

BLUE **RECOVERY** HUBS

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# AQUACULTURE SUSTAINABLE INVESTMENT PATHWAY: FIJI

**MARCH 2023**



# CONTENTS

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1.	Introduction	3
	1.1 The Blue Recovery Hub in Fiji	3
	1.2 Introduction to stage 2 and 3: The Sustainable Investment Pathway and stakeholder roundtable	5
	1.3 Findings from the appraisal report	6
2.	The aquaculture sector in Fiji	7
3.	Addressing the barriers to investment	9
	3.1 Issue area 1: Planning and policy	9
	3.2 Issue area 2: Public-private coordination	12
	3.3 Issue area 3: Technical capacity	15
	3.4 Issue area 4: Access to finance	19
	Conclusion	24
	Contributors	25
	Endnotes	27

# 1. INTRODUCTION

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## 1.1 THE BLUE RECOVERY HUB IN FIJI

The COVID-19 crisis created significant economic challenges for all countries, forcing governments around the world to rethink how to achieve their ambitions for sustainable development. Small Island Developing States were among the most affected countries,<sup>1</sup> largely because of their dependence on single sectors, such as tourism in Fiji.

While it was among the biggest crises of this generation, COVID-19 provides an unprecedented opportunity to “reset” and rebuild to deliver a more sustainable, equitable and resilient economy. Actions and policies implemented now by national governments and financial institutions will define the characteristics and shape of economies for decades. A recovery that invests strategically in ocean-related sectors can unlock new economic opportunities for sustainable and resilient development.

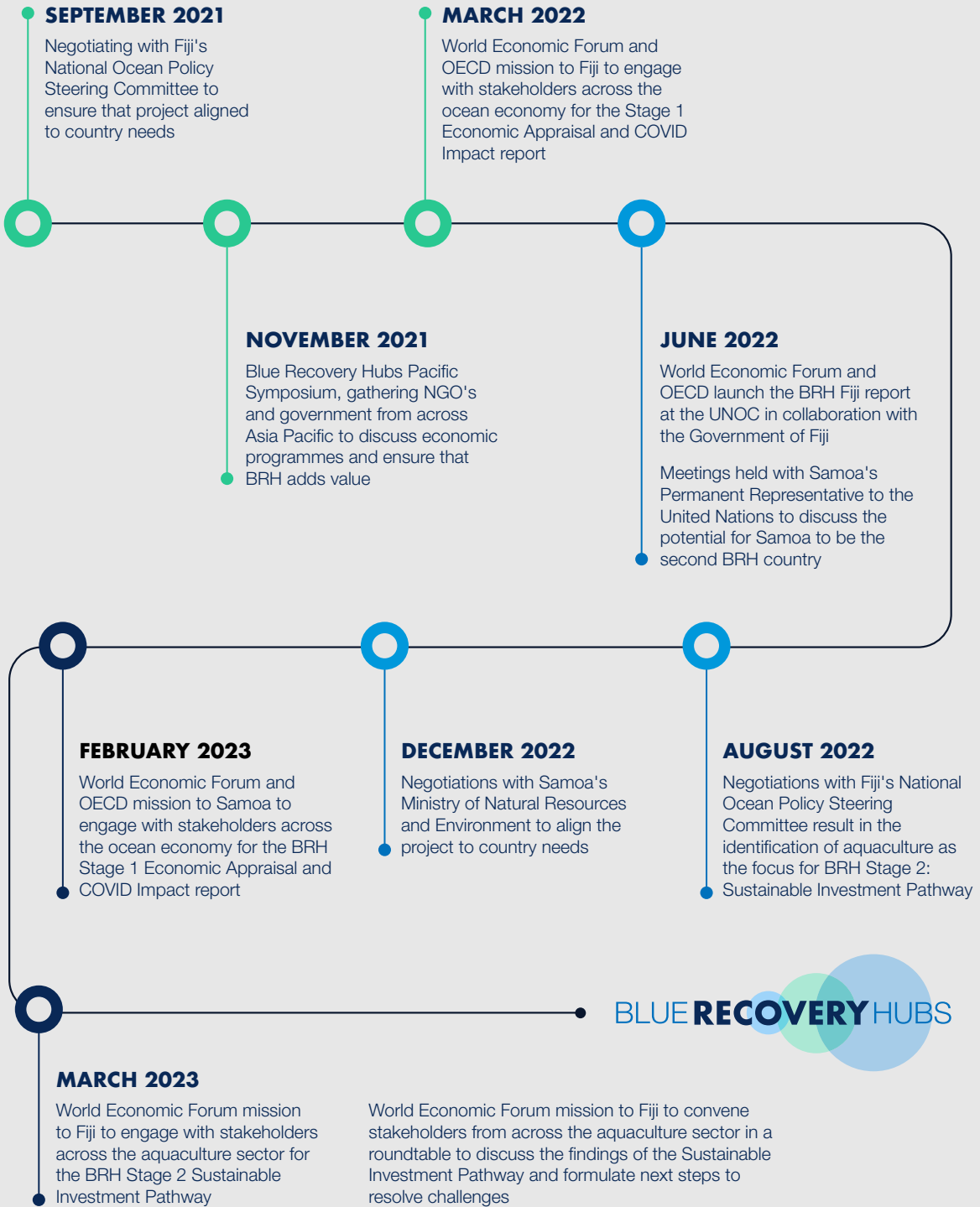
The Blue Recovery Hubs were established to support developing countries in accelerating progress towards a

sustainable and resilient recovery. In pursuit of that goal, the project employs three stages: an economic appraisal to understand the ocean economy within the national economy and identify the impacts of COVID-19; an evaluation of the barriers that limit investment into specific sectors that are the nation’s priority for resilient, sustainable development; and a convention of implementation partners to build the momentum and coalitions required to overcome the identified barriers. The project is collaborative, working closely with the partner government to align with existing initiatives and ensure that national needs drive the second and third stages of the project.

The publication of [Towards a Blue Recovery in Fiji: COVID-19 Appraisal Report](#) at the United Nations Ocean Conference (June 2022) in Lisbon marked the end of the first stage of the Blue Recovery Hub initiative in Fiji. Stage two was launched in August 2022 and has focussed on identifying one priority sector in need of greater coherence and investment, seeking to identify and build consensus on recommendations (in the form of interventions, financing and initiatives) that could help in the sustainable development of the sector towards the overarching goal of diversified and resilient growth.

# 1. INTRODUCTION

Fig 1. Blue Recovery Hub timeline



# 1. INTRODUCTION

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## 1.2 INTRODUCTION TO STAGE 2 AND 3: THE SUSTAINABLE INVESTMENT PATHWAY AND STAKEHOLDER ROUNDTABLE

The second stage of work will furnish the target sector with a Sustainable Investment Pathway (SIP), a roadmap to mobilize further financing for the sustainable growth of the sector. The SIP objective is to: a) determine the risks and barriers preventing greater coherence and investment in the sector; b) identify and build consensus around policies, innovative solutions and financing mechanisms to build a more coherent and collaborative ecosystem; and (c) identify and support (giving visibility and providing a multistakeholder platform) existing entities or initiatives that can build, prepare and identify investable projects, incorporating suggested implementation partners, financial bodies and other stakeholders for participation in their implementation.

