

Article

Delivering Blue Economy and Nature Recovery in Coastal Communities—A Diverse Economies Perspective

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Abstract

Blue economy aims to bring prosperity to coastal communities whilst also protecting natural ocean resources for future generations. But how can this vision be put into practice, especially in communities in which dependence on natural resources is high, and food and livelihood security are key concerns? This paper examines two cases of community-led nature-based enterprise in Kenya in a search for solutions to this challenge: fisheries reform through market access and gear sustainability; mangrove forest conservation and community development using carbon credit revenues. I use a ‘diverse economies framework’ for the first time in blue economy contexts to delve into the heterogeneous relations at work and in search of insights that can be applied in multiple contexts. Analysed through key informant interviews and field observation, the cases reveal a complex assemblage of institutions, knowledges, technologies, and practices within which enterprises operate. Whilst the enterprises featured are still relatively new and developing, they suggest a direction of travel for a community-led *sustainable* blue economy that both supports and benefits from nature recovery. The insights gained from this diverse economies analysis lead us to appreciate a sustainable blue economy as a rediscovered and reinvigorated relationship of reciprocity between society and nature—one that nurtures place-based nature-based livelihoods and nature recovery together, and which embodies a set of values and ethics shared by government, communities, and business.

Keywords: diverse economies; blue economy; ocean governance; community enterprise; nature recovery

1. Introduction

This paper aims to shed light on the role of community-led, nature-based enterprises in blue economy (BE) implementation. A core aim of BE is the conservation of natural resources to protect biodiversity, contribute to climate change mitigation, and enhance food and livelihood security [1]. How do ‘communities’ engage with the BE? It is, in many cases, I argue, through forms of enterprise, even though this may not be explicitly recognised. Enterprise in nature conservation provides a self-sustaining financial model that offers a range of socio-economic and environmental benefits, primarily by creating economic incentives for local communities to protect natural resources. The ‘diverse economies’ framework helps us to understand economy, and therefore enterprise, from a broader perspective than traditional ideas of ‘the firm’ or ‘innovation’, which in turn should help us to understand how a sustainable blue economy (SBE) can be promoted successfully at the community level. In this paper I focus on community-led nature-based enterprise aiming to promote nature recovery and meet human development needs at the same time, which reflects



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the core tenets of the BE—conserving nature whilst exploiting it sustainably for economic growth (and the implied benefits thereof to nations and populations). My objectives are twofold: Firstly, it is methodological, to test the analytical power of the diverse economies framework in search of new approaches to SBE policy design and implementation. Elaborating a diverse economies interpretation of these cases is intended to facilitate similar studies in other BE contexts as a contribution to new methodological approaches to BE scholarship, one more attuned to difference, plurality and ethics. Secondly, in applying a diverse economies framework, I aim to reveal specific practices and institutions that enable or constrain SBE enterprise, providing transferable insights of value to BE policy, implementation, and future research.

The literature on nature recovery and small-scale enterprise is nascent and fragmented. I use the term community-led nature-based enterprise to refer to the cases from Kenya that feature in this paper. They have more in common with literature on ‘conservation enterprise’ [2] and less with the small body of recent literature on ‘nature-based enterprise’ [3], which focuses on business models in the Global North designed to deliver nature-based solutions (NbS). Conservation enterprise describes an approach to nature conservation that has been practised in sub-Saharan Africa since the late 1990s, promoted particularly by the African Wildlife Foundation [4] and elsewhere by USAID [2], as a commercial activity that generates economic benefits in a way that supports a conservation objective. It involves promoting alternative livelihood approaches in order to lessen pressure on threatened natural resources, including through overexploitation and damaging harvesting practices. Boshoven et al. [2] describe the theory of change pertaining to conservation enterprise: 1. [donor] support for conservation enterprises leads to their establishment and sustainability over time; 2. enterprises provide benefits to stakeholders; 3. enterprise benefits motivate and enable stakeholders to change their attitudes and behaviours toward conservation; 4. stakeholders’ behaviours contribute to a reduction in threats to biodiversity; 5. reducing threats improves the conservation status of biodiversity focal interests. Studies have questioned whether they do in fact deliver the intended benefits for nature [5], finding evaluation data inadequate in most cases to draw firm conclusions. Conversely, researchers have asked whether nature-based interventions deliver development outcomes [6], concluding that there is much empirical evidence that they do, but evidence gaps exist relating to distributional benefits, effects on poverty alleviation, and the comparative benefits compared to other forms of intervention. Development benefits are measured in broad categories such as food security, improved health, empowerment—benefits experienced by people indirectly as a result of, for example, soil improvements, better diet, skills training, etc. These experiences are valuable for community-based BE development.

Blue economy, a recent development paradigm, represents a new arena for the development of enterprise. As the BE has become practised since its inception in 2012, weaknesses have emerged in its delivery of social and environmental justice, and calls have strengthened for a sustainable BE (SBE) that places an increasing emphasis on balancing economic development with ecological integrity, social equity, and robust governance frameworks [7]. This is important if the BE is to make a significant contribution to meeting SDGs, especially in least developed coastal states and SIDS, for which the BE is seen as an important mechanism [8]. An SBE is seen as comprising multi-stakeholder partnerships, participatory decision-making processes, and ensuring equitable benefit-sharing in marine resource development. Marine resources should be used responsibly, paying attention to biodiversity conservation and ecosystem-based management, and environmental justice (e.g., [9–12]).

Few studies regarding BE using a diverse economies perspective have been published. Antonova et al. [13] make a comparative, thematic analysis of six cases in Europe, referenc-

ing diverse economies [ethical] values. Similarly, Schreiber et al. [14] describe the case of a Swedish coastal community's efforts to resist the capitalist, neoliberal blue growth agenda of the EU in order to preserve community traditions and values. Small-scale fisheries have received diverse economies analyses in Alaska [15] and in Canada [16]. In both cases the logic of neoliberal (ie transferable quota-based) fisheries access regimes was challenged, with the diverse economies perspective revealing important social, economic, and environmental relations at the community level. The full diverse economies *framework* has not previously been used as an analytical tool in BE scholarship.

Community-Led Nature-Based Economies on the Kenya Coast

The coast of Kenya hosts important marine ecosystems comprising interrelated habitats of mangrove forests, seagrass meadows, and coral reefs. Oceanic waters off Kenya are rich in biodiversity and support important migratory and demersal fish stocks. The BE is a national priority for Kenya [17], featuring in the nation's Agenda 2030. Many people, especially in the northern county of Lamu, depend, directly or indirectly, upon ocean and coastal resources for their livelihoods. However, the mangrove forests are being degraded and lost due to a range of factors, such as harvesting of fuel wood, land claims, and pollution. The National Mangrove Ecosystem Management Plan 2017–2027 identifies three key issues underpinning mangrove ecosystem degradation and loss: weak governance, poverty and economic development, and inadequate knowledge and awareness. Lamu County hosts about 60% of Kenya's mangrove resource and has become a focus for community development work aiming to address these failings. National research institutes have promoted new practices, for example, for seaweed and crab aquaculture, and promoted traditional practices such as mangrove honey production and alternative crops such as cassava to improve food security.

