3) development of EbA implementation plans for selected options, and 4) implementation of selected EbA options as demonstration projects.

Participatory rural appraisal (PRA) techniques were employed to facilitate the communication of technical concepts to project stakeholders. Throughout the project, learning and knowledge sharing has been paramount. In addition to community discussions, training and consultations, exchange programmes (peer-to-peer learning) were conducted in-country and regionally. Such opportunities ensured that lessons and experiences could be woven into other community adaptation projects, which would otherwise be well beyond the reach of the PEBACC project.

Targeted awareness and education, through workshops, consultations, entertainment and sports, and innovative use of champions and campaigns have proven essential to growing shared commitment within communities to improve environmental management and adopt EbA activities. This has helped communities appreciate the long-term value of their natural ecosystems and the (often hidden) services they provide and helped them to develop options for sustainable development. Implementation has been community driven, strengthened by on-ground civil society and government partnerships. Many communities have established and nurtured partnerships with NGOs and government agencies over long periods of time. PEBACC identified and supported the activities of those agencies that were already working in the demonstration sites.

13 https://www.sprep.org/sites/default/files/documents/publications/Pacific-Ecosystem-based-adaptation-climate-change.pdf

SWOT analysis for non-formal education

Table 4 below summarises the strengths, weaknesses, opportunities and threats associated with non-formal education in the Pacific Island region.

4.1.3 Informal training

Informal learning comprises learning activities in the household, workplace and local community, and is not institutionalised. A major component of informal learning for many PICT communities is the acquisition of traditional Indigenous knowledge, wisdom and values that results from intergenerational transmission and/or mentoring. Cultural knowledge, including how to respond to environmental change, has been passed on from one generation to the next over thousands of years.

The holders of LITK in PICT communities connect closely with their localities to inform their day-to-day decision-making on resource use management, social interactions, cultural practices and spirituality. Considering the value of LITK in the daily lives of people in PICT communities, it is critical to integrate this knowledge and practices with NbS for CCA as the role of LITK is already acknowledged in key frameworks, policies, plans and strategies, and actions related to risk-informed development.

LITK is extremely important for presenting NbS in a Pacific context. This was highlighted by practically all interviews and workshops. A very significant way in which resilience education is taking place is through the intergenerational transmission of traditional environmental knowledge, skills and values that generally occurs through oral and demonstration means in village settings. Rural PICT communities have amassed extensive experience in building adaptive capacity to extreme weather events, particularly cyclones and droughts, through their Indigenous and local knowledge and traditional values of mutual support and community cohesion (McMillen et al. 2014; Granderson 2017). Such strategies that engage NbS include house design, food and water security, managing ecosystem services, behavioural

Table 4: SWOT analysis for non-formal education

Strengths	Weaknesses
• Best delivered face-to-face in community settings. • Very effective for general awareness of a variety of identified topics. • Effective in achieving project outcomes. • Can be organised and delivered over a short timeframe. • Cheaper than delivering formal education. NbS for CCA awareness is achievable within the budget and timeframe of the Kiwa initiative. • Very effective for knowledge transfer if supported by effective learning resources and delivered by competent trainers. • Can reach large numbers of people across multiple communities if a "training-of-trainers" approach is applied. • Can be used by all CCA projects and programmes. • Open to all (must account for accessibility requirements).	• Unsustainable – only delivered during the project cycle. • No quality control of the training or the training resources. • Little sharing of training resources. • Does not improve a participant's employment prospects. • Usually reliant an external training providers. • Does not take advantage of the regional educational structures, build on them or build a legacy of sustainable educational provision. • May focus on project deliverables rather than genuine capacity development of individual participants.
Opportunities	**Threats**
• Face-to- face delivery by local educational providers will provide local context and delivery in local language. • Can include the development of online open educational resources or at least share any training resources developed. • Include peer-to-peer learning and innovative pedagogies. • Opportunity for Kiwa projects to pool resources and develop training that covers a number of project needs. • Opportunity to break down existing silos within CROPs and development partners as NbS is a cross-cutting issue. • Develop and implement GEDSI strategies to ensure diversity in participation.	• No local trainers/people with the knowledge and skills to provide the training. • Issues over "ownership" and sharing of materials and learning resources (mostly applicable to ad-hoc training rather than formal). • No funding available after completion of project. • Lack of interest – no participants.

norms, and governance systems that embrace close cooperation, deference to local leaders and resource-sharing. Traditional knowledge and wisdom have often been the key to survival but is fast disappearing in the face of population growth, urbanisation, globalisation, modern education and the movement of young people away from their village roots (Pierce 2022). Any capacity development intervention involving NbS for CCA must include the contribution of this form of learning, which can be in turn be integrated into formal and non-formal learning.

4.2 Delivery modalities

Interviews, surveys and workshop results show that accessible training, which is culturally appropriate and communicated in local languages and dialects, is essential. Methods of delivery have also been considered. USP has delivered resilience qualifications remotely and recognised that there is scope for technologies to enable the delivery of culturally appropriate materials remotely, in addition to handing face-to-face delivery over to local educational providers. By working with local providers, qualifications, micro-qualifications and course units can be delivered on a cohort basis[14] to suit the Kiwa Initiative capacity-building training programme timeframe and budget.

A number of training modalities appropriate to situations in the Pacific are considered in this section – looking at relevance to NbS for CCA and how effective each modality is likely to be. This section also considers learning styles relevant to the identified stakeholder groups and the Pacific context.

4.2.1 Face-to-face (FtF)

Face-to-face training is comprised of seminars/workshops/lectures/field work/practical sessions led by an instructor/facilitator where the content is either generic (off-the-shelf), tailored or customized to meet specific learning objectives. The FtF modality is best suited for skill development, behaviour change initiatives, cross-functional collaboration concerns and team building. It is applicable to formal and non-formal education/training.

Interview respondents all stated that FtF was the most relevant method of learning and teaching for the Pacific, especially for communities/technical stakeholders. Peer-to-peer learning was also mentioned by many respondents as being an effective means of learning about LITK and NbS for CCA in community settings.

In the Pacific context, train-the-trainer sessions are essentially a type of non-formal "face-to-face" delivery, which has good impact at community level. This approach enables trained community trainers to deliver externally created content in a local context and in local language. A benefit of this approach is the high number of participants reached and the high frequency of training associated with this type of training. This training has been used effectively to enable communities to prepare vulnerability and adaptation assessments, implement CCA activities (including NbS) in their communities, and generally improve individuals' knowledge about the impacts and science of climate change. This modality is also beneficial for achieving project outcomes and improves employment prospects of formally trained trainers. Disadvantages are that it is expensive, it is not sustainable as it is project-based, and although it does develop an individuals' capacity, it does not benefit in terms of employability for the individual being trained.

4.2.2 Online training

Online modalities make sense when people cannot meet face-to-face, when the target audience is geographically dispersed, and when saving travel costs is important. Online learning is typically effective when it consists of microlearning where knowledge is imparted via recorded lectures, videos, "talking shops", discussion boards, quizzes, etc. that are highly targeted and easy to digest anywhere at any time. It could be effective for certain micro-qualifications.

In the Pacific context, online training or eLearning is typically most effective for postgraduate learning and teaching. This has been successfully used for the Postgraduate Diploma in Climate Change at USP by ensuring country cohorts of students work together and join in webinars at USP "Satellite React" centres on-campus. Webinar and virtual demonstrations enable learners to remotely attend a training session and interact with peers and the instructor.

14 For the purposes of this capacity development needs and gaps analysis, the delivery of training on a "cohort basis" means that the training provider (e.g. USP Pacific TAFE, NUV, etc.) will deliver and assess specific qualifications/micro-qualifications/units to a specified group of people over a defined time scale, using an agreed mode of delivery – all to be mutually agreed by the Kiwa Initiative and the training providers.

Additionally, to ensure job skills and fieldwork is carried out in-country, a network of government and CSOs is maintained where students can get practical experience.

The IUCN academy offers an online course, Nature-based Solutions Professional Certificate on IUCN Global Standard[15], which may be relevant for those responsible for sourcing finance for NbS projects.

However, course fees come in at around EUR 3000, so is prohibitively expensive to be used on a scale that would have any impact.

There are technical and economic considerations relating to internet connectivity – not everyone can afford a connection or a device to use a connection. Although the number of smartphone connections in the PICTs has increased year on year, the overall mobile subscriber rate remains low at 47% of the PICT population for 2022. Similarly, mobile internet usage remains in the minority, at 27% of the population, despite coverage of mobile broadband networks reaching 86% of the PICT population (Hatt 2023).

4.2.3 Blended and distance learning

With relevance to NbS for CCA, blended learning combines face-to-face with online education/training to combine practical/action learning assignments, coaching, peer-to-peer learning (in the field) and practical work. This modality is often used to reinforce and improve on what has been delivered virtually and also to practise skills that have been demonstrated. Distance learning can be achieved where there is no internet connection, using books and other training materials, such as online content loaded onto flash drives.

15 https://iucnacademy.org/group/86

Photo taken during an exchange with coastal communities in Atauru for the Kiwa local project led by Blue Ventures in Timor Leste © Kiwa Initiative 2023

05 | KEY FINDINGS AND RECOMMENDATIONS FOR IMPLEMENTING AND MAINSTREAMING NBS FOR CCA

This section reports on the key findings and recommendations for implementing and mainstreaming NbS for CCA that emerged from the workshops, interviews and surveys.

5.1 Key stakeholder groups

Stakeholder groups are categorised under the two main objectives of the Kiwa Initiative – capacity building for implementation and awareness-raising for mainstreaming.

5.1.1 Stakeholder groups for NbS capacity development

Two main stakeholder groups were identified for capacity development (regardless of categories such as government, civil society and private sector):

1. MANAGEMENT

   The management group includes those involved in the planning and management of NbS for CCA projects and programmes. Key areas for capacity development for this group were identified as all aspects of general project management, including accessing finance, reporting, financial management, cost–benefit analysis, work and process planning, NbS standard/criteria, and monitoring and evaluation.

2. TECHNICAL

   The technical group includes those involved in grassroots implementation of NbS for CCA activities, such as fisheries, forestry, and agricultural extension officers, local government officers, community champions, community coordinators, and anyone working directly with communities. Key areas for capacity development were identified as technical skills in agriculture, forestry and fisheries.

5.1.2 Stakeholder groups for NbS mainstreaming

Two stakeholder groups for awareness-raising around mainstreaming NbS for CCA were identified: decision-makers and communities.

1. DECISION-MAKERS

   This stakeholder group includes high-level decision-makers at the national and local political levels. Awareness-raising needs to emphasise the costs and benefits of NbS over grey engineered solutions; the role of ecosystems in achieving various policy objectives and the importance of NbS to resilient communities; and NbS lessons learned in the Pacific region of successful interventions and policy implementation.

2. COMMUNITIES

   PICT communities have longstanding traditions of using nature (via LITK, including traditional governance systems) to benefit their lives and lands. Awareness-raising for this group needs to focus on community-level awareness relating to the context and relevance of NbS and putting NbS criteria into local context – this would ensure the use of NbS to implement and localise various related policies.

5.2 Identified needs for capacity building, training and awareness-raising

Although there are skills associated with NbS in the PICTs, these are restricted to some countries only, mostly at national government level, NGOs and/or project staff. Communities have knowledge and skills on NbS practices; however, technical capacity building and training is required to strengthen technical aspects and methodologies.

The following short-, medium- and long-term training priorities associated with NbS for CCA in the PICTs were identified by interviewees:

1. SHORT-TERM (6–12 MONTHS)

   Awareness-raising of NbS concepts and the links with LITK, short non-formal training, micro-qualifications on NbS, MEL and GEDSI elements for NbS work.

2. MEDIUM-TERM (12–24 MONTHS)

   Training on accessing finances for NbS initiatives, vocational training and professional courses to strengthen existing skills, peer learning programmes, technical skills and implementation of NbS, and network strengthening.

3. LONG-TERM (18–36 MONTHS)

   Supporting mainstreaming of NbS in plans, policies and strategies, supporting scholarships for undergraduate and postgraduate programmes, peer learning programmes and network strengthening.

5.2.1 Findings by stakeholder group and Kiwa Initiative objective

Based on the results of regional consultations, Table 5 below summarises the main findings for the different stakeholder categories under the two key Kiwa Initiative objectives.

Table 5: Recommendations for capacity building for implementing and mainstreaming NbS for CCA

Objective 1: Better develop, implement, and monitor rights-based, gender-sensitive and socially inclusive NbS projects for CCA and biodiversity conservation	
Stakeholder categories	**Main recommendations for capacity building**
NbS managers Those involved in planning, monitoring and management of NbS for CCA projects and programmes	For management-level personnel, expertise would need to be bolstered in all areas of NbS for CCA project development and management, such as reporting, community development process, financial management, cost–benefit and socioeconomic analysis, work and process planning, awareness of NbS standards/criteria, and monitoring and evaluation, including effective integration of qualitative approaches for gender equity, disability and social inclusion, and access to finance for NbS for CCA.
NbS technical personnel Those involved in grassroots implementation of NbS for CCA activities	Technical personnel are critical for leading the community implementation of NbS for CCA activities. Specific focuses are required in subject areas related to forestry, agriculture, fisheries and local, Indigenous and traditional knowledge.
Objective 2: Mainstream these NbS approaches in CCA and other relevant sectoral policies and strategic frameworks	
Stakeholder categories	**Main recommendations for capacity building**
Decision-makers High-level decision-makers at national and local levels	Among high-level decision-makers, there needs to be awareness-raising around NbS for CCA mainstreaming into policies, strategies and planning and implementation of NbS-related policies. This would include presenting socioeconomic advantages of NbS interventions; highlighting the role of healthy ecosystems in achieving various policy objectives; highlighting the importance of NbS to resilient communities; and documenting Pacific NbS lessons learnt to promote successful interventions and role in policy implementation.
Communities PICTs community members	For community members, contextualising the terminology and criteria around NbS with local examples would emphasise the relevance and highlight the complementarity of longstanding traditional practices, knowledge and ways of knowing, including traditional governance systems.