In close consultation with Fiji's National Ocean Policy Steering Committee, it was determined that the SIP would focus on

supporting national ambitions in the aquaculture sub-sector. In 2022, aquaculture was identified by the Republic of Fiji as a critical opportunity for further development that would deliver a degree of social and economic resilience to the people of Fiji, aiming to create 100,000 jobs by 2050. The government's ambitious goal builds upon evidence drawn from the 5- and 20-year National Development Plan and is actioned by the Ministry of Fisheries' Aquaculture Strategy. This SIP represents a crucial resource to support Fiji in realizing the goals outlined in the development plan and streamline the strategy to mobilize greater investment towards the Republic of Fiji's goals.

The SIP will be used as the basis for the third stage, the stakeholder roundtable. A curated group of stakeholders from different parts of the aquaculture sector will be convened to discuss key challenges and identify pathways for coordination and collaboration in overcoming them. Stakeholders include private and public sector representatives, financial institutions, academic and research institutions, and development agencies.



# 1. INTRODUCTION

## 1.3 FINDINGS FROM THE APPRAISAL REPORT

# BLUE RECOVERY HUBS

## APPRAISAL SUMMARY

### COUNTRY

# FIJI



Population (2017)

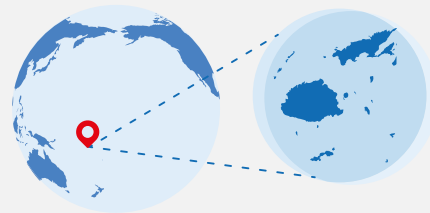
## 884,887

Continent

## Oceania

Ocean basin

## Pacific



### MAJOR SECTORAL ACTIVITIES BY VALUE

#### PRE-COVID



Tourism sector contributed

**38.9%** to GDP  
**35.5%** of employment



Fisheries & aquaculture sectors together made up **<1%** of Fiji's GDP



Port and shipbuilding activities together made up **2.6%** of Fiji's GDP

Maritime transport is responsible for **90%** of the imports into Fiji

#### POST-COVID

##### Economic contraction:



In 2020 Fiji's GDP fell by **15.7%**

Public debt approached **90%** of GDP



Tourism earnings dropped by **84.8%** compared to 2019

An estimated **100,000 jobs** were lost in the tourism sector

Much of the affected population moved back to coastal communities, and turned to natural resources as a source of security

### OPPORTUNITY AREAS FOR DIVERSIFIED, RESILIENT DEVELOPMENT

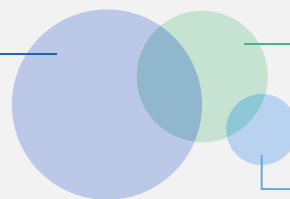
#### Aquaculture (inc. Mariculture)

making up ~0.03% of GDP, the sector has a lot of room for growth, both to meet economic goals, and to deliver for food security

#### Renewable energy

(particularly in tourist infrastructure)

#### Decarbonizing shipping



## 2. THE AQUACULTURE SECTOR IN FIJI

The Fijian fisheries sector focuses primarily on tuna, specifically catch fisheries within the exclusive economic zone (EEZ). Fiji's main interest is the export of fresh tuna via commercial air carriers and the transshipment of frozen fish. The secondary interest is in the cannery industry, with tuna being processed and canned in Fiji and later shipped.

The industry, as it stands, relies on air and sea transport to facilitate the trade of tuna worldwide. Yet, the COVID-19 crisis highlighted the vulnerability in the industry, with almost all air travel ceased and sea freight unreliable and infrequent. In addition, studies suggest that as the climate continues to change, with the ocean surface warming and the distribution of oxygen changing, the tuna population may face migratory pressures. This has not yet been factored into long-term fisheries management and represents a risk for an undiversified fishing sector that contributes significantly to the national GDP.<sup>2</sup>

The climate risks and reliance on export channels show that the fisheries sector represents an ideal opportunity to diversify economic growth and enhance social and economic resilience to global and regional catastrophes analogous to COVID-19.<sup>3</sup> The Ministry of Fisheries has highlighted an interest in developing its aquaculture capacity. To date, it has largely been small-scale and mostly focused on producing pearls for the luxury goods and jewellery industry. The ministry has highlighted that it perceives aquaculture (including mariculture) as a means to grow the fisheries sector and provide economic and food security to the local population in times of crisis.<sup>4</sup>

The role of aquaculture as a secure source of nutrition under times of stress has been a driver of industry development in many South-East Asian countries.<sup>5</sup> Of potential environmental co-benefit is the relationship between aquaculture as a source of food and the maintenance of protected area regulations during times of crisis. During the height of the COVID-19 pandemic, many Fijian mainlanders moved back to island communities. They began to place greater fishing pressure upon the resources, including, in some cases, breaking protected area rules and, often unintentionally, breaking licensing regulations. Through equitable planning processes and training, aquaculture could provide a source of relief to natural resources under similar circumstances of disaster in the future, whether driven by public health crises or climate change.

In the Asia-Pacific region, the aquaculture industry – with goals focused on enhancing food security – has typically been grown in a public-private-partnership format, with government agencies providing subsidies and forms of supply chain support for operators.<sup>6</sup> The governments of many of the major aquaculture exporters typically play a role in training stakeholders, providing the broodstock and providing or supporting aquaculturists access to feedstocks. The Ministry

of Fisheries has played a similar role in Fiji, providing hatchery facilities and subsidizing feed. However, to achieve the level of development desired, an extensive review of public sector contributions and private sector capacity will be needed.

The Ministries of Fisheries and Economy have highlighted several products that could be focused on for aquaculture growth in the 5- and 20-year National Development Plan.<sup>7</sup> These commodities include:

- Tilapia
- Prawn and shrimp
- Seaweed
- Niche markets: seagrapes, bêche-de-mer, marine fish
- Sandfish
- Carp
- Reef fish and invertebrates.

Tilapia and prawns/shrimp are commodities that are produced intensively by Asian producers, which make up 70% of the market.<sup>8</sup> Both groups or organisms require a fresh/brackish water pond or closed systems. Intensive growth in production could result in widespread land conversion or tank development demands. This has driven environmental challenges throughout the SEA region, particularly as a major driver of mangrove degradation and deforestation.<sup>9</sup> Sustainable production of both organisms requires site selection practices that mitigate or avoid coastal ecosystem degradation. The environmental impact of specific tilapia species has been observed to lessen by applying technologies that use less water/production units and allow more efficient nutrient use.<sup>10</sup> With regard to habitat loss, the Environmental Investigation Agency (EIA) and licensing process outlined the Aquaculture Bill may provide the necessary protections to ensure that widespread ecosystem degradation, on the scale seen in many South-East Asian countries, does not occur. Still, these mechanisms have yet to be tested extensively.

Various factors, including land conversion, disease outbreaks, invasive species and wastewater management, challenge shrimp and prawn aquaculture sustainability. Improvements in the industry have been made in recent history to address major concerns in the sustainability and environmental footprint of production. These improvements include pond management techniques, reducing crowding and nutrient and toxin build-up and recognizing the value of mangroves to shrimps and incentives to maintain the ecosystem.<sup>11</sup>

## 2. THE AQUACULTURE SECTOR IN FIJI

Though, even among advanced aquaculture industries, not all of the issues have been resolved, which highlights the challenge in entering a market with a significant stigma generated by environmental impacts. Many emerging technologies and new developments can be applied to improve economic and environmental sustainability, including investment in closed systems with careful disease controls.<sup>12</sup> However, a key policy lesson for sustainability in aquaculture is that it requires extensive training, sustainable land use planning, necessary investment to ensure that appropriate technologies are available and that research keeps up with challenges such as tank/pond management, feed sources and disease outbreaks.