The mangrove ecosystems of Lamu County have attracted the attention of a number of international and local NGOs, given their importance in Kenya and the wider Western Indian Ocean region. They have worked with communities to understand the pressures leading to mangrove degradation and loss, worked alongside the government to understand the nature of the resource (extent, condition, pressures, etc.), and influenced policy and action in support of its conservation. Recently, external donor-funded programmes (KEMFSED (Kenya Marine Fisheries and Socio-Economic Development Project <https://kemfsed.org/>, accessed on 27 December 2025); GoBlue (GoBlue Project, <https://www.nairobiconvention.org/go-blue-project/>, accessed on 27 December 2025) have provided additional support towards these aims. In particular, they have focused on fisheries reform; spatial planning; mangrove forest conservation and 'blue carbon' project development; and the promotion of more sustainable livelihoods. Independently, a range of conservation activities have been initiated locally regarding marine conservation and eco-tourism. Large development projects (Lamu Port; proposed coal power plant) have given rise to local resistance (Save Lamu coalition) and led to legal challenges (regarding due process; land claims), and compensation for loss and damage to natural resources.

2. Materials and Methods

I take a relational approach in this study, drawing on the diverse economies framework, a body of scholarship emerging from poststructuralist, feminist, and anti-essentialist critiques of mainstream economics and political economy (see: [18–20]). I augment the diverse economies' six themes with an additional focus on spatio-material dimensions using a spatialised governmentality framework [21].

2.1. Introducing the Diverse Economies Framework

The diverse economies perspective emerged from critiques of perceived inadequacies of the capitalist economic model to explain the sum of economic activity, in particular its blindness to non-waged and care work (e.g., subsistence farming; childcare) in explanations of how economies sustain life. Instead of treating capitalism as inevitable, Katherine Gibson and Julie Graham (writing as Gibson-Graham) highlighted economic difference, hybridity, and possibility, opening space to imagine and enact alternatives. An international programme to map diverse economic practices led to the ‘community economies’ approach, which recognises local, often hidden, economic practices (cooperatives, mutual aid, or subsistence production) as central rather than marginal.

In their landmark book *The End of Capitalism (As We Knew It)* [18], Gibson-Graham introduced the metaphor of the economic iceberg: above the waterline—visible capitalist practices (wage labour, market exchange, and private firms); below the waterline—the much larger field of economic activities (unpaid work, cooperatives, bartering, state redistribution, and commons) usually ignored. This visual metaphor became foundational for the diverse economies framework. This describes the economy as a set of ethical negotiations across six themes:

1. Enterprise—How organisations are owned, managed, and for what purpose.
2. Labour—How work is performed, valued, and rewarded.
3. Transactions—How goods/services are exchanged or shared.
4. Property—How resources are owned, accessed, and cared for.
5. Finance—How surplus is mobilised and distributed.
6. Subjectivity—How economic subjects are shaped by multiple roles, responsibilities, and identities, and are embedded in communities and ecologies.

Each theme highlights diverse forms, not just the capitalist or mainstream versions. Key features emerging through these themes are as follows:

- Pluralism: Recognition of multiple economic forms beyond capitalism.
- Relationality: Economies are socially and ecologically embedded.
- Ethics: Economic decisions are always ethical decisions (about inclusion, fairness, sustainability, and care).

According to its proponents, the diverse economies perspective demonstrates a politics of possibility: by showing that alternatives already exist, it helps communities imagine and enact more just and sustainable futures [22].

In this study, the analysis of cases comprised seeking out the diversity of elements in each diverse economy theme; thus, the following could be derived:

- Enterprise—What reported or observed activities can be considered as ‘enterprise’, not only direct trading activities but also those which enable and support them.
- Labour—What forms of labour—waged, unwaged, and non-human—are evident in the cases?
- Transactions—In understanding transactions as not limited to monetary exchanges (also of information, knowledge, resources, co-production, reciprocity, collaboration, etc.), what is revealed about the nature of BE transactions?

- Property—How property, especially natural resources, is owned, accessed, and cared for in these BE settings.
- Finance—How money circulates in these BE cases, the diversity of finance, and how surpluses are generated and distributed.

2.2. Cases and Stakeholders

The cases featured focus on (a) access to new markets to facilitate fisheries reform and (b) a blue carbon credit programme as a driver for mangrove forest recovery and community development. Both are linked, arising from efforts to improve and diversify livelihoods in support of mangrove, seagrass, and coral conservation. These have been led by The Nature Conservancy (TNC) and Northern Rangelands Trust (NRT) with support from WWF and Flora and Fauna International. Various government services have necessarily been involved, notably the Kenya Marine and Fisheries Research Institute (KMFRI), the Kenya Wildlife Service (KWS), the Kenya Forest Research Institute (KeFRI), the Kenya Forest Service (KFS), and county governments. Taking a community development approach, these organisations have invested in community capacity building, raising awareness, and social research to understand the drivers for environmental degradation, and environmental research (working with government research centres and the forest, fisheries and wildlife services) to understand the status and trends of key habitats and species. Separately, research centres have undertaken long-term research programmes in support of alternative or modified livelihoods, such as crab and seaweed aquaculture.

2.3. Data Collection

Data was collected in the form of interviews with key informants, which took place in February and March 2025. Data from earlier fieldwork in the same location between October 2021 and March 2022 has also been incorporated into the analysis, with the two periods representing the initial and closing stages of two key initiatives: the World Bank-funded Kenya Marine Fisheries and Socio-Economic Development (KEMFSED) project, and the GoBlue project funded by the European Union. Having encountered these in 2021/22 as they were being initiated, the 2025 fieldwork provided an opportunity to gather data on progress of initiatives they had supported. In total, 29 interviews of government officials, NGO staff, business leaders, community leaders, and fishers were undertaken (Table 1), representing a cross-section of key actors involved in these cases. The aim in general was to gain an overview of cases to illustrate the use of the diverse economies framework, rather than to undertake a deep case-by-case analysis. Ethics approval was secured from the University of Oxford (2021/22) and The Open University (2025), UK. Informants were identified from web searches (relevant initiatives and organisations), the snowballing method (recommendations from interviewees), and field ‘discovery’. Cases were visited in the field to verify key informant information, with the exception of Kiunga, which was in an area at risk of terrorist activity. In this case data was triangulated through four informants. In the one case where translation was needed, in a group setting, a number of people in the group spoke some English and had the opportunity to challenge the translation if any concerns arose. The diverse economies framework, having evolved from feminist practices of ‘reading for difference’ and used to reveal actual practices and relations, is a useful tool to overcome risks of Eurocentrism and Western epistemological dominance in studies undertaken by European researchers in the Global South.

