

LESSONS FROM THE PACIFIC

IMPLEMENTATION OF THE NAGOYA PROTOCOL ON ACCESS TO GENETIC RESOURCES AND THE FAIR AND EQUITABLE SHARING OF BENEFITS ARISING FROM THEIR UTILISATION



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The ABS Capacity Development Initiative is currently funded by the German Federal Ministry for Economic Cooperation and Development (BMZ, host of the Initiative), the Norwegian Ministry of Foreign Affairs, the EU (through 11th European Development Fund, under the ACP-EU Partnership Agreement) and the Swiss State Secretariat for Economic Affairs (SECO).

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SPREP Library Cataloguing-in-Publication Data

Lessons from the Pacific: implementation of the Nagoya Protocol on access to genetic resources and the fair and equitable sharing of benefits arising from their utilisation.
Apia, Samoa: SPREP, 2022.

33 p. 29 cm.

ISBN: 978-982-04-1119-7 (print)
978-982-04-1120-3 (ecopy)

1. Biodiversity conservation – Economic aspects – Oceania.
2. Biological resources – Oceania
3. Convention on Biological Diversity – Oceania
- I. Pacific Regional Environment Programme (SPREP)
- II. Title

333.95099 LES



Secretariat of the Pacific Regional Environment Programme (SPREP)

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SPREP's vision: *The Pacific environment, sustaining our livelihoods and natural heritage in harmony with our cultures.*

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Foreword

The *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity* seeks to provide legal transparency and improved outcomes when biological resources and associated traditional knowledge are researched, developed and commercialised. It provides an international legal framework for improving fairness and equity in research transactions, and seeks to ensure benefit-sharing to the providing countries and indigenous peoples and local communities.

The ABS Capacity Development Initiative (ABS Initiative) is a multi-donor funded project commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) to the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) for implementation. The ABS Initiative has been working to support negotiation as well as subsequent ratification and implementation of the Nagoya Protocol on ABS since 2006. Its engagement in the Pacific region since 2011 is based on EU co-funding contributions. Implementation in the region is coordinated by the ABS expert Professor Daniel Robinson at the University of New South Wales (UNSW) in Sydney, and is guided since 2016 by the Joint Steering Committee with the SPREP ABS regional project to ensure collaboration and cooperation on ABS related support across the region.

We are pleased to have worked towards a stronger ABS framework in the Pacific jointly with Prof. Robinson, the SPREP ABS Team,

the Pacific governments, representatives from regional and national research organisations, traditional authorities and the private sector.

As highlighted in the report, significant progress can be noted regarding ratification of the Protocol with 10 out of 14 countries. However, only Palau has established a national regulatory ABS framework in line with key provisions of the Protocol. Others, such as Samoa and Vanuatu, have most Nagoya Protocol ABS provisions in place through amendments to existing laws. Several others are still in the process of developing or adapting existing administrative, policy, and legislative mechanisms.

ABS compliance of biotrade value chains remains a substantive challenge. ABS relevant research and development activities on kava or tamanu / fetau / dilo, including the use of traditional knowledge associated with these genetic resources, occur mostly outside the providing countries and without the prior informed consent of the providers of the genetic resources and/or the traditional knowledge. Thus, the potential of biotrade for benefit-sharing which contributes to the conservation and sustainable use of biodiversity and the improvement of livelihoods remains largely untapped in the region.

While the Pacific countries have made significant progress in implementing the Nagoya Protocol, there is still work to be done, and we hope to continue working with the governments and people of the region in the years to come.

Andreas Gettkant

Manager ABS Capacity Development Initiative

1 Executive Summary

The Secretariat of the Pacific Regional Environment Programme (SPREP) has supported Pacific Island Countries (PICs) since the late 1990s in the negotiations on Access and Benefit-sharing (ABS) under the Convention on Biological Diversity (CBD) leading to the adoption of the Nagoya Protocol on ABS in 2010. Based on co-funding from the European Union, the multi-donor funded ABS Capacity Development Initiative started in 2011 to support ratification and implementation of the Protocol. Since 2015, SPREP has executed the UNEP/GEF funded Regional Access and Benefit-sharing Project in 14 countries to support them to ratify the Protocol and implement key measures.

The support provided by SPREP and the ABS Initiative is in line with the Pacific Island Frameworks for Nature Conservation and Protected Areas 2014-2020 and 2021-2025. The frameworks link environment, society and economy while highlighting the importance of community rights, the relevance of biodiversity for climate change adaptation (CCA) and the value of nature-based solutions (NbS) for sustainable development.

Of the 14 Pacific countries 10 have ratified the Protocol. Only Palau has established a national regulatory ABS framework in line with the key provisions of the Protocol, while Fiji, Samoa, the Solomon Islands and Vanuatu have administrative, policy or legislative measures in place addressing ABS, some predating the adoption of the Protocol. Full compliance, especially implementation of the monitoring and compliance obligations of the Protocol via the ABS Clearing House (ABSCH), may take more time due to limited capacities (financial, personnel, technical) of government institutions, lack of awareness among stakeholders, institutional arrangements and coherence, and shifting priorities due to other urgent environmental matters, such as natural

disasters, especially cyclones and flooding, and the COVID-19 pandemic.

ABS and biotrade case studies highlight a strong potential for Pacific island countries to benefit from ratification and implementation of the Nagoya Protocol. However, the lack of awareness is preventing communities, local medium, small and micro enterprises (MSMEs) and other stakeholders from adding value to biological and genetic resources including traditional knowledge. Patent landscaping indicates that there is considerable research and development (R&D) and subsequent commercial use of genetic resources found in the region including potential use of traditional knowledge by research institutions and commercial users outside the region. The successful implementation of the Nagoya Protocol on ABS in the Pacific will allow governments and communities to develop effective and robust ABS agreements with users ensuring mutual agreement, research partnerships, and the fair and equitable sharing of benefits. This will contribute to conservation and sustainable use of biodiversity and sustainable development of island societies.

These challenges will be aggravated with the adoption of the Post-2020 Global Biodiversity Framework (GBF), requiring the revision of the National Biodiversity Strategies and Action Plans (NBSAPs) including strengthening the relevance of ABS in national implementation efforts. Emerging issues in ABS such as digital sequence information (DSI), facilitated access for research contributing to conservation and sustainable use of biodiversity, the context of health emergencies, and the importance of genetic resources for food and agriculture (Nagoya Protocol, Art. 8) have been discussed with the Pacific countries by the ABS Initiative and SPREP. So far, domestic responses in terms of adaptation of national ABS policies have been limited.

With the two projects coming to an end in 2022, it is critically important to note that most Pacific island countries will not have funding to implement ABS work post-2022. The lessons learned over 10 years by SPREP and the ABS Initiative highlight significant implementation gaps of the Nagoya Protocol. There are incomplete legal and policy frameworks on ABS, limited or lack of monitoring and compliance mechanisms, and limited reporting to the ABSCH. Some ABS agreements and permits have been issued by Pacific countries, mostly pre-Nagoya and very few of a commercial nature. Further support to

the Pacific needs to assist in the negotiation of more ABS agreements, including those with commercial intent and more significant monetary and non-monetary benefits. More cooperation with other initiatives in the region addressing CCA and supporting NbS will increase awareness among stakeholders for the existing national regulatory ABS systems. It will also protect the rights of indigenous peoples and local communities over genetic resources under their custodianship and traditional knowledge such as the Kiwa Initiative¹ and BIOPAMA² supported local projects.



¹ 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). The Initiative is funded by the EU and the Governments of France, Canada, Australia and New Zealand. <https://kiwainitiative.org/>, accessed 20/04/2022

² The EU funded Biodiversity and Protected Areas Management (BIOPAMA) Programme assists the African, Caribbean and Pacific countries to address their priorities for improved management and governance of biodiversity and natural resources, including site-based action in countries. <https://biopama.org/> and <https://action.biopama.org/>, accessed 20/04/2022

2 Introduction

The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation (ABS) to the Convention on Biological Diversity (Nagoya Protocol) is a supplementary agreement to the Convention on Biological Diversity. It provides a transparent legal framework for the effective implementation of one of the three objectives of the CBD: the fair and equitable sharing of benefits arising out of the utilisation of genetic resources. The Nagoya Protocol on ABS was adopted on 29 October 2010 in Nagoya, Japan, and entered into force on 12 October 2014, 90 days after the deposit of the fiftieth instrument of ratification. Its objective is the fair and equitable sharing of benefits arising from the utilisation of genetic resources, thereby contributing to the conservation and sustainable use of biodiversity.³ The Protocol encourages Parties to provide legal certainty, clarity, and transparency;⁴ and fair and non-arbitrary rules and procedures⁵ on access and benefit-sharing for utilisation of genetic resources, including clear rules and procedures on prior informed consent (PIC) and mutually agreed terms (MAT).⁶ Parties to the Protocol are obliged to take legislative, administrative or policy measures to domesticate the provisions of the Protocol.

Ten Pacific island countries have ratified the Protocol to date (27 April 2022: Federated States of Micronesia, Fiji, Kiribati, Palau, Republic of Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. Only Palau has established a national regulatory ABS framework in line with key provisions of

the Protocol, while others, such as Samoa and Vanuatu, have most Nagoya Protocol ABS provisions in place through amendments to existing laws. Others are still developing or adapting existing administrative, policy and legislative measures.

Since 2015 SPREP has executed a Regional Access and Benefit-sharing Project in 14 countries⁷ with financial assistance from the Global Environment Facility (GEF) through the United Nations Environment Programme (UNEP). The project supports countries to ratify the Nagoya Protocol and implement key measures to make the Protocol operational. This includes capacity building as well as training on access and benefit-sharing. As part of implementing the project, needs assessments were undertaken through questionnaires and in-person interviews during country visits. Discussions have been held with key people in government, non-government organisations, private sector representatives, indigenous peoples and local communities, and academia to understand implementation challenges, capacity building needs, and policy gaps in the implementation of the Protocol. The project also looked at compliance measures and how to address these to ensure implementation of the Protocol at national level.

