

Do the benefits of international policy commitments outweigh the burdens for small island states? A case study of the Convention on Biological Diversity and the Federated States of Micronesia.

Iain Hall

PhD student, Graduate School of Global Environmental Studies

Sophia University, Tokyo, Japan

i-hall-47a@eagle.sophia.ac.jp

William Kostka

Executive Director, Micronesia Conservation Trust, Pohnpei

Federated States of Micronesia

director@ourmicronesia.org

and

Anne McDonald

Graduate School of Global Environmental Studies

Sophia University, Tokyo, Japan

a-mcdonald-3rs@sophia.ac.jp

Abstract: The Federated States of Micronesia (FSM) is a small island developing state (SIDS) comprising four semi-autonomous states. The country faces a number of environmental challenges, not least of which is the loss of biodiversity upon which it relies for subsistence and economic development. The FSM is a signatory to the UN Convention on Biological Diversity (CBD) and must develop and deliver a National Biodiversity Strategy and Action Plan as a way of implementing the convention and protecting its biodiversity. For a SIDS like the FSM, being a party to the CBD presents a notable burden: fielding personnel to global meetings, crafting necessary policies and legislation and implementing such policies. This article explores the perceptions of what being a signatory to the CBD brings to those in countries such as the FSM who are responsible for, or involved in, developing and implementing biodiversity conservation policy and actions. It highlights specific perceived benefits and challenges, and considers these in relation to the status of biodiversity in the FSM today.

Keywords: biodiversity, conservation, Convention on Biological Diversity, Federated States of Micronesia, policy, small island developing states

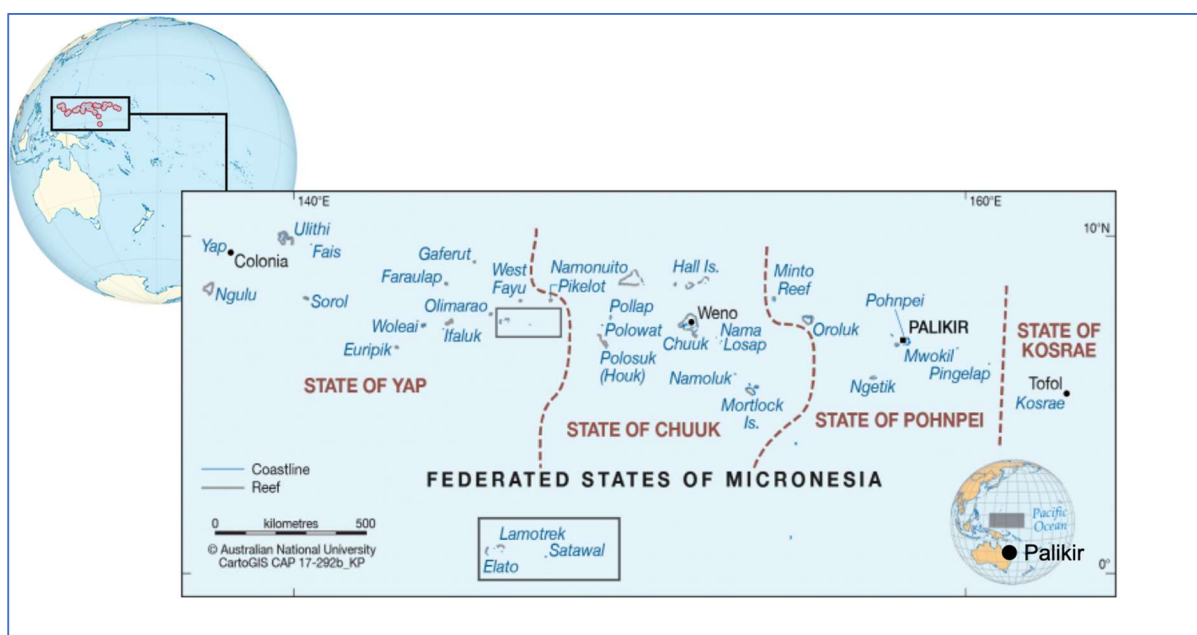
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Introduction: A picture of a small island state

The Federated States of Micronesia (FSM) is a country of 607 islands spread across almost 3 million km² of the tropical North-West Pacific (see [Figure 1](#); also CIA, 2019; FSM PIO, 2011). Although the population of just over 100,000 has fallen somewhat recently, it is still predicted to grow to over 130,000 within the next 40 years (FSM Office of Statistics, Budget, Overseas Development Assistance and Compact Management, n.d.; UNDESA, 2017).

Recognised as a small island developing state (SIDS), the FSM has a small economy: domestic revenues rest on fishing activities in its Exclusive Economic Zone and significant funding is received through the Compact of Free Association with the USA that has been in place since the late 1980s as the country transitioned from being a United Nations Trust Territory to an independent sovereign country. The FSM is a constitutional democracy with each of its four states – Chuuk, Pohnpei, Kosrae and Yap – having significant autonomy, particularly over natural resources. Governance operates at national, state, municipal and traditional levels. The latter is significant because most of the land and coastal resources are privately or collectively owned, rather than being in the hands of the state or national government (TNC, 2003).

Figure 1: Map and Location of the Federated States of Micronesia, including location of Pohnpei island.



Source: Composite adapted from Wikipedia Commons ‘Micronesia on the globe’, <https://commons.wikimedia.org/w/index.php?curid=15176204> and CartoGIS Services, College of Asia and the Pacific, Australian National University, <https://asiapacific.anu.edu.au/mapsonline/base-maps/federated-states-micronesia-0>

As with small islands the world over, the 702 km² land area of the FSM experiences particular environmental pressures. These include limited natural resources, a changing climate, and pressures on biodiversity associated with isolation, limited areal extent and risks from invasive species. The majority of SIDS worldwide are located within the boundaries of one of the 36 globally important biodiversity hotspots (CEPF, 2019; UN-ORHLLS, 2019). The FSM is no exception, forming part of the Polynesia-Micronesia hotspot. It is home to an estimated 110 endemic plant species, 22 endemic bird species, four endemic mammal species and a number of endemic reptiles (BirdLife International, 2018; Buden & Taboroši, 2016; Costion & Lorence, 2012; IUCN, 2018). Species richness declines from east to west, from Yap State to Kosrae State, as the islands become more isolated, i.e. the islands at the greatest distance from a continental landmass have the lowest species richness (The Nature Conservancy, 2003). Plant percentage endemism increases in the same direction. Yap, which is closest to a large landmass, has the lowest proportion of endemic plants within its flora, while Kosrae, which is furthest away, has the highest proportion (Costion & Lorence, 2012).

