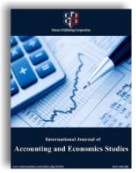
International Journal of Accounting and Economics Studies, 12 (4) (2025) 455-459

International Journal of Accounting and Economics Studies

Website: www.sciencepubco.com/index.php/IJAES
https://doi.org/10.14419/vez2gr41
Research paper



Blue Growth and Green Decisions: Financing Sustainable Fisheries Entrepreneurship

Mr. Tanna Raghu [1], Dr. Kudumula Venkata Ramana Murthy [2], Dr. Gangu Naidu Mandala[3] *

[1] Research scholar Department of Commerce and Management Studies Andhra University
[2] Associate Professor Department of Commerce and Management Studies Andhra University
[3] Department of Business Management Central Tribal University of Andhra Pradesh Vizianagaram
**Corresponding author E-mail: dr.gnmandala@gmail.com*

Received: July 11, 2025, Accepted: August 14, 2025, Published: August 16, 2025

Abstract

The article analyzes the fisheries entrepreneurship in Andhra Pradesh in terms of its investment planning and decision-making in the context of Sustainable Blue Economy finance. A structured questionnaire was administered to 120 entrepreneurs at small, mid- and large-scale business in the Visakhapatnam Port region, evaluating ten dimensions, such as environmental priority, knowledge of innovative finance instruments, and confidence in risk-management, on a five-point Likert scale. ANOVA with one way revealed that large-scale operators had significantly higher means on the prioritisation of the environment ($F(2,117)=50.016$, $p<0.001$), knowledge of Blue Economy finance tools ($F(2,117)=70.241$, $p<0.001$), and confidence in risk-management ($F(2,117)=5.387$, $p=0.0058$), whereas no size-related differences were observed in terms of access to capital, integration of valuation The results obtained point to serious gaps in knowledge and capability of smaller businesses and to the necessity of special capacity-building, simplified reporting systems and special concessional funding to make sustainable investment habits democratized in all sizes of fisheries entrepreneurship.

Keywords: *Blue Economy Finance; Fisheries Entrepreneurs; Investment Decision-Making*

1. Introduction

The Blue Economy has become a revolutionary idea that utilizes the sustainable exploitation of sea resources to develop the economy, increase the quality of life, and conserve the sea ecosystems. The case of the Bahamas, as highlighted by Bethel et al., portrays the potential and constraints of the Blue Activities development, at the same time indicating the importance of having a well-developed financing instrument to promote fisheries and aquaculture projects and ensure the integrity of the environment (Bethel, B.J.; Buravleva, Y.; Tang, D.). The United Nations has similarly denoted that oceans are regarded as "the next great economic frontier," wherein integrated solutions are required to strike a balance between economic growth and the imperative of conservation and climate resilience (UN. United Nations 2023). At that, sustainable Blue Economy finance will play a central role, as it provides instruments, such as concessional loans, public-private partnerships, which can be used to de-risk investments, internalize environmental externalities, and leverage private capital flows to marine-based businesses.

Fisheries entrepreneurs cut across a sensitive ecosystem and market demands. FAO fishstatj data on global production shows a consistent growing trend in marine capture and aquaculture production since 1950, but also a high degree of variability due to depletion of resources, climate variability and market variability (FAO. FishStatJ 2022). Country profiles, including that of Grenada at the national level, note the dependence of small-scale fishers on a limited range of financial services, the lack of appropriate insurance products, and the limited access to credit, which all limit investment in modern equipment and cold-chain infrastructure and value-added processing (FAO 2019). In addition to that, the valuation of ecosystem services in the Caribbean and specifically in Martinique highlight the tremendous socio-economic value of the healthy coastal habitats that are often not capitalized adequately in the traditional business framework (Failler, P.; Pètre, É.; Binet, T.; Maréchal, J.-P 2015).

The funding of the shift toward sustainable fisheries and aquaculture requires new innovative instruments considering the total value of natural capital. March et al. have determined the following crucial financing necessities in Barbados, Grenada, and St. Vincent and the Grenadines: working-capital financing of smallholders, blended finance frameworks, and technical help facilities to improve bankability of the projects (March, A.; Failler, P 2023. These results can be echoed by larger developments in the global ocean financing, where blended concessional and commercial finance instruments have been used to fill the so-called funding gap to sustainable ocean enterprises. The main lessons learned are the significance of stakeholder levies, e.g., blue levies on tourism income, designed environmental taxes, and compensation schemes returning revenues to ecosystem restoration and local community development (United Nations—Blue Economy,2023, Whiteside, H, 2022, Vidal-Hernández, L 2021).