The Access and Benefit-sharing Capacity Development Initiative (ABS Initiative) is a multi-donor funded project commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) to the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) for implementation. The

³ CBD Secretariat, Nagoya Protocol on ABS, <https://www.cbd.int/abs/about/>, accessed 18/6/2021

⁴ Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation to the Convention on Biological Diversity 2011 (Article 6).

⁵ Refer to above n2, Article 6, Part 2

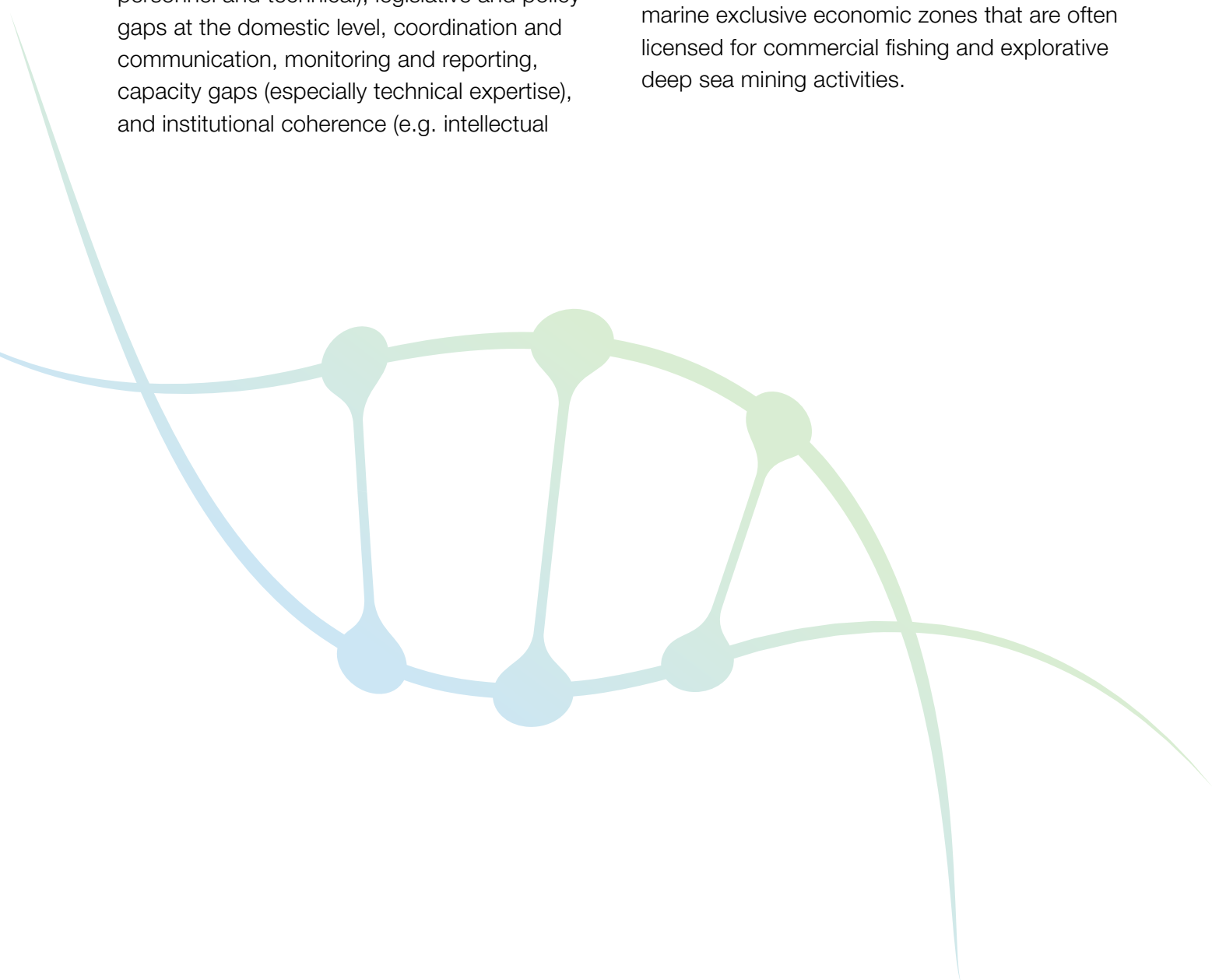
⁶ Refer to above n1.

⁷ Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Nauru, Niue, Palau, Papua New Guinea, Republic of Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.

ABS Initiative has been working to support negotiation, ratification and implementation of the Nagoya Protocol since 2006. Its engagement in the Pacific region since 2011 is based on EU co-funding contributions. Implementation is coordinated by ABS expert Professor Daniel Robinson at the University of New South Wales (UNSW) in Sydney and is guided by the Joint Steering Committee with the SPREP ABS regional project to ensure collaboration and cooperation on ABS support across the region.

Major challenges for ABS implementation include resource constraints (financial, personnel and technical), legislative and policy gaps at the domestic level, coordination and communication, monitoring and reporting, capacity gaps (especially technical expertise), and institutional coherence (e.g. intellectual

property rights, research permitting processes, development of NbS and CCA measures). Monitoring of ABS permits and biotrade activities are also challenging with many examples of research and development being undertaken on terrestrial and marine biological /genetic resources sourced from Pacific island countries once they have been exported for research and development and subsequent commercial purposes (i.e. traded as commodities). Additional challenges arise because of the many transboundary genetic resources and traditional knowledge (across and between Pacific sub-regions and the global tropics), as well as monitoring large marine exclusive economic zones that are often licensed for commercial fishing and explorative deep sea mining activities.



3 Background

3.1 The Convention Framework

The 1992 Convention of Biological Diversity (CBD) implements the vision of the Rio Declaration of the Rio Earth Summit by recognising that biological diversity is being depleted and needs concerted actions for its conservation and sustainable use by many stakeholders. The CBD objectives are to promote conservation of biological diversity, to sustainably use the components of biological diversity, and for the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.⁸ The second and third objectives of the CBD on ‘sustainable use’ and ‘access and benefit-sharing arising from utilisation of genetic resources’ reflects the utilitarian importance of biodiversity to humans and their basic need for survival, such as food, water, medicine, fresh air, and shelter, as well as for intrinsic, cultural and educational uses, including for future uses and for research that might benefit environmental protection, new medicines, foods, materials and other useful products. The benefits derived from the utilisation of genetic resources are an incentive intended to boost conservation efforts and promote sustainable use of biological resources, and to involve indigenous peoples and local communities in these processes. Therefore, ABS has been envisaged to directly contribute towards sustainable development

and human wellbeing.⁹ ABS contributes directly to the Sustainable Development Goals of Zero Hunger (SDG 2, particularly target 2.5 on maintaining genetic diversity for food and agriculture) and Life on Land (SDG 15, particularly target 15.6 on fair and equitable benefit-sharing relating to genetic resources). The Nagoya Protocol also indirectly supports SDGs 1, 3, 8, 9, 13, 14, 15, 16 and 17.¹⁰

The Convention contains provisions for protecting terrestrial and marine biodiversity within national jurisdictions, but extends the scope to processes and activities carried out under national jurisdiction or control do not cause damage to the environment of other States or areas beyond the limits of national jurisdiction.¹¹ The CBD does not distinguish between marine and terrestrial biodiversity. Article 2 of the CBD describes biological diversity to be “*from all sources including, inter alia, terrestrial, marine and other aquatic...*” Consequently, discussions regarding the governance, conservation, sustainable use and access for biodiversity beyond national jurisdictions (BBNJ) have been raised in a number of fora, and are ongoing within the Conferences of the Parties of the UN Convention on the Law of the Sea (UNCLOS, 1982) and the CBD.

⁸ Secretariat of the Convention of Biological Diversity and United Nations Environment Programme ‘Sustaining Life on Earth’ *How the Convention of Biological Diversity promotes Nature and Human well-being* (2000) <https://www.cbd.int/convention/guide/default.shtml> (accessed 03/05/18).

⁹ ABS Initiative (2016) *How ABS and the Nagoya Protocol contribute to the Sustainable Development Agenda*, https://www.abs-biotrade.info/fileadmin/Downloads/3.%20TOPICS/ABS%20MECHANISM/4.%20GLOBAL%20PROCESSES%20AND%20NATIONAL%20IMPLEMENTATION/BELOW/ABS_and_SDG/Policy-Paper-How-ABS-and-NP-contribute-to-SDGs-EN-2018.pdf

¹⁰ Refer to above n7.

¹¹ Convention of Biological Diversity Secretariat ‘Article 4: Jurisdictional Scope’ <https://www.cbd.int/convention/articles/default.shtml?a=cbd-04> (accessed 3 March 2019).

3.2 Negotiations towards an international ABS Regime (Nagoya Protocol) and the role of Pacific island countries

The Convention's substantive work on ABS was initiated at the 4th Conference of the Parties (COP 4 - May 1998, Bratislava, Slovakia) when Parties established a Panel of Experts on ABS in response to the slow implementation of the third objective of the Convention. In two meetings (October 1999, San José, Costa Rica; and March 2001, Montreal, Canada) the Panel developed recommendations, including on prior informed consent and mutually agreed terms, approaches for stakeholder involvement and options to further address ABS within the CBD framework. COP 5 (May 2000, Nairobi, Kenya) established the Working Group on ABS to develop guidelines and other approaches on: prior informed consent and mutually agreed terms; participation of stakeholders; benefit-sharing mechanisms; and the preservation of traditional knowledge¹² leading to adoption of the Bonn Guidelines at COP 6 (April 2002, The Hague, The Netherlands).¹³ Considering the non-binding nature of the Bonn Guidelines developing countries called at the Rio+10 Summit in Johannesburg, South Africa (August/September 2002) for the negotiation of a global legally binding regime for the implementation of the third objective of the CBD. Subsequently, COP 7 (February 2004, Kuala Lumpur, Malaysia) mandated the CBD Working Group on ABS to negotiate an international regime to promote and safeguard the fair and equitable sharing of benefits arising out of the utilisation of genetic resources.