This rich biodiversity is under threat, with 325 species in the FSM recognised as being either threatened to some degree or extinct (IUCN, 2018). Changes to biodiversity are most readily seen in the marine environment, where fish catch-per-unit-effort and total volume caught in the near-shore fisheries of Pohnpei both fell in the decade between 2006 and 2015 (Rhodes et al., 2018). The major threats to biodiversity in the FSM have been identified as: environmental conversion and degradation; over-exploitation of resources; waste management and pollution; invasive and alien species; infrastructure development, and climate change (FSM NBSAP, 2018). Threats to biodiversity are important not only owing to the inherent value of the nation's biodiversity but because, as a SIDS, there is a high level of reliance on biodiversity in daily life, for current economic security and for future economic development. The country today is largely a subsistence-based economy, with over 90% of families engaged in agricultural activity of some kind, and more than 70% engaged in fishing; only 10% of households undertake these activities for commercial purposes (FSM Office of Statistics, Budget, Overseas Development Assistance and Compact Management, n.d.). Selling licences to international fishing vessels for access to the FSM's Exclusive Economic Zone (EEZ), primarily for tuna fishing, is the single largest source of revenue for the FSM government and future strategic development plans, which centre around agriculture, fisheries, tourism and energy, all heavily rely on, or have the potential to greatly impact, the nation's biodiversity (FSM Office of Budget & Economic Management, 2017). This has the potential to put strategic development plans at odds with environmental policy.

In recognition of the importance of biodiversity conservation and the need to maintain robust biodiversity as the bedrock of a healthy, sustainable future for the country, the FSM became a signatory to the Convention on Biological Diversity (CBD) during the 1992 United Nations Conference on Environment and Development, with ratification of the convention following in 1994 (Government of the FSM, n.d.).

The burden of international policy commitments

Important though it may be for the FSM to be a party to the CBD, as with other multilateral agreements and international conventions it presents the FSM with a number of challenges. Like any international convention, there are obligations to meet under the convention that place a resource burden on countries, particularly countries such as the FSM that are not only geographically small, but also have small economies and limited human capacity. In the case of the FSM, annual government revenues have averaged only \$208.5 million for the decade 2008–2017 (FSM Division of Statistics, 2019), and government downsizing has reduced the workforce by 14% since 2003 (EconMAP, 2019).

The burden around international conventions involves, amongst other things, fielding delegations at regular Conferences of the Parties (COPs), with delegates from developing countries often challenged by limits to available resources and personnel (Fisher & Green, 2004). Funding may be available from international agencies to support the attendance of SIDS delegations at the various COPs, reducing or removing the financial burden. However, these delegations often remain small; the average delegation size of Pacific SIDS attending the 2010 CBD COP10 was three or four people, with most delegations consisting of only one person (Gruby & Campbell, 2013). This naturally limits the ability of any single delegation to engage in the array of negotiation meetings and side events at such a gathering. Fielding delegates may also place a burden on government departments as those personnel attending convention meetings are naturally not also able to attend to other duties. This problem can be compounded when attendance is required at multiple COPs, working group meetings and other convention-

related meetings. As has been highlighted, this resource challenge has only grown with the growing number of multilateral environmental agreements in place (Dahl, 2017; Fisher & Green, 2004). The FSM is signatory to a number of international treaties and conventions, including the UNFCCC, the Montreal Protocol on Substances that Deplete the Ozone Layer, the United Nations Convention on the Law of the Sea, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, and others (Government of the FSM, n.d.). These can present a capacity and technical expertise burden on governments of small countries, where the same personnel may be required to attend meetings for multiple agreements as well as coordinate their implementation and reporting (Key & Peturu, 2011). Furthermore, as discussed by Panke & Gurol (2020) in relation to the United Nations General Assembly, the limitations of small states and governments extend beyond attendance and representation of national interest to the very development of a national negotiating position, which may itself be hampered by issues of capacity.

Financial support for SIDS parties to conventions may extend to the development of the required policy documents and reports. Under the CBD, all parties are required to develop a National Biodiversity Strategy and Action Plan (NBSAP) (CBD, 1992). These plans are the main tools for countries to implement the CBD. They contain specific targets and actions that form a pathway for protecting and conserving biodiversity in a way that addresses that country's particular challenges and is suitable within the social and cultural context of the country. The FSM produced their initial NBSAP in 2002. In 2010 a new Strategy for Biodiversity 2011–2020 was adopted under the CBD, alongside 20 specific targets (known as the Aichi Biodiversity Targets), as a framework for priority actions on biodiversity and in support of the Sustainable Development Goals (CDB, 2010). Parties to the CBD were required to develop, by 2015, revised NBSAPs to support the strategic plan. In the case of the FSM, funding was received to support the development of the revised NBSAP from the United Nations Development Programme (UNDP), though this was not developed until 2018 (FSM, 2018). Even with the removal of financial barriers to fulfilling such obligations, there remains a human capacity burden to the small government departments responsible (Key & Peturu, 2011). This burden is increased in a country such as the FSM; its federated nature means that each state has autonomy over its own natural resources, the result being that in addition to the requirement to develop an NBSAP under the CBD, there is a need for each state to produce an individual state Biodiversity Strategy and Action Plan (BSAP) to address state-specific issues.

While conventions such as the UNFCCC address an issue with global impacts and outcomes, agreements such as the CBD deal with issues that are of global concern but are more regionalised in terms of outcomes. Biodiversity has inherent value to all of humanity, but conservation of biodiversity in a specific location may not demonstrate effects far beyond that location. It may therefore be considered that the resources expended on the required policy making and reporting that comes with being signatory to a multi-lateral agreement such as the CBD could be used more effectively for 'on-the-ground' conservation. Aside from funding issues that can be associated with such treaties, this raises the question of whether global environmental policies hold value for small island states.

The current literature is limited in this regard, primarily examining the types of capacity issues previously described that small and developing countries, including SIDS, face in relation to global environmental policies (Chasek, 2010; Dahl, 2017; Fisher & Green, 2004; Gruby & Campbell, 2013; Key & Peteru, 2011; Panke & Gurol, 2020). Information is also available in relation to progress on the commitments made under international environmental agreements. For example, implementation of the CBD is largely gauged by looking at those

countries that have submitted an NBSAP: 191 of 196 parties having already submitted at least one NBSAP to the Secretariat (Convention on Biological Diversity, n.d.). In a 2006 assessment of progress made on commitments made at the 2002 World Summit on Sustainable Development in relation to SIDS, the level of ratification of multilateral environmental agreements by SIDS is considered, along with the percentage of SIDS enacting environmental acts in response to the oceans and coasts components of the Barbados Programme of Action: Ocean and Coastal Management (Cicin-Sain et al., 2006). Such measures of implementation are necessarily very limited, reflecting only whether the national policies or legislation required by the global environmental policy in question have been created or not. Regular national reports to the CBD provide greater insight into national progress against NBSAPs and other objectives such as the Aichi Biodiversity Targets.