Table 1. Roles of interviewees.

Role	Number Interviewed	Roles	Date of Interviews	Code (Where Referenced in Text)
International Donor	1	Programme manager	9 December 2021	IDo
Government officials	2	County government—natural resource management	8 March 2025	County Government official
	2	Senior civil servants—blue economy policy	4 November 2021 17 November 2021	
	1	KEMFSED project	16 March 2022	
Government service	1	Natural resource management	3 March 2025	Government Service 1
	1	LAPSETT Development programme	16 March 2022	
	1	Research	25 October 2021	
	1	Kenya Wildlife Service	30 December 2022	
NGO staff	2	Community engagement/conservation initiatives	28 February 2025 9 March 2025	NGO1 NGO2
	1	BE Programme management	7 March 2025 (GoBlue project)	
	1	Legal advocacy	20 December 2021	Save Lamu
	2	Community advocacy	21 December 2021 24 December 2021	
Natural resource based enterprise leaders	3	Kumbatia Seafood	12 March 2025 26 February 2025	KS1 KS2
	1	Community enterprise	23 December 2021 6 March 2025	Women’s group
	2	Community enterprise	30 October 2021	
Community leaders	3	Formal and informal community association establishment and management	6 March 2025	Save Lamu
			8 March 2025	CFA
			18 December 2021 (Beach Management Unit, BMU)	
Fishers	1 group	Resource harvesters	10 March 2025	Kiwayu fishers
	1	Quality control and fishing coordination	10 March 2025	Kumbatia Agent
Certification body	1	Project accreditation and verification	1 December 2021	
Project developer	1	Project development and management	5 November 2021	

2.4. Analysis

The interviews were audio-recorded and then transcribed using an online AI transcription tool (www.cockatoo.com). The text was then checked manually against the recording to ensure accuracy. A narrative summary of the cases was created using a mind mapping tool (SimpleMindPro), which allows for easy re-organisation of nodes. Nodes were then

categorised using the six diverse economies themes plus a spatial and material factors theme, which provided a consistent reference framework. Sub-categories were created inductively. A narrative summary of each theme was created, providing the basis for the textual descriptions in the next section.

3. Results

In this section I provide an overview of the cases, followed by a thematic analysis which presents a diverse economies understanding of them. This is followed by the presentation of a number of insights arising from the analysis to inform the following discussion.

3.1. Case 1. Kumbatia Seafood, Northern Rangelands Trust and the Kiunga Gear Exchange

In the Kiunga Marine Reserve in the north of the Lamu archipelago, near the Somali border, a persistent problem has been the use of illegal fishing gear—the beach seine net. These long nets are operated by up to 30 fishers. Their weighted bottom edge causes damage to seagrass and coral habitats as they are dragged through the shallow waters. The nets typically have a small mesh size and so catch a large number of juvenile fish (68% of catch in surveys, NGO2), for which there is a steady market, as they are cheaper than larger fish and there is some cultural preference amongst consumers in this region. In the Kiunga area 11 nets were identified, along with the 11 owners and 165 associated fishers who depend upon them for their livelihoods.

Over a period of three years, NGOs worked with communities to gather information and evidence. This included the training of data collectors in the community with the aim of establishing trends in fish catches and building trust within the communities regarding this information. This action facilitated discussions regarding future scenarios, such as the possible disappearance of fish stocks, and raised awareness regarding the impacts of various fishing gears, leading to the proposal for a gear exchange programme and discussion of its implications. This gear exchange programme was co-designed with the communities. A formal (voluntary) application process was put in place—a contract in effect—in which the terms of the gear exchange were negotiated with each net owner and countersigned by crew members, the BMU, KWS, and community leaders to ensure transparency. A critical element to the success of the exchange was to take action to ensure that the new fishing methods adopted are themselves successful to incentivise compliance. “They are just people who are trying to earn a living. So the method could be a bad method, but what they are looking at is ‘can I survive?’” (Government service 1). This involved not only providing new equipment (boats, engines, pole and line, etc.) and infrastructure (e.g., cold storage) but also creating new market relations (better access; more equitable relations between traders and fishers; etc.). Kumbatia Seafood emerged from this latter element. After initial trials by NRT, a private partner was sought to develop new routes to market and more favourable trading conditions for fishers involved in the gear exchange. This involved fisher training and new cold chaining arrangements to improve fish quality, enabling improved incomes. A unique incentive for this remote region was the creation of a scholarship programme for fisher family members, which pays for secondary and university education, creating new opportunities for young people in return for 100% compliance with gear exchange conditions. Now Kumbatia Seafood continues to operate in the region, making regular purchasing expeditions; paying above the general market rate in return for adherence to simple quality standards (bleeding fish immediately upon catching them and keeping flesh temperature close to freezing); employing local agents for coordination and quality control; supplying subsidised inputs (fuel, hooks, etc.); and transporting high quality fish, sustainably caught, to Mombasa and beyond. This regularity

and coordination regarding market demands and fisher activity (village agents act as go-between, so fishers know when expeditions are due) limit oversupply and associated slumps in prices, which was a common feature of the system in the past, leading to waste and low incomes. “Before Kumbatia came in they used to . . . sell to the nearby village of Kizingitini. There are some individual dealers there. They used to buy but one difference is that it was not that reliable. . . . The dealer might buy [one day], but tomorrow is not there. But for Kumbatia, it has [brought] about a sustainable market. . . . That’s the difference” (Kiwayu fishers group, via translator).

3.2. Case 2. Mangrove Blue Carbon

Kenya has been a test-bed for new approaches to mangrove forest use and management. Notably, in the south, the Gazi and Vanga projects have pioneered the generation of alternative finance for biodiversity and human development through the creation of carbon credits for mangrove forest conservation. Elsewhere, eco-tourism enterprises have emerged to fund mangrove forest conservation work and to improve livelihoods for local people.

These experiences are informing a comprehensive strategy in Lamu in which communities are being supported to replicate and further develop these ideas, and on a much larger scale. Community forest associations have so far been formed to manage two of the three administrative areas of mangrove forest in Lamu County, requiring scientific assessment of forest condition and extent, participatory management planning involving community, government and other stakeholders, and negotiation of formal agreements with the Kenya Forest Service. Whilst the aims are broader than the creation of carbon credits, for the community, these offer a regular source of revenue to finance conservation and to support new community-based enterprises to improve food and livelihood security.