The Nagoya Protocol, after numerous rounds of discussions and global negotiations, was adopted in Nagoya, Japan, in October 2010.

The adoption of the Nagoya Protocol has paved the way for Parties to ensure greater legal certainty and transparency for providers and users of genetic resources. The vision for its adoption was that the Protocol would provide predictable conditions for access to genetic resources and benefit-sharing when genetic resources are utilised outside the providing country. IUCN's *Explanatory Guide to the Nagoya Protocol* (Greiber et al. 2012) provides a useful visualisation of the ABS negotiation timelines in Figure 1.

Pacific island countries engaged from the beginning in the ABS process under the CBD. COP 5 that formally established the Working Group on ABS was attended by delegates from the Cook Islands, Fiji, Kiribati, Republic of Marshall Islands, Papua New Guinea, Tonga, Solomon Islands and Vanuatu. Papua New Guinea delivered the Pacific's position statement at the 1st meeting of the Working Group. Following this, the 2nd meeting of the Panel of Experts held in Montreal in April 2001 was attended by delegates of the Cook Islands and SPREP. At the meeting, SPREP highlighted the voluntary nature of the guidelines for ABS. Both Cook Islands and SPREP also identified some elements that might be included in the guidelines. These were on the scope, roles and responsibilities and the process of prior informed consent that were later incorporated in the Bonn Guidelines. Samoa, Fiji and Palau attended the Working Group on ABS later in October 2001 in Bonn, Germany, where the Bonn Guidelines on ABS were drafted as a response to the report of the Panel of Experts.¹⁴

¹² Taken from : IISD Earth Negotiations Bulletin available at <https://enb.iisd.org/events/1st-meeting-intergovernmental-committee-nagoya-protocol-cbd/summary-report-5-10-june-2011>

¹³ Bonn Guidelines: were developed to guide interim measures for access and benefit-sharing of biological resources under the CBD. This was later adopted as texts for the processes ensured within the Nagoya Protocol. See : www.cbd.int/cop9/bonn/

¹⁴ Convention of Biological Diversity Secretariat 'Report on the Report of the Ad Hoc Open-ended Working Group on Access and Benefit-sharing' Oct, 2001 (Hague) UNEP/CBD/COP/6/6

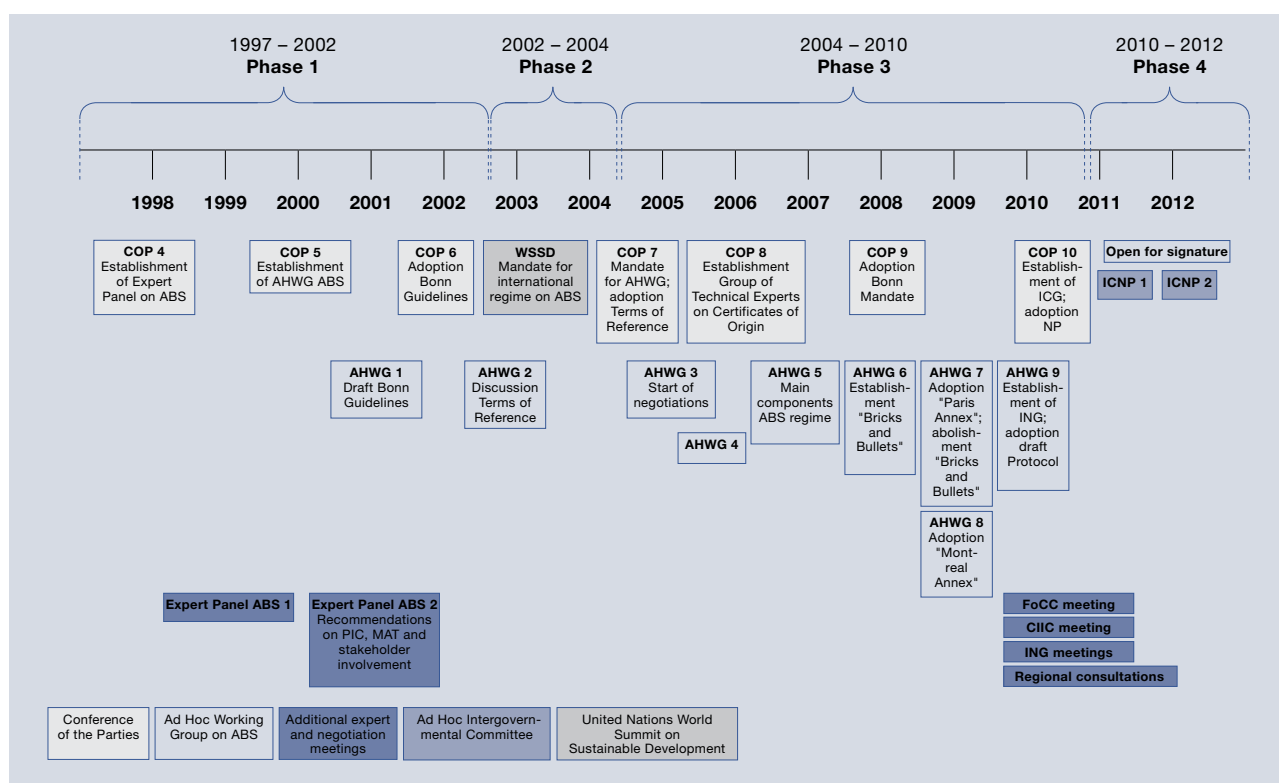


FIGURE 1: Visualisation of the timeline towards the Nagoya Protocol and beyond.

Source: Griebner et al. (2012) for IUCN, p24.

Following the Bonn Meeting, the Pacific participated at the second meeting of the CBD Ad-Hoc Open-ended Working Group on Article 8(j) in Montreal, Canada in 2002. Fiji speaking on behalf of Pacific island countries, stressed the importance of reporting, public awareness and coordination of regional activities. Pacific countries continued to engage in the negotiations on the Nagoya Protocol through various intersessional meetings. In 2006 the Pacific strongly opposed the proposal for the development of registers of traditional knowledge. This was echoed by many countries at the negotiation. "Kiribati argued that it could provide free access to traditional knowledge without ensuring community prior informed consent and benefit-sharing. Eventually, delegates agreed to delete references to an international register."¹⁵

The Pacific again took active part at the fifth session of the Working Group on ABS in 2007 that was held in Montreal. At this meeting, the Pacific voice was represented by Micronesia which called for consideration of non-commercial uses of biodiversity and derivatives in the regime's scope. This eventually was lost in compromise text. The Pacific Small Island Developing States (SIDS) also called for country-driven capacity building that was included in the meeting recommendations. Around the years when the Nagoya Protocol was slowly taking shape with bracketed text and propositions by various Parties to be considered as part of the regime, the Pacific was part of the larger like-minded Asia-Pacific group for the purpose of achieving consensus on the draft text.

¹⁵ Earth Negotiations Bulletin 'Summary of The Fourth Meeting of The Working Group on Article 8(J) Of the Convention on Biological Diversity: 23-27 January 2006' January, 2006 (Granada) <http://www.iisd.ca/biodiv/wg8j-4/> <http://www.iisd.ca/biodiv/wg8j-4/>

4 The Pacific scenario

4.1 Pacific genetic resources

The Pacific region is of critical importance for global biodiversity conservation, as it supports the most extensive and diverse coral reefs in the world, the deepest oceanic trenches, and the healthiest and, in some cases, largest remaining populations of many globally rare and threatened species including whales, sea turtles, dugongs, and saltwater crocodiles. The Pacific is home to a high proportion of endemic and endangered flora and fauna; however, Pacific island biodiversity is under intense pressure from habitat alteration and loss, invasive alien species, overharvesting of terrestrial and marine resources, degradation of land from damaging agricultural methods, poor waste management and long-term impacts of global climate change including the need for climate change adaptation.

The Pacific region also frequently faces direct impacts from extreme natural events such as cyclones, drought and fire. The Nagoya Protocol offers the opportunity to make the best possible use of its genetic resources and traditional knowledge, generate and share benefits derived from their utilisation, and return some of the revenue generated from these activities to protect the resources and support the local communities of the countries where they were sourced.

4.2 Patent activity relating to genetic resources and traditional knowledge

Patent landscaping (or patent mapping) of genetic resources and associated traditional knowledge from Pacific island countries has been undertaken with the support of the ABS Initiative.¹⁶ Patent landscape analysis is an established methodology used by researchers examining the use of biological/genetic resources in innovations registered or protected by a patent (Oldham 2006; Bubela et al. 2013; Oldham, Hall & Forero 2013). The most comprehensive quantitative studies relating to patents and biodiversity have been conducted at the global level by Oldham (2006; Oldham, Hall & Forero 2013) and in several reports studying patent trends of biodiversity from different countries in Africa by the ABS Initiative.¹⁷ Additional patent landscaping has been conducted by Lai and Robinson et al. (2019) in an extensive study of Maori indigenous knowledge of plants endemic or near endemic to New Zealand (Aotearoa). As industries become more knowledge-intensive, and the 'value-added' component of their production expands, it is increasingly likely that commercial enterprises will invest in patents and other intellectual property right (IPR) protections in agri-food, medicines, cosmetics, and related fields that use biological resources. As has been argued elsewhere (Robinson & Raven 2017), patent landscaping analysis offers one of the primary methods to understand the scope of this expansion

¹⁶ The full patent landscape report can be found here: https://www.abs-biotrade.info/fileadmin/Downloads/2.%20PARTNER%20COUNTRIES/PACIFIC/1.%20GENERAL%20INFORMATION/Patent_Landscape_Report/Pacific-Patent-Landscaping-Report-2021.pdf

¹⁷ These can be found by searching 'patent landscape' in the ABS Initiative and Biotrade website repository, from which several reports for different African countries can be found: <https://www.abs-biotrade.info/resources/#c2472>

quantitatively or qualitatively. Key findings of the patent landscaping are presented below, while detailed results are being published on the Pacific pages of the ABS Initiative website (<https://www.abs-biotrade.info/partner-countries/pacific/general-information/>).