Seaweed farming is a growing form of mariculture in the region with markets for the product across Asia – though there are significant variances in species preferences according to the culinary application and the country. Growing the local Fijian industry could focus on adding value through inter-community collaboration, identifying ideal locations for production and linking these areas with ideal locations for drying and processing. For small-scale stakeholders to enter the market effectively and sustainably, a vision for scaling production and incentivizing private industry development will need to be provided for both creating ambitious production goals and enhancing market access. Given that the primary consumers of the product are in Asia, significant work may be required to create the partnerships and value chain required to access nearby consumer markets (due to the distance between the supplier

and the consumer) and train local producers to culture the appropriate species and process them to meet consumer demands. Among the co-benefits of pursuing production growth are the climate change mitigation effect it can have.

Sea cucumber farming is growing in popularity to meet the demand of the Chinese market, though sea cucumbers are also consumed throughout the region, including in Fiji. However, there is significant variance in the value of sea cucumbers, with certain species generating hundreds of dollars per kilogram and others generating much less. For most sea cucumber farming practices, the juveniles are collected from the immediate environment, after which they are reared in pens in the tidal zone. As such, it is possible to overexploit the local population. To ensure that development is equitable and sustainable, it should be based on a commodity-specific analysis, strategy, training and regulation.

Above all, it is clear that there are critical opportunities for development in the Fijian aquaculture sector. Yet, investment has faltered, plagued by uncertainty over where to invest, success criteria and project development challenges. The Sustainable Investment Pathway process will explore these challenges and present below the findings for further discussion with key stakeholders. The goal of this process for aquaculture in Fiji is to understand how to improve investment outcomes by working with stakeholders to increase coherence and coordination in the sector while maintaining ambitions for equitable and sustainable growth.



**AQUACULTURE COULD PROVIDE A SOURCE OF RELIEF TO NATURAL RESOURCES UNDER SIMILAR CIRCUMSTANCES OF DISASTER IN THE FUTURE, WHETHER DRIVEN BY PUBLIC HEALTH CRISES OR CLIMATE CHANGE.**





# 3. ADDRESSING THE BARRIERS TO INVESTMENT



## 3.1 ISSUE AREA 1: PLANNING AND POLICY

Greater clarity is needed from the public sector in two broad areas:

- 1 The nation's ambition for the aquaculture sector and strategic planning for how that will be operationalized.
- 2 Greater clarity for project developers and investors on the process for project implementation and streamlining where possible.

These two areas occupy different points of the policy spectrum, from strategic sector planning to providing an enabling and supportive regulatory environment to ensure that the private sector and civil society can effectively operate to meet the nation's ambitions. These have been raised as key issue areas because currently, from the perspectives of private and financial sector stakeholders, there is a lack of understanding of the sector goal and how they can effectively engage with the public and civil sectors to grow the industry and its market share. This has led to investments that have sometimes failed and growing uncertainty over how to use their resources and capacities to develop the sector.

While there are challenges, there remains an understanding that Fiji has all the necessary pieces for a successful aquaculture industry. Yet, there must be greater coherence in pursuing that goal to ensure that investment leads to development. This confidence is reflected in the near-ubiquitous agreement that finance will be available for projects but that those projects must fit within an architecture driving a robust development strategy.

### ISSUE AREA 1.1: STRATEGIC SECTOR PLANNING

There is broad agreement that to use resources (technical, financial or otherwise) in the most impactful way, there needs to be a better analysis of what the sector aims to achieve over the short, medium and long term; an analysis of the role that stakeholders could play along the supply chain; and analysis of where, geographically, the key opportunities lie.

To this end, this report puts forth the following recommendations:

#### Planning recommendation 1: Define a shared vision for the sector

It is natural for the private sector, civil society, public sector and financial stakeholders to have different visions for a sector and their roles within it. However, to give greater coherence to the policy landscape through which the sector is governed, a vision from the public sector would be of significant use.<sup>13</sup> This approach will allow planning and policy frameworks to align to that higher-level objective and create robust indicators towards achieving it at critical milestones. It will create a policy projection that financial stakeholders – ranging from the Ministry of Finance and the Fiji Development Bank to multilateral donors and private investors – can align with and invest in.<sup>14</sup>

#### Planning recommendation 2: Create a development plan for the industry that can deliver on the vision for the industry

In 2005, the Ministry of Fisheries created the 2005-2010 Freshwater Aquaculture Sector Plan.<sup>15</sup> Since then, development has been guided by the National Development

### 3. ADDRESSING THE BARRIERS TO INVESTMENT

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Plan, with provisions for aquaculture.<sup>16</sup> The 2005 sector plan provided key guidance and outlined specific goals that helped stakeholders understand the direction of development, the challenges and how to use the resources available to overcome them. The National Development Plan highlights opportunities but does not provide an update for all elements and detail communicated through the earlier sector plan. In particular, addressing supply chain challenges and opportunities for domestication is lacking, along with structuring the sectoral development to a timeline to highlight how the sector will grow from building and meeting domestic market demands, meeting regional needs and regionalizing parts of the supply chain, and into a niche export market sector.

The Food and Agriculture Organization (FAO) is working to develop a strategic development plan. This report recommends that the plan be prioritized and focus on the supply chain (including an evaluation of domesticating parts of it and building market demand); be centred around a timeline with specific development milestones and lay out a series of indicators that can be used to monitor progress.

Such a plan would provide all aquaculture stakeholders with clarity around the public sector's development goals for aquaculture and how projects contribute towards that goal. Specifically, it will give banks greater clarity and information they can use to create relevant aquaculture lending policies and project evaluation frameworks; it will give private operators a clear message on how to engage with the public sector and where partnerships may be created.<sup>17</sup> It will allow the public sector to evaluate the policy framework (including regulations, licensing, incentives and subsidies) to ensure that positions and measures are fit for purpose.

#### **Planning recommendation 3: Identify aquaculture opportunity areas in the country**

A geospatial analysis of aquaculture opportunity areas should be conducted to channel finance and limited resources towards effective aquaculture growth.<sup>18</sup> This analysis would aid in the challenges faced by aquaculture investors and project developers,<sup>19</sup> including but not limited to access to electricity, effective distribution of goods that are required as inputs or are outgoing products, appropriate environmental conditions for development, mitigating climate change risks and access to technical support from other operators, the Ministry of Fisheries or academic institutions. By conducting this analysis, all stakeholders could identify where key strategic areas for project development lie and the limitations to development in other areas, such as energy access, that could be assuaged through cross-sectoral development planning.

Identifying opportunity areas could provide the pathway to mobilize community stakeholders more effectively and formally engage the existing aquaculture cluster groups where they are concentrated in priority areas. These areas could be used as the basis for more effective technical capacity-building programmes and be the focus of area-level analysis around which public sector support programmes can be tailored. Taking this approach would recognize the differing demand for aquaculture support across geographies and allow the public, private and finance sectors to recognize those differences and approach each area with specific offers that met the needs and challenges they held. This area-based approach would allow for more effective programming at the project level and could feed into the restructuring of public sector support.



### 3. ADDRESSING THE BARRIERS TO INVESTMENT

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#### **Planning recommendation 4: Integrate aquaculture opportunity areas into land use planning regimes**

Any analysis produced to proactively direct development, whether in the form of “aquaculture opportunity areas” or an analogue, will need to be integrated into land use planning and land zonation, coordinated by the Ministry of Agriculture to ensure that priority areas are categorized for use as aquaculture areas. Without this step, priority areas may be categorized for use by other sectors, and critical opportunities where the conditions for successful aquaculture development accumulate will be lost.