Fisheries entrepreneur investment planning and decision-making therefore must take a multi-faceted approach. Among the risk profiles that entrepreneurs will have to navigate are the variability of resource stocks, regulatory uncertainty and ecosystem service trade-offs.

Participatory valuation, resilience assessments, and decision-support platforms are tools that can help steer the investment of limited capital in high-impact interventions. Entrepreneurs could take informed decisions to maximize returns and environmental co-benefits by including estimates of ecosystem service valuations in their financial analysis, as shown by Failler et al (Failler, P.; Pètre, É.; Binet, T.; Maréchal, J.-P 2015). Moreover, there should be collaborative governance and capacity-building programs to enhance the capacity of entrepreneurs in terms of making bankable proposals and dealing with impact investors as well as utilizing efficiently public subsidies.

This article aims to bring these strands together through investigating the way fisheries entrepreneurs in the Caribbean design and fund viable Blue Economy projects. Based on new empirical evidence provided by Bethel et al. (Bethel, B.J.; Buravleva, Y.; Tang, D. 2021), (FAO statistics 2022, 2023), and regional studies made by March et al. (4), the study will determine the decision criteria, financial instruments, and institutional frameworks that enable robust investment pathways. By so doing, it will seek to make policy recommendations towards achieving better access to customized financial tools, ecosystem-based management and eventually a Blue Economy that is both economically feasible and environmentally friendly.

Based upon the background information provided earlier, it is now necessary to provide more insight into the range of innovative financing mechanisms that have been developed to help sustain fisheries and aquaculture as part of the Blue Economy. Debt instruments Specific sovereign blue bonds, where the proceeds are dedicated to marine conservation and sustainable fisheries, have been developed in Seychelles and recently in Barbados, showing how public debt can be turned into conservation financing to support marine protected areas and stock replenishment schemes (World Bank 2022, Winters, R., 2022). In addition to this, debt-for-nature swaps have been promoted in Small Island Developing States, where high debt countries repurpose debt payments to ecosystem restoration and community-based fisheries management (Fuller, F 2018, Bigger, P 2021). Another approach that can be used to provide economic incentives to complement environmental stewardship is Payments for Ecosystem Services (PES) schemes, whereby the beneficiaries of healthy reefs and mangroves (e.g., tourism operators or insurers), pay the resource users or local communities, to undertake conservation actions (Trends, F 2010, Salzman, J 2018). Less developed in marine environments, but with an increasing number of pilots, are biodiversity offsetting and mitigation banking, which have the potential to become cost-effective ways of restoring habitat when well regulated (BBOP 2023, Ten Kate, K 2023).

However, even with these promising instruments, fisheries entrepreneurs typically have difficulties in gaining access to them: excessive credit-worthiness requirements, absence of standardized project appraisal techniques, insufficient institutional capability to package blended-finance transactions. In this case, the importance of technical assistance facilities, which provide grant-funded feasibility studies, legal assistance in contract design and training in environmental valuation, is hard to overestimate. As an example, the concept of an "Ocean Finance Facility" advanced by the World Bank would create a multi-stakeholder platform on which public grant funding would de-risk first-loss positions with impact investors to mobilize larger amounts of commercial capital (Patil, P.G 2023, Sumaila, U.R 2021). Similarly, cooperation at the regional level under organizations like the Organisation of Eastern Caribbean States can equalise regulatory standards, credit guarantees and establish larger investment funds that enjoy economies of scale that the individual island markets cannot (Bishop, M 2021).

Considering the decision-making aspect, the incorporation of ecosystem service values into classical financial models changes the arithmetic of the project viability. With spatially explicit valuation data, entrepreneurs can bring more benefit parios to the financiers, such as the shoreline protection benefit of mangroves against storm surges, to justify premium interest rates or longer tenors (Howard, J. 2014 , Wilson, R 2023). Bioeconomic modeling and scenario analysis Stocks Decision-support tools that integrate bioeconomic modeling with scenario analysis can be used to project stock recovery trajectories under alternative financing and management regimes to inform decisions related to gear investment, harvest quotas, and market diversification. Most importantly, participatory governance systems guarantee that financing arrangements consider local ecological understanding and social fairness concerns, which lessen the chances of implementation and strengthen community acceptance (Cisneros-Montemayor, A.M 2021).