As in Kiunga, a community development approach has been taken to understand the factors driving mangrove forest degradation and loss, and to develop alternative practices and livelihoods. However, in this case, Participatory Forest Management Plans, which are the formal mechanism for co-management, provide the framework for understanding community needs, environmental trends, and for negotiating alternative futures. They involve a complex and costly process for which communities need additional support: awareness raising, training, capacity building, specialist expertise, and administrative support. “After having management plan, then you apply for forest management agreement. Because there are a lot of workshops, a lot of meetings, public participation, those experts you hire are from Nairobi, KFS officials come from Nairobi, book a ticket, hotels, a lot of things” (CFA). This process has led to proposals for a variety of enterprises: mangrove tree nurseries; boardwalks and restaurant bandas (platforms); honey production; making seaweed- and honey/wax-based cosmetics; crab fattening and farming; and more.

Whilst carbon credits are not yet being produced in Lamu, the process is advanced. The Community Forest Associations, now registered with the government, can act as the beneficiary/client for the verification and certification process. Baseline mangrove forest assessments have been completed by government scientists, NGO experts, and others. A PIN (project idea note) has been submitted to initiate the project assessment process with the certification body Plan Vivo. Communities are more aware of how mangrove forest recovery is undertaken and have developed expertise in propagule collection, nurturing, and transplanting. In anticipation of new user rights (conferred in the Community Forest Agreement) and revenues (from carbon credits), they are planning new community-led enterprises.

3.3. Diverse Economies Analysis

The diverse economies analysis undertaken helps to shed light on some key elements of these cases, which will help in their future development and in the design of future programmes. The discussion below is organised according to the six diverse economies framework themes of enterprise, labour, transactions, property, finance, subjectivity, plus spatial and material factors. These are summarised in Table 2 at the end of this section.

Table 2. Summary of diverse economy and spatio-material relations.

Enterprise	• Diverse governance formats: company; thematic community associations (forest, fish, wildlife); conservancies; informal cooperative; and self-help groups. • An interconnected system of institutions. Many overlapping management bodies and zones complicate negotiation and decision-making. • Associations and conservancies must comply with formal procedures laid out in law. • Small and micro-enterprises can have a significant social impact in a community, and scaling successful models holds great potential.
Labour	• Women are beginning to play a wider economic role beyond household management and child care. • Volunteer time is needed to establish community associations. • Forest restoration labour is mostly unpaid and anticipates future returns. • New knowledge and skills are needed for mangrove propagation; fish handling; plastics sorting; etc. • New professional roles are emerging, e.g., community association coordinator; rangers; conservancy managers; and quality control agents.
Transactions	• Individual time donated in anticipation of community and individual benefits. • Negotiations over benefit-sharing formulae for carbon credit revenues. • Carbon credit verification processes (evidence submitted in return for credits). • Design of incentives for transition to new practices (e.g., Kiunga gear exchange). • Knowledge exchange, e.g., peer-to-peer learning visits to Madagascar; training in mangrove propagation. • Legal challenges, requesting confirmation of traditional tenure rights.
Property	• Multiple forms: private, collective, state, commons, and open access. • Historically state-owned or open access resources transitioning to commons (co-managed mangrove forest; restricted access inshore fisheries). • Community Forest Agreements confer use rights on communities and enable new enterprises. • New infrastructure is being given to communities to support transition (e.g., solar-powered freezers for fish and new fishing boats). • New property requires new community ownership arrangements and management responsibilities, which are not yet fully developed. • Land ownership is sometimes contested by development speculators.

Table 2. *Cont.*

Finance	• NGOs bring additional finance to the system for activities not provided by markets. • Traditional finance, in the form of short-term loans for fishing supplies and fees, has trapped many in poverty. • Micro-finance, provided through NGOs, has enabled women to test and establish small-scale enterprises. • New market relations in fisheries are enabling new funds to circulate within communities (fees and levies, steady sales revenues, and commissions). • New value is being created by new enterprises (e.g., through cold chaining to retain fish quality; data collection and analysis for management; crab fattening; and carbon credits). • Surplus is being redistributed through a variety of fees and levies, and using benefit-sharing formulae. • Benefit sharing requires negotiation, in which differential power dynamics could create inequalities.
Subjectivity	• A broad diversity of economic subjects, including community volunteers; government workers; legal workers and community rights advocates; and those engaged in more direct market economy actions, such as selling fish. • Nature has a role as an economic subject, with its productivity being the foundation of nature-based economies. • Stewardship of nature is an economic activity • Different actors play different roles—how should these be valued to guide the allocation of surplus?
Spatial and material	• Nature-based economies are fundamentally spatial and material. • Remoteness from major population centres is a major factor shaping enterprise. • Better understanding of spatial and material factors is opening new livelihood possibilities (e.g., mangrove propagation nurseries and carbon sequestration revenues).

Enterprise exists in many forms, ranging from the traditional business to NGOs and government in their roles promoting sustainable livelihoods, poverty reduction and environmental stewardship. What is striking is how they are interconnected—part of a complex system that cannot be reduced to individual components. Those connected to nature-based enterprise range from fishing to eco-tourism, to hospitality, to cosmetics, to mangrove propagation, to environmental monitoring, to mechanical engineering, and more. Organisational structures include the formal (company; regulated community associations—CFAs, BMUs, etc.; and project-based partnerships—e.g., GoBlue); social enterprise; and the informal (Mtangawanga women’s self-help group; Crab Shack informal cooperative; etc.).

Administrative barriers are significant because enterprises must comply with regulated processes. Forming community associations requires participatory resource management plans that are costly and often depend on external expertise and funding. Overlapping management bodies (government ministries and services—KWS, KFS, KeFS; BMUs; community conservancies; etc.) and zones (marine park, marine reserve, LMMAs, Joint Community Management Area (CMA), etc.) complicate negotiation and decision-making. Limited financial resources create competition between communities and the government for new revenues, including future carbon credit income. Remoteness and underdeveloped infrastructure constrain enterprise development, especially in fisheries, where fish spoil quickly and require specialised post-harvest handling (gutting and bleeding; packing in ice) and

cold chain systems to reach higher-value markets. Fishing livelihoods and enterprises are also threatened by weak international management of migratory tuna stocks.