#### **ISSUE AREA 1.2: AQUACULTURE POLICY FRAMEWORK**

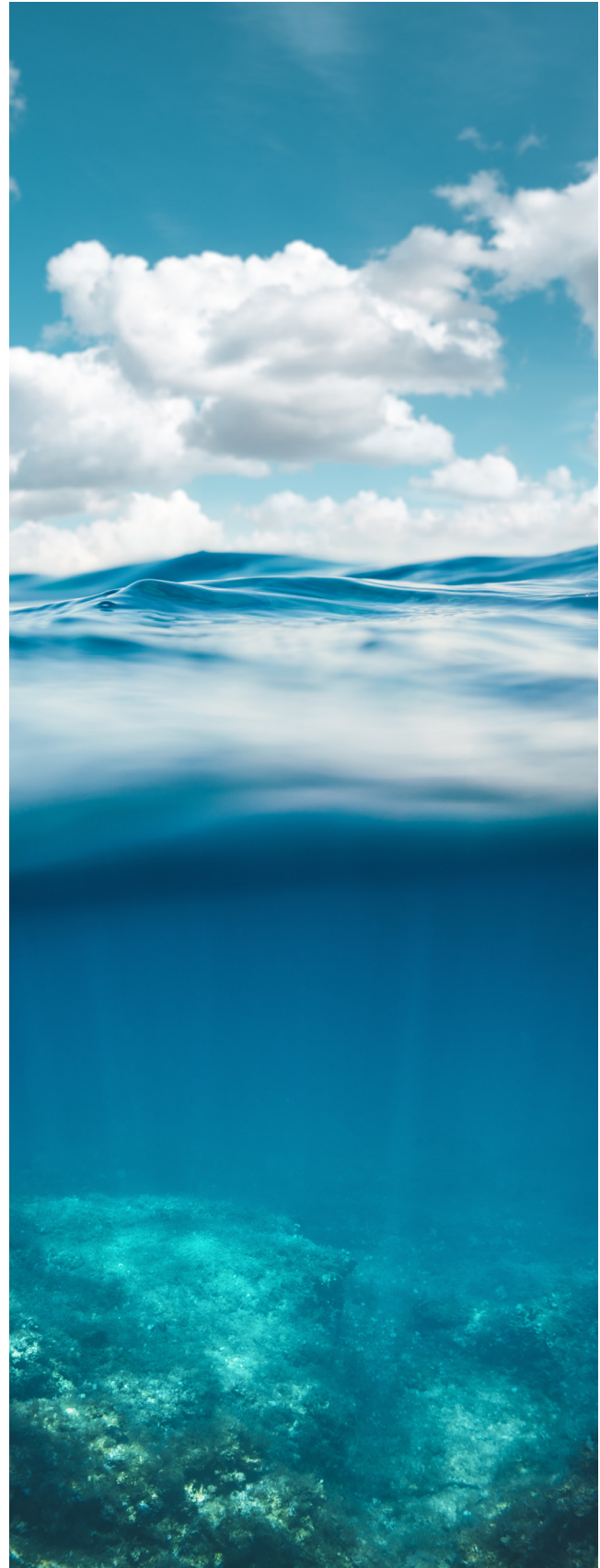
To ensure that project-level developments, ranging from micro to large enterprises, are sustainably and equitably implemented, an aquaculture-specific policy framework is required. This policy framework must align aquaculture development with strategic planning and provide concise guidance that developers and investors can use to navigate the development process and regulatory environment.<sup>20</sup>

In 2016, Fiji drafted the Aquaculture Bill,<sup>21</sup> which has yet to become an act of parliament. This bill lays out much of the content required, including provisions for licensing, responsibilities for project approvals, fines and creating a series of cross-ministerial advisory councils. The only additions this report would make to that bill are in the responsibilities of the advisory group, refining the definitions of national interest in the approval process, formalizing the role of aquaculture cluster groups and adding a group to iteratively review the public support framework.

#### **Policy recommendation 1: Responsibilities of the advisory group**

This group convenes the ministries with a stake in the project development process. It could be tasked effectively to review the existing process, which requires stakeholders to engage at least three different ministries. The process is lengthy and represents a burden to most stakeholders, being cited as a critical limitation to the confidence of project developers and financiers.

Key considerations should be given to pathways to strengthen coordination between the ministries to ensure appropriate projects are approved quickly. Consideration should also be given to creating an aquaculture-specific environmental impact assessment that could be more effectively used to evaluate proposals.<sup>22</sup>



# 3. ADDRESSING THE BARRIERS TO INVESTMENT

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## Policy recommendation 2: Defining national interest

The project approval process lists “national interest” as a key criterion for determination. This relatively fluid concept should be strengthened to ensure that project developers and investors can effectively structure projects to national interests. An aquaculture development plan could clearly define interests and ensure that the approval process evolves to meet the interest as it moves through its development timeline.

## Policy recommendation 3: Formalize the role and responsibilities of aquaculture cluster groups

Aquaculture cluster groups represent a critical means for Indigenous and local stakeholders to enter the sector and contribute strongly to its supply chain. They are a vital tool to ensure equitable sectoral development and represent a pathway through which development support can be tailored to meet specific needs and overcome well-understood obstacles, including but not limited to technical capacity, market development and financial literacy. Currently, these groups are not represented in the bill, but they could be, with specific provisions to ensure that programmes recognize these groups as a means to better represent local and Indigenous stakeholders in sector development. This could be particularly effective if used with geospatial analysis to identify priority aquaculture opportunity areas.

## Policy recommendation 4: Public programmes (incentives and subsidies)

The support currently being provided by the public sector is not driving sustainable growth. Key challenges remain in the sustainable entry and continuity of micro and small enterprises, and key issues exist in the supply chain, particularly in producing adequate feed at competitive prices. The subsidy programmes should be reviewed, specifically focusing on the domestication of parts of the supply chain to incentivize the diversification of private and civil sector operators along the supply and value chains. The review should also evaluate any potential impacts that incentives and subsidies have on the price of end products and the unsustainable impact this has on specific operators.

There is general agreement that one area that would benefit significantly from public investment is seed funding for feed operations and research and development across the supply chain.

## Policy recommendation 5: Biosecurity protocols

A review of the biosecurity protocols for aquaculture projects should be undertaken to ensure they are fit for purpose and do not limit operational access to required resources without good cause. As much of the industry currently requires the import of species and goods for the day-to-day management

of operations, biosecurity regulations have proved to be a core issue in the timely delivery of goods. In many cases, these regulations are likely effective in mitigating the impact of invasive species, however, a review should be conducted to ensure that they do not burden private and civil society operators across the supply chain.

## 3.2 ISSUE AREA 2: PUBLIC-PRIVATE COORDINATION

A critical challenge echoed by many of the aquaculture stakeholders in Fiji was the lack of clarity around the roles of the stakeholders involved in the aquaculture supply chain. This issue is a direct consequence of the sector not being well incorporated into statutes and regulations, and it is an issue with many elements to it, including:<sup>23</sup>

- The complexity of the question of land tenure and the process of obtaining and secure long-term land rights and permits
- Unclear and often counterproductive subsidies and incentives provided to smallholders’ businesses, such as the ones around feedstock and seed supply – which are distributed without performance-based measures attached to it the payments to verify their impact – and those around the management of publicly owned hatcheries
- A lack of internal communication and alignment between ministries and departments to define the key priorities and responsibilities in project planning and development
- A lack of external communication and exchange of information between government institutions and businesses has translated into an overall misalignment of private sector operations and government priorities.