In sum, this literature considers issues of capacity and, to a degree, implementation in relation to global environmental policies but fails to consider the benefits and burdens of them as perceived by those tasked with implementing them; are they considered to be useful, are they utilised, do they make a difference and how? To help address this gap, the case study reported here examined whether the CBD is felt to be a useful and worthwhile agreement for the FSM by those involved in policy-making and biodiversity conservation practice, given the obligations that come with being a signatory and the resources required to meet those obligations. It also examined the perceived challenges of implementing the resultant FSM NBSAP and state BSAPs. This research forms part of a wider research project examining the overall effectiveness of international biodiversity conservation policy in SIDS.

Methods

This qualitative research utilised semi-structured interviews conducted over a two-week period in March 2019 in Pohnpei, FSM and a three-week period in October and November 2019, in Chuuk, Kosrae, Pohnpei and Yap states. As such, participants from all four states of the FSM were included in the research. Potential interview participants were identified based upon the researchers' previous experiences during a scoping trip to Pohnpei in March 2018, and during the nationwide consultations for the National Biodiversity Strategy and Action Plan during the third quarter of 2018. Identification of potential participants was based upon job role. These were either in national or state government departments responsible for the management of natural resources and the environment, and related policy and decision-making, or were in non-governmental and donor-funded organisations working in the environmental sector. Possible participants were contacted with detailed information of the wider research project and the purpose of this proposed interview.

This research involved twenty-three interviews with twenty-five participants; one participant was interviewed on two separate occasions, while three interviews involved discussions with two participants simultaneously. Each interview lasted between 25 and 75 minutes. (See [Table 1](#)).

Strict ethical guidelines were followed in relation to approaching and interviewing participants. In addition to information about the wider research project and the interview approach adopted, all interview participants were provided with those questions that had been defined as part of the semi-structured interview process as well as an informed consent form. This form allowed each participant to confirm that they had received adequate information and understood how the interview would be used and allowed them to define whether their words could be directly quoted in the research analysis.

Table 1: Numbers of interview participants by organisation.

Organisation	Individuals approached	Individuals participating
National Governmental Organisations		
Department of the Environment, Climate Change and Emergency Management	4	3
Department of Resources and Development, Agriculture Unit & Quarantine Services	3	3
Department of Resources and Development, Marine Resources Unit	2	2
Former senior government official	1	1
State Governmental Organisations		
Chuuk Department of Marine Resources	1	0
Chuuk State Legislature	1	0
Environmental Protection Agency (all states)	7	4
Kosrae Island Resource Management Authority	1	1
Non-Government Organisations		
Conservation Society of Pohnpei	2	1
Kosrae Conservation and Safety Organisation	1	1
Micronesia Conservation Trust	4	4
The Nature Conservancy	2	2
USAID Climate Ready	2	2
Other		
Community conservation organisations	1	1
TOTAL	32	25

Source: Compiled by authors.

Preliminary observations made during the development of the revised NBSAP during 2018 had demonstrated that awareness of the original NBSAP, produced under the CBD in 2002, was mixed. While key personnel in relevant national government departments demonstrated knowledge of the Plan, and actively referred to it in matters of action planning, not all members of the revised NBSAP development team were either aware of the original Plan themselves or felt that the wider community of government and environmental professionals were aware or made use of it. As part of the semi-structured interview approach all interviewees were asked whether they felt global conventions, and specifically the CBD, were useful for the FSM to be signatory to or not, as well as whether and how they had an impact on activities within the FSM. In relation to the subject of the impacts and/or benefits of being a part of international environmental conventions, four participants did not comment directly. The findings presented below are therefore based upon responses from twenty-one interviewees.

A snowball sampling technique was adopted, whereby each interview participant was asked if they knew of any other persons that they felt should be included in the research. In this way, the number of interview participants was expanded during the research. This approach also provided a view on when saturation had been reached; i.e. it was felt that an adequate number of interviews had taken place when no new names were offered by successive interview participants.

All interviews were recorded, transcribed and coded in line with recommended coding practices outlined in the *Coding Manual for Qualitative Researchers* (Saldaña, 2013). Interviewee perceptions of the CBD and its implications for the FSM were considered, based upon interview transcripts and each interviewee categorised as having a positive, negative or

neutral position. Coding of interview transcripts allowed the identification of key themes. Interviewees were not asked directly about any of these themes; all themes were identified through comments made spontaneously by interviewees. Interviewees were assigned a simple identification code for reporting purposes; “NGov1-9” for national government interviewees, “SGov1-5” for state government interviewees, “NGO1-10” for non-governmental organisation interviewees, and “CCO1” for the community conservation organisation interviewee.

Findings

Twenty-one interviewees took a positive position on the FSM being signatory to the CBD (four interviewees did not respond directly to the question). The degree to which interviewees expressed this varied, with some interviewees taking a much stronger positive stance than others. In spite of this variation, it does suggest that overall the interviewees felt it was beneficial to the FSM to be a signatory to the CBD, even though that brings with it a number of obligations.

A number of key themes became apparent in support of the FSM being a signatory to the CBD. The most prominent themes are summarised in [Table 2](#), ranked by the number of interviewees that raised each theme. There was no clear delineation by interviewee type, i.e. governmental or non-governmental personnel, when it came to these themes, with each of the common themes being raised by interviewees in both sectors. Further exploration of these themes is provided below.

Table 2: Prioritised themes supporting the status of the Federated States of Micronesia (FSM) as a signatory to the Convention on Biological Diversity (CBD).

Theme	No. of Interviewees	Summary Description
1. Driving projects and action planning	8	The CBD leads to the development of targets and goals that on-the-ground projects and actions are then designed to achieve
2. Directing policymaking	7	Government policies relating to biodiversity is designed to align with the CBD and the resultant NBSAP and state BSAPs
3. Enabling access to funding	7	Being signatory to the CBD enables the FSM to access and receive donor funding from international organisations and private donors
4. Giving a voice to the FSM	5	Being signatory to the CBD gives the FSM a voice at a global level that is equal to the voices of other, larger and more wealthy countries

Notes: NBSAP: National Biodiversity Strategy and Action Plan; BSAP: Biodiversity Strategy and Action Plan.

Source: Compiled by authors.