Labour, in a diverse economies understanding, encompasses the full range of activities required to sustain human and ecological life, unwaged and waged. It is shaped by and embedded in households, communities, cultures, and ecologies, and its nature is, therefore, tied closely to distinct places and the peoples who live there. A community-led nature-based blue economy demands new forms of skilled labour, for example:

- Knowledge is required to select the right mangrove propagules for transplanting, requiring training. At the start, “we collected propagules, but we were not having that knowledge of which one is matured and which one is not. We collected 10,000 propagules. When they sorted them only 500 were matured.” (Women’s group).
- Immediate post-harvest handling of fish requires specific tasks to be undertaken. “That training has really impacted them in terms of knowing what actually they should be doing when they get this fish to avoid [it] getting spoiled.” (Kiwayu fishers, through translator).
- Leadership skills are required to run associations and prepare resource management plans.
- Data collectors (fish catches; mangrove condition) require knowledge of species and recording systems.

Whilst there is little waged labour yet, examples point towards a future where more formal waged labour is available to support livelihoods: the CFA employs a coordinator to liaise with the community and to guide it through regulated processes. The conservation sector (government; NGOs) offers a small number of high-quality jobs employing graduates with expertise in the environment. Conservancy rangers provide security and are part of a large network of trained security staff across the conservancies of northern Kenya.

In a similar vein to that of labour, **Transactions** go beyond simple monetary exchanges in a diverse economy. In this case we see people giving their time in return for an expected benefit to the wider community in the future (e.g., CFA formation), “Community will say, no, no, no, no, we are benefiting more from harvesting [mangrove wood] Because . . . at the end, they want to take bread to the table. They want to pay school fees for the children. If your conservation doesn’t pay that, it will leave us” (CFA). Benefit-sharing arrangements regarding carbon credit revenues represent a future transaction between brokers, the community, and the government. These transactions are effected through verification processes enacted through exchange of data for fungible credits. Incentives and their design have been important transactions in Lamu. The Kiunga gear exchange represents a complex example in which fishers have been both recompensed for loss (of a means of livelihood—the illegal beach seine net) and incentivised to transition to new practices (e.g., provision of pole and line fishing gears) that allow nature recovery and support livelihoods. Improved community benefit is a clear motivational force for transition and another form of transaction. A former trader, now a quality control agent, sees the bigger picture: “he has preferred to continue working with Kumbatia for the benefit of community because it is like it [the benefit] touches every corner of the community. . . now.” Kumbatia Agent, through a translator.

Knowledge exchange is a fundamental transaction in transitions to more sustainable practices. New knowledge allowed successful management of mangrove forest nurseries and transplanting of young trees. Peer-to-peer learning (e.g., group visits to octopus closures in Madagascar and visits to the Crab Shack on Mida Creek to the south) demonstrated sustainable fish stock management, and integrated crab fattening, education, eco-tourism and hospitality activities that could be replicated. Grant funding has played an important role in this economy, with funds provided on condition of prescribed activities being un-

dertaken (e.g., Go Blue project contracts in which detailed work plans and deliverables were negotiated with individual parties. IDo). Legal challenges (e.g., Lamu port fisher compensation; Lamu coal power plant; and various land title challenges by Save Lamu) associated with government-led development projects are a form of transaction in which a request is made and considered and responded to, and which has led to affirmation of user rights and land ownership, enabling the continuation of traditional livelihood practices.

Property encompasses multiple forms: private, collective, state, commons, and open access. It is relational and dynamic, and therefore holds potential for different futures. The most important non-private property in this region is the mangrove forest and fish resources, which are historically state-owned or open access, but transitioning to commons (co-managed mangrove forest and restricted access inshore fisheries). New property futures are most obviously being realised in Lamu with the negotiation of Community Forest Agreements, which confer formal user rights on communities. For some activities it is a confirmation of traditional uses, but the rights provide protection from incursion by others. Importantly, new uses are being approved, such as for aquaculture (crab fattening) or eco-tourism (boardwalks and restaurants). Communities are receiving ownership of new infrastructure such as solar-powered freezers for the fishing sector, or boats for BMUs to manage and raise income towards small local fleets of community-owned (rather than private) fishing boats, enabling a share of fishery revenues to be captured by communities to fund resource management (administration; data collection; and equipment repairs and renewals). Government is also investing in property—fixing infrastructure to support value chains such as quays and jetties, market buildings, and new highways—often funded by international donors to support wider human development and resource conservation objectives. Illegal property is also evident—primarily illegal fishing gears. Land is an important resource, which has been subject to competing land claims arising from speculation following the approval of long-term urban and industrial development plans for the mainland of Lamu County, associated with the development of Lamu Port.

Finance is essential to enable new activities and takes many forms. Kumbatia Seafood (KS) is a private company in receipt of conventional investment finance. But with its social purpose (better management of fish resources; more stable and higher incomes for fishers and their communities), it also benefits from close working with NGOs, which bring additional finance to support wider objectives. KS is a financier itself, financing bulk purchases of supplies (hooks, etc.) that are then sold at a small profit to fishers but at a lower price than through other channels (benefitting from economies of scale) afforded through concessional (i.e. below market rate) short-term loans between KS and fishers. This helps to overcome exclusion from access to finance through systemic factors such as lack of creditworthiness and collateral, and lack of sharia-compliant finance options. Micro-finance, unsecured loans from a circular fund provided by NGOs, has been important in enabling women in particular to establish small enterprises, try out ideas, and expand those that work for them. Some groups have established their own micro-finance schemes in which members pay into a common pool, which is loaned to members in turn (e.g., women's self-help group).

Establishing new governance mechanisms for natural resource use is costly, complex, and a significant constraint on development. “You have to have a PFMP, Participatory Forest Management Plan. . . . It has to involve the experts to do the management plan. So we don't have the money at that time [in 2018]. So we stay dormant until 2022. In 2022 we get support from TNC and NRT. They support us to have PFMP. . . So now we are active and we are doing well” (CFA).

Surplus is being redistributed through a variety of fees and levies, and through benefit-sharing formulae. A new law to protect 40% of the benefit from carbon credit

programmes for communities has left much space for negotiation over the remaining 60%. The government argues that its activities in support of mangrove forest management need to be financed, whilst communities want sufficient funds to invest in new enterprises and to cover administrative costs. How should their respective contributions be valued and allocations be decided?