### Coordination recommendation 1: Public-private partnership framework

In overcoming this challenge, rooted particularly in coordination and communication, a **public-private partnership** (PPP) framework may offer the structures required to communicate, coordinate and recognize capacities across different actors and better mobilize that capacity towards the shared goal of development in the sector. PPP is a model of collaboration agreements between governments and private sector actors whereby the two parties share the risks involved in the financing and/or developing of new assets. While the model has successfully gained momentum in the infrastructure sector, it bears important opportunities in other sectors and assets, especially in developing countries where funding and capacity are common limitations, and the risks are higher.<sup>24</sup>

### 3. ADDRESSING THE BARRIERS TO INVESTMENT

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In the context of aquaculture in Fiji, PPPs have an untapped potential. In a country with moderate to high perceived risks and costs of doing business, a model allowing private businesses to share some of those risks and costs with the public sector could lead to the development of new opportunities. In particular, for international businesses and investors looking to set up or scale their business in Fiji, this model could provide a risk mitigation mechanism for financial and non-financial risks and resolve some of the existing bottlenecks around coordination. In addition, a PPP model will also allow for a better exchange of information, solving some of the communication issues between the public and private sectors.

For local entrepreneurs, PPPs could also represent a new form of incentive. The subsidies granted to community projects have usually provided limited economic and social benefits to the communities, which rarely become self-sustaining after the first cycle of harvest and have proved commercially inefficient. This is driven by incentives based on the free use of governmental resources, which are difficult to monitor and lack strong results metrics that would incentivize continuity.

Through a model of public-private collaboration, the government could drive the development of the sector and encourage more commercial developers to establish businesses and lead the growth and innovation of the sector. This would allow the redirection of some available subsidies to other activities that would cut costs and risks of aquaculture projects in the country, such as investing in reducing the costs of imported feed. This approach would not only benefit commercial developers but would spill over to the communities that would benefit from an emerging economy of scale, lower costs and the support, collaboration and skill-sharing with commercial enterprises – relationships that are already established in many cases.

While many examples exist in other developing countries of successful PPPs, Fiji needs to work alongside its key partners to develop a framework – either bilaterally or multilaterally – suited to the challenges and priorities of its development plan and objectives. Once again, however, as the PPP model is a top-down approach from the ministry, a long-term strategy that defines clear priorities is necessary for this collaboration to succeed.

### 3. ADDRESSING THE BARRIERS TO INVESTMENT

#### Box 1: Public-private partnerships drive aquaculture growth in the Philippines

The Philippines uses a PPP model to ensure the domestic aquaculture market can grow effectively. While general lessons can be drawn from the model, the stark differences between Fiji and the Philippines should be noted.

In the Philippines, the public sector plays a key role in aquaculture, from building small and medium enterprise capacity to providing fingerlings for pond installations. At this level, the public sector is an essential partner for most small to medium enterprises.

However, the country uses PPPs in a targeted fashion to meet specific market development targets and to raise investment into specific geographies.<sup>25</sup> In this capacity, the country sets out a clear objective for the aquaculture sector that meets its triple bottom line of food security, economic opportunity and environmental sustainability.<sup>26</sup> It then maps out capacities and needs to deliver on the objective. It seeks private partners through global fora, such as the Global Sustainable Seafood Initiative, or through existing relationships in the country or the region in question. The goal is to identify the unique capacities and efficiencies that different private stakeholders can bring to the project and the public sector's role in removing barriers to their engagement, all the while improving market entry for small-scale producers.<sup>27</sup>

Often the shape of the partnership involves financial investments from both sides, or it can take the form of a private sector offering to input capacity to maintain business continuity while the public sector makes infrastructure available. The exact nature of the agreement is tailored to the needs of the geography in question. PPPs in the Philippine aquaculture sector have supported the industry's growth throughout the country, used strategically by the government to develop the sector in new geographies. By doing so, the country has broadly increased the domestic production of aquaculture commodities, creating a production base that can meet domestic needs and support the growth of an export market.<sup>28</sup>

Some key lessons that can be drawn from the model are that expectations and risks must be transparent and communicated effectively; fora in which dialogues can be held between prospective partners are essential; above all, there needs to be an institutionalized process or mechanism that brings together private and public stakeholders and establishes appropriate channels through which communication and coordination can be effectively managed.<sup>29</sup>



## 3. ADDRESSING THE BARRIERS TO INVESTMENT

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### 3.3 ISSUE AREA 3: TECHNICAL CAPACITY

There is consensus among stakeholders that Fiji's aquaculture sector lacks technical capacity, a building block for developing local projects and attracting national and international capital into the sector. These capacity-building efforts should happen at an institutional and community level.

#### **Technical capacity recommendation 1: Capacity building at the institutional level**

A deeper technical knowledge should be built into the **public sector institutions** to ensure actors from across ministries fully understand the necessary regulations and policies required – extant and emerging. As a sub-sector of the fishery sector, aquaculture requires specific knowledge and skills to become a successful business in the country. While extensive knowledge exists within the Ministry of Fisheries, there is a need to expand this across ministries and departments that play a role in project development, approval and sector planning.

#### **Technical capacity recommendation 2: Capacity building at the community level**

Outside of a few select commercial operators that are up to speed with international standards and updates, there is a lack of technical skills and trained personnel, such as hatchery operators, nutritionists and farm managers at

the **community level**. Skilling aquaculture workers and operators is a crucial factor for the sustainable and long-term development of the sector. Particularly at the community level, better knowledge must be developed and intertwined with the local Indigenous technical knowledge where possible. This relates to broad financial literacy, business fundamentals and specific technical aquaculture expertise across the supply chain, from early-stage development of seed stock to post-harvest processing. Once again, the issue of better coordination applies to the training offered by governmental institutions such as the Ministry of iTaukei Affairs or the Ministry of Fisheries.

#### **Technical capacity recommendation 3: Strengthen coordination between academic, private and public stakeholders**

To implement this cross-sectorial capacity-building exercise, better collaboration and coordination with private sector actors, academia and development finance providers is necessary, as working in concert with all value chain stakeholders holds several benefits. A capacity-building effort alongside the private sector could translate into a spillover of knowledge and skill of the aquaculture business fundamentals into governmental institutions. This could result in a better understanding of the technical challenges and the needs faced by local and international entrepreneurs in setting up their business operations, translating into more informed and ad-hoc decision-making at the project level, and regulations and policy-making at the policy level.

### 3. ADDRESSING THE BARRIERS TO INVESTMENT

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Similarly, academic and research institutions, such as Fiji National University and the University of South Pacific and Secretariat of the Pacific Community (SPC), play a key role in supporting the government in building their aquaculture programmes and regulations and offering training to targeted population segments and communities, including on awareness of the policy environment.

Furthermore, ministries and project developers should work more closely with development finance institutions that provide international technical assistance, which remains an untapped opportunity. Developing countries receive technical assistance from international organizations, bilateral or multilateral development finance institutions (DFIs) or philanthropic institutions that support them in preparing, implementing, financing and executing development projects and programmes, including capacity building through targeted training and apprenticeships.