For this patent landscaping, several ethnobotanical texts (including Whistler 1992; WHO 2009) were used as a basis for providing the species names of plants that have been traditionally used by peoples of the Pacific islands. The scientific names (and some synonyms of those names) were then searched in an international patent search tool: The Lens (previously known as Patent Lens), searching the patent 'Title, Abstract and Claims'.

Many of the species that were searched provided high numbers of patent filing 'hits' or results. For example, *Morinda citrifolia*, known widely in the Pacific as *noni* or *nono* has 613 patents and applications (from 316 patent families, international filings and linked-patent-bundles filed in multiple jurisdictions) filed for various uses of the species. While there is extensive traditional use of the plant as a fruit drink, tonic and medicine for digestive ailments in the Pacific islands, there is also similar knowledge of its uses throughout neighbouring regions of Southeast, East and South Asia. The plant is also found extensively

in tropical Asia, northern Australia, and where it has been introduced to other regions across the global tropics. So while there are certainly opportunities for ABS agreements to be established for access to noni genetic resources (and associated traditional knowledge) in the Pacific, researchers may also be seeking access in other countries where the genetic resources and traditional knowledge exist.

Therefore, the patent landscaping has focused in detail on some endemic and near-endemic species. One species of particular interest for customary, cultural and 'biotrade' reasons is kava. Kava (*Piper methysticum*), which has customary uses as a relaxant and has been used for a range of ceremonial purposes, including in dispute settlement processes in Vanuatu (Robinson et al. 2019; see Figure 2). By searching the species name, 250 patents can be identified (including current applications which are pending) from 171 patent families. Kava is thought to be endemic to Melanesia and parts of Polynesia, but Vanuatu particularly is seen as a centre of diversity, with approximately 44 local 'noble' varieties. There have been both economic and cultural concerns about the appropriation of kava for decades, which have been raised by many stakeholders during our visits to Pacific



FIGURE 2: Juvenile kava plants being grown in Espiritu Santo, Vanuatu

Source: Daniel Robinson

island countries. When the kava patents were analysed, many of the patented uses were for very different purposes and may be related to new plant cultivars, or new uses of kava which may not be directly based on traditional knowledge. For example, there are some patents for wood preservation, and some that apply kava to cosmetic and skin-care applications which may only have indirect relevance to the traditional knowledge. Approximately 100 of the patents are more concerning, as they have medicinal applications that relate more closely to the traditional uses or the drink as a relaxant, raising some questions about the extent of novelty claimed in the patents. In these cases we would expect to see an ABS agreement under the ABS policies and laws of the Pacific countries that have ratified the Nagoya Protocol (see Robinson et al. 2019). Most governments in the region have not noted ABS agreements on kava with their communities or government agencies. This suggests that there may be a degree of non-compliance with the Nagoya Protocol from various actors making patent claims (implicit assertions of research and development on the genetic resources), unless the research was undertaken prior to entry into force of the Protocol and local laws.

A patent analysis of species found in Papua New Guinea (PNG) (using WHO 2009) was also undertaken. The PNG patent landscape results were interesting because most of the endemic or near endemic species in PNG that have traditional medicinal uses have not yet been patented, nor have patent applications been made internationally. This may suggest that PNG medicinal plants are under-researched by ‘non-traditional’ medical practitioners, scientists, universities and pharmaceutical companies. There are 47 species such as *Vaccinium keysseri* (var Schlechter) and *Solanum moszkowskii* which have no patent

hits and which appear to be endemic to PNG (or as is often the case PNG and West Papua province of Indonesia), or to the Melanesia region. Compared to other countries or sub-regions searched, PNG appears to have the highest degree of endemic or near endemic species that are not being patented. The ‘under-researched’ nature of the endemic genetic resources highlights the importance of establishing an ABS regime in PNG which could assist in ensuring that PNG has adequate systems in place to ensure permission and benefit-sharing when biodiscovery research and development takes place. Similarly, protection for traditional knowledge could be advanced in PNG, and to date there are some draft provisions being developed.

4.3 ABS agreements and potential

There have been several agreements of note in Pacific island countries, most of which occurred prior to entry into force of the Nagoya Protocol (under the CBD framework). Detailed information about several case studies can be found on the ABS Initiative website.¹⁸ These include the Samoan mamala case (pre-CBD and post-CBD but pre-Nagoya), the International Cooperative Biodiversity Groups (ICBG) projects involving US-based researchers and companies, with the University of the South Pacific (USP) in Fiji in one case, and with the University of Papua New Guinea (UPNG) in another (both are post-CBD and pre-Nagoya). The Santo 2006 expedition from a French research consortium to Espiritu Santo in Northern Vanuatu (post-CBD and pre-Nagoya) is also interesting to note in the ABS context, as well as the Cook Islands CIMTECH example (post CBD and pre-Nagoya).

One of the ABS agreements that has generated

¹⁸ Robinson, D.F. (c2012/13) *Pacific ABS Case Studies*, ABS Initiative, Eschborn and Department of Environment, Canberra. Available at: <https://www.abs-biotrade.info/fileadmin/Downloads/Diverse/Publikationen/Study%20Posters%20ABS%20Cases/ABS-Best-Practice-Pacific-Case-Studies-UNSW-Daniel-Robinson-2012.pdf> and a summarising infographic prepared by the ABS Initiative available at <https://www.abs-biotrade.info/fileadmin/Media/Resources/ABS-Infoposter-Pharmaceutical-cosmetics-agricultural-sector.pdf>

positive interest is the CIMTECH case.¹⁹ Dr Graham Matheson, a medical researcher brought up in the Cook Islands, observed the traditional application of plant-based extracts for treatment of bone fractures and other medical and therapeutic applications, by members of his community, friends and family. Matheson later trained as a medical practitioner and in 2000 undertook research towards his PhD at the Orthopaedic Research Laboratories at UNSW in Sydney. In 2003 he developed a proposal for the investigation and potential commercialisation of medical and therapeutic remedies based on plant extracts and associated traditional knowledge and took it to the Cook Islands. Dr Matheson reached a benefit-sharing agreement with the Koutu Nui – a lawfully recognised assemblage of sub-district chiefs charged with overseeing the cultural impacts of modern law making, community service activities, and supporting the *Raui* – customary marine protected areas (Sissons 1998). Dr Matheson's research led to the establishment of the company CIMTECH which incorporates the Koutu Nui as a shareholder (Robinson 2012). The Koutu Nui include several members of the *Taunga* (traditional healers), who are the main

custodians of the traditional remedy for the bone healing (*Vairakau ati*).

The agreement has led to several actual and potential monetary and non-monetary benefits for the Koutu Nui and the Cook Islands more generally (see Table 1 below). With the approval of the Koutu Nui, and with their listing as a patent owner, Matheson and CIMTECH have filed for patents covering three distinct areas: bone and cartilage treatment, wound healing, and skin care treatments. For the promotion of wound healing and the treatment of skin disorders, the CIMTECH patents list bio-active extracts of one or more of *Vigna marina* (Burm.) Merr., *Cocos nucifera* L., or *Terminalia catappa* L. in compositions and extracts providing therapeutic and cosmetic uses. For the promotion of healing of bone and cartilage injuries, the patents claim a bioactive extract of *Hibiscus tiliaceus* L. and therapeutic compositions related to this (Robinson 2012). Further research is being undertaken towards potential bone healing medicines. CIMTECH has launched a cosmetic cream called 'Te Tika' which is produced at a facility in the Cook Islands generating local jobs and technology transfer (e.g. local environmental analysis, plant extract analysis) (see Figure 3).



FIGURE 3:
CIMTECH Laboratory
in Avarua, Rarotonga
Source: Andreas Drews

¹⁹ Above note 15.

TABLE 1: Summary of monetary and non-monetary benefits. *Source: Robinson, D.F. (c2012) Pacific ABS Case Studies.*

Monetary	Non-monetary
Koutu Nui shareholding value estimated to be worth at least \$150,000 AUD (after personal investment by Matheson of \$300,000).	Expected contributions to the local economy through the laboratory and processing facility in Rarotonga, sales, marketing and tourism (use of product in spas and hotels).
Anticipated dividend payments to the Koutu Nui via the shareholding in CIMTECH.	Research directed towards priority health care needs – bone and wound healing.
Research income to CIMTECH: \$264,000 in grants received from the Australian Government, and \$74,000 from UNSW.	Physical technology transfer of machinery to the processing facility and laboratory.
Employment of 12 people on a part time basis in the Cook Islands (expected to expand upon launch of the cosmetic product).	Joint ownership of patents between CIMTECH and Koutu Nui.
Investment in CIMTECH: \$560,000 in pre-seed investment in 2010 and a further \$800,000 in 2011 for further R&D.	Improved livelihood security for staff (through employment).
	Social recognition regarding Cook Islands traditional medicine, and particularly for recognition of the role of the Koutu Nui as a cultural authority involved in conservation-oriented practices like Raui.