In conclusion, sustainable finance to be successfully adopted by fisheries entrepreneurs requires an enabling environment that (a) makes a wide range of blue financing instruments available, (b) integrates ecosystem service valuations into bankable business plans, (c) uses technical assistance to structure blend finance transactions, and (d) creates regional cooperation to achieve scale impacts. The research will look at the intersection of these factors in practical, real-world decision making, using empirical examples (cases) in the Caribbean and elsewhere to help identify best practices and policy pathways to a truly sustainable and inclusive Blue Economy.

2. Statement of the problem

The Andhra Pradesh fisheries entrepreneurs are engaged in a progressively weak coastland environment wherein diminishing fish stock, habitat destruction, and climate-related risks are jeopardizing their long term sustainability. Although there is increasingly more interest in the role that Blue Economy can play to reconcile economic development with marine protection, small and mid-scale operators do not have the financial products, as well as the technical ability to incorporate sustainability in their investment criteria. Mainstream credit programs scarcely compensate stewardship of ecosystems, and cutting edge tools, including blue bonds, payments for ecosystem services, and debt-for-nature swaps, are little known or unavailable. Meanwhile, the lack of equal access to real time information on the health of stocks, market prices and weather risks, causes a lack of confidence among the entrepreneurs when planning new ventures or upgrading their infrastructure. This twofold gap between the existence of sustainable finance tools and the knowledge and capacity of entrepreneurs to utilize them has become an existential obstacle to the expansion of resilient and ecosystem-friendly aquaculture and fishing businesses in the area. To solve this issue, it would be necessary to conduct a systematic inquiry into how fisheries entrepreneurs presently make environmental trade-offs, how they perceive financing opportunities, and how they approach risk management so that specific interventions could be designed to democratize access to sustainable Blue Economy finance.

3. Research Gap

Although macro-level studies on Blue Economy financing are plentiful, there is limited micro-level data on how precisely small, mid-, and large-scale fisheries entrepreneurship in Andhra Pradesh perceive and in fact deploy innovative instruments (e.g., blue bonds, PES) and risk-management instruments when making investment choices. This gap incuelrates the design of specific interventions to accelerate the sustainable finance adoption at various sizes of enterprises.

4. Objective

- To analyse the effect of enterprise size on sustainable investment planning practices, i.e. environmental prioritisation, knowledge of Blue Economy finance instruments and confidence in risk management among fisheries entrepreneurs - in the state of Andhra Pradesh.

5. Hypothesis

- H 0: The mean scores of the environmental prioritization, knowledge of Blue Economy financing instruments, and risk-management confidence are the same between small-, mid-, and large-scale fisheries entrepreneurs.

6. Research Methodology

6.1 Study Area:

The research site was the fisheries entrepreneurs working on the Visakhapatnam Port on the east coast of India. The site has a wide variety of small-, mid-, and large-scale fishing and aquaculture businesses, which offer a microcosm of Blue Economy stakeholders across the state. The potential respondents were boat owners, fish -farm managers, cooperative leaders and other allied service providers who are actively involved in making investment and financing decisions regarding their business.

6.2 Sample Size:

120 entrepreneurs were surveyed. The population was stratified based on the initial stakeholder mapping (three strata according to the size of the enterprise: small, mid, and large scale) and 40 respondents were selected within each stratum. Each stratum of enterprises,

6.3 Sampling Technique:

purposive sampling was utilized whereby it was important to include important subgroups (e.g., traditional fishers, cooperative members, aquaculture operators). This strategy represented a compromise between representativeness (in terms of size, business model) and the realities of field work provided a rigorous but tractable sample on which to run statistics.