#### **Technical capacity recommendation 4: Establish a national research and development hub for aquaculture**

In addition to building capacities across stakeholders, an essential function in the aquaculture sector that these actors can address to overcome technical capacity issues is **research and development** (R&D). When supported by

the right funding and if instructed by clear directions and priorities, universities and research organizations can play a crucial role in supporting the government in defining its key priorities, exploring new opportunities and providing technical training.<sup>30</sup> Fiji could work with them to establish an aquaculture hub for R&D and technical training. To maximize its potential, R&D and training offered should:

- Focus specifically on the Fijian context and the priorities laid out by the government's strategic plan
- Be offered to the priority clusters of communities with more extensive opportunities in the sector.

Some training is currently offered to communities that cannot scale up the projects, for example, due to unsuitable location sites or different development priorities. Given the limited amount of training that can be offered, these should be reserved for targeted population segments with greater interest and opportunities in the sector, according to the sectorial development plan and land-use mapping analysis. Ideally, training and resources should be linked to performance-based mechanisms to ensure the projects' long-term viability and advancement, avoiding early-stage business failures.





### 3. ADDRESSING THE BARRIERS TO INVESTMENT

#### Box 2: Examples of existing technical assistance facilities around the Blue Economy

1 The [Investing in Coral Reefs and The Blue Economy](#) is a United Nations (UN) Joint Programme<sup>31</sup> implemented by the United Nations Development Programme (UNDP),<sup>32</sup> the United Nations Capital Development Fund (UNCDF)<sup>33</sup> and the United Nations Environment Programme (UNEP). It combines a blended finance facility (concessional finance and performance grants) with technical assistance (at policy and enterprise/community level) worth \$7.4 million to catalyse \$41 million into sustainable blue economic activities and incentivize private sector engagement in marine conservation and address drivers of ecosystem degradation, particularly about coral reef resilience.

The Global Fund for Coral Reefs (GFCR)<sup>34</sup> and Joint SDG Fund<sup>35</sup> provide funding. The UNDP oversees the programme, coordinates the implementation and advises the Government of Fiji on ways to incentivize private sector investments in protecting coastal ecosystems. The UNCDF manages the blended finance facility, and the UNEP provides input on the design of interventions to ensure a reef-positive impact and monitors and measures impact.

[Matanataki](#), a Fijian private investment manager focusing on the blue economy, and [Blue finance](#), a global investment developer focusing on marine protected areas, provide technical assistance to enterprises and local communities. This aims to identify and prepare projects that can expand the pipeline of investable projects to harness private investment. The pipeline will be developed through scoping, technical assistance and training to upskill local businesses operating in the blue economy on sustainable business and financial management.

2 **Climate Finance Access Network (CFAN)** aims to unlock and accelerate climate finance at scale by cultivating a network of highly skilled and embedded climate finance advisers. These advisers will work with countries to develop lasting national capacity and maximize adaptation and mitigation outcomes.

CFAN advisers are hired locally and work in countries for up to two years on a tailored mandate co-developed by host countries and CFAN, focusing on project finance and design.

Advisers undergo rigorous, cohort-based, multi-week training to ensure they can deliver on their mandates.

This training empowers CFAN advisers to cultivate long-lasting financial expertise to attract investment, use innovative financing mechanisms and increase project approval rates, ultimately increasing climate finance flows to Small Island Developing States (SIDS), least developed countries (LDCs) and African states. In Fiji, the CFAN adviser will provide support in the development of project pipelines to access multilateral climate finance, including:

- Supporting the project development unit in coordinating sector-specific data to develop robust, evidence-based proposals and help facilitate proof of concepts
- Supporting identifying and prioritizing actions from Fiji's National Adaptation Plan to develop into bankable adaptation project proposals
- Supporting the Fiji Rural Electrification Fund in obtaining funding and developing a revolving financial structure together with an investment plan over three to five years
- Supporting the Drua Incubator in new and innovative development and climate finance such as climate- and disaster-risk parametric micro-insurance and thematic bonds.

3 **Blue Natural Capital Financing Facility (BNCFF)**, funded by Luxembourg, supports financing opportunities for nature-based solutions in and around the marine and coastal environment. It helps strengthen specific projects that combine bankability and positive environmental and social impacts. BNCFF helps to finalize the project preparation phase, supporting a project/business that combines a viable business model with quantifiable conservation, climate and ecosystem benefits, with advice and funding. BNCFF offers project sponsors and developers technical advice and access to funding to support specific activities to get their projects over the financing hurdle. The goal is to facilitate third-party private financing while setting high environmental and economic sustainability standards. Project developers and

### 3. ADDRESSING THE BARRIERS TO INVESTMENT

#### Box 2: Examples of existing technical assistance facilities around the Blue Economy continued

impact investor sponsors can also approach the BNCF and request funding to clarify business and/or conservation-related aspects.

4

The **Market Development Facility (MDF)** is a private sector development programme spanning multiple countries. It is currently funded by the Australian Government and operates in Fiji, Timor-Leste, Pakistan, Sri Lanka and Papua New Guinea. The programme aims to support businesses by providing innovative ideas, investment and regulatory reform, to increase their performance, stimulate economic growth and employment, and ultimately benefit the lowest-income sectors of society.

MDF has operated in Fiji since 2011, focusing on the key sectors of agriculture, tourism and emerging outsourcing services. MDF has facilitated growth, improved competitiveness and increased the economic resilience of vulnerable groups in

these sectors. MDF has also provided effective and sustainable business development services to support local micro, small and medium-sized enterprises (MSMEs).

MDF supports Fiji's economic recovery efforts through:

- Collaborating with government, industry bodies and business membership organizations to design measures that stimulate industry and economic growth
- Identifying emerging opportunities for sustainable and inclusive growth in the changing economy and supporting partners to capitalize on these opportunities
- Addressing strategic or long-term issues by engaging with issues critical to reform and building back better.



## 3. ADDRESSING THE BARRIERS TO INVESTMENT

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### 3.4 ISSUE AREA 4: ACCESS TO FINANCE

A critical aspect of achieving a sustainable ocean economy is mobilizing sustainable finance and using public finance as a catalyst for private investment. Public finance, both domestic and international, can move on three tracks: directly funding sustainable investments, de-risking and crowding in additional sources of funding, including through innovative financial products, and fostering the integration of sustainability criteria and standards in traditional financial services and investments, in financial markets (e.g. stocks and bonds), as well as in credit markets (e.g. loans or bonds).<sup>36</sup>

In the aquaculture sector in Fiji, despite the limited governmental resources, access to finance is not perceived by the stakeholders as one of the most significant issues. In fact, there is agreement on the availability of finance from development partners and international investors to operate and do business in the country whenever the conditions and business fundamentals for solid investment are in place. One of the roadblocks in the development of the aquaculture sector in Fiji is the divide between the availability of international funds and the degree to which projects on the ground meet the conditions desired by prospective investors. Building a pipeline of projects for aquaculture that meet such conditions will require robust development of the private sector, including the development of MSMEs. On the other hand, the numerous requirements, the expectation of high yield returns in short periods and the impatience of the capital remain a burden for the local businesses that struggle to compete with the standards of more developed and scalable economies. Investors should consider the local context and develop approaches that are context-relevant for SIDS.