Theme 1: Driving projects and action planning

National plans developed under the CBD contain within them specific goals and targets that combined serve to protect and conserve a nation's biodiversity. The NBSAP is the nationally-developed tool with which to implement the CBD. It is significant, therefore, that the strongest theme in these interviews was the role of the CBD, and particularly the NBSAP and state BSAPs, in action planning within the FSM.

It was commonly noted by those NGO personnel interviewed that biodiversity conservation projects and initiatives are developed in line with the NBSAP and relevant state BSAP, amongst other relevant legislation and policies such as strategic development plans etc. to ensure that all projects support these plans and the broader convention. Through the NBSAP and state BSAPs, community-based, on-the-ground activities are directly linked to, and support, the convention itself. One NGO interviewee (NGO4) described the NBSAP as their "*bible*" for biodiversity project planning, while a state government agency interviewee (SGov2) viewed the NBSAP and state BSAP as a "*sort of schedule of what should be done, when*".

It is clear that the impact of the CBD is most significantly felt through the NBSAPs. This is important as this is exactly the purpose of developing these plans and so from this organisational perspective it would seem that the CBD is functioning as intended within the FSM, and being a party to the CBD is, in this regard, having a positive impact on biodiversity conservation planning within the country.

The extent to which specific plans and projects associated with the NBSAP are themselves effective is outside the scope of this research. However, it is useful to consider the degree to which the targets and actions within the NBSAP are being fulfilled. The original FSM NBSAP was produced in 2002 with the revised NBSAP developed in 2018. The 2018 NBSAP provides evidence of where progress has been made and, in many areas, this is significant, such as in the development of a national protected area network with associated legislation to enable appropriate management of these areas (FSM, 2018). However, an examination of the two documents demonstrates that 176 of the 224 actions in the 2018 revision are identical to those in the 2002 version, suggesting that these are targets that had not yet been achieved. In fact, only five targets were removed altogether, while 34 new targets were added. This suggests that, in spite of any positive impact from the CBD, biodiversity conservation is falling behind national plans and expectations.

It must be remembered that some targets are ongoing in nature, such as the need for regular biodiversity surveys, and minor changes to wording demonstrate progression, such as the 2002 target to "*Develop and support community based biodiversity friendly NGO's*" evolving to become the 2018 "*Strengthen and improve support for conservation/biodiversity programs for NGOs and CBOs*" (FSM, 2002 & 2018). This change demonstrates that some progress has been made at least in the development of community-based organisations. Information on the degree of progress for specific targets is not, however, provided so it is not possible to accurately judge the lack of success. This situation is being remedied through the incorporation of an annual progress assessment into the 2018 revised NBSAP, to enable this tracking (FSM, 2018).

Importantly, failing to achieve specific individual targets can have real consequences for biodiversity in the FSM. For example, both versions of the NBSAP contain a goal to identify and conserve critical watershed areas, suggesting that sufficient progress had not been made

between 2002 and 2018. The impact of this lack of progress is far reaching, particularly in light of changing weather patterns as a consequence of climate change. The watershed forests in the FSM are a critical form of protection against droughts during periods of low or no rainfall. They also protect against landslides occurring as a result of intense rainfall, and these landslides result in coastal sedimentation that directly threatens seagrass beds and coral reef ecosystems, as well as causing damage to infrastructure and, in some cases, loss of life.

The seeming lack of progress across targets within the NBSAP raises the question of whether, while wider project and action planning may be undertaken in light of the NBSAP and in support of the CBD, specific goals within the NBSAP are being overlooked. It is also likely to be directly related to those challenges identified by interviewees and discussed in the next section.

Theme 2: Directing policymaking

In a similar vein to Theme 1, it was commonly cited that being a party to the CBD positively influenced policy making within the FSM government at national and state levels. Members of national government who were interviewed identified that referring to such international policies is commonplace in the development of national policies and programmes to ensure that new initiatives are aligned with these international commitments. In this way, being a party to the CBD is seen to be having a positive effect by influencing policy making.

One interviewee (NGov1) identified that such policies also help guide the government in terms of identifying the boundaries for action planning, helping “*the government to know where they're going to start and where they're going to be stopping.*” The same interviewee also recognised the need to regularly revisit and refresh government policies to ensure they remain relevant. Though not expressed, this revisiting of government policies provides an opportunity to ensure that existing policies and programmes are in line with international commitments, and to adjust them where they are found not to be. It should also be recognised that this revisiting of policies may have ongoing capacity implications.

While it was clear from the interviews that new policies were being cross-checked with the NBSAP to ensure alignment, the degree to which policies were being created as a direct response to the targets and goals within the NBSAPs was not evident. Referring to the 2002 and 2018 NBSAP documents can, again, provide some insight into this as each document contains numerous goals for the development of specific policies or legislation. As previously described, it is clear these goals have frequently been unfulfilled, being carried through from the original NBSAP to the revised version. For example, Theme 6 of both documents, *Biosecurity*, contains an objective entitled *Policy and legislation*. This objective contains four actions, all of which have been brought forward from the original NBSAP to the 2018 revised NBSAP suggesting that, even where specific legislative goals are described, such as “*Develop national and state policies, legislation and actions for the management of genetically modified organisms*” they have remained unfulfilled. Several of the other nine themes within the NBSAP demonstrate a similar ongoing need for legislative development.

It is therefore necessary to consider that, while the NBSAP does appear to influence policy and legislation where it is already being developed, it does not yet appear to be a driving force for the development of much-needed specific policy and legislation to support the conservation of biodiversity. This suggests a need for stronger government action, linking directly to the challenges of implementation identified by the interviewees and discussed below.

Theme 3: Enabling access to funding

A number of interviewees raised the issue of funding in relation to the CBD, inasmuch as being a signatory country enables access to funding and donor support for conservation efforts that may otherwise not be available. As one government interviewee (NGov9) put it, “*it brings a lot of money*”. From a broad perspective, it may be considered that the ability to access funding that comes with being signatory to the CBD may be the greatest benefit, providing as it does the potential to put conservation plans into action. One NGO interviewee (NGO9) stated, “*the funding that comes from CBD really supports a lot of the conservation work that we do*”.

As previously described, FSM is a recognised SIDS with a small economy that relies heavily on external funding. Funds to the FSM via the Compact of Free Association with the United States are directed through the government primarily towards health, education and infrastructure, with only a very small percentage made available for environmental work through the small grants programme, and a requirement that this be applied for on a project-by-project basis. Therefore, conservation activities rely almost entirely on funding through mechanisms such as the Global Environment Fund (GEF) and through private donor organisations. As the financial mechanism of the CBD, access to the GEF requires CBD signatory status. An NGO interviewee (NGO5) also highlighted being a signatory to the CBD as “*something that donors would really look at*”, further emphasising its importance in securing much needed funding. Therefore, not being a party to the CBD would limit access to these sources of financial support that are so necessary for ongoing conservation work in the FSM.