7. Data Analysis

Table 1: Environment and Sustainable Blue Economy Finance- Investment Planning and Decision-Making among Fisheries Entrepreneurs

Statement	F-Value	p-Value	Significant (p < 0.05)
Environmental Prioritization: Marine ecosystem conservation is one of my priority considerations whenever making new investment plans in my business.	50.016	0.0000	Yes
Knowledge of Blue Finance Instruments: I am very aware of innovative financing instruments, namely, blue bonds, debt-for-nature swaps, and PES schemes.	70.241	0.0000	Yes
Access to Capital: My business can get sufficient access to loans or equity financing which is specifically designed to sustainable Blue Economy operations.	0.807	0.4488	No
Valuation Integration: I do use valuations of ecosystem-services (e.g., the protection benefit of mangroves, tourism value of reefs) in my financial estimates.	0.089	0.9145	No
Risk Management: I am comfortable with ecological and market risk (stock fluctuations, climatic effects) in making investment decisions.	5.387	0.0058	Yes
Technical Assistance Support: Technical assistance (feasibility studies, grant-funded consultancy) is easily accessible to package bankable proposals.	1.162	0.3167	No
Stakeholder Levies & Taxes: In my opinion, the restoration of ecosystems can be financed by so-called blue levies or environmental taxes on tourism and coast industries.	1.021	0.3632	No
Public-Private Partnership: The partnerships among the government, non-governmental organizations and the private investors have enhanced my access to sustainable finance solutions.	0.772	0.4629	No
Regional Cooperation: The regional organizations (e.g., OECS, CARICOM) can be very useful in either harmonizing regulations or collecting financial resources to be used by entrepreneurs.	0.945	0.3922	No
Readiness to Innovate: I am readily willing to implement new financial frameworks (blended finance, impact investing) provided they need supplementary environmental disclosures.	0.598	0.5505	No

Source: Primary Data

The ANOVA findings indicate that the size of the enterprise is one of the decisive factors of priorities given by fisheries entrepreneurs to environmental concerns and the use of special financial instruments. The large-scale operators also had a much higher score on the variable "Environmental Prioritization" ($F(2,117)=50.016$, $p<0.001$) and "Knowledge of Blue Finance Instruments" ($F(2,117)=70.241$, $p<0.001$), meaning that they are not only more geared towards ecosystem preservation but also more versed in innovative funding instruments such as blue bonds and PES schemes. Conversely, small-scale fishers, many of whom have had little experience of formal training or industry connections, show significantly lower awareness and prioritise less discussed conservation when considering investments. More so, the confidence in "Risk Management" was also different across the group ($F(2,117)=5.387$, $p=0.0058$), indicating that the operations with a larger size have a greater access to the data and advisory services, which subsequently enables them to manage both the ecological and market uncertainties.

In contrast, the other seven statements did not significantly vary among the groups, indicating sector-wide challenges that are quite common. The access to customized capital, incorporation of ecosystem-service valuations into business plans, and the readiness to take up new and report-heavy financial models were similarly limiting to all entrepreneurs, irrespective of scale ($p=0.4488$, $p=0.9145$, $p=0.5505$, respectively). This equality highlights a wider gap in financing: technical assistance, stakeholder levies, public-private partnership and regional cooperation are all viewed equally, but insufficiently, board-wise. Policy interventions to remove these systemic obstacles (e.g., subsidized

financing, standardized valuation toolkits, simplified reporting) and capacity-building programs at scale could bring up the minimum level of preparation of all fisheries entrepreneurs, making investment planning in Andhra Pradesh a more inclusive and sustainable practice across the Blue Economy.

8. Findings

In Andhra Pradesh, big-scale fisheries entrepreneurs show much more prioritization of the environment and knowledge of Blue Economy financing instruments as well as confidence in risk management than their small- and mid-scale counterparts (Environmental Prioritization: $F(2,117)=50.016$, $p<0.001$; Awareness of Blue Finance Instruments: $F(2,117)=70.241$, $p<0.001$; Risk Management: $F(2,117)=5.387$

9. Conclusion

Conclusively, this paper has shown that the size of enterprises determines the orientation of fisheries entrepreneurs toward sustainable Blue Economy financing in Andhra Pradesh. Their big counterparts are much more prioritized to the environment and know creative financing mechanisms, i.e., blue bonds and PES schemes, and feel much safer in dealing with ecological and market risk management. Such magnitudes of differences based on size highlight the superiority that more resourced enterprises have in gaining access to information, advisory services, and networks that strengthen ecosystem-friendly investment planning.

In contrast, the absence of meaningful differences among groups in access to capital, valuation integration, technical assistance, stakeholder levies, public - private collaboration, regional cooperation, and willingness to innovate indicate the presence of sector -wide issues. In order to bridge them, policymakers and development agencies must focus on capacity-building initiatives tailored to the small- and mid-scale fishers, namely the ecosystem valuation tools, risk management training, and the presentation to the Blue Economy financing instruments, in addition to simplifying the reporting regimes and increasing the concessional financing instruments. Through enterprise-specific assistance and systemic changes, stakeholders can help create a more inclusive and resilient Blue Economy that supports all levels of fisheries entrepreneurship.