#### **Accessing finance recommendation 1: Mobilize and coordinate with development partners**

Development cooperation providers are critical in supporting the creation of markets and financial products that effectively value natural capital and fund sustainable use and conservation. Through such means, development partners play a key role in helping to re-orient finance from harmful activities by mainstreaming green and blue sustainability criteria for investments.<sup>37</sup> Partners such as Australia, New Zealand, the United States and Japan have a critical role in helping Fiji seize the existing investment opportunities for a sustainable ocean economy and its sectors, such as aquaculture. This support comes on two tracks: technical assistance and capacity building, and credit enhancement to scale up new financial instruments, from new debt instruments such as blue bonds to biodiversity and carbon schemes to risk management tools.

Alongside capacity and knowledge building, technical assistance is also used in preparing, identifying, aggregating or coordinating pipelines of investable projects, such as in the context of the blue bond. The cooperation between the UK, the UNDP and the UNCDF led to the announcement of the issuance of a Fiji blue bond during COP26 in Glasgow, with the subsequent release of the Fijian Sustainable Bond Framework in 2022 at the following COP27 in Sharm El Sheikh. As per the previous Fijian green bond, the announcement of the blue bond sends a positive message to the global market and offers an opportunity for the country to attract international sustainable finance from global players. However, a solid pipeline of investable projects is required. This pipeline, which should include aquaculture project investments, is currently being developed with the assistance of development cooperation providers, and the bond is expected to be launched in 2023.

However, technical assistance remains a key bottleneck in many contexts despite its importance. Countries struggle to access various public and private funds and investments for sustainable development. In contrast, capital providers struggle to deploy these funds into “bankable” projects. This requires long-term on-ground dedication and resources that should not be secondary to putting in place blended finance vehicles which, ultimately, cannot be effective without a pipeline of investable projects.

While international technical assistance remains one of the pillars of bridging the gap between international capital and local project development requirements, the government will play a critical role in laying a solid foundation through policy regulation, harmonization and measures. These should incentivize entrepreneurship across the country, de-risk investment and send a strong signal to national and international players. The government should provide a vision and a mandate to its national financial institutions, such as Fiji Development Bank (FDB). When driven by the right long-term vision, national development banks (NDBs) play a critical role in deploying those on-the-ground resources and dedication that effectively mobilize finance for structural transformation and innovation at the early stage, where private sector capital will not venture.<sup>38</sup>

The recovery funds from the pandemic should be focused on supporting this process. To develop its full aquaculture potential, it should eventually graduate from donor support to establish solid relations with commercial and supply chain stakeholders from the private sector (including through the aforementioned PPP frameworks).

### 3. ADDRESSING THE BARRIERS TO INVESTMENT



#### Box 3: A constellation of funds for the blue economy

- 1 The [Global Fund for Coral Reefs](#) (GFCR) is a 10-year blended finance vehicle established through a coalition between United Nations agencies, financial institutions and private philanthropy sources. With \$625 million in funds, the GFCR aims to support innovative business models that increase the resilience of coral reefs and the communities that depend on them. Comprising a grant fund to incubate investible projects and an investment fund managed by Pegasus Capital Advisors, the GFCR maximizes the positive environmental, social, and economic impact of projects. Furthermore, the investment fund is supported by blue economy expertise from other consortium partners to scale initiatives effectively.
- 2 The [Blue Carbon Accelerator Fund](#) (BCAF) supports the development of blue carbon restoration and conservation projects in developing countries and helps pave the way for private sector finance. Funds will be provided for activities to help project developers get projects ready for implementation and secure future private-sector finance. There will also be support for implementing on-the-ground blue carbon ecosystem restoration or conservation projects demonstrating and measuring climate, biodiversity and livelihood benefits. The BCAF is funded by the [Australian government](#) and delivered in partnership with the International Union for Conservation of Nature.
- 3 The [UN Joint SDG Fund](#) addresses the funding gap to achieve the Sustainable Development Goals (SDGs) in SIDS by providing actionable proposals with funding to produce catalytic results at scale within defined timeframes through integrated, multidimensional joint programmes that address vulnerabilities across the whole life cycle and among priority target groups, facilitating
- change by working across sectors and silos and supporting cross-sectoral integrated policy or financing frameworks and solutions across various transformative initiatives focused on SDG acceleration.
- 4 [PROBLUE](#) is a multi-donor trust fund at the World Bank that supports the development of integrated, sustainable, and healthy marine and coastal resources, aligned with the World Bank's twin goals and fully contributing to implementing SDG 14. With the Blue Economy Action Plan as its foundation, PROBLUE focuses on sustainable fisheries and aquaculture, marine pollution threats, key oceanic sectors such as tourism, transport, renewable energy and building government capacity to manage marine resources, including nature-based infrastructure such as mangroves, for delivering long-lasting benefits to countries and communities in an integrated way.
- 5 The [Blue Action Fund](#) supports projects implemented by national and international non-governmental organizations (NGOs) to conserve the ocean and improve the livelihoods of coastal communities and food security in developing countries. The fund predominantly invests in activities that support four areas:

  1. Marine protected area (MPA) governance (management plans, mapping and demarcation, monitoring, control and enforcement measures, data collection and training of staff)
  2. Sustainable livelihoods (saving clubs, sustainable tourism initiatives, reduction of harvest losses in fisheries, empowerment of women)

### 3. ADDRESSING THE BARRIERS TO INVESTMENT

#### Box 4: A constellation of funds for the blue economy continued

3. Species conservation and sustainable fisheries (gear selectivity, co-management initiatives, conservation measures for key species)
4. Habitat conservation and restoration (mangroves, coral reefs, seagrass beds).