5.3 Recommendations for implementing capacity development activities NbS for CCA

The situational analysis revealed that almost all CCA-related policies analysed (international, Pacific regional and national) requested some degree of formal education to aid implementation. The survey results indicate that future capacity-building programmes should focus on formal education as the most effective and impactful means of capacity development. The impact of formal education is not limited to achieving project outcomes but also has tangible and measurable impacts on:

- An individual's career and employment prospects.
- Institutional/community development and organisational capacity.
- Achievement of subnational strategies and activities, and national and regional policy goals and implementation.
- An increase in institutional capacity and achievement of wider goals.
- Sustainability and long-term capacity development.

For any formal full or micro-qualifications or non-formal professional training courses developed or used, the following points need to be taken into consideration:

- NbS for CCA needs to be contextualised for local audiences.
- Course content needs to be closely aligned with identified needs/work responsibilities.
- Individuals must have opportunities to apply learning in practical assignments or in their jobs.
- Accessibility of available training to marginalised groups.
- Training needs to fit into broader development strategies – either for the institution, community or PICTs more broadly.
- Education and training are most effective when delivered face-to-face.

- With any training/educational delivery, the focus must be on learning rather than teaching. In community settings, pedagogical strategies such as cooperative learning, discovery learning, role plays and mutual instruction (peer-to-peer) – preferably in the field – are essential.
- Delivery of any training provision should be by a trained instructor who is aware of learning styles, pedagogies and methods of assessment.
- The literature survey highlighted that effective learning and teaching resources that incorporate discovery and peer-to-peer learning are highly effective for attaining the knowledge, skills and behaviours required for climate change adaptation in a Pacific context.
- In all cases there should be some degree of quality control on the resources developed and the training provided.

In addition, linked to social inclusion elements are the prominence of traditional governing and customary land tenure systems, which define ownership and use of the natural resources in the PICTs. It is important to work with both these related systems to enable successful and effective implementation of NbS for CCA in the PICTs. Capacity development of local village communities is essential for sustainable NbS initiatives and to mainstream nature-based initiatives in the local communities.

Interviewees and survey respondents provided the following recommendations for capacity development activities to be successful. The recommendations have been grouped under the headings of delivery, content, participants, GEDSI, local communities and sustainability.

Delivery

- As far as possible, NbS training programmes should be delivered through a face-to-face mode. In the case that face-to-face mode is not possible, training programmes should be delivered through a blended mix of online and face-to-face modes for technical people and face-to-face modes should be used for communities, with practical and interactive sessions.
- The technical training programmes should be specific and targeted as opposed to training on general techniques, and should be delivered locally, through government experts or local NGO consultants.
- Networking and peer-to-peer learning will benefit both new and existing NbS projects in understanding lessons learnt and best practices.
- A training-of-trainers (ToT) model is recommended for NbS capacity development work where a set of trainers would be trained online, and who will then provide training locally. However, as per experience of the Blue Ventures in Timor-Leste, online training is challenging and requires a lot of time.
- NbS standards should be mainstreamed into the education curricula.
- ToT should be provided to teachers who deliver NbS programmes in schools.
- To address language barriers, training materials should be available in English and translated in local languages. ToT should be supported to train NGOs and national government officers who could then deliver training to local communities in local languages.
- Utilise institutional arrangements and local actors to implement NbS initiatives.

Content

- The NbS training programmes should be tailored for the Pacific region. Considering the close links between people and nature in Pacific cultures and communities, NbS initiatives will be more effective and sustainable if connected and intertwined with LITK and practices.
- Develop targeted short courses on NbS implementation.
- Deliver training on assessment, planning and small business development for NbS projects.
- Conduct training programmes on MEL, project management and reporting for NbS projects.
- Provide training on accessing sustainable financing and grant writing for NbS work.
- Provide training for technical personnel in the sectors targeted by the Kiwa projects, including but not limited to: forest, coastal, shoreline and coral restoration; mangrove planting for shoreline protection; water catchment area management; biodiversity conservation associated with terrestrial fauna and flora, freshwater environments and invasive species; environmental economics; strengthening technical aspects and methodologies on trees species planted, soil types; manure applications, identification and treatment of plant diseases and infestation; protected areas, natural

resource management and environment social safeguards; fisheries biology, data collection and resource management; and sustainable agricultural practices.

- Integrate GEDSI elements in NbS work.
- Economic elements should be included to complement NbS initiatives to support alternative livelihoods, e.g. sustainably managed marine resources, carbon market, economic enabling factors.

Participants

- To allow participants to use the skills and knowledge gained from NbS training, relevant participants should be identified and selected. The participant selection process should include consultations with relevant senior national government members and local community leaders.
- Support formal training for subnational government personnel to support NbS work in communities.
- Select local actors, identify local champions and use traditional administration structures. Formal training programmes should be provided to build the capacities of subnational/Provincial Conservation Officers, District Officers, Agricultural and Forestry Officers, who in turn will be able to support NbS work in local village communities.

GEDSI

- Develop monitoring and evaluation tools that would assist GEDSI implementation in NbS programmes.
- When developing/offering training on project design, it should be clear that GEDSI strategies need to be front and centre of project design.
- SPREP has developed a training course on human rights and gender that could be used as a basis for further training for project managers.
- Qualitative methodologies are required to determine gender roles in decision-making. Interview respondents revealed that in several countries, women do not have a voice in decision-making under many traditional systems. Qualitative approaches need to account for how women are involved in decision-making, particularly under traditional systems, in order to devise strategies to promote equal participation.

Local communities

Most respondents felt it would be difficult for local communities to understand NbS as a specific framework and terminology. However, contextualising NbS in terms of LITK would enable local communities to comprehend the concept, particularly due to its strong links with traditional natural resource management systems. A major component of informal learning for many PICTs communities is through traditional/Indigenous knowledge, wisdom and values transmitted intergenerationally and/or through mentoring. This analysis highlighted that LITK is extremely important for presenting NbS in a Pacific context, and any capacity development intervention involving NbS for CCA must include the contribution of this form of learning.

The following considerations should be applied for delivering training programmes in local village/island communities:

- Using short, specific training programmes and micro-qualifications (a scout badge approach).
- Translation of training and awareness materials into local languages and limiting the use of jargons is needed. NbS training programmes cans be delivered in local village communities through partnerships with local NGOs, who would be able to deliver training programmes in local languages.
- Face-to-face and flexible delivery methods would be most suitable for local communities as opposed to traditional training systems which last a longer period.
- Including practical components in training programmes to promote learning by doing.
- The contents of the training programme should be developed using a bottom-up approach to capture the actual situation and issues on the ground.
- Aligning NbS with LITK/traditional methods of natural resource management such as the tabu and agroforestry systems. Raise awareness of marine protected areas (MPAs), customary protected areas and ecological connectivity.
- Using traditional governing systems to implement NbS initiatives.
- Working with communities to establish demonstration sites.

Sustainability and community empowerment

The long-term sustainability of NbS projects in the Pacific is challenging. Most NbS projects are supported through short funding cycles, and interventions are not sustained beyond the timeframe of the project. Therefore, the need for community-based holistic approaches to ensure the existence of NbS interventions beyond the life of projects is crucial. Capacity development of key national and local community stakeholders through sustainable, quality-assured education/training aligned with the NbS interventions will promote ownership and empower Pacific communities to sustainably implement and manage NbS projects after the completion of the project cycle that implemented them.

5.4 Recommendations for mainstreaming NbS into regional and national strategies and policies

Although NbS for CCA is currently not systematically integrated directly in the various policies, strategies and plans surveyed, it is referenced in the context of ecosystem-based management in existing national plans and polices associated with CCA and biodiversity conservation and is considered relevant for their implementation by practitioners. Additionally, the majority of survey respondents had been involved in policy, strategy and planning processes and had made efforts to integrate NbS for CCA. This indicates that some degree of NbS for CCA mainstreaming is already in place.

5.4.1 Recommendations for communities for mainstreaming NbS

This degree of mainstreaming is most likely because there is a recognition across PICTs of the value of appropriate LITK (synonymous with NbS) in managing ecosystem services, improving and maintaining biodiversity, and adapting to the effects of climate change. Consultations suggested that to aid mainstreaming and awareness of NbS for CCA, NbS should be addressed in terms of LITK in order to be understood in the local context. Ensuring that NGOs working at community level are involved in policy development processes at all levels is also key to integrating NbS for CCA. The NbS programmes should be implemented in close partnership and collaboration with existing projects and local communities, building on existing tools and systems rather than reinventing the wheel.

5.4.2 Recommendations for decision-makers for mainstreaming NbS

Many interview respondents indicated a lack of knowledge around NbS for CCA with regard to high-level decision-makers, who need awareness of NbS for CCA, particularly in relation to how NbS can be used to implement various existing policies. Survey and interview respondents also stated that CROP agencies are often instrumental in initiating policy development processes. In order to expedite and expand NbS for CCA policy integration, the Kiwa Initiative should work with project managers at CROP agencies responsible for relevant policy formation, along with high-level national decision-makers to raise awareness about mainstreaming NbS for CCA.

Interviewees and survey respondents provided the following recommendations for decision-makers for mainstreaming NbS into regional and national strategies and policies:

- In the Pacific there is a tendency for capacity building on NbS/EbA in government departments to be geared towards line ministries. It is equally important for planning and finance ministries to be involved in this. Taking a whole-of-sector approach is important, and it is equally important to consider training candidates from planning and finance departments.
- NbS is multisectoral and overlapping across societal values, therefore for successful and effective outcomes, it is important to integrate NbS across various themes, including climate change, disaster risk reduction, natural resource management, food security, water security, energy security, and health and well-being. Considering only one dimension of this dynamic setting may result in sectors functioning in silos, with NbS having a lesser impact on desired outcomes.
- There is a need to strengthen partnerships, collaborations and coordination with conservation work. Collaborative delivery on awareness and projects will also make it less confusing for the local communities to understand the initiatives and associated terminologies with NbS.
- NbS project implementing organisations should engage and collaborate with national governments to ensure sustainability and long-term support for NbS initiatives.
- In order to set up sustainable education systems and meaningful collaborations, it is important to meet with tertiary institutions in-person, as opposed to virtual meetings.

- For the purpose of sustainability, NbS should be managed by national governments involving the ministries related to environment, planning, infrastructure roads and transport etc. and should be linked to developing economic awareness and associated benefits of NbS. Civil engineers working for governments and the private sector should be trained on integrating NbS in engineering projects.

5.5 Existing expertise in the Pacific Island region for training provision

One way of achieving localisation and context and adding to the capacity of the region to sustainably achieve its current and future capacity development needs is by supporting and adding to the existing expertise and educational structures. It is recommended that the Kiwa Initiative capacity building training programme utilise and builds on existing expertise and structures.

In Table 6 below, the priority subject areas for the management and technical personnel stakeholder groups have been linked to existing expertise and training opportunities in the Pacific Island region.

Table 6: Identified subject area needs on a stakeholder group basis and existing expertise in the PICTs

Management stakeholder group	
Subject area	**Existing expertise in the PICTs**
NbS awareness for managers	IUCN Academy Nature-based Solutions – Professional certificate on IUCN Global Standard Awareness sessions provided by SPC Kiwa Initiative Project Development Team
Project design and development	IUCN Academy Nature-based Solutions – Professional certificate on IUCN Global Standard (in relation to including NbS standards) USP Pacific TAFE professional short courses PACRES professional short courses USP Pacific TAFE Certificate III in Community Development USP Pacific TAFE Certificate IV in Pacific Ocean Finance
Integration of GEDSI	SPC Human Rights and Social Development Division USP Gender & Environment course (standalone course or as part of Gender Studies Postgraduate Diploma) University of PNG undergraduate degree in Gender Studies
Project implementation and management	USP Pacific TAFE professional short courses and micro-qualifications Fiji National University (FNU) National Productivity & Training Centre professional short courses Micro-qualification in access to finance is under development by the PEUMP project USP Pacific TAFE Certificate IV in Resilience has a newly developed Adaptation and Management stream USP Pacific TAFE certificate and diploma programmes in Project Management, Human Resource Management, Procurement & Supply, Business Administration etc.
The content of this document is the sole responsibility of SPC and does not necessarily reflect the views of the Kiwa Initiative's donors"	
Subject area	**Existing expertise in the PICTs**
Community awareness linking NbS for CCA to LITK	National University of Vanuatu Certificate III in Resilience USP Pacific TAFE Certificate IV in Resilience
Reforestation, community sustainable forest management, setting up nurseries and reserves	Technical capacity in government agencies in Fiji, Solomons, Tuvalu, Kiribati, Palau, RMI, Vanuatu, Palau, and FSM, and at SPC LRD, Conservation Internal, and Live and Learn Environmental Education Palau Community College Special Programme: Life-long Learning – Wildlife/Forestry conservation Vanuatu Agriculture College Certificate I in Forestry (Nursery) and Certificate II in Forestry (Forest Operations) SINU Certificate in Tropical Forestry and Diploma in Tropical Forestry PNG University of Technology undergraduate and postgraduate programmes in Forestry
Designing management strategies to manage community resources and activities	Government-level technical capacity in Fiji, Solomons, Tuvalu, Kiribati, Palau, RMI, Vanuatu, and FSM Technical expertise of LMMA, FLMMA, WWF Pacific, WWF Pacific, Conservation International, SPC FAME, USP School of Agriculture, Geography, Oceans and Natural Sciences, and Micronesia Conservation Trust USP Pacific TAFE Certificate IV in Resilience and Certificate III in Community Development
Shoreline protection using coastal vegetation and mangrove restoration	Technical capacity in government agencies of Fiji, Solomons, Tuvalu, Kiribati, Palau, RMI, Vanuatu, Palau, FSM, New Caledonia, Wallis and Futuna, and PNG Technical expertise of WWF Pacific, USP School of Agriculture, Geography, Oceans and Natural Science, USP South Pacific Regional Herbarium, Conservation International, IUCN, SPREP and SPC College of Micronesia Associate of Science Degree in Marine Science USP Bachelor of Science in Marine Biology