Economic subjects are recognised in diverse economies as ethical decision-makers: they make choices about how to share, consume, or distribute resources in ways that reflect values (justice, prudence, and reciprocity). Non-human subjects—animals, ecosystems, and technologies—are also active participants in economies, since they shape and sustain livelihoods. The formation of economic subjects is guided by ethics and relations of care and responsibility (reciprocity and community benefit). Economic subjects in this case include the community associations (CFA's, BMU's, and conservancies), and their volunteers and paid employees who do their work; government officers and workers who set and enact policy; the legal system in which claims of user rights are considered and those, such as Save Lamu and other NGOs, who facilitate those processes. For example, in the case of a carbon credit programme, its anticipated benefits extend far beyond those directly involved. "We have what we call Community Development Agreement Committee. So this is a committee which will oversee the community benefits . . . It is a multidisciplinary team, representing the women, the men, the people from the county and the community forest association, they all sit in one sitting. You're not just benefiting to the CFA alone, so you can benefit the Lamu community at large" (County Government official). This wider understanding of economic subjects is evident in practice: regarding NGOs as economic partners, "So they're a nice intermediary that really has the interest of the community at heart, but understands kind of what we need as well and how we need to be successful in order for everyone to be successful" (KS1); On mangrove recovery: "So you find you have a team from KWS, from KMFRI, Kenya Fisheries Research Institute. You have KeFRI, Kenya Forest Service. We find a number of NGOs working here. So you find all these, because all of them, they work in the mangrove and they have a stake." (Government Service 1).

Benefit-sharing negotiations also demonstrate the wider reach of the economy, with government actors claiming a share of benefits on the basis of contributions to forest protection and restoration (law making and enforcement; resources survey and monitoring; and management planning)—their role in co-management. The valuation of such roles is problematic—is it worth a 20% or 40% or 60% share of credit revenues? How should it be valued against the community's own management?

The natural environment itself must not be forgotten as an economic subject. It is nature's productivity that lies at the foundation of this economy. The Save Lamu coalition of indigenous community groups compiled a Biocultural Community Protocol detailing their longstanding cultural relationships with nature and its fundamental importance for their livelihoods. Large-scale development proposals have triggered new concerns for the environment and awareness of the importance of environmental stewardship.

Spatial and material factors place constraints upon economic subjects and shape the nature of the economy. Fundamentally, the natural resources are material elements and their spatiality—distribution, accessibility, scale, etc.—define key economic challenges. Fish migrate seasonally, and higher-value species such as tuna may be unpredictable in their availability. They need care in catching, and rapid and specialist attention to keep the flesh in top condition and so prevent loss of value. Fishers require training in new techniques, new roles are required (e.g., quality control agents), and sophisticated and reliable cold chaining is essential, itself requiring specialist equipment and training. Yet the best fishing grounds are farthest from markets. Mangrove forests comprise nine species of

tree, each having different propagation needs, requiring new knowledges for communities to establish and run nurseries. Public curiosity regarding inaccessible forests has made boardwalks popular, enabling better access and generating new enterprise opportunities, as demonstrated by Crab Shack's restaurant Bandas (platforms raised above sea level at the seaward edge of the forest), which many plan to replicate (e.g., women's self-help group and CFA). Government interventions also have spatial elements with meaningful consequences. Protected areas have two levels: the marine park, which is no-take, and the marine reserve, where fishing is allowed but more closely managed than in non-protected areas. The different management regimes can have significant implications for habitat quality.

3.4. Insights

This analysis helps us to understand factors that may facilitate a just, nature-based SBE development, and point the way towards an enabling policy environment.

3.4.1. Economic Activity

- Economic subjects are many and varied, extending beyond normal understandings of such to include policymakers, NGOs, and community members not involved in monetary transactions. Volunteer time, given in anticipation of future benefits, features prominently. Also, a sense of community benefit is seen to drive the motivations of some of the individuals interviewed—to volunteer, to work in ways that maximise community benefit over or alongside individual benefit—implying an understanding of livelihood and community trade-offs.
- A diverse economy offers new types of enterprise delivering new forms of value, some of which enable access to new forms of finance, delivering benefits to communities and to individuals. New understandings of environmental processes and human/environment relations create opportunities for introduction of new technologies and practices and new livelihoods, leading to greater livelihood security. Working with government in formal and informal co-management arrangements, supported by NGOs, enables communities to meet new standards of environmental stewardship in support of nature recovery and in doing so secure reciprocal benefits (use rights enhancing food and livelihood security; access to new markets; new equipment; education/scholarships; community infrastructure; access to finance; more equitable economic relations; and more productive natural resources) that are valuable inputs to communities existing at or near subsistence level.
- Enterprises involve many diverse stakeholders spanning government, NGOs, community, business, and the natural environment itself. Many of these are essential partners to community-led transformation, providing enabling services (legal, administrative, training and capacity-building, and technical expertise) or constraints (legal, procedural, and financial). A variety of mechanisms facilitate dialogue and joint working, but require specific capacities to organise successfully. New enterprises and adaptive practices create both new opportunities and make redundant some capacities (e.g., village fish traders). New roles and responsibilities are created, needing training, capacity building and other incentives to sustain. The consequences of change (e.g., loss of livelihood) must be adequately addressed for durable (long-lasting) adaptation.

3.4.2. Governance

- Governance for nature recovery necessarily involves a complex mix of organisations, tools, technologies, knowledges, and people working towards a common purpose—in this case, the recovery of coastal ecosystems, habitats and species, and secure livelihoods. Organisations each have differing roles and objectives, and extensive dialogue is needed to identify common ground and agree on coordinated actions. Communities

represent a fulcrum, being the users of the resources. Understanding their needs is essential, but also awareness raising (making use of science) to illustrate the status and trends in ecosystem health and alternative approaches to resource management. “So we started with establishing community institutions and supporting them to enhance their management [and governance] capacity and supporting them with capacity and skills for managing these resources—fisheries, wildlife, as well as forest.” (NGO1). A diverse web of uses (fisheries, logging, charcoal making, tourism, etc.) has led to multiple management institutions (laws, governmental organisations, designated areas, etc.), and active coordination is needed to prevent conflict between management measures. Transition to more sustainable livelihoods is effected through co-management, by which confirmation of user rights (specifying uses, such as crab farming, limits on timber harvesting, etc.) is achieved, and management agreements are negotiated with the government. Such agreements should be consistent with county and national strategies and policies. They must also deliver community benefit to incentivise change. “They have to see benefits accruing to the communities. And that also increases their adaptive capacity to be able to change their behaviour and practices to more sustainable ones.” (NGO1).