References

[1] Bethel, B.J.; Buravleva, Y.; Tang, D. Blue Economy and Blue Activities: Opportunities, Challenges, and Recommendations for The Bahamas. Water 2021, 13, 1399.

[2] FAO. FishStatJ—Global Production by Production Source 1950–2019; FAO: Rome, Italy, 2022; Available online: https://www.fao.org/fishery/en/statistics/software/fishstatj (accessed on 4 April 2023).

[3] FAO. Fishery Country Profile; Grenada; FAO: Rome, Italy, 2019; Updated December 2019; Available online: https://www.fao.org/fishery/en/facp/grd (accessed on 23 April 2023).

[4] March, A.; Failler, P.; Bennett, M. Caribbean Fishery and Aquaculture Financing Needs in the Blue Economy: Identifying Opportunities and Constraints in Barbados, Grenada, and St. Vincent and the Grenadines. J. Sustain. Res. 2023, 5, e230004.

[5] UN. United Nations—Blue Economy: Oceans as the Next Great Economic Frontier. 2023. Available online: https://unric.org/en/blue-economy-oceans-as-the-next-great-economic-frontier/ (accessed on 3 March 2023).

[6] Failler, P.; Pètre, É.; Binet, T.; Maréchal, J.-P. Valuation of marine and coastal ecosystem services as a tool for conservation: The case of Martinique in the Caribbean. Ecosyst. Serv. 2015, 11, 67–75.

[7] Jackson, J.; Donovan, M.; Cramer, K.; Lam, V. Status and Trends of Caribbean Coral Reefs: 1970–2012. IUCN. 2014. Available online: https://portals.iucn.org/library/efiles/documents/2014-019.pdf (accessed on 20 March 2023).

[8] Patil, P.G.; Virdin, J.; Diez, S.M.; Roberts, J.; Singh, A. Toward A Blue Economy: A Promise for Sustainable Growth in the Caribbean; An Overview. World Bank Group. 2016. Available online: https://www.cbd.int/financial/doc/wb-blueeconomy.pdf (accessed on 20 March 2023).

[9] Wilson, R. Impacts of Climate Change on Mangrove Ecosystems in the Coastal and Marine Environments of Caribbean Small Island Developing States (SIDS). 2017. Available online: https://www.seatoneconsulting.com/wp-content/uploads/2017/04/Impacts-of-Climate-Change-on-Mangrove-Ecosystems-in-the-Coastal-and-Marine-Environments-of-Caribbean-Small-Island-Developing-States.pdf (accessed on 21 March 2023).

[10] OECD Data Explorer. Official Flows by Country and Region. From OECD.Stat. 2024. Available online: https://data-explorer.oecd.org/vis?df(ds)=DisseminateFinalDMZ&df(id)=DSD_DAC2%40DF_DAC2A&df(ag)=OECD.DCD.FSD&df(vs)=1.1&dq=.DPGC.206.USD.Q&lom=LASTNPERIODS&lo=5&to(TIME_PERIOD)=false (accessed on 6 February 2024).

[11] Lewis, F.; Saliman, A.; Peterson, E. Funding Trends 2023: Tracking the State of Global Ocean Funding. Our Shared Seas. 2023. Available online: https://oursharedseas.com/funding/ (accessed on 15 May 2023).

[12] Failler, P.; Andriamahefazafy, M. Madagascar Blue Economy Strategy for Fisheries and Aquaculture; Government of Madagascar: Antananarivo, Madagascar, 2022.

[13] Failler, P. Seychelles Blue Economy Action Plan; Department of the Blue Economy, Republic of Seychelles and United Nations Economic Commission for Africa: Addis Ababa, Ethiopia, 2020; 20p.

[14] AU-IBAR. Africa Blue Economy Strategy—Blue Governance Framework; African Union: Addis Ababa, Ethiopia, 2020.

[15] Ram, J.; Kaidou-Jeffrey, D. Financing the Blue Economy in the Wider Caribbean. In The Caribbean Blue Economy; Routledge: Abingdon, UK, 2020; pp. 210–225.