One interviewee (NGO2) commented that “*we bring stories of the communities that we work with to these conventions, and sometimes these stories can inspire donors to give us funding support*”, further demonstrating how being a signatory to global environment policies such as the CBD can lead to tangible funding opportunities. This provides additional evidence that being a party to the CBD is a major enabling factor for the initiation and continuation of biodiversity conservation programmes across the FSM.

Yet, it must again be considered that in spite of available funding, biodiversity loss is continuing in the FSM. The reason for this may be as simple as current funding levels being insufficient to enable implementation of all of the actions needed to stem the loss of biodiversity. However, the comments from interviewees and the fact that a lack of funding was only raised as a challenge in relation to the lack of government leadership (and the lack of government funding for conservation), suggest that this is not the case.

Theme 4: Giving a voice to the Federated States of Micronesia

The FSM is, by any measure, a small country. It is already feeling the effects of climate change, a phenomenon for which, as a country, the FSM can hardly be held responsible. The resources available to the FSM to deal with its environmental challenges are limited and dwarfed by those of other countries. As one interviewee (NGov6) put it “*in terms of the land, it's very, very, very small. We're not even the size of Rhode Island, if you put all the land masses together, including the outer islands*”. Being a party to the CBD gives the FSM a voice at the global level that may otherwise go unheard, and in agreements such as the CBD an influence equal to every other country. The same interviewee noted that this equality of voice at the global level also means that the FSM is held to the same standards as every other country, including those that are much larger and have far greater resources for biodiversity protection and conservation.

Having this voice on the international stage can enable the raising of awareness around specific issues as well as providing a forum through which assistance can be sought from larger, better-resourced nations. The issue of the FSM ocean territories was raised by one interviewee in relation to this. The FSM is unable to comprehensively patrol its EEZ, with an area of almost 3,000,000 km², so the effective regulation of activities within these waters that impact the country's biodiversity depends to a great extent on the international community. The CBD provides a forum for the FSM to raise issues in relation to its ocean resources such as this.

One interviewee (NGov7) commented that the FSM wants “*to be there at the table so that we have a say there... at least we have a say in how these international legal frameworks come up. They're going to impact us so we might as well have a say in how it's done, so that it reflects what it is that we feel is appropriate for us.*” Though the FSM has representation on a global level, it should be questioned as to whether it is being used effectively, or even at all? Having a voice on the global stage is only useful if it can lead to positive outcomes that, in this case, result in improved conservation efforts. It is difficult to assess whether the FSM is using its voice through the CBD, though the Earth Negotiations Bulletins that act as an independent report of United Nations environmental negotiations offers scant evidence of individual activity by the FSM at the COPs (IISD, 1992–2018). President Mori delivered a well-received speech at the Ad Hoc Open-ended Working Group on Protected Areas (WGPA 2) of the Convention on Biological Diversity (CBD) in Rome in 2008. However, subsequent activity suggests the impact of this was not lasting (Gallen, 2015).

Whether or not the needs and concerns of the FSM individually are being heard by the other parties to the CBD, it may be beneficial for small island states to come together as a single negotiating unit, sharing as they do many of the same concerns. There is evidence in the COP bulletins (IISD, 1992-2018) of individual countries speaking “on behalf” of small islands, SIDS and Pacific Island Countries at the COPs, and the Secretariat of the Pacific Regional Environment Programme (SPREP) supports Pacific island countries in their joint preparations for CBD COPs (Gruby & Campbell, 2013; Key & Peturu, 2011; SPREP, 2018). However, there is no official alliance of small island states for the CBD, in contrast with the UNFCCC for which the Alliance of Small Island States (AOSIS) brings together small island and low-lying states, enabling them to speak as one on matters of climate change. Developing a more visible alliance could be of particular benefit to those island countries that lie within globally recognised biodiversity hotspots, such as the eleven countries within the Polynesia-Micronesia hotspot (CEPF, 2019). By joining together to strengthen their voice within the CBD, small island states may be able to push for greater assistance in conserving biodiversity that has been identified as being globally important.

Other benefits associated with the Convention on Biological Diversity

A number of other impacts and benefits of the FSM being a party to the CBD were identified by individual interviewees and, though not commonly raised, do highlight interesting perspectives from those tasked with developing or implementing biodiversity policy within the FSM. These include the fact that the CBD enables a platform for discussions among the various stakeholders, that it provides a degree of consistency across the four states of the FSM and between governments as they change, and that it has given rise to consideration of the potentials and limitations of traditional knowledge and the need for integration with conventional scientific knowledge. These will be considered in turn.

It was felt that the process of developing the NBSAP and the state BSAPs was itself beneficial owing to the fact that it brought together key stakeholders in one place to discuss the key issues of biodiversity conservation in the individual states and the country. It thereby enabled a platform for discussion and interaction that may otherwise not have occurred, and this action alone was felt to be useful. Preliminary observations made by the authors during this process in 2018 support this perspective. During the NBSAP and state BSAP consultation meetings, many side conversations were held, and agreements made, about activities and actions that would directly benefit biodiversity conservation and other aspects of environmental protection that may otherwise have not occurred or at least not occurred as swiftly. The CBD therefore delivers an enabling environment for different stakeholder groups to come together and catalyses discussions that go beyond the specifics of the NBSAP development.

One interviewee expressed the value of the CBD as providing a degree of consistency in environmental policy, both geographically and temporally. As a nation of federated states, biodiversity conservation in the FSM is the responsibility of the individual states, which itself allows for divergent approaches to conservation across the country based upon local priorities and in line with local cultural traditions and practises. However, this could lead to significant differences in levels of conservation across the country, which may have negative impacts at a national level. This is important as the FSM is committed to a number of conservation-based programmes and targets at a national level, such as the Micronesia Challenge (Micronesia Challenge, n.d.). The Micronesia Challenge is a commitment by five countries across the Micronesian region to protect biodiversity by conserving 30% of near-shore coastal resources and 20% of terrestrial resources across Micronesia by 2020, and to effectively manage at least 50% of near-shore resources and at least 30% of terrestrial resources across Micronesia by 2030 (Micronesia Challenge, n.d.; MIF, 2019). It is interesting to note that this commitment itself may not have been possible without the FSM, the Republic of Palau and the Republic of the Marshall Islands being signatories to the CBD. Furthermore, this commitment has been the impetus for a number of other regional conservation activities, including the Caribbean Challenge and the Coral Triangle Initiative. This further demonstrates the ongoing positive impact of the CBD. Returning to the FSM specifically, consistency in conservation across the country is therefore important to ensure sufficient progress is made toward this regional biodiversity goal. By being a party to the CBD, there is a consistency of policy both through the convention itself and more directly through the NBSAP that each state must live up to through their state BSAPs. The NBSAP and state BSAPs help the country achieve its regional targets such as those for the Micronesia Challenge. Furthermore, it was suggested that this consistency extends over time between governments. With successive governments come differing priorities, both directly environmental and in terms of trade and development that may impact the environment and biodiversity. Being a party to the CBD ensures that commitment to biodiversity conservation should be maintained to some degree between different administrations over time.

