

Capacity needs assessment for implementing Nature-based Solutions for climate change adaptation

1.0 Summary

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 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.

SPC and 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 non-governmental organisations from the 19 Kiwa-eligible PICTs¹ to:

1. better develop, implement, and monitor rights-based, gender-sensitive and socially inclusive NbS projects for CCA and biodiversity conservation; and
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 consultations at regional, national, and sub-national 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 7). 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 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.

2.0 Policy review

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 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 local, Indigenous, and traditional knowledge relevant to nature-based adaptation are included and are aimed at:

- strengthening engagements with community;
- 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 local, Indigenous, and traditional knowledge 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;
- and land tenure systems and challenges associated with setting-up protected areas for natural resource management and conservation.

2.2 National policy implementation of Nature-based Solutions for Climate Change Adaptation

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 review illustrate that policy on its own does not lead to implementation. Key informant interviews found many PICTs to 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 concept is an ongoing process. Some countries have commenced with 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, disaster risk reduction and disaster risk management (DRM) plans, and joint national adaptation plans. 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 National Adaptation Plan 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.

3.0 Main findings

A situational analysis was conducted. It is a process of assessing and evaluating the current internal and external factors that affect an organisation or project.

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 indicates 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 sub-national 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 trainings 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 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.

3.1 Findings per training modality

3.1.2 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 that 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 local, indigenous and traditional knowledge potentially also through formal education, especially at primary level.

3.1.3 Non-formal education

Public and community education (i.e. non-formal education and training) about 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, non-government agencies 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.

4.0 Challenges and barriers to implementation

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 to implement 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.

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 national adaptation plans. 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 being spent on 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.

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 on NbS for CCA;
- a lack of local context for NbS (links with local, Indigenous, and traditional knowledge 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; and,
- lack of formal up-skilling of stakeholders with practical skills for NbS implementation, project management, and monitoring and evaluation.



A fisherman in Tongatapu, Tonga casts his net. Photo: Pacific Community (SPC)

5.0 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.	
Stakeholder categories	Main recommendations
NbS managers – Those involved in planning, monitoring and management of NbS for CCA projects and programs	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, monitoring and evaluation, including effective integration of qualitative approaches for Gender Equity and Social Inclusion (GESI), 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
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.

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

5.1.1 Local, indigenous, and traditional knowledge (LITK)

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 Local, Indigenous, and Traditional Knowledge 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 inter-generationally and/or through mentoring. This analysis highlighted that local, Indigenous, and traditional knowledge 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.

5.1.2 Gender equity and social inclusion (GESI)

Gender equity and social inclusion is an emerging theme across various sectors in PICTs, particularly the fisheries sector. GESI 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 GESI integration in NbS programmes and there is a corresponding need for extensive tools and capacity development in this area. Online surveys on GESI and NbS indicate less than 50% of the respondents were aware of GESI elements in national plans and policies related to NbS. As such, there is a need for awareness on GESI and its links to NbS concepts and ideas.

5.1.3 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.

6.0 Recommended activities

Based on interviews, reviews, and survey findings, a “menu” of 10 activities has been devised. These activities represent what is needed across the region. Activities 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, are highlighted. All activities identified would have some impact as

standalone initiatives. Specific activities are suggested for each identified stakeholder group (technicians; managers; communities; decision-makers), and operate over short-, medium-, and long-term timeframes.

The 10 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 up-skilling 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; Activity 9; and Activity 10. By embedding NbS for CCA capacity development into existing educational structures, Activities 8, 9, and 10 will provide sustainable outcomes for NbS for CCA that will outlive the project-cycle for the Kiwa Initiative capacity building programme.



Participants in a project on women's resilience to climate change and disaster risks in Fiji. Photo: Pacific Community (SPC)

6.1 Menu of recommended activities

Activity modalities are detailed in the full report

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 MAINSTREAMING 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	Kiwa communities Primary and secondary students and teachers Community stakeholders	++	+	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	Qualified teachers and trainers Institutions and projects working on CCA (Including Kiwa) Identified stakeholder groups	+	+	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	Trainers Instructors Assessors	++	++	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 plan
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 Technical personnel Community stakeholders	++	++	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. For a list of priority identified subject areas see Table 3.					
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 Technical personnel Community stakeholders	++	++	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 2,000 per student Delivery face-to-face = EUR 8,000	Managers Technical personnel Community stakeholders	++	++	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. For a list of priority identified subject areas see Table 3.					
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 Technical personnel Community stakeholders	+++	+++	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**

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