[16] Clegg, P.; Mahon, R.; McConney, P.; Oxenford, H.A. (Eds.) The Caribbean Blue Economy; Routledge: Abingdon, UK, 2020.

[17] Whiteside, H. Beyond death and taxes: Fiscal studies and the fiscal state. Environ. Plan. A Econ. Space 2021, 55, 1744–1761.

[18] Vidal-Hernández, L.; de Yta-Castillo, D.; Castellanos-Basto, B.; Suárez-Castro, M.; Rivera-Arriaga, E. Fiscal Economic Instruments for the Sustainable Management of Natural Resources in Coastal Marine Areas of the Yucatan Peninsula. Sustainability 2021, 13, 11103.

[19] Cepal, N. Revenue Statistics in Latin America and the Caribbean 1990-2019/Estadísticas Tributarias en América Latina y el Caribe 1990–2019. 2021. Available online: https://www.cepal.org/es/publicaciones/46811-revenue-statistics-latin-america-and-caribbean-1990-2019-estadisticas (accessed on 16 February 2024).

[20] Attzs, M.; Maharaj, M.; Boodhan, G. Survey and Assessment of Environmental Taxes in the Caribbean; Inter-American Development Bank: Washington, DC, USA, 2014.

[21] Ballesteros, L.V.; Matthews, J.L.; Hoeksema, B.W. Pollution and coral damage caused by derelict fishing gear on coral reefs around Koh Tao, Gulf of Thailand. Mar. Pollut. Bull. 2018, 135, 1107–1116.

[22] Unsbo, H.; Boltenstern, M.; Granberg, M.; Olshammar, M.; Karlsson, M. Quantification and Environmental Pollution Aspects of Lost Fishing Gear in the Nordic Countries; Nordic Council of Ministers: Copenhagen, Denmark, 2022.

[23] Nelms, S.E.; Duncan, E.M.; Patel, S.; Badola, R.; Bhola, S.; Chakma, S.; Chowdhury, G.W.; Godley, B.J.; Haque, A.B.; Johnson, J.A.; et al. Riverine plastic pollution from fisheries: Insights from the Ganges River system. Sci. Total. Environ. 2020, 756, 143305.