Finally, it was suggested that being a party to the CBD encouraged thinking about the role of traditional knowledge and conventional scientific knowledge in conservation in the FSM. The CBD, through Article 8, not only promotes respect for, preservation of, and maintenance of traditional knowledge and practises in relation to the conservation and sustainable use of biodiversity, but also supports the wider application of traditional knowledge and practises for conservation (CBD, 1992). One interviewer (NGO5) stated: *“As a small nation, even though we can rely on our own traditional knowledge, but then knowing the fact that traditional knowledge will fade at one certain point...that's why we really encourage the*

modern knowledge of policies and all of these international's policies... it's something that can guide the decision making process in our own country and local perspective, I would say, because our knowledge is up to a certain point." This suggests that while traditional knowledge is important for conservation in the FSM, it is recognised that it has its limits and will fade with time, so there is a need for combining this with conventional scientific knowledge. The global policies that the FSM is signatory to, and plans that come from these, go beyond the experiences of traditional natural resource management, demonstrating the role for conventional scientific knowledge about the nation's biodiversity and its management as a useful addition to traditional knowledge.

Challenges associated with the CBD

Whilst all the interviewees were positive about the FSM's status as a signatory to the CBD, seeing a number of benefits and positive impacts from this status, it was also apparent that a number of challenges exist around the implementation of the FSM NBSAP and state BSAPs. Numerous challenges were raised, many by single interviewees, and while none were raised with the same frequency as the previously considered themes they remain nonetheless relevant. As with the previously discussed themes, the most commonly raised challenges are summarised in [Table 3](#) and described below.

Table 3: Prioritised challenges to the implementation of the Federated States of Micronesia (FSM) NBSAP and state BSAPs.

Challenge	No. of Interviewees	Summary Description
Awareness	5	A lack of awareness of the CBD and the resultant NBSAP and state BSAPs exists, particularly within government agencies and also among the general public
Government leadership	4	There is a lack of government leadership, including funding, driving the implementation of the CBD and the resultant NBSAP and state BSAPs
Government communication	4	Government communication, internal and external, regarding the importance and implementation of the CBD is lacking
Capacity	3	Human capacity to support the implementation of the FSM NBSAP and state BSAPs is inadequate

Notes: NBSAP: National Biodiversity Strategy and Action Plan; BSAP: Biodiversity Strategy and Action Plan.

Challenge 1: Awareness

It was apparent from the interviews that there is a perceived lack of awareness of the CBD, the FSM NBSAP and the state BSAPs, particularly in some government agencies. This issues was raised by five interviewees, with lack of awareness being identified by more than one government interviewee as being primarily at the state and local government levels, suggesting that awareness of such policies sits primarily at the national government level. This perception was seen to be the case to some degree during the consultation procedure for the 2018 revised NBSAP, with various government participants unaware of the existence of the

original NBSAP. As the FSM national government has very little ability to direct state and municipal conservation activities, adopting a role that is largely focussed on facilitating necessary funding, this isolation of knowledge has the potential to greatly impede action. To put it another way, increasing awareness of the CBD and the resultant policies throughout all levels of government may help build support for and engagement with conservation activities.

One government interviewee (NGov8) considered that dealing with the lack of awareness about the CBD and FSM NBSAP should focus not only on government but the general public too, stating “*It's only the heads of departments or agencies that are well informed about these treaties, not sharing with the rest of the people. They [the public] don't know what's really going on with these treaties. So, I think we need more information to be shared with our people, so we know what we're doing, and we know if it's really contributing or not.*” This comment is suggestive of the importance of local community engagement in conservation activities; a more widespread understanding of the country's international commitments to biodiversity conservation may help on-the-ground activities be initiated and established more easily and reduce the potential for community resistance.

There may be some recognition that the voice for biodiversity, and about the role of the CBD and NBSAP, needs to be louder. The revised NBSAP contains a small number of goals that are directly related to awareness programmes to improve societal knowledge about various aspects of biodiversity conservation, including a goal specifically to “*Develop a national-level NBSAP awareness campaign to spotlight the importance of the NBSAP across relevant sectors.*” This demonstrates the need for a more widely heard voice for biodiversity and that this voice has, as yet, not been sufficiently heard.

Challenge 2: Government leadership

Weak direction from the FSM national government in relation to the environment was expressed by four interviewees as a challenge. Though relatively low in number, it is interesting to note that they comprised NGOs and some government interviewees. One NGO-based interviewee who expressed this perception felt that it was left to the NGOs in the FSM to take the lead on implementing national and state plans associated with the CBD as a result.

This lack of government leadership was felt to include a lack of government funding for conservation in the FSM. Implementation of the NBSAP and state BSAPs relies on funding from external organisations, such as the Global Environment Facility (GEF), rather than internal funding. One interviewee (NGO1) commented that the government is “*waiting for grants from GEF to implement those. So that shows you it's not a priority.*” This feeling was reflected by another interviewee who felt the government should be better at directing resources to these issues.

This leadership vacuum extended to a perceived lack of coordination at the national level. As implementation of conservation activities rests with the states, the primary role of the national government is the coordination of activities and facilitation of funding. The interviewee who raised this issue, themselves national government personnel, considered that weak coordination leads to gaps in activities remaining unnoticed, and unnecessary replication of specific activities.

This perceived lack of leadership and prioritisation of the environment by the government, at both national and state levels, has undoubtedly contributed to a significant degree to the lack of progress seen in the identified NBSAP actions that has resulted in so many being carried forward to the revised NBSAP. A further NGO-based interviewee (NGO5) summed up the situation: *“We're still claiming that we support...all these resource management practices. And even after most resource management laws in place, in the nation, yet you will go out...surrounding the island [Pohnpei] we have more than 50 dredge sites, we have our watershed, that has been the biggest watershed in the nation or in the region, but it's still being deteriorated by farmers and, you know, unsustainable practices. We have the most rivers, and none of them are drinkable, potable.”* This is suggestive that policies are created because they have to be, as in the case of NBSAPs under the CBD, and then either forgotten or ignored. While this interviewee referred directly to resource management laws, the previous discussion regarding the lack of action on various legislative targets within the NBSAP suggests significantly stronger government action is needed, both in terms of new legislation and the enforcement of existing laws.