- Co-management is an enabling mechanism for communities in protected areas and sensitive ecosystems, providing a framework for negotiation and consent regarding approved activities and their scale. Whilst it is seen as beneficial (by those interviewed), achieving the necessary agreements is complex and expensive. Legislation requires the establishment of community associations (for forests, marine wildlife areas) and the development of participatory natural resource management plans (which must themselves be based upon extensive resource survey work) before agreements can be signed. In Kenya, communities must pay all these costs if they are to receive a co-management agreement, including travel and subsistence for government officers to engage with the process. NGOs and international donors play an important role, therefore, in supporting the initial steps of capacity building and consultation with communities, and financing natural resource baseline surveys. Management plan development necessitates liaison and negotiation with other management institutions (e.g., BMUs, LMMAs, and conservancies). Community members must volunteer their time to support the process.
- Designing incentives for change involves a holistic understanding of the system. “. . . for some of these projects, there’s a lot of dynamics. and I think it also requires great understanding of the community context—both social, cultural—because we don’t come in and impose, you need to understand, you stay with them, you understand why they do the things they do. If they’re using illegal gears, why are they using them, how they’re attached to them, if you remove them what will happen, will they be able to adapt?” NGO1. In Kiunga, fishers needed new skills and equipment (gears, boats, engines) to facilitate a move away from using illegal and damaging beach seine nets. More than that, better access to markets (consistent demand; stable prices) was needed to improve incomes and livelihoods—provided by Kumbatia Seafood—which itself involved investments in cold chain and logistics, and training in post-harvest fish handling to introduce new quality control regimes. New roles are needed to support this infrastructure, providing new opportunities but requiring (micro-) finance and training. Similarly in mangrove conservation, new livelihood opportunities enabled through co-management and supported by training and micro-finance incentives changed practices (e.g., in logging; construction; and cooking—efficient stoves and a move away from charcoal). However, awareness and demonstration are needed to change beliefs and attitudes.

3.4.3. Spatiality

- Spatial and material factors exert considerable influence over what is possible for enterprises. A defining feature of the Lamu archipelago is its remoteness and distance from markets, services, the national government, and large centres of population. The logistics of fish transport, tourism, and expertise is a systemic challenge for enterprises. So too is the nature of these materials—fish decay rapidly and efficient cold chaining is needed to maintain quality and therefore value. Tourism potential is constrained by transport, boats being needed to travel to and from most places, and sometimes for longer distances—the nearest landing on Pate Island, for example, is about 40 min in an open speedboat from Lamu town. Laws regarding natural resource use and management are difficult to police.

These findings and insights present the BE as a complex assemblage of institutions, knowledges, technologies, and practices within which enterprises operate. Whilst the enterprises featured are still relatively new and developing, they suggest a direction of travel for a community-led SBE which supports nature recovery.

4. Discussion

Blue economy discourse recognises a range of threats to ocean sustainability, but also many opportunities through sustainable development to contribute to delivery of SDGs [1,8,23]. However, the ability of the BE concept to draw attention to new frontiers for development raises concerns that the scale of growth in ocean-based development will outweigh any benefits resulting from improvements in technologies and practices that reduce environmental harm. Thus, this new focus on ocean development may lead to more environmental degradation and greater social inequality [24].

Many studies have critiqued the BE from a social justice perspective, questioning who wins and who loses (e.g., [11,21,25–27]) and calling for ‘blue justice’ (e.g., [24,28,29]) and for a sustainable BE [7,30,31]. How a sustainable blue economy should be implemented, or operationalised, remains an active debate (e.g., Petruzzelli, 2024 (<https://www.orfonline.org/research/regenerative-blue-economy-a-strategic-framework-for-global-ocean-governance>, (accessed on 7 December 2025)); Nazurully, 2025 (<https://www.orfonline.org/research/sustainable-ocean-futures-a-framework-for-community-led-ocean-economies>, (accessed on 7 December 2025)); Meerwissen (<https://meerwissen.org/themes/sustainable-blue-economy/>, (accessed on 7 December 2025)); [32]). This author, along with others (e.g., [33–35]), advocates place-based approaches which demand the co-production with communities of solutions rooted in local contexts (natural resource base, governance, economic, and socio-cultural). However, ad hoc blue economy planning at local levels will fail to deliver the pace and scale of change needed to achieve the 2030 targets of the SDGs or current climate change and biodiversity goals. A strategic and coordinated approach is required to deliver economic activity that is regenerative of natural and social systems (see [32]) and prosperity-enhancing. This means, I argue, going beyond the co-production of policy to the creation of new community-led enterprises. As this analysis has demonstrated, enterprises generate benefits and so motivate people to change their behaviours. Their benefits have positive effects beyond the immediate participants, being valued by the wider community. Even if these wider benefits are very small, communities (in this study) understood that they contributed to resilience. Enterprises, in creating value, are likely to be sustained well into the future, beyond any initial public support. The interviewees in this study demonstrated high levels of commitment towards enterprise creation, volunteering time and other resources to support their development, in the expectation of future benefits for the community and individually. These benefits include (in this study) new employment and livelihood opportunities, better managed and more productive fisheries,

access to education, access to finance, access to self-help groups, community resilience and food and livelihood security, and improved community infrastructure (water supply and community-owned fishing boats and freezers). New forms of value are being created as the foundation for these enterprises: carbon credits generated from measurement and monitoring activities; new practices and infrastructure creating higher value fish products for distant markets and reducing waste; and fattening crabs to enhance weight and availability for the restaurant trade. This would appear to be an important principle for the development of SBE—the creation of new value—which is little studied to date in a blue economy context (but see [36]).

Many nature-based enterprises are extractive, so reduction in waste and improved efficiency are crucial to secure the most benefit for the least impact. In fisheries, sophisticated cold chaining infrastructures reduce waste and maximise product quality, support less impactful fishing methods, and generate more stable incomes for fishers. Efficient administration and use of data informs management decisions to maximise efficiency. In mangrove forests, new enterprises create new value. Crab fattening integrated with restaurant and eco-tourism activities in Mida Creek provides funds for mangrove conservation work and employment for ~50 people. Communities in Lamu plan to replicate this model. Carbon credits for mangrove conservation will generate new forms of value, yielding monetary revenues to finance a range of community enterprises. It is imperative that contributions to value creation are fully recognised to ensure fair and equitable allocation of benefits. Regarding community contributions and the need for additional financial support, an NGO officer comments, “What the communities are doing is environmental conservation. They are conserving the environment not only for themselves, but also for everybody.” (NGO1). Benefits of their stewardship extend to clean waters to swim in, carbon sequestered to enable polluting activity elsewhere, etc., making the case for external support (finance; expertise) to enable and facilitate community-based enterprise development. The KEMFSED and GoBlue projects might be considered as international donor contributions in recognition of the benefits to the Global North of these outcomes.

Economic transactions in this diverse economy are themselves diverse and include many non-monetary exchanges—of knowledge, of care, of time and skills, of access and use rights, etc. This is mirrored in the diversity of economic subjects, which includes policymakers and other non-market practitioners such as academics and NGOs, community members dependent upon nature-based resources for their livelihood, providers of supportive services such as carbon verification schemes, capacity building and training programmes, setting and enforcement of regulations, etc.