[24] Thompson, N. Thompson, William (1775–1833), Socialist and Economist; Oxford Dictionary of National Biography (Online ed.); Oxford University Press: Oxford, UK, 2004.
[25] Ostrom, E. Governing the Commons—The Evolution of Institutions for Collective Action; Cambridge University Press: Cambridge, UK, 2015; ISBN 9781107569782. Available online: https://www.cambridge.org/us/universitypress/subjects/politics-international-relations/political-theory/governing-commons-evolution-institutions-collective-action-1?format=PB&isbn=9781107569782 (accessed on 15 May 2023).
[26] Wunder, S. Payments for Environmental Services: Some Nuts and Bolts; CIFOR Occasional Paper No. 42; CIFOR: Bogor, Indonesia, 2005; Available online: https://montagneinrete.it/wp-content/uploads/2024/03/op-42-wunder-on-payments_1495540914-1.pdf (accessed on 23 April 2023).
[27] Salzman, J.; Bennett, G.; Carroll, N.; Goldstein, A.; Jenkins, M. The global status and trends of Payments for Ecosystem Services. Nat. Sustain. 2018, 1, 136–144.
[28] Trends, F. Payments for Ecosystem Services: Getting Started in Marine and Coastal Ecosystems. A Primer. 2010, pp. 4–5, Electronic Source. Available online: https://www.forest-trends.org/wp-content/uploads/imported/marine-coastal-pes-getting-started_2010-pdf.pdf (accessed on 15 May 2023).
[29] Newell, R.; Sanchirico, J.; Kerr, S. An Empirical Analysis of New Zealand's ITQ Markets. In Proceedings of the IIFET 2002 Conference, Wellington, New Zealand, 19–22 August 2003.
[30] Robertson, M.M. The neoliberalization of ecosystem services: Wetland mitigation banking and problems in environmental governance. Geoforum 2004, 35, 361–373.
[31] BBOP. The Mitigation Hierarchy—Business and Biodiversity Offsets Programme. 2023. Available online: https://www.forest-trends.org/bbop/bbop-key-concepts/mitigation-hierarchy/ (accessed on 11 April 2023).
[32] Ten Kate, K.; Bishop, J.; Bayon, R. Biodiversity Offsets: Views, Experience, and the Business Case; IUCN & Insight Investment: Gland, Switzelrand, 2004; Online Report; Available online: https://www.iucn.org/sites/default/files/import/downloads/bdoffsets.pdf (accessed on 20 May 2023).
[33] Dempsey, J. Enterprising Nature: Economics, Markets, and Finance in Global Biodiversity Politics; John Wiley & Sons: Hoboken, NJ, USA, 2016.
[34] Ripple, W.J.; Estes, J.A.; Schmitz, O.J.; Constant, V.; Kaylor, M.J.; Lenz, A.; Motley, J.L.; Self, K.E.; Taylor, D.S.; Wolf, C. What is a trophic cascade? Trends Ecol. Evol. 2016, 31, 842–849.
[35] Blair, J.M.; Collins, S.L.; Knapp, A.K. Ecosystems as functional units in nature. Nat. Resour. Env't. 1999, 14, 150.
[36] Jax, K. Ecological Units: Definitions and Application. Q. Rev. Biol. 2006, 81, 237–258.
[37] Niner, H.J.; Randalls, S. Good enough for governance? Audit and marine biodiversity offsetting in Australia. Geoforum 2021, 120, 38–45.
[38] Resilient Islands. Valuing the Benefits of Mangroves and Coral Reefs in the Caribbean. Coastal Resilience. 2024. Available online: https://media.coastalresilience.org/Resilient_Islands/BenefitsOfMangrovesAndCorals_TechReport.pdf (accessed on 16 April 2024).
[39] UNEP-WCMC. WorldFish Centre, WRI, TNC. Global Distribution of Warm-Water Coral Reefs. 2024. Available online: https://doi.org/10.34892/t2wk-5t34 (accessed on 12 February 2024).
[40] UNEP-WCMC. Short FT. Global Distribution of Seagrasses (Version 7.1). 2024. Available online: https://doi.org/10.34892/x6r3-d211 (accessed on 12 February 2024).
[41] Chami, R.; Cosimano, T.F.; Fullenkamp, C.; Oztosun, S. Nature's Solution to Climate Change: A strategy to protect whales can limit greenhouse gases and global warming. Financ. Dev. 2019, 56. Available online: https://www.actu-environnement.com/media/pdf/news-34050-article-finances-developpement.pdf (accessed on 17 April 2023).
[42] Howard, J.; Hoyt, S.; Isensee, K.; Telszewski, M.; Pidgeon, E. Coastal Blue Carbon: Methods for Assessing Carbon Stocks and Emissions Factors in Mangroves, Tidal Salt Marshes, and Seagrasses; IUCN: Gland, Switzerland, 2014.
[43] Bumpus, A.G. The Matter of Carbon: Understanding the Materiality of tCO2e in Carbon Offsets. Antipode 2011, 43, 612–638.
[44] Trading Economics. EU Carbon Permits—Trading Economics. 2023. Available online: https://tradingeconomics.com/commodity/carbon (accessed on 12 April 2023).
[45] Vandana, S. Voluntary Carbon Market—S&P Global; Agnihotri, A., Ed.; S&P Global: New York, NY, USA, 2022; Available online: https://www.spglobal.com/commodity-insights/en/market-insights/latest-news/energy-transition/010622-voluntary-carbon-market-rally-set-to-stretch-into-2022-on-demand-optimism (accessed on 13 February 2023).