The CIMTECH and Koutu Nui agreement also led to a UNDP-GEF funded local project to assist the Cook Islands with further development of the agreement, as well as a local ABS framework (Cook Islands has been preparing to ratify the protocol through this project). While not perfect (see Robinson 2012), the agreement is one of the most significant ABS-type agreements in the Pacific region. At the time of writing, the licensing of the bone-healing drug research has stalled somewhat due to investment issues, the impacts of COVID-19, and other factors. This has therefore limited some of the longer-term benefits of the ABS agreement.

In addition to the CIMTECH agreement and the other earlier examples, many research access permits have been issued in the Pacific under the Nagoya Protocol ABS frameworks of the countries. While many of these are not yet uploaded by countries to the ABS Clearing

House, the competent national authorities have been encouraged to do so by the SPREP ABS team and the ABS Initiative. One example under the post-Nagoya laws in the Pacific is an agreement put in place between the Government of Vanuatu and the New York Botanical Gardens for non-commercial research. While the full details of this agreement are confidential, the researchers have published about their research with communities in Tanna and Aneityum islands on the local ethnobotany. The agreement put in place required local prior informed consent, local training activities for communities, as well as the development of papers and traditional medicines handbooks in local languages for communities. The NYBG team has also published about their research in the Air Vanuatu magazine as part of the information-sharing aspects of the ABS agreement, generating interest and tourism benefits for the communities involved. Although

there have not been significant monetary benefits in this case, there are a range of other local benefits (as would be expected of non-commercial ABS agreements).

Other companies have applied for permits to undertake commercial research within Pacific countries. Some have been discussed with ABS Initiative and SPREP experts and the terms of proposed ABS agreements from the companies have been rejected by the competent national authority. While this is not illustrative of benefit-sharing, it does demonstrate that the local ABS systems and Nagoya Protocol have assisted in facilitating a discussion between a company and a Pacific government, in which mutually agreed terms could not be reached.

4.4 Possibilities for ABS compliant biotrade value chains

In the most general sense ‘biotrade’ has come to be used to refer to trade in biological resource-based goods and commodities. These are typically plant or animal-based goods that have been produced by indigenous peoples and local communities from a range of different biomes and natural sources, and that have not been farmed on a wide scale. The ABS Initiative, and its aligned projects on ABS Compliant Biotrade in Southern Africa (ABioSA) and BioInnovation Africa, have sought to highlight the importance and benefits of establishing fair and equitable ABS compliant biotrade value chains in line with the UNCTAD BioTrade Principles and Criteria²⁰. Gereffi (2018) explains that ‘value chain upgrading’ refers to how countries and firms

try to create, capture and retain higher-value niches in the value chain through technology, product improvement, marketing and other mechanisms.

From ABS Initiative fieldwork and discussions in the Pacific, there are several species where there is potential for biotrade value chains to develop and for ‘upgrading’ to enhance local community and producer benefits – indeed the team saw local people value-adding plant extracts with coconut oils for the formulation of some skin-care oils/creams, for example. Coupled with potential ABS agreements, biotrade value chain upgrading and ABS could potentially provide dual benefits for communities. Aside from kava and other species noted above, *Calophyllum inophyllum* and *Canarium indicum* have both been identified as species of biotrade interest in field studies during ABS consultations in the Pacific. From patent landscaping it was noted that *Calophyllum inophyllum* has attracted 137 patents and applications from 90 families and there are nine patents and two patent families relating to *Canarium indicum*. Due to the COVID-induced travel and meeting restrictions initial exchanges with local companies exporting processed raw materials for cosmetic and phytopharmaceutical products could not be followed up since 2020. In addition, some companies located overseas have not responded to requests to explain their use of GRs sourced from countries like Vanuatu. The case studies below highlight the potential importance and dual benefits of establishing fair and equitable ABS compliant biotrade value chains.²¹ Further awareness raising and dialogue between local producers, communities and regulators will be necessary to untap this potential.

²⁰ For more detail see <https://unctad.org/topic/trade-and-environment/biotrade>, accessed 20/04/2022

²¹ See more detail in the Robinson (2021) report on the ABS Initiative Pacific webpages. <https://www.abs-biotrade.info/partner-countries/pacific/general-information/>

4.4.1 *Calophyllum inophyllum* (tamanu, fetau, dilo nut)

Calophyllum inophyllum is a large coastal tree that is ecologically important for coastal zone areas in the Pacific, particularly given the effects of climate change. The tree is also known as *tamanu* (Vanuatu), *fetau* (Samoa) or *dilo* (Fiji), and it has cultural importance in some parts of the Pacific, having been traditionally used for skin care and medicines, as well as having sacred significance and being used in marae (sacred communal places) in Polynesia (Whistler 1992). The nuts of the tamanu tree are golf-ball sized spheres that propagate the tree along coastal zones and between islands in the Pacific and Southeast Asia, also making it easy for local communities to collect the nuts along beaches for use in the production of *tamanu* oil (see Figure 4). It is found in the coastal tropics, native to the Pacific, Northern Australia and Southeast Asia (see GBIF ‘occurrences’ map below in Figure 5).

Dweck and Meadows (2002, p342) explain that the “Tamanu kernels have a very high oil content (75%). It is obtained by cold expression and yields a refined, greenish yellow oil, similar to olive oil, with an aromatic odour and an insipid taste. Once grown, a Tamanu tree produces up to 100 kg fruits and about 18 kg oil...”



FIGURE 4: *Calophyllum inophyllum* (tamanu) nuts found along the coast, Malekula, Vanuatu.

Source: Daniel Robinson

The oil production process is as follows: ripe and non-germinating fruits are slightly crushed to crack the shells without damaging the kernels. The latter are quickly removed, arranged in thin layers and exposed to the sun. They must not be exposed to humidity in any case. Despite precautions, some kernels mould and must be eliminated.



FIGURE 5: *Calophyllum inophyllum* L. (*tamanu*) occurrences.

Source: Global Biodiversity Information Facility (GBIF): <https://www.gbif.org/species/9531830> accessed 29/6/21.

Tamanu oil has been used traditionally in Polynesia for skin care and as an analgesic and can be applied on skins and lesions. It heals small wounds such as cracks and chaps but is also reputedly effective on more serious cutaneous problems. Tamanu oil activity was studied in numerous clinical cases. Those healing, anti-inflammatory and antibiotic properties have made tamanu oil an excellent raw material for cosmetics, and it has been studied now for some decades for use in regenerating and protective formulations (Muller 1993). Tamanu oil may also reputedly be used for different kinds of burns (sunburns or chemical burns), most dermatoses, certain skin allergies, acne, psoriasis, herpes, chilblains, skin cracks, diabetic sores, haemorrhoids, dry skin, insomnia, hair loss, and in the preparation of regenerative creams (Dweck and Meadows 2002) (see Figure 6).

As research has progressed on this species, many companies have sought it out and have filed patents relating to specific uses and formulations of tamanu oil. In Vanuatu, we are aware of companies including Aveda (Europe), Concentrated Aloe Corporation

(USA), Laboratories 220 (USA), and Pure Fiji (Fiji) researching and formulating cosmetics based on the use of tamanu oil. Smaller biotrade companies such as Tebacor Island Products (Vanuatu), the Summit (Vanuatu), Nuts N' Oils Vanuatu, and Women in Business Development (Samoa) produce and export the oil. These companies are value adding by extracting and distilling the oils, and mixing them to produce soaps, skin care oils and similar basic products. Given the research interest and low value-addition, there is a strong case to encourage the Pacific countries to ensure compliance with ABS regulations for these biotrade companies and their larger trading partners. Without ABS agreements in place, communities are not informed of the value chains and R&D, and they are not being made beneficiaries of high value goods. Rather, many of the producers are stuck at the basic production end of the supply chain, being paid very low rates for collection of the nuts despite being crucial to the value chain and contributing to the traditional knowledge of tamanu oil and to the conservation of the tamanu trees.



FIGURE 6: Local products made from tamanu oil, Luganville, Vanuatu. *Source: Daniel Robinson*

4.4.2 *Canarium indicum* (nangai, galip or ngali nut)

Canarium indicum is a large tree native and endemic to the coasts and inland areas in Melanesia (Vanuatu, Solomon Islands and PNG) as well as Indonesia. It may be found in some other locations, or introduced, such as Hawaii (see Figure 7 and Figure 8 for distribution map).

Compared to tamanu, *Canarium indicum* which is known locally as *nangai* (Vanuatu), *ngali* (Solomon Islands) or *galip* (PNG) nut is relatively isolated to a few countries and has been harder to produce on a commercial scale. Currently, communities in Vanuatu, Solomon Islands and PNG collect the nut and process it for its oil mostly for domestic use as a skin care treatment and analgesic, as has been done traditionally (Nevenimo et al. 2007). It is also edible and is roasted to be used as an edible snack nut or in cereals, chocolates and muesli bars. Local companies such as Solagrow (food, Solomon Islands), the Summit (skin care, Vanuatu), and Nuts N' Oils Vanuatu (skin care oil) are producing it for local markets and for export. Some companies such as Concentrated Aloe Corporation (USA) have been formulating and selling the oil for use in cosmetics with larger companies, and other large companies such as Chanel have



FIGURE 7: *Canarium indicum* nuts, Malekula, Vanuatu. Source: Daniel Robinson

filed patents for skin care products that use *Canarium* species including *Canarium indicum* (although it is unknown if they have established a benefit-sharing agreement).²²

An Australian Centre for International Agricultural Research (ACIAR) project has sought to increase production capacity and improve the supply chain of galip production in New Britain in PNG. Professor Wallace (University of Sunshine Coast) has argued there is strong consumer demand for galip in PNG, and great potential to expand the domestic markets and develop an export market (ACIAR 2021). Their project helped develop solar drying technologies to improve shelf life and have helped set up a factory with new processing



FIGURE 8: *Canarium indicum* (nangai, ngali, galip nut) occurrences.