Technical stakeholder group	
Subject area	**Existing expertise in the PICTs**
Invasive species management	SPREP Pacific Regional Invasive Species Management Support Service
	Birdlife International Ecosystem Resilience to Climate Change through Invasive Species Management (Kiwa initiative project)
Sustainable agricultural practices	Technical expertise of SPC LRD and Pacific Organic Learning Farms Network
	Palau Community College professional short courses in organic agriculture
	PNG University of Technology undergraduate and postgraduate courses in Agriculture
	College of Micronesia Associate of Science Degree in Agriculture and Natural Resource Management, and Certificate of Achievement in Agriculture
	Vanuatu Agriculture College Certificate I in Agriculture (Nursery), Certificate II in Agriculture (Crop Establishment), Certificate I in Aquaculture, Certificate II in Aquaculture (Tilapia Farming), Certificate I in Livestock (Poultry Management) and Certificate II in Livestock (Husbandry)
	Hango Agricultural College (Tonga) Certificate III–IV in Agriculture, Diploma Levels 5–6 in Agriculture, and Bachelor of Agriculture
	USP Bachelor/PGD/Masters/PhD of Science in Agriculture (Agri-business or Agricultural Science Disciplines)
	FNU Certificate in Commercial Agriculture/Horticulture, Diploma in Agriculture, Bachelor of Science in Agriculture, Bachelor of Science in Animal Science, Master/PhD in Agriculture
	Palau Community College Certificate in General Agriculture, Associate of Science Degree in Agricultural Science, and professional short courses in organic agriculture
	College of Marshall Islands Associate of Science Degree in Agroforestry Education for Health and Sustainable Livelihoods, Specialisation in Agro-Ecology
	SINU Certificate/Diploma in Tropical Agriculture and Bachelor of Science in Tropical Agriculture
	National University of Samoa Diploma in Sustainable Agriculture
	National University of East Timor Bachelor in Agro-Livestock, Bachelor in Agronomy, Bachelor of Animal Health, and Bachelor of Exact Sciences (major in Chemistry with a minor in Environmental Sciences)
Fisheries management, ecology and economics	Technical capacity within government to support non-formal training in Fiji, Kiribati, Solomons, Tuvalu, Kiribati, Vanuatu, French Territories, Tonga, Samoa, PNG, RMI, FSM and Palau
	Expertise of SPC FAME, Women in Fisheries Network, WWF Pacific, Conservation International Micronesia Conservation Trust, WCS and OneReef Worldwide Stewardship
	USP Pacific TAFE micro-qualification in Community-based Fisheries Management tools, Seafood Safety and Quality, Establishing, and Operating a Small Seafood Business
	USP Pacific TAFE Certificate IV in Resilience, Certificate IV in Fisheries Compliance and Enforcement, and Diploma Levels 5–6 Resilience
	USP Bachelor of Marine Science/Marine Management, Postgraduate Diploma Marine Studies, Masters/PhD in Marine Studies
	College of Marshall Islands Certificate in Marine Science
	College of Micronesia Associate of Science Degree in Marine Science
	SINU Certificate in Fisheries Studies, Diploma in Fisheries Studies, Bachelor of Science in Fisheries Studies
	PNG National Fisheries College Certificate in Managing a Fishery Cooperative, Certificate I–IV in Post-harvest Operations, Certificate I–IV in Aquaculture
	Palau Community College Associate of Science Degree in Marine Science
	College of Micronesia Associate of Science Degree in Marine Science
	FNU Diploma in Applied Fisheries and Bachelor of Science in Fisheries

Management and technical stakeholder groups	
Subject area	**Existing expertise in the PICTs**
Train the Trainers	USP Pacific TAFE professional short courses and micro-qualifications
	FNU National Productivity & Training Centre professional short courses
	Fiji Higher Education Commission courses in training and assessment on a cohort basis, and validation of work-based assessors
	USP Pacific TAFE Certificate IV in Training and Assessment and Certificate IV in Resilience
	Australia-Pacific Training Coalition (APTC) Certificate IV in Training and Assessment
	National University of Samoa Certificate IV in Adult Teaching, Bachelor of Technical Vocational Education and Training.
MEL, impact analysis and risk assessment	USP Pacific TAFE professional short courses and micro-qualifications
	SPC PacMEL project
	Learning resources available at Virtual Peer Learning Event: Monitoring and Evaluation (M&E) for National Adaptation in Pacific Small Island Developing States
	USP Pacific TAFE to develop micro-qualifications on MEL

06 | POSSIBLE COLLABORATIONS FOR NBS CAPACITY-BUILDING ACTIVITIES

Exchange with coastal communities in Atauru for the Kiwa local project led by Blue Ventures in Timor Leste © Kiwa Initiative 2023

In the past, recognising that there are silos within and between implementing agencies, there have been specific structures in the Pacific region which have promoted inter-project collaborations such as the "Whole of Islands Approach" (e.g. Kiribati and Pele Island, Vanuatu), the GIZ Climate Change Project Managers Meetings, and USP EU GCCA National Project Advisory Committees. However, interviews with current Pacific regional project managers indicate that collaboration between projects is generally not planned. It occurs through relationship building and interaction between project teams working in the same area (e.g. climate change) or in the same geographical location.

FRDP and the Pacific Islands Framework for Nature Conservation and Protected Areas, together with key national sector plans and policies, highlight the following needs associated with adopting/implementing NbS in the Pacific region: increasing conservation and sustainable management of forests, coasts, oceans and other natural environments through development and enforcement of efficient and effective legislation and regulations; and identification and management of drivers of deforestation and coastal and forest degradation. Possible interventions and collaboration in the areas of coastal resilience and protection, coastal fisheries, agroforestry systems and land rehabilitation are listed below.

6.1 Coastal resilience and protection

- Scaling-up NbS programmes, e.g. rehabilitation of mangroves and other coastal plants, setting up nurseries and seed banks for mangroves.
- Supporting integrated NbS interventions through community and rights-based approaches, and integration of CCA and DRR.
- Support capacity development of local communities through inclusive training and awareness-raising on using NbS to address climate change issues. Aligning training with the NbS interventions and with an emphasis on gender, social inclusion and participatory approaches.
- Network strengthening at regional and national levels through interregional collaborations, and building on existing regional and local networks with an emphasis on climate change adaptation using NbS.
- Securing funding for NbS interventions through grant/proposal writing (this activity is applicable to all listed sectors).
- Supporting capacity development in accessing climate finance for NbS work (this activity is applicable to all listed sectors).
- Supporting capacity development in the area of NbS-related report writing, MEL and project management (this activity is applicable to all listed sectors).

Potential partners: donor-funded projects implemented through CROP agencies (SPC, SPREP, FFA, PIFS, USP etc), GIZ, IUCN, relevant national government departments of the PICTs, including but not limited to climate change, forestry, fisheries, disaster management etc.

6.2 Coastal fisheries

- Scaling-up cost effective NbS pilots, e.g. setting up and managing MPAs.
- Awareness-raising among communities on use of destructive fishing methods and gear, and sustainable ecosystem-based coastal resource management practices, including seasonal closures to better manage and conserve food fish stocks.
- Supporting community training on sustainable fishing methods, coastal resource management and alternative (NbS) livelihoods during seasonal closures, such as shell crafts and woven baskets for local sales.
- Supporting development/review of local development plans to mainstream NbS strategies in said plans.
- Support Integrated Vulnerability Assessments (IVAs) on coastal resource management to inform the NbS intervention processes. The IVAs can be carried out using existing methods.[16]
- Development of gender and social inclusion action plans associated with NbS interventions, causing behavioural changes leading to youth and women empowerment in the implementation of NbS.

Potential partners: LMMA International, World Bank: Pacific Islands Regional Oceanscape Program[17], CROP agencies (FFA, SPC, USP), PICT fisheries and climate

16 https://pace.usp.ac.fj/eugcca-knowledge-centre/publications/

17 https://www.worldbank.org/en/news/feature/2022/04/13/toward-a-more-prosperous-and-sustainable-pacific-ocean

change departments, local and international NGOs such as IUCN, GIZ, WCS, WWF, Women in Fisheries in Fiji, FLMMA etc.

6.3 Agroforestry systems

- Scaling-up cost-effective pilots, e.g. strengthening of agroforestry practices through integration of traditional knowledge and modern approaches, setting up silvoarable and silvopastoral agroforestry using animals and indigenous plants etc.
- Supporting capacity development for national and local government (forestry officers) and local communities through inclusive training on agroforestry practices to allow for sustainable, renewable and long-term forest management.
- Awareness and networking activities to engage with and empower key stakeholders, including local governments and communities, with knowledge on the importance of agroforestry for creating ecological diversity and supporting a healthy environment, while increasing and diversifying income for farmers.
- Development of gender and social inclusion action plans associated with agroforestry, causing behavioural changes leading to youth and women empowerment in the implementation of agroforestry interventions.

Potential partners: PICT forestry and climate change departments, CROP agencies (SPC, SPREP, USP), local and international NGOs: IUCN, GIZ, Live and Learn etc.

6.4 Land rehabilitation

- Scaling-up cost effective NbS pilots, e.g. reforestation to reduce erosion and protect riparian zone high lands, setting up nurseries and seed banks for fast-growing indigenous trees, and land rehabilitation using whole-island approaches.
- Supporting capacity development activities through inclusive training on land rehabilitation.
- Network strengthening at regional and national levels through interregional collaborations, and building on existing regional and local networks with an emphasis on agroforestry and climate change adaptation

Potential partners: PICT forestry and climate change departments, CROP agencies (SPC, SPREP, USP), local and international NGOs (IUCN, GIZ, Live and Learn etc).

Watershed mapping and site selection in Papua New Guinea for the Kiwa WISH+ regional project led by WCS. A.LATINNE

Mudrenicagi Estate, Province of Bua in Fiji. V.TAMATA © Kiwa Initiative 2023

07 | MENU OF ACTIVITIES FOR CAPACITY DEVELOPMENT AND MAINSTREAMING

Picture showing flood in Ovalau, a community part of the Kiwa WISH+ project led by WCS, Fiji. M.CHARLES © Kiwa Initiative 2023

Based on interviews, policy and literature reviews, and the survey findings, a 'menu' of 11 activities for capacity development and mainstreaming NbS for CCA was devised. The activities represent what is achievable in terms of building on previous efforts and resources currently available in the Pacific. Specific activities are suggested for each identified stakeholder group (technicians, managers, communities and decision-makers) and are categorised as achievable over short-term (6–12 months), medium-term (12–24 months) and long-term (18–36 months) periods. All activities listed would have some impact as standalone activities.

The menu is not a ranked list of activities, but activities are ordered in a way that would be logistically appropriate for maximum impact to be gained from each activity. Activities are laid out sequentially as capacity development should be guided by lessons learned and be an effective, iterative process that is participatory, cross-cutting, rights based and GEDSI-responsive.

The 11 individual activities on the menu work together in a way that will:

1. Provide information to high-level stakeholders in order to mainstream NbS for CCA into policies, strategies and plans.
2. Raise awareness in communities about NbS for CCA and links to LITK.
3. Upskill management and technical stakeholder groups in priority identified needs via formal courses/non-formal professional training.
4. Provide a ToT approach to non-formal upskilling of management, technical, and community stakeholders.
5. Provide a long-term solution for improving community adaptive capacity via relevant education in schools.

Consultations with women for the Kiwa local project led by C3, Vanua Levu, Fiji © Kiwa Initiative 2023

Table 7: Menu of activities for capacity development and mainstreaming NbS for CCA

TIMEFRAME	BUDGET RANGE (EUR) (Based on local consultant fees charged by PICTs national/regional universities)	TARGET BENEFICIARIES	ESTIMATED IMPACT FOR PROJECT DEVELOPMENT AND IMPLEMENTATION	ESTIMATED IMPACT FOR MINSTREAMING NBS	EXPECTED OUTCOMES
Activity 1: Develop learning and teaching resources for primary schools and community use without re-inventing the wheel. Re-develop effective learning resources to specifically place NbS for CCA in a Pacific context. Distribute and use these resources to raise awareness at various levels.					
3–6 months	Updating existing resources = EUR 4,000 per country Developing new resources = EUR 6,000 per country	Communities Practitioners	++	+	Raised awareness in communities about NbS for CCA and links to local, Indigenous and traditional knowledge (LITK). Provision of a long-term solution for improving community adaptive capacity via relevant education in schools.
Activity 2 (optional): Create an inventory/database of local, trained teachers and trainers available to assist with formal education and non-formal awareness raising on NbS for CCA.					
3 months	Consultancy for 15 days over 3 months = EUR 7,500	Practitioners Communities	+	+	Provide a training-of-trainers (ToT) approach to non-formal up-skilling of management, technical and community stakeholders.
Activity 3: Training-of-trainers' programme – Train trainers and assessors formally so they are accredited at Certificate IV level, and trained in work-based assessment. Or, non-formal professional development training-of-trainers to assist with community awareness raising.					
7–9 months for online on a cohort basis 2 months if full time on face-to-face	Online delivery = EUR 1,000 per student + EUR 500 for bursary to cover associated expenses. Face-to-face delivery for in-country cohort= EUR 6000 per person	Practitioners	++	++	Increased awareness in communities about NbS for CCA and links to LITK through provision of a training-of-trainers (ToT) approach to non-formal up-skilling of management, technical and community stakeholders.
Activity 4: Mainstreaming activity – Analysis of the alignment of PICTs school curricular with national and regional policies related to resilient development, including NbS for CCA.					
3–8 months	Analysis per country = EUR 6,000 114,000 for all 19 Kiwa countries and territories	Communities	+	+	Provision of a long-term solution for improving community adaptive capacity via relevant education in schools.
Activity 5: School curricular redesign in line with national and regional policies related to resilient development, and implementation of curricula, including teacher training.					
7 years (after Activity 4)	Depends on results of Activity 4.	Communities	+++	++	Provision of a long-term solution for improving community adaptive capacity via relevant education in schools.
Activity 6: Mainstreaming activity – Awareness raising for decision-makers. A variety of options are included such as a MOOC, executive course, online conference, face-to-face conference.					
3–12 months	MOOC development = EUR 40,000 Online conference = EUR 1,000 Face to face event = EUR 3,000 (more if regional event with travel and per diems)	High-level decision-makers	+	+++	Provision of information to high-level stakeholders in order to mainstream NbS for CCA into policies, strategies and plans
Activity 7: Awareness raising for communities – A variety of options include face-to-face/peer-to-peer learning (incorporating LITK), online resources (MOOC), social media.					
3–12 months	MOOC development = EUR 40,000 Social media campaign = EUR 5,000 (more if done by consultants) Trainer visits to communities = EUR 2,000 per community visited	Communities	++	+	Increased awareness in communities about NbS for CCA and links to local, Indigenous and traditional knowledge (LITK).
Activity 8: Integrating NbS for CCA into Regional Certs II–VI Resilience qualification learning resources and qualification delivery.					
3 months for updating Certs I–IV 12 months for updating Certs V and VI 12 months for delivery to student cohort Total timeframe of 2.5 years	Updating Certs I–IV = EUR 40,000 Delivery online = EUR 2,000 per student Delivery face to face = EUR 8,000	Managers Practitioners Communities	++	++	Upskilling of management and technical stakeholder groups in priority identified needs via formal courses/non-formal professional training. Provision of training-of-trainers approach to non-formal up-skilling
Activity 9: Developing and delivering micro-qualifications or professional short courses.					
3–6 months for update of existing micro-qualifications 12–18 months to develop new micro-qualifications 3–26 months for delivery	Update of existing qualification = EUR 3,000 Student fees = EUR 150–600 Cost for developing new qualification = EUR 7,000	Managers Practitioners Communities	++	++	Upskilling of management and technical stakeholder groups in priority identified needs via formal courses/non-formal professional training. Provision of training-of-trainers approach to non-formal up-skilling
Activity 10: Develop TVET NbS for CCA regional qualifications (Regional Certificates I–VI in NbS for Climate Change) and related learning and teaching resources.					
12–24 months for Certs I–VI 9–12 months for development of new resources 12 months for delivery to student cohort Total timeframe = 36 months	Development of certificates I–IV = EUR 150,000 Development of learning resources = EUR 60,000 Delivery online = EUR 2,000per student Delivery face-to-face = EUR 8,000	Managers Practitioners Communities	++	++	Upskilling of management and technical stakeholder groups in priority identified needs via formal courses/non-formal professional training. Provision of training-of-trainers approach to non-formal up-skilling
Activity 11: Cohort training for management and technical stakeholder groups.					
3 months for existing micro-qualifications and professional short courses; 6 months for existing certificate-level courses; 6–24 months for development and delivery of new qualifications/professional courses.	Online delivery = EUR 1,000 per student + EUR 500 for bursary Face-to-face delivery for in-country cohort= EUR 6000 per person	Managers Practitioners Communities	+++	+++	Upskilling of management and technical stakeholder groups in priority identified needs via formal courses/non-formal professional training. Provision of training-of-trainers approach to non-formal up-skilling