[46] Fleischman, F.; Basant, S.; Fischer, H.; Gupta, D.; Lopez, G.G.; Kashwan, P.; Powers, J.S.; Ramprasad, V.; Rana, P.; Rastogi, A.; et al. How politics shapes the outcomes of forest carbon finance. Curr. Opin. Environ. Sustain. 2021, 51, 7–14.
[47] IEG. Intrinsic Exchange Group. 2023. Available online: https://www.intrinsicexchange.com/home-1 (accessed on 12 February 2023).
[48] OECD. Lessons Learnt from Experience with Debt-for-Environment Swaps in Economies in Transition; OECD: Paris, France, 2007; p. 39.
[49] The Commonwealth. Case Study: Innovative Financing—Debt for Conservation Swap, Seychelles' Conservation and Climate Adaptation Trust and the Blue Bonds Plan, Seychelles (On-Going). 2020. Available online: https://thecommonwealth.org/case-study/case-study-innovative-financing-debt-conservation-swap-seychelles-conservation-and (accessed on 14 September 2022).
[50] Fuller, F.; Zamarioli, L.; Kretschmer, B.; Thomas, A.; De Marez, L. Debt for climate swaps: Caribbean outlook. In Impact: Science Based Implementation of 1.5 C Compatible Action for LDCs and SIDS; Climate Analytics: Berlin, Germany, 2018; pp. 1–18. Available online: https://ca1-clm.edcdn.com/assets/debt_for_climate_swap_impact_briefing.pdf (accessed on 27 September 2022).
[51] Bigger, P.; Christiansen, J.; Dempsey, J.; DiSilvestro, D.; Irvine-Broque, A.; Nelson, S.; Rojas-Marchini, F.; Schuldt, A.; Shapiro-Garza, E. Beyond the Gap: Placing Biodiversity Finance in the Global Economy; Third World Network: Penang, Malaysia, 2021.
[52] Victurine, R.; Meyers, D.; Bohorquez, J.; Box, S.; Blythe, J.; Callow, M.; Jupiter, S.; Schweigart, K.; Walsh, M.; Bieri, T. Conservation Finance for Coral Reefs. Vibrant Oceans Initiative Whitepaper; Wildlife Conservation Society: New York, NY, USA, 2022; p. 10. Available online: https://doi.org/10.19121/2022.Report.43864 (accessed on 18 September 2022).
[53] McGowan, J.; Weary, R.; Carriere, L.; Game, E.T.; Smith, J.L.; Garvey, M.; Possingham, H.P. Prioritizing debt conversion opportunities for marine conservation. Conserv. Biol. 2020, 34, 1065–1075.
[54] Munevar, D. Making Sense of Belize's Blue Bond Proposal. EURODAD: European Network of Debt and Development. 2021. Available online: https://www.eurodad.org/making_sense_of_belizes_blue_bond_proposal (accessed on 20 February 2022).
[55] Perry, K.K. From the plantation to the deep blue sea: Naturalising debt, ordinary disasters, and postplantation ecologies in the Caribbean. Geogr. J. 2022, 189, 562–574.
[56] World Bank. Sovereign Blue Bond Issuance: Frequently Asked Questions. 2018. Available online: https://www.worldbank.org/en/news/feature/2018/10/29/sovereign-blue-bond-issuance-frequently-asked-questions (accessed on 27 August 2022).
[57] Winters, R. The Nature Conservancy Announces Its Third Global Debt Conversion in Barbados. Nature Conservancy. 2022. Available online: https://www.nature.org/en-us/newsroom/tnc-announces-barbados-blue-bonds-debt-conversion/#:~:text=The%20Blue%20Bonds%20strategy%20combines,of%20their%20communities%20and%20economies (accessed on 26 September 2022).
[58] Sumaila, U.R.; Walsh, M.; Hoareau, K.; Cox, A.; Teh, L.; Abdallah, P.; Akpalu, W.; Anna, Z.; Benzaken, D.; Crona, B.; et al. Financing a sustainable ocean economy. Nat. Commun. 2021, 12, 3259.
[59] Mehta, A.; Tirumala, R.D.; Andrich, M.L. Financing the Ocean Back to Health in Southeast Asia: Approaches for Mainstreaming Blue Finance; Asian Development Bank: Metro Manila, Philippines, 2021. (Google Scholar)
[60] Christiansen, J. Securing the sea: Ecosystem-based adaptation and the biopolitics of insuring nature's rents. J. Political Ecol. 2021, 28, 337–357.
[61] Cisneros-Montemayor, A.M.; Moreno-Báez, M.; Reygondeau, G.; Cheung, W.W.L.; Crosman, K.M.; González-Espinosa, P.C.; Lam, V.W.Y.; Oyinlola, M.A.; Singh, G.G.; Swartz, W.; et al. Enabling conditions for an equitable and sustainable blue economy. Nature 2021, 591, 396–401.
[62] Quak, E. How Losing Concessional Finance Affects Small Island Developing States (SIDS); K4D Helpdesk Report No 626; Institute of Development Studies: Brighton, UK, 2019.
[63] Bishop, M.; Argudin Violante, C.; Bouhia, R.; Carter, G.; Corbett, J.; Lindsay, C.; Scobie, M.; Wilkinson, E. Just Transitions in Small Island Developing States (SIDS); Electronic Source; British Academy: London, UK, 2021.