Source: GBIF: <https://www.gbif.org/species/5421345> accessed 29/6/2021

²² See WO 2008/145692 A2 (which appears to be pending) and related patents in the USA and other jurisdictions (which appear to be discontinued or inactive).

facilities, helping upgrade their position in the value chain. In 2017, the new factory successfully bought and processed nearly 65 tonnes of nut-in-pulp, resulting in new sources of income for more than 1,300 local farmers (ACIAR 2021). While the production of the nut is still relatively small in scale, production is gradually increasing in these countries as the demand from both local and foreign buyers stimulates local interest and opportunities.

There is a significant opportunity to protect and promote nangai and galip, given its smaller endemic range and the limited R&D and patents filed to date. Establishing ABS systems and agreements is critical to ensure that ABS compliant biotrade of these nuts and thus their oil derivatives provide benefits back to local communities. This would support local livelihoods and respect the traditional uses and knowledge of the nuts and oils.

4.5 Ratification of the Nagoya Protocol on ABS and compliance obligations

All countries in the Pacific are Parties to the CBD. As of 27 April 2022 Federated States of Micronesia, Fiji, Kiribati, Palau, Republic of Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu have ratified the Protocol. Only Palau has established a national regulatory ABS framework in line with key provisions of the Protocol. Fiji, Samoa, the Solomon Islands and Vanuatu have administrative, policy or legislative measures in place addressing ABS, some predating the adoption of the Protocol. A policy to guide further development of the regulatory ABS framework exists for the Federated States of Micronesia and Republic of Marshall Islands. Recently, Tonga and Tuvalu have developed a roadmap to pave the way for policy development. Other countries in the region, such as PNG, have developed roadmaps for

ratification and implementation of the Nagoya Protocol. As recently as April 2022, PNG had developed a draft ABS Policy following four national ABS workshops supported by the ABS Initiative and the SPREP ABS Project.

Most countries from the Pacific are making progress in developing and implementing administrative, policy or legislative measures on ABS. However, most have only partially undertaken this obligation, and full compliance may take more time due to several factors such as capacity building and development requirements, the budgetary limitations (e.g. some countries like Cook Islands, PNG or Vanuatu have sought external support through UNDP-GEF or the ABS Initiative for an in-country consultant to help draft their ABS policy), awareness and communication, institutional arrangements and coherence, and shifting priorities with other urgent environmental affairs.

Although many Parties have designated their national ABS focal point, which is usually in the same Ministry that handles the CBD, the designation of competent national authorities largely remains incomplete for most countries. The same applies to the designation of a national publishing authority or authorities and national authorised users for the ABS Clearing House under Article 14 of the Protocol, which serves as an important part of the monitoring and reporting obligations under the Protocol. The Protocol requires Parties to report progress of implementation in the form of national reports at regular intervals and submit to the CBD Secretariat at a date decided by the Meeting of the Parties. The first report, called the interim national report, was due in 2018. So far, only Samoa has submitted a report. Fiji, Vanuatu, Federated States of Micronesia and the Republic of Marshall Islands have completed their reports but are yet to submit them through the ABS Clearing House portal due to the lack of nominating a national publishing authority in line with the ABS Clearing House²³.

²³ See UNEP/CBD/NP/COP-MOP/DEC/1/, <https://www.cbd.int/doc/decisions/np-mop-01/np-mop-01-dec-02-en.doc>

4.6 Resource mobilisation and progress in implementation

The Pacific has come a long way in the implementation of the Nagoya Protocol. Within the last decade, the region has addressed critical issues envisioned under the framework of the Nagoya Protocol, especially with the implementation of the GEF-UNEP Pacific Regional ABS Project executed by SPREP and the multi-donor funded, GIZ implemented ABS Capacity Development Initiative in the 14 Pacific island countries. The projects' main objective is to assist countries in the Pacific to ratify the Protocol, build legal and technical capacity to implement and operationalise the Protocol domestically, and raise awareness, communication, and education on access and benefit-sharing issues in the Pacific.

The partnership and collaboration between SPREP and the ABS Initiative has resulted in many joint country consultations, workshops, trainings, meetings, discussions, and opportunities to exchange information especially through the networks of the ABS Initiative. The two projects have played an

important role in providing knowledge and assistance for gap analyses, legal and policy reviews, and development of guidelines for policy development for each country. A regional guideline is currently being developed by the SPREP ABS team. There have been special training courses on ABS contract negotiation led by the ABS Initiative experts and joint workshops/webinars on the ABSCH, traditional knowledge associated with genetic resources, and bioprospecting/ biotrade value chains. UNSW with the support of an Australian Research Council Grant and the ABS Initiative, supports the development of community protocols against the background of customary laws (as per Article 12 of the Protocol) in Vanuatu and Cook Islands. A GEF-UNDP project has also supported community protocol development in Samoa. An Australian Research Council Grant to UNSW Sydney has developed draft community protocols in some locations in Vanuatu and Cook Islands.



5 Challenges, policy gaps and needs of the Pacific

5.1 Financial resources and technical expertise

The ABS Initiative conducted between 2011 and 2014 a series of stock-taking missions in Cook Islands, Palau, Samoa and Vanuatu to assess the status of ABS implementation and capacity development needs. The national roadmaps, developed as a result of these missions, were used to guide the countries towards ratification and adaption of specific regulatory frameworks to align with the key provisions of the Nagoya Protocol.

Since 2015 the ABS Regional Project has conducted a capacity building assessment for the 14 Pacific island countries through questionnaires, one-to-one meetings, stakeholder discussions, and consultative workshops. The assessment informed the actions needed to improve implementation of the Protocol in the Pacific. Many island countries face serious challenges in implementing the Protocol to help establish access and benefit-sharing agreements with communities, often due to geographical remoteness and limited communications, or limited provincial or local awareness of ABS.

In summary, the Pacific is faced with serious financial constraints and a general lack of technical expertise and resources to meet obligations and fully commit to the Protocol in the face of multiple and complicated environmental issues. Generally, a lack of financial resources and technical expertise to expedite domestic obligations of the Protocol and lack of awareness and understanding of the requirements and relevance of the Protocol to the countries are major setbacks for implementation.

5.2 Legal and policy challenges

Complicated legal requirements, such as the designation of checkpoints for monitoring the utilisation of genetic resources of users under their jurisdiction²⁴, the identification and involvement of intellectual property rights and associated traditional knowledge linked to biodiversity, and ensuring mutually agreed terms²⁵, where complex negotiations are needed, reveals the existence of gaps in legal capacity in all Pacific island countries. Most countries still do not have legislation in place to enforce the Protocol's domestic requirements, or have only basic provisions in biodiversity related legislation on key elements required for NP implementation such as prior informed consent and mutually agreed terms.

In addition to legal challenges, countries also face serious difficulties to comply with obligatory requirements of the Protocol through administrative arrangements such as national reporting and participation in the ABS Clearing House. The assessments indicate that this problem is mainly due to a lack of funds, staffing and awareness.

5.3 Institutional coherence and coordination

Fragmented and sporadic institutional arrangements and coordination mechanisms between relevant agencies and ministries increase challenges to those officers responsible for access and benefit-sharing. For example, within government agencies across many countries, the primary role for biodiversity management lies with the ministry for environment (or biodiversity) while other

²⁴ Article 17.1 (a) (iv) of the Nagoya Protocol.

²⁵ Articles 6.3 (g), Article 7 and Article 18 of the Nagoya Protocol on establishing mutually agreed terms

government agencies in charge for forestry, agriculture, lands, traditional knowledge, indigenous affairs, and education hold essential policies and legislation that influence ABS permitting in the countries. Due to a lack of national level coordination and consultation, and a considerable lack of awareness of ABS matters, the development of dynamic, robust and functional national implementing systems is challenging to achieve.

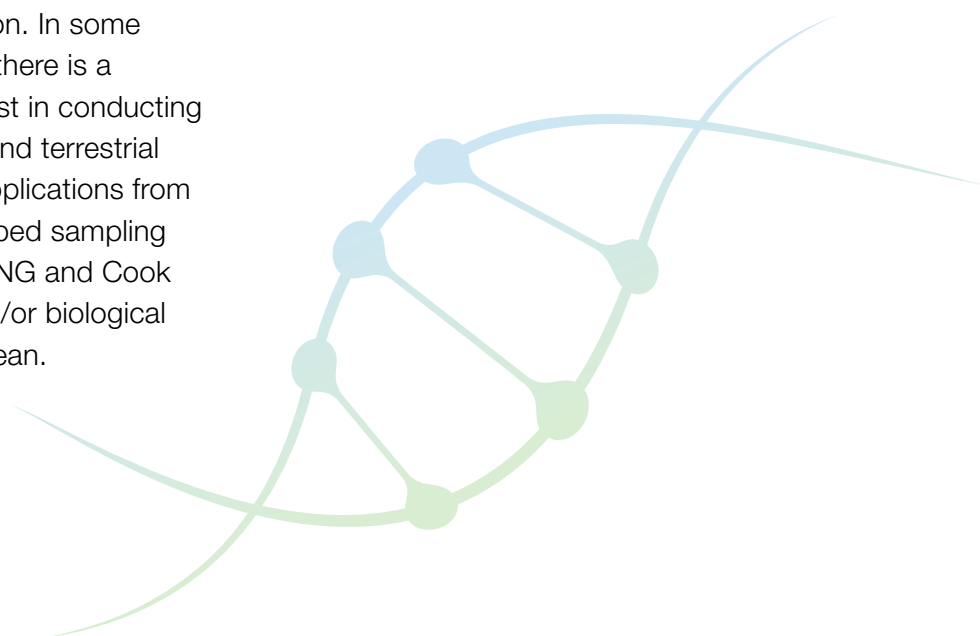
5.4 Awareness and scientific research capacities

The lack of awareness among the wider communities add to the list of challenges for the government agency responsible for implementing the Protocol. Access and benefit-sharing are also greatly impeded in the Pacific due to limited capacities (financial, personnel, technical) of research institutions such as academic and national (government) agencies in basic and applied scientific research, as well as in (commercial) research and development activities, preventing communities (and other stakeholders) from adding value to biological resources. While emerging issues in ABS such as digital sequence information and special considerations (Article 8) such as pandemic response have been presented to Pacific countries by the ABS Initiative and SPREP, there has been limited domestic response in terms of ABS policy adaptation. In some larger countries, such as PNG, there is a growing commercial R&D interest in conducting bioprospecting in both marine and terrestrial environments. There are also applications from foreign research entities for seabed sampling activities in countries such as PNG and Cook Islands to study the mineral and/or biological resources found in the deep ocean.