6

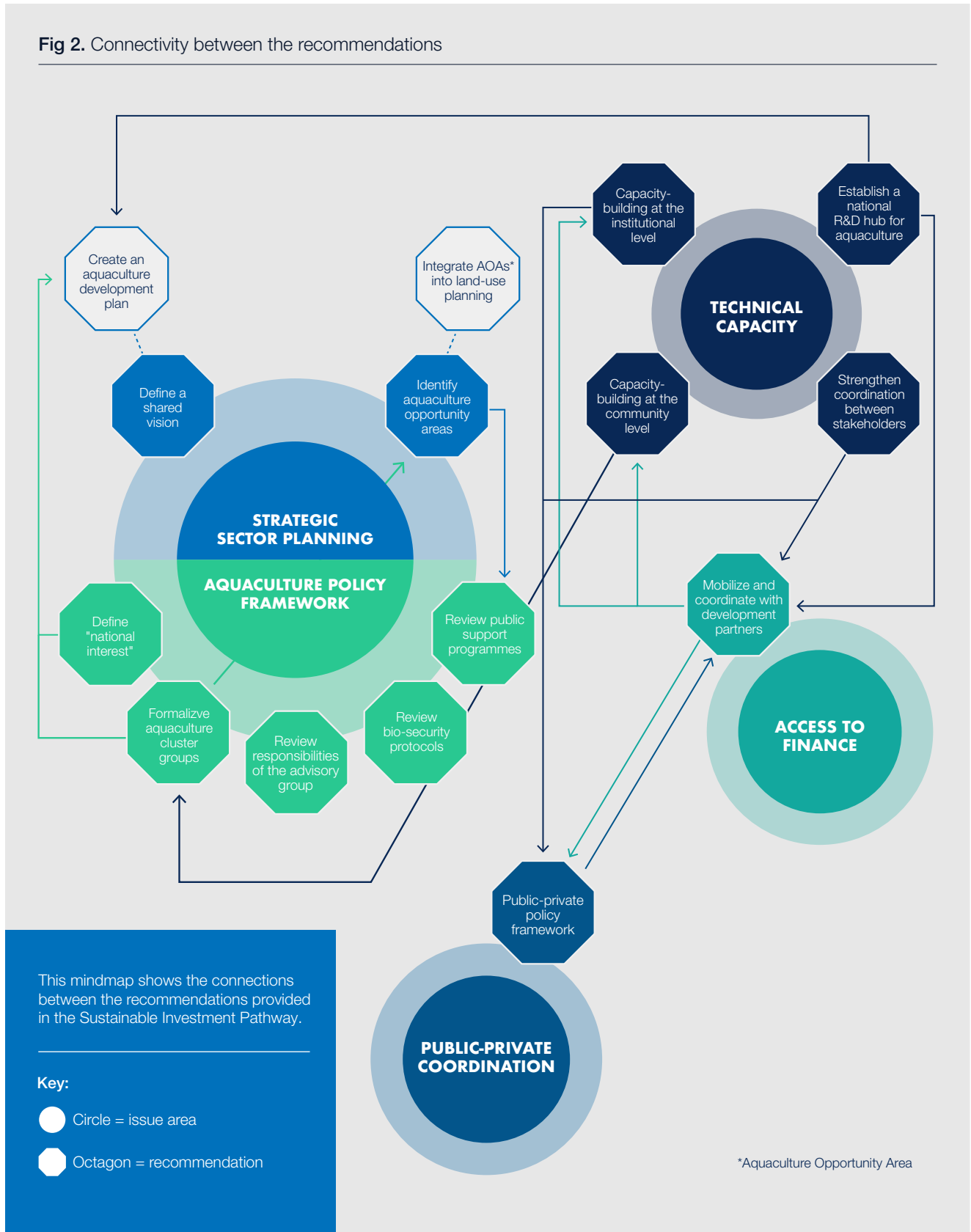
The [Althelia Sustainable Ocean Fund](#) (SOF) is an impact fund that invests in sustainable seafood, circular economy and ocean conservation projects in emerging markets to improve their sustainability

and efficiency. It uses a blended structure that includes a \$50 million Development Credit Authority facility with the United States Agency for International Development (USAID) to guarantee up to 50% of the principal on eligible loans throughout its portfolio. SOF provides loans, equity and quasi-equity to enterprises and projects in its portfolio. The fund's private equity investors – comprising both development finance institutions and institutional investors – benefit equally from this protection.



### 3. ADDRESSING THE BARRIERS TO INVESTMENT

Fig 2. Connectivity between the recommendations



### 3. ADDRESSING THE BARRIERS TO INVESTMENT

#### Opportunities for regionalism

There is often a contrasting narrative when it comes to sustainable development in SIDS, with the overarching message from the international community being a demand for greater investment to reduce the risk of disaster and constraints of development. Conversely, sources of international finance are willing to put money in but do not necessarily have results matrices and expectations that are aligned with the on-the-ground reality. International and foreign investors often view the size of the countries and territories of the Pacific as a limit to achieving desired growth forecasts. These statistics are not necessarily aligned with the capacities and realities of business and consumption in SIDS. Yet intra-regional multilateralism and economic cooperation may represent the economy of scale investors seek.

Regionalism in the Pacific has played a significant role in driving several major international agreements, such as the SDGs and the United Nations Convention on the Law of the Sea. Many of the largest commitments to sustainable management have also resulted from this regionalism. Two Pacific Island Countries and Territories (PICTS) are represented in the High Level Panel for a Sustainable Ocean Economy. Many PICTS have made policy commitments to protect 30% of their national waters even before the targets identified in the Global Biodiversity Framework were decided upon. The international influence of these countries is significant. It is founded upon a set of regional shared values and stewarded through governance mechanisms and a group of organizations that comprise the Council of Regional Organizations of the Pacific (CROP).

Using the same architecture that has proven so effective for international influence, there is an opportunity in the Pacific to enable the development of regional economies of scale in specific industries to meet the demands of investors.

Regionalizing specific sectors is likely to be effective only in specific industries. Tourism, for example, represents a sector where regional cooperation may not be effective beyond air and vessel transit as countries compete for a relatively limited number of visitors. However, consumer goods supply chains and sea trade represent two opportunities likely to benefit from regionalism.

Increasing regional shipping links could enable countries to move goods between them at different points in the supply and value chains. It could give smaller islands access to larger markets through hubs such as Fiji and the Solomon. Likewise, it could allow for the entry of countries into specific parts of the supply and value chains of sectors that may not have domestic markets, such as aquaculture.



**USING THE SAME ARCHITECTURE THAT HAS PROVEN SO EFFECTIVE FOR INTERNATIONAL INFLUENCE, THERE IS AN OPPORTUNITY IN THE PACIFIC TO ENABLE THE DEVELOPMENT OF REGIONAL ECONOMIES OF SCALE IN SPECIFIC INDUSTRIES TO MEET THE DEMANDS OF INVESTORS.**

With regard to aquaculture in Fiji, the scale of investment and rate of return on investment may be better realized through regionalism. For example, investments made at the regional level through regional fora to raise capacity will have a bigger geographic impact for a similar investment cost. Likewise, filling gaps in the supply and value chain of the domestic aquaculture industries – in feed and broodstock production, post-harvest processing etc. – could be better filled through regionalism. Such an approach could reduce shipping costs for input products, reduce biosecurity demands, enable market access from countries that may not be able to overcome the trade barriers of larger markets and enable the movement of consumer products throughout the region to meet nutritional needs and enhance food security.

To fully explore the potential for regional economies of scale in the aquaculture industry, several factors need to be analysed. These factors include the demand to develop the industry in PICTS, the existing capacities and traditional knowledge held in specific countries, the deficits in the supply and value chains, the limitations to the trade of materials throughout the region, the potential scale of an economy that leverages capacity from across the region, and the existing policy framework that could be used as a means for cooperation.

# CONCLUSION

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There is great confidence in the potential of the aquaculture sector in Fiji. This fact is often mentioned by all stakeholders regardless of their position in the industry. Despite this, there is an undertone of hesitation and uncertainty regarding investment and development, which seems to be driven by discrete roadblocks.

Financing for projects exists, and the ambition to develop successful enterprises is apparent. Now the focus needs to be on setting up the enabling environment by reforming parts of the policy and coordination process to ensure that those ambitions can be realised and that investors can easily connect with the opportunities they seek.

Reform does not mean starting over or scrapping ambitions for sustainable and equitable development in Fiji. On the contrary, Fiji is on its way to developing brand recognition as a leader in sustainability and high-quality products. This can be a crucial lever in developing an export identity over time. Instead, the recommendations above attempt to recognize

the value of all the work that has come before and suggest relatively small but impactful actions to be taken in concert with all actors involved. Actions that together will streamline the planning and development processes, build capacity and, above all, create the forum, mechanisms, relationships and pathways to communicate across the boundaries of public, private, academic and civil sectors and enable the creation of an aquaculture industry that works for all the essential stakeholders.

Investment in Fiji's aquaculture sector is knocking at the door, seeking a way in. The industry actors today have the capacity to open the door, but action in the recommended areas is required. Following this report, the relevant stakeholders should recognize their role in implementing and turning those recommendations into practical next steps. The industry is young in Fiji, and appetite for action and investment is high. Still, there is no guarantee that the appetite will remain high if it continues to flow into projects that ultimately do not deliver a return.





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