Based on the consultation results and analysis of the consultancy team, the Kiwa Initiative is encouraged to focus on the following ACTIVITIES: 1, 3, 6, 7, 8, 9, 11

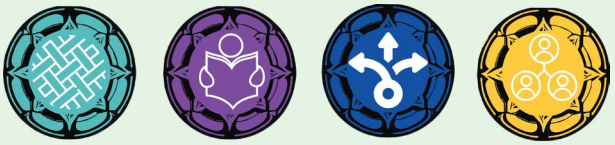
ACTIVITIES*

KIWA INITIATIVE
Nature-based solutions for climate resilience

COMMUNITIES

Activity 1: Develop teaching and learning resources for primary schools and community use without re-inventing the wheel	
Key activities	Re-develop "Learning about Climate Change the Pacific Way" for use in primary and junior secondary schools and for community awareness-raising by integrating NbS for CCA and including a Pacific context regarding LITK. Produce a virtual trainer/teacher guide (in English and French) to train teachers and trainers on content and techniques for "discovery" and "peer-to-peer" learning, particularly with reference to integration of local LITK into NbS for CCA. Distribute these resources to national teacher training institutions, primary and junior secondary schools across the PICTs (focusing on communities where Kiwa projects are working), Kiwa project implementing institutions and NGOs (e.g. Live and Learn), and other relevant projects for use in community awareness-raising about NbS for CCA.
Key partners	Kiwa Secretariat, Kiwa project implementing organisations, Ministries of Education, national teacher training colleges, primary and junior secondary schools in Kiwa communities, and other primary schools who wish to participate.
Methodology	Call for support from PICT Ministries of Education – ask for lists of schools in Kiwa communities and involvement of national teacher training institutions (Kiwa Secretariat). Call for support from individually identified schools and teacher training institutes (Kiwa Secretariat). Call for support from Kiwa project implementing institutions. Where projects have a capacity development component, these resources can be used for raising community awareness (Kiwa Secretariat). Technical assistance (TA) call for learning resource development consultant to develop the resources for countries identified by the Kiwa Secretariat. TA call for developing online learning resources to train teachers and trainers on the content of the learning resources and methods of "discovery" and "peer-to-peer" learning with reference to integrating LITK in the context of NbS for CCA. This could include recording actual sessions with communities as examples.
Justification and impact	Most people in PICTs leave school after primary school, which currently includes very little about climate change. This lack of schooling is one reason for lack of awareness of climate change in communities. If climate change and resilience education (including NbS for CCA linked to LITK) is included in primary curricula across the Pacific, the results will be transformational in terms of increasing community resilience and adaptive capacity. There is strong policy support for this activity (policy, academic literature, interview respondents), and investment in universal primary and secondary education, especially in developing countries, is regarded as the most effective strategy for enhancing CCA. Kiwa projects can work with local teachers, and along with Kiwa implementing institution trainers, they can be used to deliver the resources for community awareness. If local schools were used as venues, this could also raise funds for the school. Trainee-facing learning resources are based on pictures, so they are easily adapted for community awareness in local languages. "Learning about climate change the Pacific Way" has been thoroughly evaluated and found to be very effective.
Beneficiaries	Kiwa communities and primary/junior secondary students and teachers (direct), and participating PICT teacher training colleges (direct). Stakeholder group: communities (direct). Geographic coverage: this resource could be used in all Kiwa PICTs.
Key resources	Learning resources for Fiji, Tuvalu, Vanuatu, Samoa, Kiribati and Tonga. Example: https://www.spc.int/sites/default/files/wordpresscontent/wpcontent/uploads/2017/01/Fiji.compressed.pdf French and English versions: https://www.nab.vu/document/learning-about-climate-change-pacific-way Tonga teacher's guide: https://www.spc.int/sites/default/files/wordpresscontent/wpcontent/uploads/2017/01/Tonga.compressed.pdf
Weaknesses and risks	The GIZ CCCPIR project completed this activity in 2016. By 2019 this resource was no longer being used in schools in Vanuatu. Many schools have lost resources due to disasters (volcanic eruptions and meteorological hazards). A system is needed that can replace these resources as specialist printing (laminated posters) cannot always be done in country. The use of these resources would be more sustainable if NbS for CCA was embedded in the school curriculum. Learning and teaching resources would be more accessible if there was a dedicated portal/website/central repository for Pacific resilience learning resources that teachers and other educators were aware of. Hosting Pacific resilience learning and teaching resources could be a role for existing resources like the Kiwa website, the PRFRP website, the Pacific climate change portal, Pacific Climate Change Centre website, USP PACE-SD Knowledge Centre, Live and Learn website, IUCN website, EQAP website, etc. At present, sections of "Learning About Climate Change The Pacific Way" are scattered on at least different four sites.
Budget	Updating existing resources (Fiji, Tuvalu, Tonga, Kiribati, Vanuatu and Samoa): EUR 4000/country (8 days/country). Total for Fiji, Tuvalu, Tonga, Kiribati, Vanuatu and Samoa: EUR 24,000 (including 5 virtual interviews per country with content experts). Developing new resources per country (12 days/country): EUR 6000/country (including 5 virtual interviews per country with content experts). Developing online learning resources to train teachers and trainers on the content of the learning resources and methods of "discovery" and "peer-to-peer" learning in English and French (including video of delivery of resources in country): EUR 50,000.
Outputs	An effective learning resource available in X number of schools and communities. Improvement in community awareness (knowledge, skills and behaviours) of NbS for CCA in X number of communities.
Timeframe	Short-term: 6 months

* Activities indicated with the Kiwa Initiative icon have been highlighted as suitable for the Kiwa initiative.



Activity 2: Inventory/database of local trained teachers and trainers available to assist with formal education and non-formal awareness-raising on NbS for CCA	
Key activities	General email for circulation to appropriate networks calling for qualified trainers to go on the database. List contacts for accredited teachers and trainers based throughout PICTs. Ensure database is GDPR (privacy law) compliant and informed consent is given by all people entered on the database. Share list with Kiwa project implementing institutions and other actors (NGOs, CSOs, CROP agencies, etc). Organise online updates ("learning-events") for interested trainers – different Kiwa projects could take turns to host an update of what they are doing.
Key partners	Kiwa Secretariat, Kiwa project implementing organisations, Ministries of Education, EQAP, and regional (USP Pacific TAFE, APTC) and national universities, colleges and teacher training colleges.
Methodology	Can be carried out as a TA or as a task for Kiwa Secretariat admin. Call for support to PICTs ministries of education – ask for lists of qualified teachers and trainers (Kiwa Secretariat) Call for support from USP and national universities, colleges and teacher training colleges – details of staff who may be interested (e.g. USP PACE-SD have a list of trainers trained under the EU GCCA project) and alumni (Kiwa Secretariat) Call for support from Kiwa project implementing institutions. Where projects have a capacity development component and are using trained trainers. Call for support from NGOs such as Live and Learn and contact with past projects like PEBACC, which has an integrated capacity development element. EQAP (or national educational quality authority) TA to train interested teachers on work-based assessment.
Justification and impact	Training and assessment are specialist skills and should be acknowledged as such. An effective trainer makes all the difference in the success or failure of the student. A key finding from interviews and surveys is that NbS for CCA awareness, education and training must be carried out in a local context, with awareness being carried out in a way that incorporate LITK. This is best achieved by using local trainers. There have been a number of recent resilience/CC projects that have trained trainers from a variety of PICTs. However, there is no single inventory of trainers. Capacity for training in the region has been an issue in the past, leading to ad-hoc project-based training being led by providers external to the region. In some instances, this approach has worked well, in other instances, where local context is key, this approach has not been effective. There has been no region-wide assessment of the availability of trained teacher/trainers in the past decade. Lack of qualified teachers and trainers is always cited as an issue, but the impact of various resilience projects on the availability of accredited and community trainers has not been assessed. Local teachers and trainers with accredited qualifications (e.g. Cert IV Professional Training and Assessment) can be engaged on a contract basis to deliver various qualifications and micro-qualifications locally (at local campuses of USP, as the regional university, and national universities where suitable subjects are offered) on a contract basis. Using qualified teachers/trainers for delivery of awareness programmes should ensure some degree of quality for the delivery of awareness, training, and formal education.
Beneficiaries	Qualified teachers and trainers (direct), institutions and projects working in resilience/CCA capacity development (direct), participating PICT teacher training colleges (direct), project managers (a resource they could use for identifying local trainers) (direct), and Kiwa project communities (indirect). Stakeholder groups: decision-makers, communities, management and technical (indirect). Geographic coverage: this database could be used in all Kiwa PICTs.
Key resources	Project websites (training reports). SPC, SPREP, USP, Live and Learn, Ministry of Education networks. Social media.
Weaknesses and risks	Reluctance to engage in this activity. Trainers, teachers and project workers in remote communities may not have internet connection or a means of finding out about this listing.
Budget	Could be done by Kiwa Secretariat admin (free). TA budget for 15 days over 3 months: EUR 7500–10,000. Training on work-based assessment for teachers: EUR 1500/person trained in country face-to-face.
Outputs	Baseline data on trained trainers capable of conducting awareness, non-formal and formal training on NbS for CCA. A database that can be used for Kiwa project capacity developing components and more widely for projects working on resilience across the Pacific. Network of trainers.
Timeframe	Short-term: 0–3 months