In the informal economy of Kenya, especially in the remote Lamu archipelago, little waged labour is in evidence. Instead, share fishing is perhaps the most common form of labour amongst men. For women, labour is more diverse. Child-care and household tasks are traditional, but increasingly, women are being empowered, through leadership training organised by NGOs, to play a wider role as economic subjects in their own right. Micro-finance schemes (currently USD 250,000 invested) enable women to trade goods; buy equipment (e.g., sewing machines for tailoring); produce honey and cosmetics; and engage in collective enterprises such as mangrove conservation, sustainable fishing (e.g., octopus), and boardwalk construction for eco-tourism and hospitality. The formation and management of community associations involves much volunteer time—unwaged labour—from the community, representing an investment in anticipated future benefits. Similarly, mangrove forest restoration, involving the hard labour of transplanting young trees into the glutinous mud, is in anticipation of future benefits (e.g., improved crab catches and eco-tourism enterprise opportunities). Each example represents a form of new skilled labour in the BE, which must be acquired somehow. Some new enterprises require new

knowledge and radical new thinking. Carbon credits are intangible abstractions of value arising from non-extractive forest management and are sometimes difficult to understand. “The local community, they are used to harvest [mangrove timber]. And that’s the only livelihood they know. So when you try to introduce the concept of carbon, blue carbon, it’s actually reluctant to agree just at first. So you have to do the community sensitization, the engagement. They have to see it as a benefit or as an alternative to harvesting.” (Government official). Co-management, which is the underlying governance framework for most of the enterprises examined here, is a reciprocal relationship involving multiple transactions between different actors in the system—government departments, NGOs, private companies, community institutions (CFAs, BMUs, etc.), communities, individuals, and nature itself. Transactions include exchanges of knowledge, time/labour, negotiation of user rights, use of incentives, gear exchanges, benefit sharing, etc. Reciprocity is recognised as a foundational principle in many indigenous cultures, many of which regard society and nature as inextricably linked through reciprocal interactions. Reviewing the literature on reciprocity in the context of nature–society relations, Teixidor-Toneu et al. [37], p. 923, encapsulate reciprocity as “asking for permission, taking only what is needed, sharing what is taken and giving thanks or giving back, be it through ritual or material practices”. In contrast to unidirectional flows of contributions, services or benefits from nature to people, indigenous cultures variously view themselves as needing to remain in alignment with spiritual forces, landscapes and ecosystems to ensure health and wellbeing and security. Their social, spiritual, and political structures evolve over aeons to reflect these relations [38,39] and lead to a co-production of landscapes and seascapes alongside a multitude of other beings [40]. Ojeda et al. [41], p. 953, calling for greater acknowledgement of reciprocity in international policy, propose that people–nature reciprocity should be recognised alongside ecosystem services to inform sustainability transformations as ‘reciprocal contributions’, these being “positive contributions and feedback loops that accrue to both—directly and indirectly—across different dimensions and levels”. Elements of reciprocity were evident in the systems studied—women’s groups raising seedlings and replanting mangrove forest without aid, in the expectation of future benefits; Kiwayu island fishers willingly paying levies on their catch to the BMU understanding that these contributions circulate in the community to the greater good; and the Kiunga gear exchange embodying reciprocity in the design of incentives for transition to new fishing practices.

The diverse economies framework, as an analytical tool, reveals a complex assemblage of actors, institutions (laws, organisations, cultural norms, etc.), technologies, knowledges, and practices underpinning the enterprises examined herein. The analysis here confirms the importance of government policy, enablers (such as NGOs and research institutes), capacity building, finance, and appropriate markets, which all work together to enable transition to more sustainable activities. It reveals a clear business model emerging for mangrove conservation involving carbon credits, eco-tourism, and small-scale food production (e.g., crab fattening, mangrove honey), which could be widely replicated in the WIO. Similarly, fisheries reform is underway in many WIO countries. A vertically integrated business model built around cold chaining high-value fish to provide better access to markets and training of artisanal fishers in post-harvest handling should be replicable throughout much of the region. These conservation practices are diffusing through the region through peer exchange and informal communication channels. This is a slow process, and more could and needs to be performed by governments, working through the Nairobi Convention or regional economic commissions, to accelerate the scaling up of these activities, creating programmes to put in place the enabling infrastructure (policy, expertise, finance, and capacities).

The diverse economies framework is a valuable tool to aid the incorporation of equity and fairness in BE policy design, complementing other approaches such as blue justice (e.g. [28]), blue degrowth (see [11]), and SDG alignment (e.g., [7]). If policy design for BE is based on a narrow economic ontology (jobs/GVA/exports), then even ‘inclusive’ processes can only negotiate within that frame. Diverse economies reframe the object of governance (the coastal economy), so alternatives become thinkable and fundable, leading to more just outcomes. That is, acknowledging multiple forms of value and livelihood (subsistence, barter, mutual aid, cooperative labour, and stewardship/care work) [42] and recognising economic difference (subsistence, reciprocity, care, informal exchange, commoning, and community provisioning) as real economic life—rather than residual, cultural, or ‘non-productive’, enabling new community practices and a re-envisioning blue economy [13]. These perspectives provide a rich body of critical analysis intersecting with the blue justice, political ecology and governance of the commons literature. The approach makes non-capitalist/more-than-capitalist practices legible (commoning, reciprocity, care, social enterprise, and informal exchange), and therefore, *governable on different terms*. This challenges the capitalocentric view from which multiple risks for an SBE have emerged (e.g., commoditisation and financialisation of nature, through carbon credit programmes, for example).

5. Conclusions

The insights presented in this paper lead us to see a sustainable blue economy as more than poorly connected sector growth and nature conservation efforts, but as a rediscovered and reinvigorated relationship of reciprocity between society and nature, one that nurtures place-based nature-based livelihoods and nature recovery, together, and which embodies a set of values and ethics shared by government, communities, and business.

From the cases themselves we see emerging enterprise models which could be replicated widely throughout the WIO Region. What are the enabling conditions that will allow these enterprises to deliver blue economy at scale whilst remaining embedded within communities? This is a question for researchers and policymakers alike, and much work remains to elucidate answers. The Western Indian Ocean provides a fertile setting to understand these dynamics through a community-level programme of co-produced needs assessment, enterprise design and development, and rigorous analysis. Core questions relate to how new value can be created in diverse contexts and settings, how enterprises may be governed (given an understanding of the multiple and heterogeneous stakeholders necessarily involved), and on what basis benefits should be shared.

As an analytical approach, the diverse economies framework, used here for the first time for BE analysis, demonstrates its ability to reveal economic difference, making non-dominant practices and values legible as the basis for a rethinking of economy and a rejection of narrow economic framings that limit options and, in doing so, perpetuate injustices and inequality. In this it complements other recent analytical framings such as blue justice and blue degrowth for SBE policy design and implementation.

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