It should also be considered that the government may itself face challenges even when leadership is provided, owing to the autonomy of the states. In the case of one national government interviewee charged with the facilitation of a particular national resource-management policy it was noted that compliance was limited to only two states at the time of the interview. There is perhaps, therefore, an issue not only of government leadership being lacking, but of a reluctance on the part of state and local governments to respond when national leadership and direction is given.

Challenge 3: Government communication

Linked to government leadership is the issue of government communication about the CBD, NBSAP and state BSAPs, which was considered to be a challenge by both government and NGO personnel in equal measure.

Naturally, a lack of communication from government agencies to the general public results in a lack of awareness, as discussed above, and this can have ramifications for the acceptability of and engagement with conservation activities. However, the lack of communication was also felt to be an internal issue within government, with one state governmental interviewee (SGov5) commenting that *“no one really shares what's going on with the convention. We have a lack of information about it.”* Of particular interest here is that this interviewee was working at the state level on a regional conservation programme that is supported by the national government in the FSM. This suggests that, while raised by only four interviewees, the lack of communication from the government is seen as a potentially serious problem; it reinforces the previously described sense that conservation is not a priority for the national government.

This situation has the potential to be highly problematic in a country like the FSM where resource-related policy implementation is so heavily situated at the state and local levels. Those charged with responding to and implementing national policies may struggle to do so appropriately and effectively without a full understanding of the developmental context and progress of such policies.

Challenge 4: Capacity

As has been discussed, capacity is an issue for many countries, and particularly so for SIDS that have inherent economic and human resource constraints. It is, therefore, not surprising that capacity was raised as a challenge to the implementation of the FSM NBSAP and state BSAPs. What is perhaps more surprising is not only that it was not the most commonly identified challenge, but that it was raised as an issue by only three individuals, all government personnel (three of 14 government or former government personnel interviewed). Furthermore, capacity was raised only in terms of the need for greater human and technical capacity, not financial capacity, with the identified needs being for increased numbers of personnel and more personnel with specific training and technical capabilities, i.e. so called 'endogenous resources' (Fisher & Green, 2004). Anecdotal evidence from the NBSAP revision process in relation to annual coral reef surveys reinforces this need. These surveys are undertaken in the FSM on an annual basis, to better understand the health of coral reef ecosystems and to direct management strategies. Data sets from these surveys are analysed by scientists outside of the FSM, owing to a lack of technical capacity within the FSM, but the lag time for the provision of the analyses is often in excess of 12 months, meaning that subsequent surveys are being completed in the meantime. This proves problematic in terms of being able to manage these ecosystems effectively, as there is no ability to respond to identified issues in a timely manner.

It was also felt amongst a number of interviewees that those with the responsibility for implementing conservation-based plans and activities are 'wearing a number of different hats' that results in the de-prioritisation of biodiversity conservation in favour of other areas requiring time and attention. This was particularly thought to be the case with government personnel, for whom small departments mean individuals have many areas of responsibility. One interviewee felt that this situation makes it difficult to respond to conventions, and the policies associated with them, on a day-to-day basis.

The issue of capacity is further supported by the authors' observations during the development of the revised FSM NBSAP. Participation by two of the authors in the consultation meetings for these (held prior to this research being conducted) demonstrated the involvement of more than 150 people from various governmental and civic organisations, with significant time commitments beyond this required over the course of a number of months. In addition to the capacity requirements in terms of those involved in the consultation meetings, there are capacity requirements in terms of organising and facilitating the entire process. Development of the revised FSM NBSAP was driven forward through The Micronesia Conservation Trust, a regional organisation that operates across the Micronesia region to support biodiversity conservation that was, in this case enabled by the national government to utilise UNDP funding to facilitate the development of both the national and state-level plans. This demonstrates the pivotal role of NGOs in SIDS in terms of supporting multilateral environmental agreements such as the CBD, lending credence to the previously stated perception of NGOs being relied upon to lead on issues of biodiversity conservation in the FSM.

Other challenges associated with implementation of the FSM NBSAP and state BSAPs

A small number of other challenges were raised by individual interviewees. Of particular note is the complex governance structure of the FSM. One interviewee (NGO7) described the FSM as “*the most complicated country in the world*” owing to its comprising four semi-autonomous states under a national government that itself has limited capacity for resource-related policy implementation. While the national government can support state governments, it is the state governments that have ultimate responsibility for the management of their natural resources including, of course, responsibility for the protection and conservation of the biodiversity within their state boundaries. Another complicating factor is the role of traditional governance structures. While beyond the scope of this research, traditional governance can be either a catalyst or inhibitor in matters related to resource management, such as biodiversity conservation. The overall degree of autonomy and complexity can, therefore, hinder harmonisation of conservation across the country as a whole. It has a role to play in the previously identified challenges and adds another layer of context to the situation in the FSM.

Discussion

This research demonstrates that those involved in policymaking, implementation and biodiversity conservation in the Federated States of Micronesia perceive the Convention on Biological Diversity in a positive light, considering it to provide a number of key benefits (as well as challenges). Perhaps most significantly, the responses of those involved in this research did not focus purely on the two key issues most commonly raised in the literature: a lack of capacity (particularly in relation to convention negotiations), and access to funding. In this regard, this research sheds light on aspects of being a signatory to the CBD that go beyond these issues.

In terms of the main benefits raised in this research, while the number of interviews conducted is too small for the prioritisation of these benefits to hold significant meaning, it is interesting to note that none were raised substantially more commonly than any other. In terms of the specific benefits raised, mobilisation of funding for carrying out conservation work is a theme recognised elsewhere in the literature (Chasek, 2010; Gruby & Campbell, 2013). Conversely, the impact of signatory status to the CBD on conservation project planning and policymaking has not been identified elsewhere, and as such represents an interesting facet of this research. This research demonstrates that the requirements of the CBD, primarily producing an NBSAP, provide a useful forum for multi-stakeholder discussions and motivate action and legislation that may otherwise be missing. In addition, the NBSAP is useful for those tasked with implementation, such as NGOs, providing a structure against which activities can be aligned.