Activity 3: Training-of-trainers (ToT) programme	
Key activities	Train trainers and assessors that would be accredited at Certificate IV level and trained in work-based assessment. USP Pacific TAFE Cert IV could also be tailored to train on NbS for CC content. Delivery could be online or face-to-face. However, results for the EU PacTVET training-of-trainers component showed that a 4-week intensive in-country face-to-face delivery of Certificate IV in Professional Training and Assessment was effective in ensuring fewer people dropped out of the training. Online support was provided for the completion of assignments after the face-to-face component. Course delivery and assignment submission took a total of 3 months. Use USP Pacific TAFE professional short courses and micro-qualifications on training, training components of USP Pacific TAFE Certificate IV and Vanuatu National University Certificate III in Resilience, and FNU National Productivity & Training Centre professional short courses. Training provision can be delivered on a cohort basis. Design and implement a GEDSI strategy for the ToT programme, based on findings on this analysis. Delivery of training and subsequent deployment of trained trainers.
Key partners	Kiwa Secretariat; Kiwa project implementing organisations; government ministries and departments with portfolios for CC, environment, agriculture, forestry, fisheries and biosecurity; local government, NGOs, CSOs and communities; and nationally and regionally validated training providers offering formal and non-formal provision of training for trainers.
Methodology	Call for support from relevant ministries, departments, local government, NGOs, CSOs and Kiwa communities. TA call for a GEDSI strategy for the ToT programme. TA call for training of trainers and work-based assessors. Number to be trained and their location should be based on baseline data and inventory findings (Activity 2). There must be participants from both management (local government administrators and HR Officers) and technical (NGOs, CSOs, local government, extension, forestry and fisheries officers) stakeholder groups – this will enable a wide variety of subject areas to be covered in any subsequent ToT programme. To have the most impact, working directly with communities should be a stipulation for selection for this training. Vanuatu National University could provide training for French Territory participants.
Justification and impact	One of the greatest hinderances to delivery across the region is the availability of certified trainers and assessors. A key element to success of any capacity development programme is having quality trainers who are well versed in the training materials they need to deliver. Using qualified trainers for delivery of awareness programmes and accredited training should ensure some degree of quality for the delivery of awareness, training, and formal education. Formal training qualifications provide a means of career progression and an ability to diversify livelihood options and improve employment prospects. Trained trainers would be available to train communities/practitioners on a variety of issues (depending on who is the trainer e.g. Agricultural Extension Officer, Forestry Officer, Project Manager, GEDSI Officer, etc). This approach enables trained community trainers to deliver externally created content in a local context and in local language. A benefit of this approach is the high number of participants reached and the high frequency of training associated with this type of training. This training has been used effectively to enable communities to prepare vulnerability and adaptation assessments, implement CCA activities (including NbS) in their communities, and generally improve individuals' knowledge about the impacts and science of climate change. If there is available funding from Kiwa, it would be ideal to continue to support those that have completed the resilience qualification in the Solomons and Vanuatu to do the trainer and assessor programme since they have already met the pre-requisites.
Beneficiaries	Institutes offering training (direct), people receiving training (direct), Kiwa communities (indirect), and current projects that use the trained trainers produced by this activity (direct). Stakeholder groups: management (local government administrators and HR Officers) (direct), technical (NGOs, CSOs, local government, extension, forestry and fisheries officers) (direct), and community (indirect). Geographic coverage: this activity should select participants from all Kiwa PICTs, possibly focusing on Vanuatu and Solomon Islands first as they have specifically requested this activity.
Key resources	USP Pacific TAFE Certificate IV in Professional Training and Assessment, professional short course and micro-qualifications.
Weaknesses and risks	Reluctance to engage in this activity from various stakeholder groups/other projects (non-Kiwa). No follow-through from development partners. Nominating agencies do not nominate participants who will have the most impact as trainers and whose jobs will give time over to allow them to train others. Activities/number of people trained is not scaled-up enough to have an impact regionally. Face-to-face delivery results in much lower attrition rates but is expensive to deliver if bringing students to a central point, e.g. USP Suva. Much cheaper to send the trainer to train in-country which can be done in the12/19 Kiwa countries with a USP campus. Training at USP may not be available in French; however, training for French OCTs can be done at NUV. Online completion of the Certificate IV in Professional Training and Assessment is much lower cost but has a high drop-out rate (around 30%). Much care should be taken when selecting candidates to ensure that they have the time and resources to complete this training online.
Budget	Example of USP online delivery: EUR 1000/student (this covers all 4 courses to complete the Certificate in IV Training and Assessment at USP). In addition, a bursary of EUR 500 per student to cover internet costs and associated expenses. To ensure the programme is completed, a stipulation of accepting to take part in the training would be repayment of the bursary if the student fails to complete the training. Estimated total cost for 5 qualified trainers in each of 19 PICTs: EUR 150,000 USP face-to-face delivery for an in-country cohort (based on experience of EU GCCA project in-country ToT programme in Tuvalu): 20 students (15 from outer islands) required for the cohort. Fees: EUR 20,000 Cost of transport from outer islands, accommodation and food for students and trainer (face-to-face delivery over a 4-week period): EUR 80,000 Total cost estimated at EUR 100,000 Total maximum cost per person: EUR 6000 (this does not include a bursary as face-to-face training is at the USP campus, using USP facilities). For countries such as the Cook Islands, costs may be higher as accommodation costs would be higher. Costs for Fiji may be lower as accommodation costs are lower. Non-formal training of training (professional development short courses) and micro-qualifications on training, assessment and validation are also available at lower cost (around EUR 120–500 per participant).
Outputs	A pool of local accredited trainers that Kiwa projects and other NbS for CCA projects can draw on. An increase in the number of locally available trainers – a lack of trained trainers is always highlighted as an issue for resilience project with a capacity development component.
Timeframe	Medium-term: 7–9 months Month 1: planning and negotiation with training provider. Month 2: inclusion of NbS for CCA and community-focused training materials (e.g. preparation of field practice using "Learning About Climate Change the Pacific Way") Month 3: delivery of online resources (full-time learning). Months 5 & 6: virtual support for completion of assignments. Month 7: marking and feedback.

Activity 4: Mainstreaming activity – Analysis of the alignment of PICT school curricula with national and regional policies related to resilient development	
Key activities	Analysis of PICT national curricular alignment with national and regional policy related to resilient development. Suggest where CC/CCA/DRR/DRM/EbA-NbS/environment/conservation of biodiversity could be integrated into curricula (this is not a curriculum redesign, just a presentation of options for inclusion). Present results to Ministries of Education.
Key partners	Kiwa Secretariat, Ministries of Education, EQAP and any national quality authorities.
Methodology	Call for support to PICT Ministries of Education – ask if they would like to participate in this exercise (Kiwa Secretariat). TA call for analyst to conduct curricular analysis for countries identified by Kiwa Secretariat
Justification and impact	The formal education sector has a key role in combatting the impacts of climate change and disasters, exploring strategies for adaptation and mitigation, and promoting carbon-neutral, sustainable lifestyles. Investment in universal primary and secondary education, especially in developing countries, is regarded as the most effective strategy for enhancing the adaptive capacity to CC. Given the high attrition rates for secondary education across the PICTs, including resilience education such as NbS for CCA at primary and junior secondary levels is a viable strategy for raising capacity for community actions on NbS and community awareness of CC/CCA.
Beneficiaries	There are no direct beneficiaries from this as activity as it is a stepping-stone to other actions (curriculum design, then implementation, then improvement in community capacity over the long term). Stakeholder group: communities (direct and indirect over the long term).
Key resources	Existing school curricula. Methodology developed by Pierce and Hemstock (2021).
Weaknesses and risks	This activity is the first step of a concerted action that will lead to curricular redesign and implementation which will take a minimum of 7 years to have any impact in communities.
Budget	Analysis per country (12 days): EUR 6000
Outputs	An analysis that can be used for the basis of curricular redesign in alignment with national and regional policies.
Timeframe	Short-term: 8 months

Activity 5: School curricular redesign in line with national and regional policies related to resilient development	
Key activities	Redesign curriculum in alignment with national and regional policy related to resilient development. Hand over to Ministries of Education for implementation (teacher training). There may be a need for learning resource development and training of teachers on content.
Key partners	Kiwa Secretariat and Ministries of Education.
Methodology	Call for support to PICT Ministries of Education – based on results from Activity 4 (Kiwa Secretariat). TA call for curriculum developers (Ministries of Education may have curriculum development units) for countries identified by Kiwa secretariat. Work with respective (hand off to Ministries of Education for approvals).
Justification and impact	The formal education sector has a key role in combatting the impacts of climate change and disasters, exploring strategies for adaptation and mitigation, and promoting carbon-neutral, sustainable lifestyles. Investment in universal primary and secondary education, especially in developing countries, is regarded as the most effective strategy for enhancing the adaptive capacity to CC. Given the high attrition rates for secondary education across the PICTs, including resilience education such as NbS for CCA at primary and junior secondary levels is a viable strategy for raising capacity for community actions on NbS and community awareness of CC/CCA.
Beneficiaries	No direct beneficiaries from this as activity as it is a stepping-stone to implementation. Stakeholder group: communities (direct over the long term). Geographic coverage: PICTs willing to participate.
Key resources	Existing school curricula. EQAP Existing capacity at Ministries of Education, local national teacher training colleges and regional and national universities for curriculum design.
Weaknesses and risks	This activity is the second step of a concerted action that will lead to curricular redesign and implementation which will take a minimum of 7 years to have any impact in communities. If uptake on this activity is high, then it could be worked up into a full long-term project of at least 7 years duration. Estimated cost to achieve associated teacher training and resource development would be in the region of EUR 8,000,000. French territories and countries with US compact agreements are unlikely to participate in this activity since their education systems are externally funded and follow French and US systems and curricula.
Budget	Unknown – depends on results of Activity 4, and support from respective Ministries of Education. Suggest local TA of up to EUR 60 000 per country per subject area.
Outputs	An analysis that can be used for the basis of curriculum redesign in alignment with national and regional policies.
Timeframe	Long-term: 7 years (after Activity 4) and longer for implementation. Vanuatu began this process in 2010 and only implemented the first set of new curricula in schools in 2022, with others to be implemented in 2023.

Activity 6: Mainstreaming activity: Awareness-raising for decision-makers	
Key activities	Design and run a massive open online course (MOOC) on NbS for CCA. Encourage participation from high-level decision-makers (maybe with a quiz and a decent prize). Online conference for invited high-level decision-makers: 1-hour session where NbS for CCA is introduced, followed by a 1-hour discussion session (a series of conferences could be framed around implementing various national policies, frameworks and international instruments using NbS for CCA). Face-to-face discussion for invited high-level decision-makers (could be achieved as a lunchtime side event at a wider meeting e.g. Pacific Resilience Platform) on how NbS can be mainstreamed into policies and strategies as a means of policy implementation.
Key partners	Kiwa Secretariat, high-level decision-makers, Ministries and Ministers with portfolios for forestry, fisheries, agriculture, climate change, DRR/DRM, biodiversity and sustainable development.
Methodology	Activity 6 represents a range of options. The MOOC should be a standalone online general awareness-raising course on NbS for CCA, placing NbS into a Pacific context and linking with LITK. To further target decision-makers, the next attempt should be an online conference (in the interests of saving costs and achieving awareness-raising goals over the short-term). For all options a call for support to PICT Ministries and ministers is required. Options: 1) TA to design and run the MOOC (suggest 4 x 1-hour weekly sessions, with materials that can be reused and repackaged for general awareness-raising). This could be delivered as one of the "Executive Courses" run by the Pacific Climate Change Centre or cover a redesign of the "Pacific Islands in a Changing Climate" USP MOOC, or both. 2) Kiwa Secretariat to call an online high-level conference on NbS for CCA. Discussion session could be framed around how NbS for CCA could help implement various national policies and international frameworks and goals. Kiwa Secretariat to organise a side event for decision-makers at a wider meeting (e.g. Pacific Resilience Platform) to discuss NbS for CCA mainstreaming and as a means of policy implementation.
Justification and impact	The MOOC should have positive impact if it is well designed and well attended by decision-makers. The MOOC offers an opportunity for wide participation and is an excellent way of sharing information that is free for the end-user. Ministers and high-level decision-makers usually have long lead-in times for events, so it makes sense to piggy-back on a previously organised high-level event if possible. An online approach should be taken first in the interests of saving costs and achieving awareness-raising goals over the short-term. High-level online conferences worked well for the Sendai Framework mid-term review. Lead-in time for invitations and calls was around 6 weeks. If attendance is low, then a face-to-face approach should be taken. Face-to-face would most likely yield good results. Framing conferences around how NbS for CCA can achieve implementation of national policies/strategies, regional frameworks and international instruments should directly assist with NbS mainstreaming. The impact of these activities should mean that decision-makers are informed about NbS for CCA, there may be an increase in political will to use NbS to achieve policy implementation and to mainstream NbS into appropriate policies and strategies.
Beneficiaries	Decision-makers (direct), all stakeholder groups (indirect) and the Kiwa mainstreaming initiative (direct). Geographical coverage: all PICTs
Key resources	Expertise at Kiwa Secretariat and Pacific-based educational institutions and CROPs with experience and skills in developing effective MOOCs.
Weaknesses and risks	Lack of participation from decision-makers. Not changing decision-making hearts and minds about NbS for CCA is a risk.
Budget	MOOC development: EUR 40,000 (estimate if USP were to design and deliver an appropriate climate change MOOC – unsure of estimate for the Pacific Climate Change Centre). Online conference: EUR 1000 (Kiwa Secretariat staff time and resources). Face-to-face (if piggy-backed to a wider event, e.g. PRP at Holiday Inn, Suva): room and equipment hire EUR 1000; lunch EUR 40 per delegate. Estimate 30 delegates: EUR 3000. Bringing in delegates for a specific meeting. Experience from previous projects covering 15 Pacific ACPs and involving 3 delegates from each country for a 4-day meeting in Suva, Fiji cost in the region of EUR 230,000.
Outputs	Informed decision-makers and NbS mainstreamed into policies, strategies and plans.
Timeframe	Short-term: 3–12 months (depends on timing of piggy-back event)

Activity 7: Awareness-raising for communities	
Key activities	Design and run a MOOC on NbS for CCA (from Activity 6) that would work well on a mobile phone. Encourage participation at community level (maybe with a quiz and a decent prize). Face-to-face community awareness sessions delivered by Kiwa project implementing agencies and NGOs and related resilience/CCA projects. Produce a series of videos on NbS for CCA in local context demonstrating successful NbS initiatives and integrating LITK.
Key partners	Kiwa Secretariat, Kiwa implementing institutions, NGOs and project management units (PMUs) from other projects operating in the region.
Methodology	The MOOC should be a standalone online awareness-raising course. TA to design and run the MOOC (suggest 4 x 1-hour weekly sessions, with materials that can be reused and repackaged for general awareness-raising). All materials should still be accessible after the "live" MOOC has run. Encourage youth participation by raising awareness of the MOOC with youth leaders (e.g. Red Cross Red Crescent Youth Groups, Church youth groups, schools and colleges). Through a communications and visibility TA, engage youth groups/individuals regionally to make their own social media contributions based around NbS for CCA and links with LITK in their own communities (hosted via TikTok, Facebook, Kiwa YouTube channel, etc). The MOOC should serve as a learning platform before youth groups/individuals embark on making their own media about NbS for CCA. Participating in this could be framed around "MoJo" (mobile journalism – there are lots of free resources and editors available online that can be used with standard android phones that most people have access to). Participation could be encouraged by running it as an annual competition. USP EU GCCA project did something similar with "Climate Zone"[18] – a regional televised climate change quiz for schools, which was a great way of raising awareness about climate change and won the ABC PACMAS award for climate change communication. There are many ways peer-to-peer and discovery learning can be localised and achieved via online platforms. This can be done by asking participants to complete activities in their own communities/settings or partnering with another MOOC participant and engaging in activities such as speaking with community/family members about LITK, sharing LITK information and stories, reporting back to the MOOC via text/audio-visual presentations etc. Learning resources could then be hosted long-term on the Pacific Climate Change Centre website as an "open course". It would have to be very well designed and accessible to communities. Use social media to promote the MOOC and associated "open course". Kiwa Secretariat to coordinate with Kiwa projects to carry out general awareness-raising in communities on NbS for CCA (preferably using the resources developed in Activity 1). This resource can be used on visits to communities as a tool to increase awareness of climate change and environmental issues generally and highlight NbS solutions to those issues. Training trainers/project community officers may be necessary. This could be done via the virtual teacher guide produced in Activity 1. The video series on NbS for CCA could be made available via TikTok/Facebook/social media. SPC already has a library of audio-visual material that could be repurposed for this.
Justification and impact	The MOOC should have positive impact if it is well designed and accessible. The MOOC offers an opportunity for wide participation and is an excellent way of sharing information that is free for the end-user.
Beneficiaries	Stakeholder group: communities Geographical coverage: all PICTS
Key resources	Expertise at Kiwa Secretariat. Pacific-based educational institutions and CROPs with experience and skills in developing effective MOOCs. Social media platforms.
Weaknesses and risks	Lack of participation from youth groups and communities. Lack of participation from Kiwa implementing agencies, NGOs and other projects. Availability of local trainers/community reps to carry out face-to-face delivery in communities.
Budget	MOOC development: EUR 40,000; social media campaign: EUR 3000. Total: EUR 43,000 Face-to-face community awareness events: EUR 1000–2000 per community visited. Assuming that a community coordinator from the Kiwa projects/other projects would be delivering the training, costs will depend on how effectively they can be piggy-backed onto community events organised as part of individual Kiwa projects community activities. Experience from other projects indicates costs of local travel, accommodation for the trainer while in the community and community supplies (rice, sugar, casava, fuel for generators, etc) would be required. Youth engagement: EUR 5000 for targeted social media advertising to schools, churches and youth groups; EUR 5000 cost of prizes (suggest tablets/phones/cameras). Could be run on an annual basis which would repeat the costs. If done as a TA communications consultancy: EUR 40,000
Outputs	Informed community members.
Timeframe	Short-term: 3–12 months