5.5 Monitoring and reporting

The other challenge within Pacific island countries is that of monitoring and reporting. Although some measures on monitoring have been adopted recently in countries, and while many of the issues identified during the monitoring processes have been resolved, the underlying concern remains on how genetic resources used in bioprospecting can be reported and adequately monitored. The notable absence of a simple, cost effective and robust monitoring system in countries, especially in how research is conducted, and how results are shared and used with other partners, remains a serious challenge for many governments.

The question arises whether relevant regional organisations such as SPREP, the Pacific Community (SPC) or the University of the South Pacific could play a role instead of already overburdened national administrations tackling the monitoring obligations individually. The topic has been raised on several occasions by the ABS Initiative, highlighting experiences with IT-based monitoring systems in the Bahamas and Kenya. However, a substantive discussion about the advantages of a regional approach versus tackling the challenge individually at national level still needs to take place at technical and political levels among Pacific island countries.



5.6 Traditional knowledge

Very few countries have a legislated system or a formal state mechanism to record traditional knowledge concerning biodiversity use. The traditional knowledge associated with genetic resources is often controlled by communities via customary laws and norms. These customary systems have existed for generations and are widely respected within local communities in the Pacific. But external actors such as researchers often do not know about customary laws and rules, and as a result this has often led to misunderstandings and misappropriations of traditional knowledge. Registries of traditional knowledge and also to some extent the recognition of the customary systems and customary owners of the knowledge have been captured under some Pacific traditional knowledge-related laws and cultural policies.²⁶ For example, both Vanuatu (*Protection of Traditional Knowledge and Expressions of Culture Act No. 21 of 2019*) and Cook Islands (*Traditional Knowledge Act, 2013*) (and Solomon Islands has a draft TK Bill) have dedicated traditional knowledge laws which establish registries for knowledge-holders to register their ownership of specific traditional knowledge of foods or medicines, or cultural expressions. These laws do not yet have implementing regulations, and therefore registrations of traditional knowledge are yet to formally occur. While this may be seen as a potentially protective measure, there may also be concern from communities about certain registrations because of the customary secrecy or sacredness of some traditional knowledge, or the role of the state in community customary affairs.²⁷

5.7 Other factors

Natural disasters such as cyclones and flooding occur frequently in the region and have significant impacts on the implementation of any regional capacity development project. Undoubtedly this is one of the critical factors that influences decision making, and which highlights the need for climate change adaptation as extreme weather events continue, as well as nature-based solutions. These disasters have drastic effects on the fragile and vulnerable economies of Pacific island countries, who struggle to rehabilitate and recover, usually heavily depending on donor assistance. This means that priorities shift and national resources (especially human resources, such as government officials) become engaged primarily in response and rehabilitation work. Although such a challenge is eventually resolved once the country returns to normalcy (usually 3-6 months of active engagement in recovering, rebuilding and rehabilitating), there are detrimental consequences in progressing ABS policymaking and projects. Fiji, Tonga, Vanuatu and Samoa were heavily impacted by tropical cyclones and flooding in the 2019-2020 period. The COVID-19 pandemic also severely impacted travel in the region since early 2020, thus also hampering the ability of SPREP and the ABS Initiative to assist national governments with their ABS regimes and Nagoya Protocol implementation.

This remains by far the most challenging part of the implementation of any project in the Pacific region. Each country has small land areas but huge ocean zones within their exclusive economic zones. Remoteness from other parts of the world make travel (flights) expensive and communication via the internet is often challenging.

²⁶ Raven, M and Robinson, D. (2022) 'Biocultural Rights and Biocultural Community Protocols in the Pacific' in Gerard, F., Frison, C., and Hall, I. (eds) *Biocultural Rights, Indigenous Peoples and Local Communities*, Routledge, NY and London, pp203-220.

²⁷ Robinson, D. F., & Forsyth, M. (2016). People, plants, place, and rules: the Nagoya Protocol in Pacific island countries. *Geographical Research*, 54(3), 324-335.

6 Lessons learned on Nagoya Protocol

The main lessons learned from the implementation of the Nagoya Protocol in the Pacific can be contextualised into three subheadings:

1. Shared experiences during negotiations.
2. Overcoming financial constraints and future challenges.
3. Ways forward.

6.1 Shared experiences during negotiations

Pacific regionalism has provided a united foundation for negotiation and cooperation on international issues and is implemented by high level, special-purpose governmental agencies charged with the protection of the state's natural environment authorised generally to carry out coordination, policy planning, regulatory, conservation, and promotion functions.²⁸ The Western and Central Pacific Fisheries Commission (WCPFC) is another such example where Pacific regionalism has influenced the way international law has been enforced. The WCPFC was created in response to the 1982 United Nations Law of the Sea Convention that requires regional cooperation to promote the conservation and management of shared fisheries resources.²⁹

The coordination during the negotiation of the Nagoya Protocol demonstrates the Pacific's unifying ability on the global front. SPREP's strong support and technical inputs during the negotiation in small regional meetings, Skype discussions, helping draft position papers, keeping delegations enthusiastic and informed, and maintaining a well-coordinated regional position on the issue through a 'Pacific voyage'

platform was effective and successful. All Pacific countries have capacity building needs, financial constraints, policy and legislative challenges, and administrative workloads. The Nagoya Protocol adds to the list of important international obligations and challenges in the region, despite the many constraints on their administration.

In implementing the Nagoya Protocol, many countries admit that these challenges are difficult to manage amidst other serious topics such as climate change, trade and food security. Countries such as Papua New Guinea, Nauru and the Cook Islands have deliberately delayed ratification with the understanding that they must first ensure compliance with existing multilateral environmental agreements by developing necessary domestic compliance measures on access and benefit-sharing before ratifying the Protocol. Most countries have implemented the CBD and have existing environmental laws that deal with biodiversity conservation. Pacific island countries regularly produce National Biodiversity Strategies and Action Plans (NBSAPs) for their implementation of the CBD and report on their activities to the CBD Secretariat.

This does not mean that these countries have not participated in access and benefit-sharing implementation. They have been involved in the capacity development activities of the ABS Initiative and SPREP project, including the virtual meetings, webinars, country workshops and consultations with partners. Cook Islands secured financial assistance through a GEF-UNDP project to implement a national ABS project with significant outcomes. Fiji and Samoa ratified the Protocol and got national ABS projects with GEF-UNDP to establish national compliance mechanisms. The SPREP ABS Regional Project and the ABS Initiative

²⁸ Refer to n9 above.

²⁹ Viv Fernandez, 'Marine Pollution from fishing vessels in the Pacific Ocean - what is the Western and Central Pacific Fisheries Commission doing about it?' (2018) available at <https://www.sas.com.fj/ocean-law-bulletins/tag/international-law> (accessed 19 July 2019)

supported most other countries that did not have a national ABS project, providing an opportunity for capacity building and developing ABS compliance measures.

The main issues of concern from the Pacific during the negotiations have been the:

- protection of biodiversity,
- preventing biopiracy,
- ensuring fair and equitable benefit-sharing from the utilisation of genetic resources for bioprospecting,
- a transparent system of access and benefit-sharing,
- recognition of associated traditional knowledge on genetic resources and benefits from its utilisation, and
- equal participation in the process of decision making.

Of additional concern is material and technology transfer as provided for in CBD Articles 16, 18 and 19.

6.2 Overcoming financial constraints and future challenges

Ratification and implementation of the core requirements of the Protocol was included in the Aichi Global Biodiversity Targets, which were agreed by the CBD COP in Nagoya, Japan. By enabling funds from the Global Environment Facility, countries could access small national projects to update and revise their NBSAPs for alignment to the global targets, which meant that ABS was included in the revised NBSAPs. Many Pacific countries used these funds and updated their NBSAPs including inserting targets for implementation of the Protocol. However, the challenge is to fund activities under the strategy to fully implement the commitments to the objectives.

6.2.1 The GEF funding

The GEF initially allocated funds for ABS in 2011 as ‘*set aside funds*’ through the multi-donor Nagoya Implementation Fund (2011–2014) to support these activities (that would be from national strategies on access and benefit-sharing). Out of the 6th GEF replenishment (2014–2018) targeting USD 50 million to support implementation of the Nagoya Protocol, through its Programme 8 (Implement the Nagoya Protocol on ABS), only 63% were used by the countries³⁰.