The provision of a platform through the CBD for the FSM to have a voice at a global level is not specifically reflected elsewhere in the literature. However, the very structure of many international platforms, whereby each country is considered on an equal basis, demonstrates that the need for this amongst smaller states and developing countries is widely recognised (Panke & Gurol, 2020). Furthermore, much has already been written in relation to the voices of SIDS being a catalysing force during the comparable UNFCCC COP negotiations (de Águeda Corneloup & Mol, 2014; Ourbak, 2018). It has also been suggested that the voice of SIDS more generally can be hampered by small delegations, supporting the organisation of multiple countries as groups (as is seen with the AOSIS, again at the UNFCCC COPs) for the purposes of convention negotiations, and enlisting the support of NGOs within country

delegations (Gruby & Campbell, 2013; Panke & Gurol, 2020). All of this reflects the importance of visibility and ‘being heard’ at the international level, though Gruby and Campbell (2013) caution that a joint voice can put individual countries at risk of compromise that may not always be considered in their national interest.

This previously mentioned issue of delegate capacity leads into the discussion of the challenges identified in implementing the NBSAP under the CBD, and a small number of key challenges clearly rose to the surface in this research. As previously mentioned, capacity is an issue often considered in relation to SIDS and their involvement in multilateral environmental agreements, commonly in relation to delegation size and negotiation capacity. This research suggests that capacity is something of an issue for the FSM. And yet, the fact that this issue was raised by only a small number of interviewees (three of 25) deserves commentary. It is not possible to state whether this low number is because capacity is not considered to be an issue by the other interviewees: no interviewees were specifically asked to comment on capacity as an issue. It may be that different individuals are presented with other acute challenges specific to their roles that take precedence, and/or that capacity is such a chronic issue that is seen as the norm rather than as a specific challenge. Further research would help to explore this seeming divergence from what may have been expected in this situation. In addition, when capacity was raised, the capacity in relation to the CBD COPs and the ability to effectively negotiate at these was not specifically mentioned. Rather, it was a lack of on-the-ground capacity in terms of personnel and technical expertise that were perceived to be the issues at stake. This has also been identified elsewhere, with research by the International Union for Conservation of Nature demonstrating that inadequate local capacity is seen as a barrier to addressing environmental pressures in four island regions of the world (Caribbean, West African islands, Western Indian Ocean, and Oceania) (Rietbergen et al, 2007). That research suggests that a migration of expertise and talent, a ‘brain drain’, may be at play. Emigration is a recognised challenge for the FSM. Citizens are free to live and work in the United States, and an estimated 50,000 FSM citizens reside overseas (International Organization for Migration, 2016). Rietbergen, Hammond, Sayegh, Hesselink & Mooney (2007) report that in Oceania the number one barrier was deemed to be a poor understanding of environmental issues and their root causes, an issue that was not specifically raised in this research. This difference demonstrates that region-wide data, or data based on groups of countries (such as the SIDS), do not necessarily reflect the unique experiences of individual countries.

For small island states, comprehensive engagement with local, regional and international NGOs can help support the development and implementation of the NBSAP where government capacity is lacking. Organisations such as the previously discussed MCT are able to access funding and provide the technical support needed to implement goals and monitor outcomes across the Micronesia region. The MCT in its role as a nexus for developing financial capacity for conservation across the Micronesia region is central to delivering the goals of the CBD in the FSM through developing and supporting projects to implement the NBSAP. In this way, a strong NGO community has been shown to be essential support for the meeting of government obligations under conventions such as the CBD.

The NGO community also clearly has a significant role in providing support where technical capacity and government leadership is lacking and is therefore vital to conservation efforts in SIDS. This is clearly seen in the FSM, with the MCT playing a pivotal role in enabling the development and implementation of the FSM NBSAP. The important role of NGOs has been explored elsewhere, often focussing on their role in supporting negotiations (Blasiak et al., 2017; Gruby & Campbell, 2013). Rietbergen et al. (2007) is an exception to this,

identifying poor governance as a barrier to addressing environmental pressures with a lack of government coordination (an issue raised directly by a national government interviewee in this research) rated as the third most important barrier for SIDS in Oceania. That research was not, however, country-specific and it is not clear how many survey respondents were directly from SIDS in Oceania (as opposed to being external but holding relevant knowledge) and if any represented the FSM specifically. The research reported here therefore adds to this literature, bringing country-specific insights that demonstrate that strong government leadership and action is valued by those tasked with policymaking and implementation of conservation policies. For SIDS, where government priorities may more often focus on development, this is an important consideration to help ensure development is sustainable.

In spite of these not-insignificant challenges in meeting the obligations of conventions such as the CBD, being a party to multilateral environmental agreements offers clear benefits for the FSM and SIDS. They provide a focus and a driving force for much-needed conservation planning and implementation, as well as giving small countries an international platform through which to make their voices heard. This opportunity to be heard must, however, be effectively utilised, perhaps by the formation of stronger, organised multi-country alliances to turn up the volume on SIDS during negotiations. These alliances could be based not just on SIDS status but based upon a shared responsibility for internationally recognised biodiversity hotspots. By doing this it may be possible to help draw greater support, such as technical capacity building, to SIDS to enable more effective conservation of what is so often globally important biodiversity. Furthermore, being a party to the CBD is not in itself enough to ensure effective conservation of biodiversity. Even with an effective NGO sector and reasonable funding, strong government leadership is essential for effective conservation.

Conclusion

This case study aimed to examine whether those involved in policymaking and biodiversity conservation practice in the Federated States of Micronesia perceived being a party to the Convention on Biological Diversity as being beneficial, and whether there were any accompanying challenges to this. It can be concluded that being a party to the CBD is viewed in an overall positive light, with a number of key benefits being derived as a result. That being said, the benefits recognised here have not been impactful enough to resolve the issue of declining biodiversity in the FSM and there is a need for new ways to be found to make being a party to the CBD more effective for the FSM such that the resultant conservation goals and targets can be adequately met.

In conclusion, this research gives a view of the FSM as a SIDS in relation to global environmental policies that goes beyond the usual considerations of funding and COP delegation capacities. It demonstrates that global environmental policies provide a valuable framework for policy and action planning. The perspectives presented here also provide insight into the specific challenges of implementing the CBD and related national conservation policy. Government leadership and environmental awareness are at the centre of this, perceived as being necessary to enable the FSM and countries like it to more effectively conserve their biodiversity; a biodiversity that is of extreme local and global value. As such, this research demonstrates a broad view on FSM perspectives on the CBD, providing valuable considerations for SIDS both in the Micronesia region and beyond. Not least of these is that increasing government leadership in SIDS is as important as issues of capacity or funding in ensuring more effective conservation of essential biodiversity.

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