18 Details for Vanuatu Climate Zone Quiz

Activity 8: Integrating NbS into regional Certs II–VI resilience qualification learning resources and qualification delivery	
Key activities	Add NbS for CCA and clarify existing EbA approaches and links with LITK in a Pacific context to existing resilience qualification learning and teaching resources and assessments at USP (articulated levels III & IV) and NUV (levels I–III in French and English). Peer-to-peer learning and discovery learning exercises should be included in face-to-face modes. Add and reinforce GEDSI elements for NbS for CCA to add to existing resilience qualification learning and teaching resources and assessments at USP (articulated levels III & IV) and NUV (levels I–III in French and English). (UNWOMEN are currently working with USP PACE-SD and integrating GEDSI into the teaching and learning resources for USP articulated Certificates III & IV in Resilience) Learning and teaching resources are currently under development by USP for diploma levels 5 and 6 in Resilience. The Kiwa Initiative should aim to include NbS for CCA (Pacific context and links with LITK) and NbS Standards in the learning and teaching resources. Peer-to-peer learning and discovery learning exercises should be included as exercises that the student can execute in their own communities. Scholarships for student participating in diploma levels 5 and 6.
Key partners	Kiwa Secretariat, USP, NUV and EQAP
Methodology	The development of learning and teaching resources for certificates III–IV at USP have already been completed, but additional resources for NbS for CCA can be added. TA call for learning and teaching resource development consultant to develop resources for NbS for CCA and GEDSI inclusion for online and face-to-face resources for USP articulated certificate III/IV and face-to-face resources for NUV certificates I–III in English and French. USP and EQAP are managing the unpacking and development of learning and teaching resources for diploma levels 5 and 6 for delivery at USP. The process has already begun, and inclusion of NbS for CCA has been discussed. Some references have been provided to the development team and the inclusion of NbS for CCA has been agreed. Follow-up is required by the Kiwa Secretariat. Call for student participation (one certificate: delivery to 20 students). Carefully devise selection criteria; the course taken must be the student's highest qualification achieved. It must have impact on their career, volunteer work or current job role, etc.
Justification and impact	These qualifications were developed by the region and for the region, have wide ranging high-level and grassroots support, and are in line with various policy calls regarding capacity development and education. There is expertise in the PICTs to undertake addition of NbS for CCA learning resource development – this is important as local context and LITK have been emphasized by interview respondents.
Beneficiaries	Participating institutions (direct). All stakeholder groups will have access to resulting qualifications (indirect). Geographical coverage: 12 USP countries, but all PICTs will have access to resulting qualifications (indirect).
Key resources	Learning resources for certificates I–IV and qualification documents.
Weaknesses and risks	Learning and teaching resources would be more accessible if there was a dedicated portal/website for Pacific resilience learning resources that educators were aware of. Hosting Pacific resilience learning and teaching resources could be a role for existing resources like the Kiwa website, the PRFRP website, the Pacific climate change portal, USP PACE-SD Knowledge Centre, Live and Learn website, IUCN website, EQAP website, etc. To prevent arguments over ownership, the regional resilience qualifications developed under the EU PacTVET project are owned by the resilience industry advisory, the PRFRP. It would be advisable for this to be the case for any new qualifications. Validation not received from USP Senate/EQAP.
Budget	Updating existing resources (certificates I–IV): EUR 40,000 Ensuring NbS for CCA resources are integrated into levels 5 and 6 is at zero cost as this would involve Kiwa Secretariat contacting the qualification development team, providing relevant references, and ensuring that NbS for CCA is integrated into learning and teaching resources. Delivery of qualifications: Online cost per student: EUR 2000 Face-to-face (cohort basis) cost per student: EUR 8000 (including accommodation and full board)
Outputs	An effective learning resource available in X number of schools and communities. Improvement in community awareness (knowledge, skills and behaviours) of NbS for CCA in X number of communities.
Timeframe	Medium-term: 3 months for certificates I–IV 12 months for diploma levels 5 and 6 (need to go through USP validation processes and Senate approval as new qualifications). 12 months (after teaching and learning resources have been developed) for delivery to a student cohort. Total timeframe for initial qualification development: 2 years 6 months from starting this activity to the completion of the first cohort.

Notes

Activities 8 and 9 are based around the regional resilience qualifications. Certificate IV in Resilience is available to be delivered globally in English language via USP online. It can also be delivered in face-to-face mode in the 12/19 Kiwa PICTs with a USP campus on a cohort basis. Certificates I–III are available for delivery in French and English at NUV on a face-to-face basis. Certificates II–IV are available to be delivered at any educational institution that has been validated by EQAP (institutional validation is an on-going process and information is available from EQAP).

Certificate levels I–IV have been recently re-validated (all TVET qualifications have to be revalidated every 3–4 years to ensure that they remain relevant to the workplace), and learning resources have been developed. USP has "articulated" certificates III and IV, and these are now offered as a single qualification (Certificate IV in resilience). GEDSI is being integrated into the articulated certificate III/IV learning resources by UN WOMEN.

Qualifications at diploma levels 5 and 6 have recently been developed.

By embedding NbS for CCA capacity development into existing educational structures, Activities 8 and 9 will provide sustainable outcomes for NbS for CCA that will outlive the project-cycle for the Kiwa Initiative capacity-building programme.

Activity 9: Developing and delivering micro-qualifications or professional short courses	
Key activities	Develop micro-qualifications and professional short courses in selected subjects. As professional short courses are non-formal, no accreditation is required. Integration of NbS for CCA and GEDSI elements into existing micro-qualification/professional short course learning and teaching resources. Develop associated learning and teaching resources for micro-qualifications/professional short courses. Scholarships for student participating in the delivery of micro-qualifications/professional short courses (existing micro-qualifications/professional short courses and those developed by the Kiwa Initiative).
Key partners	Kiwa Secretariat, USP and EQAP (or an EQAP accredited/validated national tertiary education institute or a national accreditation authority).
Methodology	Industry Standards Advisory Committees will need to be set up. One committee can serve a number of related micro-qualifications. Existing unit standards (from the resilience qualifications and other relevant TVET national or regional qualifications) can be used for the micro-qualification. Liaise with EQAP on accreditation processes for this. Work with PICT tertiary educational institutions on TA calls for learning and teaching resource development for respective micro-qualifications and professional short courses (and/or integration of NbS for CCA and GEDSI elements into existing micro-qualification/short course learning and teaching resources), including online and face-to-face resources and resources developed in English and French languages. Peer-to-peer learning and discovery learning exercises should be included in face-to-face modes where appropriate. Learning resources could also be hosted appropriately for people to use on an ad-hoc informal basis. The Pacific Climate Change Centre website and the Pacific Regional Federation of Resilience Professionals (PRFRP) website be host these online resources. Call for student participation in the delivery of the micro-qualifications/professional short courses (one cohort for micro-qualification delivery would be around 20 students). For both technical and management stakeholder groups, carefully devise selection criteria; participation must have impact on their career, livelihood prospects, volunteer work or current job role, etc.
Justification and impact	A micro-qualification is a component of a broader qualification addressing a specific, targeted need that requires only a certain skill set. Micro-qualifications have been developed by the region, for the region, respond to identified PICT needs, and have wide ranging high-level and grassroots support. Existing relevant national and regional TVET qualification unit standards can be "unpacked" to provide micro-qualifications. The suggested qualifications outlined in this activity have been identified as a means of filling capacity gaps by representatives of Kiwa projects and wider consultation throughout the region. The suggested subject areas are also in line with various policy calls regarding capacity development and education for resilient development. Although many organizations in the Pacific Islands region develop and deliver short training programmes, these are neither accredited nor recognized. There are no pre-defined national systems to support the development and accreditation of short training programmes in the region. Micro-qualifications are recognized through EQAP. Recognition adds value to the certificates acquired by participants and will enhance their employability. There is expertise in the PICTs to undertake micro-qualification and learning and teaching resource development – this is important as local context and LITK has been emphasized by interview respondents.
Beneficiaries	Participating institutions (direct). All stakeholder groups will have access to resulting qualifications (direct). Geographical coverage: 12 USP countries, but all PICTs will have access to resulting qualifications delivery (direct). Tertiary education providers in all PICTs.
Key resources	EQAP Quality Assurance in Higher Education and Training in Pacific Island Countries and Territories – Guidelines for the development and accreditation of units of learning Experience from the PEUMP programme.
Weaknesses and risks	Accreditation not received from USP senate/validated tertiary institution senate/national quality assurance institution or EQAP. People unwilling to participate in Industry Standard Advisory Committees.
Budget	Updating existing micro-qualification/professional short course learning and teaching resources and creating resources for new micro-qualifications: EUR 3000 per qualification. Student fees for previous micro-qualifications range from EUR 130–540 depending on the length of and type of training. The seafood business and seafood safety training courses were over 2 weeks and were about EUR 540/participant. Cost for development and delivery of micro-qualifications: EUR 140,000 for development and delivery of micro-qualifications (including 90 scholarships) on the EU PEUMP project. Cost for development of a single micro-qualification (for regional accreditation): EUR 5000 for course developer; EUR 7000 for industry standards committee for course verification; EUR 5000 for publication of qualifications document. Total: EUR 17,000
Outputs	Effective and targeted micro-qualifications available for delivery (with teaching and learning resources). Increased capacity of identified stakeholder groups. Improvement in community awareness (knowledge, skills and behaviours) of NbS for CCA in X number of communities. Regional scale-up of NbS for CCA management and technical capacity.
Timeframe	Short-term: 3–6 months for integration of NbS for CCA and GEDSI elements into existing micro-qualification learning and teaching resources Medium to long-term: 12–18 months for development of new micro-qualifications with associated learning and teaching resources. Long-term: 3–26 months for delivery of micro-qualifications (for existing micro-qualifications, this can begin straight away; 26 months includes development of new micro-qualifications)

Activity 10: Develop TVET NbS for CCA regional qualifications (Regional Certificates I–VI in NbS for Climate Change) and related learning and teaching resources	
Key activities	Develop TVET NbS for CCA regional qualifications (Regional Certificates I–VI NbS for Climate Change). Develop learning and teaching resources for NbS for CCA TVET qualifications – LITK to be a key feature of these qualifications and GEDSI will be thoroughly integrated throughout. Peer-to-peer learning and discovery learning exercises should be included in face-to-face modes. For online modes, peer-to-peer learning and discovery learning exercises should be included as exercises that the student can execute in their own communities. Delivery of these qualifications to students. Scholarships for student participating in the delivery of all levels.
Key partners	Kiwa Secretariat, EQAP, USP, NUV and any validated tertiary educational institution. Assisting institutions to become validated to deliver the NbS for CCA related qualifications could be considered.
Methodology	EQAP would help in the development of TVET qualifications for NbS for CCA. For the EU PacTVET project, the Fiji Higher Education Commission took on a TA consultancy to develop the Certs I–IV in Resilience using Fiji's national frameworks. The EU PacTVET project then worked with FHEC and EQAP to devise a regional accreditation procedure which the Resilience qualifications then went through. Develop unit standards/competencies for regional qualifications at appropriate levels using processes aligned with the PQF, covering all identified needs and integrating GEDSI in all aspects. TA call for learning and teaching resource development consultant to develop the resources for respective levels, integrating and GEDSI elements, LITK, and peer-to-peer and discovery learning. Online and face-to-face resources to be developed simultaneously. Resources to be developed in English and French languages. An Industry Standards Advisory Committee will need to be set up. One committee can serve all qualification levels. The committee can be regional and meet virtually via Basecamp. The use of online tools will allow feedback, monitoring and support of the qualification development process and for ISAC endorsement of final versions of the qualifications. Call for student participation in the delivery of the micro-qualifications (one cohort for micro-qualification delivery would be around 20 students). For both technical and management stakeholder groups, carefully devise selection criteria; participation must have impact on their career, livelihood prospects, volunteer work or current job role, etc. TVET qualifications need to be renewed every 3–5 years to ensure they remain work-place relevant. This could be done by the Pacific Regional Federation of Resilience Professionals, who "own" the Regional Certificates I–IV in Resilience that were developed under the EU PacTVET project. The Pacific Regional Federation of Resilience Professionals also host the Industry Standards Advisory Committee for the resilience qualifications.
Justification and impact	A key barrier to improving national resilience to climate change impacts is a lack of capacity and expertise in the region resulting from the absence of sustainable accredited and quality assured formal tertiary training programmes in sectors relevant to CCA. There is expertise in the PICTs to undertake the creation of NbS for CCA qualification and learning/teaching resource development – this is important as local context and LITK has been emphasized by interview respondents. The qualification (levels I–VI) will encompass all identified needs of all identified stakeholder groups.
Beneficiaries	Participating institutions (direct). All stakeholder groups will have access to resulting qualifications (indirect). Geographical coverage: 12 USP countries, but all PICTs will have access to resulting qualifications (indirect).
Key resources	EQAP, FHEC, existing resilience qualifications, expertise at USP Pacific TAFE, and EU PacTVET experience.
Weaknesses and risks	Failure to receive accreditation. People unwilling to participate in Industry Standard Advisory Committees. Students unwilling to participate. To prevent arguments over ownership, the Regional Resilience qualifications developed under the EU PacTVET project are owned by the resilience industry advisory the PRFRP. It would be advisable for this to be the case for any new qualifications.
Budget	Resilience certificates I–IV were developed with the help of the FHEC (online ISAC) at a cost of EUR 150,000, which included TA on the regional process, so the cost is not anticipated to be more than this. Development of learning resources: EUR 60,000 (or developed by the implementing institution at zero cost). Delivery of qualifications: online cost per student: EUR 2000; face-to-face (cohort basis) cost per student: EUR 8000.
Outputs	Effective and targeted NbS for CCA qualifications available for delivery (with teaching and learning resources). Increased capacity of identified stakeholder groups Improvement in community awareness (knowledge, skills and behaviours) of NbS for CCA. Regional scale-up of NbS for CCA management and technical capacity.
Timeframe	Long-term: 12–24 months for certificates I–VI. 9–12 months for development of learning and teaching resources. 12 months (after teaching and learning resources have been developed) for delivery to a student cohort. Total timeframe: 36 months from the start of this activity to completion of the first cohort.