By 2018, it was clear that the 7th replenishment of the GEF Trust Fund would not consider any specific ABS funding window implying that countries would have to request GEF support through their national (STAR) allocations. Thus, Parties were encouraged to look within their biodiversity allocations in the STAR funding from GEF-7 to programme for Nagoya Protocol-related work. Implementation of the Nagoya Protocol is not an isolated area of work, but a complementary objective of the CBD and therefore any funds emanating from country STAR allocations for ABS implementation is inevitably helping achieve the CBD programme of work.

With SPREP’s assistance and UN Environment coordination, a few Pacific countries agreed to commit funds from their STAR allocation for 2022 and beyond in a Phase II ABS project. The proposed ABS Regional Project Phase II was conceptualised to be in line with the ABS related targets of the Agenda 2030 and its SDGs³¹ and to be consistent with the decision (NP-3/8) of COP-MOP 3, which was held in Egypt (2018), regarding the 7th replenishment of the GEF Trust Fund. However, the idea did not materialise as the implementing agency had capacity challenges to develop the proposal and submit to the GEF with very few countries signing up for the project. By the time the Phase II proposal was conceptualised,

³⁰ CBD/NP/MOP/3/5: [Financial mechanism and resources \(Article 25\)](#)

³¹ Refer to above n7

other countries had already programmed the funds of their STAR allocations or were unable to commit. This setback is a clear example of how the Pacific struggles with accessing funding for the implementation of the Nagoya Protocol.

The ideas for the second phase of the project remain a wish list with immediate priority for the Pacific such as:

- data and information management systems for ABS permitting, application and processing is established, strengthened, or improved,
- regulatory framework (administrative, policy and legal) is established and improved where necessary,
- capacity building and training to implement key provisions of the Protocol, such as prior informed consent and mutually agreed terms, are leading to monetary and non-monetary benefit-sharing resulting from the use of its genetic resources, and
- building new partnerships on research capability and considering the ABS implications of emerging areas in science such as digital sequencing and genetic coding.

6.2.2 EU development assistance priorities 2021–2027

Since 2011, the EU funding contribution to the ABS Capacity Development Initiative for supporting the implementation of ABS and the Nagoya Protocol in the 79 African, Caribbean and Pacific (ACP) countries constitute the second funding source for the Pacific region. The 79-member ACP has a special relationship with the European Union³². The current funding cycle will end in June 2022 and at this point of time new EU funds have not been committed to the ABS Initiative. Continuation of ABS activities is sought by many of our Pacific country partners.

For the implementation of its medium and long-term international cooperation priorities the EU has defined its priority areas and specific objectives in geographic and thematic multi-annual indicative programmes (MIPs) for 2021–2027 with each partner country and region³³. With specific relevance for the Pacific are the regional MIP for Asia and the Pacific³⁴, the Pacific Multi-Country MIP entitled “A Green-Blue Alliance for the Pacific”³⁵ and the country MIP for Papua New Guinea³⁶.

ABS support for Pacific countries fit within the proposed programme areas and logframe including indicators of the regional Asia-Pacific MIP and the Pacific Multi-Country MIP:

- **Climate Action and Environmental Sustainability**, which includes a focus on “*Environmental Protection and Sustainable Management of Natural Resources*” which is of strong relevance to the sustainable use

³² Since April 2020, the ACP Group of States became an international organisation: the Organisation of African, Caribbean and Pacific States (OACPS) is to finalise a new partnership agreement with the EU. For details see: https://ec.europa.eu/international-partnerships/acp-eu-partnership_en - last accessed at 25.02.2022

³³ See: https://ec.europa.eu/international-partnerships/global-europe-programming_en – last accessed at 24.02.2022

³⁴ European Commission (2021). https://ec.europa.eu/international-partnerships/system/files/mip-2021-c2021-9251-asia-pacific-annex_en.pdf

³⁵ European Commission (2021). Pacific Multi-Country Multi-Annual Indicative Programme 2021–2027. *A Green-Blue Alliance for the Pacific*. European Commission, Brussels.

³⁶ European Commission (2021) Multi-Annual Indicative Programme (MIP) for Papua New Guinea (PNG), 2021 – 2027. EC, Brussels.

of biodiversity and which is supported by ABS in principle and practice. Biodiversity in the Pacific is especially vulnerable to the impacts of climate change, and is critical to local food, medicines, fibres and building materials. Continuing work on the sustainable use of biodiversity and on ensuring benefit-sharing to local knowledge-holders and providers is critical.

- **Inclusive and Sustainable Economic Development.** This priority area encompasses two sectors: *Sustainable Green and Blue Economy; Economic Governance*. These are of strong relevance for future Pacific ABS support in the context of the sustainable utilisation of marine and terrestrial genetic resources and associated value chains and benefit-sharing. Biotrade and ABS value-chain aspects align with the shared Pacific-EU priorities of the European Green Deal, including ocean governance, the 2050 Strategy for the Blue Pacific Continent, and the new post-Cotonou Pacific Regional Protocol.

- **Fundamental Values, Human Development, Peace and Security.** This priority area encompasses two sectors with ABS relevance: *Strengthening of Democratic Institutions, the Rule of Law and Protection of Human Rights; Mainstreaming Gender and Addressing Violence against Women and Children*. In the ABS context, considerable work has been undertaken to engage with indigenous peoples and local

communities to protect their rights in relation to traditional knowledge. This has included working with women's groups who are often the custodians of specific types of traditional knowledge (e.g. medicinal knowledge). Yet, this work so far has been interrupted by COVID-19 and needs to be continued. ABS support also positively impacts the rule of law and the improvement of legal structures surrounding research activities in the Pacific, including recognition of customary law, national research permit systems, and environmental laws.

The first priority area “Our Forest Our Future” of the country MIP for Papua New Guinea addresses the Forestry-Climate Change-Biodiversity (FCCB) nexus. ABS plays an important role in ensuring benefits are shared in relation to the sustainable utilisation of (non-timber) forest biodiversity and associated traditional knowledge in PNG. With the support of the ABS Initiative and SPREP the PNG Government is preparing to ratify the Nagoya Protocol and is working towards a draft ABS policy. Support is also provided to analyse and improve non-timber forest product value chains and their ABS compliance, including tree species such as *Calophyllum inophyllum* and *Canarium indicum* (noted earlier). Further support for collaborative ABS activities such as these will be necessary to achieve full compliance of PNG with the Nagoya Protocol and its objectives and fits well in the logframe and the indicators of the PNG country MIP.



7 Conclusions and way forward

As we have seen from the ABS and biotrade case studies, there is strong potential for Pacific island countries to benefit from ratification and implementation of the Nagoya Protocol. The patent landscaping also indicates considerable research and commercial use of genetic resources found in the region including potential use of traditional knowledge, suggesting the need for improved protections in the future. The successful implementation of the Nagoya Protocol on ABS in the Pacific will allow governments and communities to develop effective and robust ABS agreements with users ensuring mutual agreement, research partnerships, and the fair and equitable sharing of benefits contributing to conservation and sustainable use of biodiversity and sustainable development of island societies. It will also lead to the full legal recognition and protection of the rights of indigenous people and local communities. ABS systems will also establish a mechanism for redress in case of non-compliance, infringements and disputes. The challenges encountered in the Pacific are not peculiar to the problems in other parts of the world, especially amongst small island developing states that already have limited capacities and resources. Other environmental issues such as climate change have been a significant focus of governments in recent decades, which may further limit resource mobilisation and implementation of the Nagoya Protocol.

The obligations for designation of the national focal point, competent national authorities, and participation in the ABS Clearing House are essential compliance matters under the Protocol that can be achieved quickly. These are compliance activities that are not labor-intensive and can be undertaken by Pacific countries in the short-term. If Pacific countries do not properly establish and monitor their ABS systems with urgency, there could be

significant implications from biopiracy and misappropriation of genetic resources and associated traditional knowledge belonging to the countries in the region. This will also deprive people of benefits from the natural resources that they conserve and manage. If done well, ABS can help in serving as an incentive for conservation and can be a driver towards achieving several of the Sustainable Development Goals.

It is critically important to note that most Pacific island countries will not have funding to implement ABS work in the post-2022 period. Going into future negotiations, Pacific countries must seriously think and speak about it. As the SPREP and ABS Initiative projects have highlighted, there are still significant gaps in Pacific island country implementation of the Nagoya Protocol. There are incomplete legal and policy frameworks on ABS, limited or no monitoring and compliance mechanisms, and limited reporting to the ABSCH. In terms of ABS agreements and permits issued, there are examples discussed here (albeit many occurring in the CBD rather than Nagoya frameworks on ABS), and many permits issued (albeit very few of a commercial nature). Further support to the Pacific would assist in the negotiation of more ABS agreements, including those with commercial intent and more significant monetary and non-monetary benefits. Lastly, it is clear from the patent landscaping that there is a lot of patent activity on Pacific native and endemic plant species, often with associated traditional knowledge. Given that there are only a few known ABS agreements reported by the countries, this leads us to conclude that there is a significant possibility of misappropriation and biopiracy occurring through R&D and patent activity, even in the post-Nagoya era. In addition, there is considerable biotrade activity on plants and biological resources with associated traditional

knowledge in the Pacific. This highlights the importance of bolstering ABS regimes for the improvement of regulations and processes to ensure ABS-compliant biotrade is enhanced.

The way forward for implementation in the Pacific region is at three levels: global, regional and national. The Pacific needs sustainable financing to support its response to ABS obligations:

- at the international level, to support countries on monitoring and reporting mechanisms, establishing prior informed consent and mutually agreed terms, and other compliance measures as per country needs.
- On a regional level, issues like transboundary genetic resources and traditional knowledge need to be addressed, and the region will benefit from guidelines for access and benefit-sharing and information exchange between countries to strengthen implementation of the Protocol.
- At the national level, implementation needs sustained support to ensure the prior informed consent and mutually agreed terms processes are transparent, effective, timely and can be monitored.



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