Activity 11: Cohort training for management and technical stakeholder groups	
Key activities	Select subject area and mode of training provision. Design and implement a GEDSI strategy and ensure accessibility of available training to marginalized groups (GEDSI strategy for training provision). Create a cohort: decide on number of people to be trained. Individuals selected for training must have opportunities to apply learning in practical assignments or in their jobs and time to undertake the course. Scholarships for student participating in the training (existing micro-qualifications/professional short courses and those developed by the Kiwa Initiative under Activity 9).
Key partners	Kiwa Secretariat, Kiwa project implementing organisations, government ministries and departments (environment, agriculture, forestry, fisheries, biosecurity, finance, etc.), local government, NGOs, CSOs, communities, and PICT nationally and regionally validated training providers offering formal and non-formal provision of training for trainers.
Methodology	Call for support from relevant ministries, departments, local government, NGOs, CSOs, Kiwa communities and Kiwa project management units. TA call for a GEDSI strategy for training programme, based on findings from this analysis. Subject area, type of training (formal/professional short course) and delivery mode to be selected by Kiwa Secretariat. Use information under Activity 9 (Developing and delivering micro-qualifications or professional short courses) to ensure that the course to be offered is designed properly, with quality control elements in place, and that course content is closely aligned with identified needs/work responsibilities, preferably to be offered by a PICT-based provider. Work with PICT tertiary educational institutions on a TA call for training provision. SELECTING TRAINING PARTICIPANTS Technical stakeholders: local technicians (NGOs, CSOs, CROP practitioners, local government, extension, forestry and fisheries officers, community leaders, etc.) should have experience of working in local contexts with communities on areas related to NbS and are trusted by communities. Management stakeholders: project practitioners, local government administrators and HR officers (anyone related to project management). Selection strategies could include: Defining criteria for participation based on job roles (operational/management level can be defined, i.e. not suitable for those in senior management roles), previous qualification levels (maximum as well as minimum level qualifications, e.g. must have school certificate or relevant experience, excluded if have bachelors/masters unless the course being offered is directly relevant to their job role), work experience and GEDSI strategy. Open advertisement of training provision and application process. Applicants to be evaluated on the basis of the criteria in place for the training (using traditional and social media and existing networks, e.g. ask focal points to circulate the advertisement, rather than select participants directly). Nomination by an organisation, project management unit or community (nominees must fit the defined criteria and GEDSI targets). Ensure that the participant has time to complete the training (and any assessments), especially if they are working. DELIVERY OF TRAINING PROVISION (ALSO SEE ACTIVITY 9) Trained trainers (from Activity 3) could also be available to train communities/practitioners on a variety of issues (depending on who the trainer is e.g. Agricultural Extension Officer, Forestry Officer, Project Manager, GEDSI Officer, etc. Student scholarships should include fees and all associated costs (e.g. accommodation and board if the course is face-to-face; internet costs if online; cost of course materials, etc). If the course is quite long (e.g. 1 month training of trainers), then a "completion bonus" could be given – this might be beneficial in reducing attrition rates for online course provision.
Justification and impact	Formal training qualifications provide a means for career progression and an ability to diversify livelihood options and improve employment prospects. Formally and non-formally trained trainers can be used to deliver the resources for community awareness. If local schools were used as venues, this could also raise funds for the school. Impact: Improved community awareness. PICT nationally or regionally validated tertiary education institutions have educational quality control processes in place for non-formal and formal education/training provision, so it makes sense to use these providers. All universities and colleges across the PICTs have business plans and outreach programmes. Most of them will be able to organise the provision of existing micro-qualifications and professional short courses on a cohort basis (usually a minimum of 20 participants), well within the budget and timeframe of the Kiwa Initiative capacity-building training programme.
Beneficiaries	Institutes offering training (direct). People receiving training (direct). Current projects that use the trained trainers produced by this activity (direct). Kiwa communities (indirect). Stakeholder groups: management (local government administrators and HR officers) (direct), technical (NGOs, CSOs, local government, extension, forestry and fisheries officers) (direct) and communities (indirect). Geographic coverage: this activity should select participants from all Kiwa PICTs.
Key resources	See Table 6: Identified subject area needs on a stakeholder group basis and existing expertise in the PICTs.
Weaknesses and risks	Reluctance to engage in this activity from various stakeholder groups/other projects (non-Kiwa). Nominating agencies do not nominate participants for whom the training will have most impact, and whose employees will give participants the time they need to complete the training. Activities/number of people trained is not scaled-up enough to have an impact regionally. Face-to-face delivery results in much lower attrition rates, but is expensive to deliver if bringing students to a central point, e.g. USP Suva. Much cheaper to send the trainer to train in-country, which can be done in 12/19 Kiwa countries with a USP campus. Training at USP may not be available in French; however, training for French OCTs can be done at the NUV and providers in respective countries. Online completion of the Certificate IV in Resilience has a much lower cost but has a high drop-out rate (around 50%). Much care should be taken when selecting candidates to ensure that they have the time and resources to complete training online.
Budget	USP online delivery: Fees: EUR 1000 per student (this covers all 4 courses to complete a Certificate IV at USP). Bursaries: EUR 500 per student to cover internet costs and associated expenses. To ensure the programme is completed, a stipulation of accepting to take part in the training would be repayment of bursary if the student fails to complete the training. Cohort number and inclusion of specific NbS for CCA content and assessments to be negotiated with the training provider. Estimated total cost for 5 qualified trainers in each of 19 PICTs: EUR 150,000 USP face-to-face delivery for an in-country cohort (based on experience form EU GCCA project in-country ToT programme in Tuvalu): Fees: EUR 20,000 for 20 students (15 from outer islands) required for the cohort. Cost of transport from outer islands, accommodation and food for students and trainer (face-to-face delivery over a 4-week period): EUR 80,000 Total cost estimated at EUR 100,000. Total maximum cost per person: EUR 6,000 (this does not include a bursary as face-to-face training is at the USP campus, using USP facilities). For countries such as the Cook Islands, costs may be higher as accommodation costs would be higher. Costs for Fiji may be lower as accommodation costs may be lower. Micro-qualifications and professional short courses: Student fees for previous micro-qualifications delivered face-to-face range from EUR 130–540 depending on the length of and type of training. The seafood business and seafood safety training courses were over 2 weeks and were about EUR 540/participant.
Outputs	Increased capacity of identified stakeholder groups able to manage and implement NbS for CCA initiatives and mainstream NbS for CCA into relevant policies, agreements, frameworks, strategies and plans.
Timeframe	Medium-term Month 1: Planning and negotiation with training provider. Months 2–4+: Training provider to develop training provision – include focus on NbS for CCA, etc. (longer time required if new micro-qualifications are being developed). Months 4+: Delivery of training – timeframe would depend on length of course and mode of delivery.

08 | SPECIFIC RECOMMENDATIONS FOR KIWA CAPACITY-BUILDING PROGRAMME

Trigger canoe (pirogue) on the lagoon in New Caledonia © Pacific Community (SPC) 2019

8.1 Recommended activities for capacity development and awareness-raising

From the menu of activities provided in the preceding chapter, the following activities have been highlighted as suitable for the Kiwa Initiative:

Activity 1: Developing learning and teaching resources for primary schools and community use without re-inventing the wheel

Re-develop effective learning resources to specifically place NbS for CCA in a Pacific context. Distribute and use these resources to raise awareness at various levels. *Timeframe*: 3–6 months. *Budget*: EUR 6000/ country.

Activity 3: Training-of-trainers programme

Train trainers and assessors formally to be accredited at Certificate IV level and trained in work-based assessment. Non-formal professional development training of trainers to assist with community awareness raising. *Timeframe*: 3-6 months on a cohort basis. *Budget*: Online formal training EUR 1000/participant. Face-to-face training: estimate EUR 6000/student.

Activity 6: Mainstreaming activity: Awareness-raising for decision-makers

A variety of options are included such as a MOOC, executive course, online conference, face-to-face conference. *Timeframe*: 3–12 months. *Budget*: EUR 1000–230,000, depending on option selected.

Activity 7: Awareness-raising for communities

A variety of options include face-to-face/peer-to-peer learning (incorporating LITK), online resources (MOOC), social media. *Timeframe*: 3–12 months. *Budget*: EUR 1000–43000 EUR, depending on option selected.

Activity 8: Integrating NbS for CCA into Regional Certificates in II–VI Resilience qualification learning resources and qualification delivery

Timeframe: 3–12 months. *Budget:* Zero cost for levels V and VI. Estimate EUR 40,000 for levels I–IV.

Activity 9: Developing and delivering micro-qualifications or professional short courses

For a list of priority identified subject areas see Table 6. *Timeframe*: 3 months for delivery of existing qualifications up to 26 months for developing and delivering new micro-qualifications. *Budget*: Delivery of existing micro-qualifications EUR 130–540/ training participant, depending on the qualification selected. Development of a new micro-qualification approximately EUR 17,000–20,000.

Activity 11: Cohort training for management and technical stakeholder groups

For a list of priority identified subject areas see Table 6. *Timeframe*: 3 months for existing micro-qualifications and professional short courses. 6 months for existing certificate-level courses. 6–24 months for development and delivery of new qualifications/ professional courses. *Budget*: Online delivery: up to EUR 1000/student; face-to-face delivery: up to EUR 540 for micro-qualifications and professional short courses (excluding per diem) and up to EUR 6000 for face-to-face delivery including accommodation.

Table 9 on Page 57 lists the recommended activities for each stakeholder group.

By embedding NbS for CCA capacity development into existing educational structures, activities 8 and 9 will provide sustainable outcomes for NbS for CCA that will outlive the project-cycle for the Kiwa Initiative capacity -building programme.

Table 9: Recommended activities for each stakeholder group	
Stakeholder group	**Activities**
Capacity building	
Management	**Activity 3**: Training-of-trainers programme **Activity 8**: Integrating NbS for CCA into Regional Certificates II–VI in Resilience qualification learning resources and qualification delivery **Activity 9**: Developing and delivering micro-qualifications or professional short courses **Activity 11**: Cohort training for management and technical stakeholder groups
Technical	**Activity 3**: Training-of-trainers programme **Activity 8**: Integrating NbS for CCA into Regional Certificates II–VI in Resilience qualification learning resources and qualification delivery **Activity 9**: Developing and delivering micro-qualifications or professional short courses **Activity 11**: Cohort training for management and technical stakeholder groups
NbS mainstreaming	
Decision-makers	**Activity 6**: Mainstreaming activity: Awareness raising for decision-makers
Communities	**Activity 1**: Developing learning and teaching resources for primary and community use without re-inventing the wheel **Activity 3**: Training-of-trainers programme **Activity 7**: Awareness raising for communities **Activity 8**: Integrating NbS for CCA into Regional Certificates II–VI in Resilience qualification learning resources and qualification delivery **Activity 9**: Developing and delivering micro-qualifications or professional short courses

8.2 Options for training modalities and design

Following the regional qualifications model and based on suggestions from interviews and in-country workshop findings, the following formal capacity development options at levels 1–6 on the Pacific Qualifications Framework are outlined:

- A **short-term strategy** for the Kiwa capacity-building training programme. For example, extend existing "Resilience" qualification learning resources to integrate NbS for CCA into existing streams, cohort delivery of existing qualifications, micro-qualifications and units (covering project management, financing and technical subject areas), and re-working learning and teaching resources to be used in schools and communities.
- A **medium-term strategy** for the Kiwa capacity-building training programme would be to extend existing "Resilience" qualifications to include "Nbs" as a learning stream or fully integrate NbS into existing streams via learning resources development, and the development of specific NbS micro-qualifications.
- A **long-term strategy** for the Kiwa capacity-building training programme would be to extend this approach specifically to NbS and develop regional qualifications on subjects relevant to all aspects of NbS (e.g. ecosystem services, LITK, ecology, conservation, NbS implementation, planning, monitoring and evaluation, cost–benefit analysis, etc).

Two levels of training programmes are required for capacity development for NbS: training of trainers for the team delivering NbS programmes, followed by capacity development of the local communities to sustain the long-term NbS initiatives. An option following this modality would be to deliver the resilience qualifications (levels 1–6)[19] at the higher levels to relevant officers at sector ministries, extension and conservation officers based at the subnational offices, and staff from relevant CSOs/NGOs. The trained personnel can then facilitate short, non-formal targeted training programmes for local communities and villages.

There is a wide selection of NbS for CCA relevant tertiary educational provision already available in French and English. The Kiwa Initiative can work with the identified institutes to develop bespoke training based on the formal educational provision. USP and SPC offer non-formal, short training courses, professional short courses, micro-qualifications, vocational training programmes and tertiary level undergraduate and postgraduate programmes. Micro-qualifications are units of assessed learning that are

19 Resilience Qualifications are accredited vocational programmes offered by the University of the South Pacific's Pacific Technical and Further Education (TAFE) (https://www.usp.ac.fj/pacific-tafe/) Information on programmes offered by USP may be accessed here: https://www.usp.ac.fj/handbookandcalendar2023/

significantly smaller than the traditional forms of accredited learning, like diplomas or degrees. They can either be standalone units or can contribute to a qualification, thus allowing learners more flexibility and pathways toward higher education. Micro-qualifications would be a useful way of delivering the various identified skill sets around NbS for CCA. EQAP (the Pacific Community's Educational Quality Assessment Programme) is the first Pacific quality assurance agency to accredit micro-qualifications. The service was pursued after several education agencies raised the need.

Qualifications can be developed at any nationally validated, self-accrediting educational institution (e.g. FNU, UPNG, Samoa National University, SINU, Vanuatu National University, etc). However, USP is a globally ranked, self-accrediting university, regulated by the Fiji Higher Education Commission, with internationally recognised qualifications. Qualifications/micro-qualifications developed by USP automatically have international recognition. Developing qualifications and micro-qualifications through USP policies and procedures and simultaneously following EQAP accreditation processes is possibly the quickest and most efficient way of developing qualifications and micro-qualifications. The EU PacTVET project simultaneously developed parallel qualifications with VIT (national accreditation in Vanuatu) and regionally via Fiji Higher Education Commission, which were nationally accredited in Fiji, then regionally accredited via EQAP; and also through USP Pacific TAFE (through USP policies and procedures) with recognition in all USP countries and regionally in SPC PICTs via EQAP. These are essentially the same qualifications, but a multiple approach was taken as EU PacTVET was a pioneering project that carved out the process for regional accreditation via EQAP and to avoid failure by taking one approach, multiple approaches were taken – fortunately, all were successful.

EQAP can accredit qualifications regionally at levels aligned to the Pacific Qualifications Framework[20] that are developed by validated educational institutions or recognised Pacific national education authorities (e.g. New Caledonia Education Authority; Fiji Higher

Site selection with communities in Papua New Guinea for the Kiwa WISH+ project led by WCS. A.LATINNE © Kiwa Initiative 2023

20 Pacific Qualifications Framework

Education Commission, etc). The regional approach was endorsed at the 3rd Pacific Energy and Transport Ministers Meeting in Tonga, 2017 by all SPC member PICTs (Pacific Community 2017).

The method of delivery depends on the type of audience and what they are used to. USP offers online, face-to-face and blended (mix of online and face-to-face) mode options for their programmes. The Pacific Fisheries Leadership programmes offer blended approaches to deliver their programmes, which includes a mix of face-to-face and peer learning support. Civil servants are open to receiving details from academics. Government employees are open to online training programmes; however, the face-to-face mode that allows for more interactive and active participation is more effective for everyone. Peer learning is more successful in local communities, with other communities and community leaders sharing their experiences and lessons learnt. As far as peer learning is concerned, the traditional 'talanoa' works well in the Pacific. In addition, face-to-face, short, non-formal training programmes with a hands-on/practical component works well for local communities. Considering that higher-level national government civil servants have to interact with the local communities for implementation of key policies and plans, an intersect of both these sets of people is needed.

Short, non-formal training programmes on GEDSI may be delivered in collaboration with the Human Rights and Social Development (HRSD) section at the Pacific Community. The Human Rights Advisors and Gender Specialists at HRSD may be engaged to deliver targeted GEDSI training programmes across all levels, national, subnational, CSOs, NGOs and local communities and villages. HRSD provides awareness and training programmes on people-centred approaches through their PLANET principles, which will contribute significantly to the sustainability of NbS programmes.

LMMA Exchange with coastal communities in Atauru for the Kiwa local project led by Blue Ventures in Timor Leste. J.SILVADEJESUS

Site of a Kiwa local project led by LAMACCA in Vanuatu © Kiwa Initiative 2023

09 | RISK ASSESSMENT PER ACTIVITY

Identified risk(s)	Potential impact	Risk profile	Risk management strategy
Activity 1: Developing learning and teaching resources for primary and community use without re-inventing the wheel 1. Loss and damage of learning resources and materials due to natural disasters and accidents.	The programme will no longer be available for delivery without the resources.	Consequence: Major Likelihood: High	The use of these resources would be more sustainable if NbS for CCA were embedded in the school curriculum. Learning and teaching resources would be more accessible if there was a dedicated portal/website for Pacific resilience learning resources that teachers and other educators were aware of.
Activity 2: Inventory/database of local trained teachers and trainers available to assist with formal education and non-formal awareness-raising on NbS for CCA 1. Reluctance to engage in this activity. 2. Trainers, teachers and project workers in remote communities may not have internet connection or a means of finding out about this listing.	The database will not contain an exhaustive and true list of available teachers and trainers for NbS work in the region, particularly those who can deliver training in local languages.	Consequence: Major Likelihood: Low	In-person surveys in remote communities to gather relevant information on teachers and trainers.
Activity 3: Training-of-trainers programme 1. Reluctance to engage in this activity from various stakeholder groups/other projects (non-Kiwa). 2. No follow-through from development partners. 3. Nominating agencies do not nominate the participants who will have the most impact as trainers and whose jobs will give time over to allow them to train others. 4. Activities/number of people trained is not scaled-up enough to have an impact regionally.	Unable to meet the objective of increasing the number of regional trainers for NbS work.	Consequence: Major Likelihood: Moderate	Awareness and visibility of training programme. A brief consultation with nominating agencies to guide and advise them to selecting the appropriate participants. Engage and send trainers to deliver in-country training programmes, as opposed to the more costly task of bringing in participants at a central location.
Activity 4: Mainstreaming activity – Analysis of the alignment of PICT school curricular with national and regional policies related to resilient development 1. The activity (which is the first step of a concerted action that will lead to curricular redesign and implementation) fails to support the next steps in the process. 2. The overall process will take a minimum of 7 years to have any impact in communities.	Unable to meet the objective of school curricula redesign and implementation.	Consequence: Major Likelihood: High	Coordinate and collaborate with the Education ministries and schools to ensure continuity of the activity.
Activity 5: School curricular redesign in line with national and regional policies related to resilient development 1. The activity (which is the second step of a concerted action that will lead to curricular redesign and implementation) fails to support the next steps in the process. 2. The overall process will take a minimum of 7 years to have any impact in communities.	Unable to meet the objective of school curricular redesign and implementation.	Consequence: Major Likelihood: High	Coordinate and collaborate with the education ministries and schools to ensure continuity of the activity.
Activity 6: Awareness-raising for decision-makers 1. Lack of participation from decision-makers. 2. Not changing decision-making hearts and minds about NbS for CCA is a risk.	Unable to carry out effective awareness-raising of NbS for CCA.	Consequence: Major Likelihood: Low	Plan awareness-raising activities in consultation and collaboration with the decision-makers to ensure their participation. Link NbS elements with LITK to make a cultural connect, and get the buy-in from target audience.
Activity 7: Awareness-raising for communities 1. Lack of participation from youth groups and communities. 2. Lack of participation from Kiwa Implementing agencies, NGOs and other projects. 3. Unavailability of local trainers/community representatives to carry out face-to-face delivery in communities.	Unable to carry out effective awareness-raising of NbS for CCA.	Consequence: Major Likelihood: Low	Working in coordination and collaboration with traditional governing systems and local governments to organize training events. Coordinating, collaborating and identifying synergies with Kiwa implementing agencies and other projects to deliver the awareness activity.

Identified risk(s)	Potential impact	Risk profile	Risk management strategy
Activity 8:			
Integrating NbS into Regional Certificates I–VI Resilience qualification learning resources 1. Accreditation not received from USP Senate for the updated certificates with NbS elements.	Unable to meet the objective of integration of NbS into Regional Certificates I–VI in Resilience.	Consequence: Major Likelihood: Low	Working in close collaboration and identifying synergies with ongoing EU PACRES and SUPA projects that are supporting the development of learning resources for the Resilience qualifications. Liaising with USP Pacific TAFE, who manage and deliver the resilience qualifications, to implement the activity. Liaising with EQAP on steps for accreditation.
Activity 9:			
Developing and delivering micro-qualifications 1. Accreditation not received from USP Senate/validated tertiary institution senate/national quality assurance institution or EQAP.	Unable to meet the objective of developing micro-qualifications.	Consequence: Major Likelihood: Low	Working in close collaboration and identifying synergies with ongoing EU PACRES and SUPA projects that are supporting the development of learning resources for the resilience qualifications. Liaising with USP Pacific TAFE, who manage and deliver the resilience qualifications, to implement the activity. Liaising with EQAP on steps for accreditation.
Activity 10:			
Develop TVET NbS for CCA regional qualifications (Regional Certificates I–VI in NbS for Climate Change) and related learning and teaching resources 1. Accreditation not received from USP Senate/validated tertiary institution senate/national quality assurance institution or EQAP.	Unable to meet the objective of developing Certificates I–IV in NbS for CCA.	Consequence: Major Likelihood: Low	Working in close collaboration and identifying synergies with ongoing EU PACRES and SUPA projects that are supporting the development of learning resources for the resilience qualifications. Liaising with USP Pacific TAFE, who manage and deliver the resilience qualifications, to implement the activity. Liaising with EQAP on steps for accreditation.
A**ctivity 11**: Cohort training for management and technical stakeholder groups 1. Reluctance to engage in this activity from various stakeholder groups/other projects (non-Kiwa). 2. No follow-through from development partners. 3. Nominating agencies do not nominate the participants who will have the most impact as trainers and whose jobs will give time over to allow them to train others. 4. Activities/number of people trained is not scaled up enough to have an impact regionally.	Unable to meet the objective of developing capacity to manage and implement NbS for CCA initiatives, and to mainstream NbS for CCA into relevant policies, strategies and plans.	Consequence: Major Likelihood: Low	Awareness and visibility of training programmes. A brief consultation with nominating agencies to guide and advise them to selecting the appropriate participants. Engage and send trainers to deliver in-country training programmes, as opposed to the more costly task of bringing in participants at a central location.

References

Anderson A. 2012. Climate change education for mitigation and adaptation. Journal of Education for Sustainable Development, 6(2), 191–206. https://doi.org/10.1177/0973408212475199

Bangay C. and Blum N. 2010. Education Responses to Climate Change and Quality: Two Parts of the Same Agenda? International Journal of Educational Development 30(4): 335-450.

Chandra A. and Gaganis P. 2016. Deconstructing vulnerability and adaptation in a coastal river basin ecosystem: a participatory analysis of flood risk in Nadi, Fiji Islands. Climate and Development 8 (3): 256–269.

FRDP (Framework for Resilience Development) 2016. Framework for Resilient Development in the Pacific: an Integrated Approach to Address Climate Change and Disaster Risk Management (FRDP) 2017–2030 Pacific Community, Secretariat of the Pacific Regional Environment Programme, Pacific Islands Forum Secretariat, United Nations Development Programme, United Nations Office for Disaster Risk Reduction, University of the South Pacific, Suva.

Granderson A. 2017. The Role of Traditional Knowledge in Building Adaptive Capacity for Climate Change: Perspectives from Vanuatu. Weather, Climate, and Society, 9(3), pp. 545–561. https://doi.org/10.1175/WCAS-D-16-0094.1

Hatt T. 2023. The Mobile Economy Pacific Islands 2023. Mobile Operators and Networks. GMSA Intelligence.

Holland P. 2009. Nadi floods, economic costs: January 2009. SOPAC Technical Reports 426. Pacific Islands Applied Geoscience Commission (SOPAC).

Jentsch A., Kreyling J. and Beierkuhnlein C. 2007. A new generation of climate change experiments: events, not trends. Frontiers in Ecology and the Environment 5 (6): 315–324.

McMillen L., Ticktin T., Friedlander A., Jupiter S., Thaman R. et al. 2014. Small islands, valuable insights: systems of customary resources use and resilience to climate change in the Pacific. Ecology and Society, 19(4): 44. http://dx.doi.org/10.5751/ES-06937-190444

Pacific Community (2017). Theme: Affordable, reliable and sustainable energy and transport services for all. AGENDA ITEM E5 – Update on training, research and capacity building activities on sustainable energy in the Pacific Island countries and territories. Joint paper by the Pacific Community (SPC) and The University of the South Pacific (USP). Third Pacific Regional Energy and Transport Ministers Meeting (Nuku'alofa, Tonga, 24–28 April 2017).

Pierce C. 2022. The Effectiveness of Formal and Traditional Learning about Climate and Disaster Resilience in Vanuatu. Thesis submitted for the degree of Doctor of Philosophy at Bishop Grosseteste University, Lincoln, UK, 2022.

Pierce C. and Hemstock S. 2021. Resilience in Formal School Education in Vanuatu: A Mismatch with National, Regional and International Policies. Journal of Education for Sustainable Development, 15(2), 206–233. https://doi.org/10.1177/09734082211031350

Secretariat of the Convention on Biological Diversity (SCBD) 2009. Connecting biodiversity and climate change mitigation and adaptation. Report of the Second Ad Hoc Technical Expert Group on Biodiversity and Climate Change.

Seddon N., Chausson A., Berry P., Girardin C.A., Smith A. and Turner B. 2020. Understanding the value and limits of nature-based solutions to climate change and other global challenges. Philosophical Transactions of the Royal Society B 375: 20190120.

Simpson M.C., Scott D., New M., Sim R., Smith D. and Harrison M. 2009. An overview of modelling climate change impacts in the Caribbean Region with contribution from the Pacific Islands, United Nations Development Programme (UNDP), Barbados, West Indies.

Tobin B. 2013. The role of customary law in access and benefit-sharing and traditional knowledge governance: Perspectives from Andean and Pacific Island Countries. World Intellectual Property Organization and United Nations University.

Veitayaki J., Nuttall P. and Chand P. 2021. Living Climate Change Impacts in Pacific SIDS: Articulating the Pacific Way in an Unresponsive World. Ocean Yearbook Online, 35(1), pp.239-269.

Weir T., Dovey E. and Orcherton D. 2017. Social and cultural issues raised by climate change in Pacific Island countries: an overview. Regional Environmental Change 17: 1017–1028.

Notes

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