Research Notes…

Blue Economy and Blue Bonds: An overview of the concepts and the pioneering case of Seychelles

Stuart Laing

Introduction

The ocean is the driving force behind the planet's climate. Covering 72% of the earth's surface, it is the metaphorical heart of the planet. It produces half of the world's oxygen and absorbs almost one third (30%) of carbon dioxide (CO_2) emissions (Hudson, 2018), whilst regulating the global climate (UNEP Finance Initiative, 2019). The ocean is the artery of international trade with 90% of the world's goods being transported by sea (Hudson, 2018) and the goods and services it provides being valued in excess of USD2.5 trillion per year (UNEP Finance Initiative, 2019). Additionally, oceans are the primary source of protein for about 3 billion people with marine fisheries alone directly or indirectly employing more than 200 million people (United Nations, 2019).

There are innumerable ways the ocean benefits humans; however many of the goods and services it provides are taken for granted with humans either polluting, over exploiting, or changing the very seas that provide them with so much.

The concept of the Blue Economy

The Blue Economy is a comparatively new concept, despite humans having used the ocean for economic gain for hundreds of years. It is a broad term with its roots in the 'green economy' of the late 20th century (UNEP et al., 2012). Several pioneers brought unique perspectives to the term, such as Pauli's (2010) belief of a 'zero waste' circular system, where humans should mimic the ocean's ecosystem by producing no waste or, when waste is produced, re-using it (Pauli, 2019). The Blue Economy concept reached its adoptive tipping point shortly after the 2012 United Nations Conference on Sustainable Development Rio+20. Whilst the term itself is devoid of a standard definition across sectors, countries and institutions, several themes, such as sustainability, equity and inter-generational benefit, are common among most (FAO, 2018; Keen et al., 2018; United Nations, 2012; World Bank and UN DESA, 2017). The World Bank's definition is used as a model example and is quoted below:

> *The 'Blue Economy' concept seeks to promote economic growth, social inclusion, and preservation or improvement of livelihoods while at the same time ensuring environmental sustainability*.
>
> (World Bank and UN DESA, 2017)

The Blue Economy, which spans several of the SDG goals, specifically SDG14 (Life Below Water) (Hudson, 2018; Wenhai et al., 2019), encompasses a broad range of sectors, industries and stakeholders across the public and private sector, all competing for the use of the same ecosystem (Burgess, Clemence, McDermott, Costello, and Gaines, 2018; World Bank and UN DESA, 2017). To achieve sustainable and equitable use, inter- and multi-disciplinary research and approaches are required for a successful Blue Economy (Wenhai et al., 2019). Seeing as the ocean is a global entity, this often requires cooperation and collaboration across nation states (World Bank and UN DESA, 2017).

As can be expected from a new concept, the Blue Economy has been the foundation of additional linked concepts, one being 'blue growth'. Blue growth is seen as a means of adding to a country's GDP and economic wellbeing, using Blue Economy as the policy tool (Wenhai et al., 2019). Whether or not this is widely adopted, the Blue Economy is broadly considered to encompass the following sectors:

- Fisheries and Aquaculture
- Coastal and Maritime Tourism
- Marine Biotechnology and Bioprospecting
- Extractive Industries of Non-Living Resources (e.g. oil and gas, minerals)
- Desalination
- Renewable Marine Energy
- Maritime Transport, Ports and Related Services, Shipping, and Shipbuilding
- Waste Disposal Management
- Biodiversity and Conservation Management

(Sources: European Commission, 2019; Senaratne and Zimbroff, 2019; World Bank and UN DESA, 2017)

It is recognised that the Blue Economy is relevant to many developing nations (FAO, 2018; United Nations, 2012; World Bank and UN DESA, 2017). To this end, it is critical that equity be the core of Blue Economy prospects, particularly in the optimizing of benefits received from: the development of marine environs; the promotion of national equity – i.e. gender equality, inclusive growth, and jobs for all; and ensuring that offshore areas, including seabed development, be approached with caution and equitability (United Nations, 2012).

Before focusing on specific tools utilized in a Blue Economy framework, it is necessary to understand that the health of the ocean ecosystem is of paramount importance for all to benefit from the concept. According to Hudson (2018), the Blue Economy has two primary elements: protection/restoration of the marine and coastal environment; and new or improved economic activities of the same. Without ocean health being met, objectives for long term and sustainable tourism and fisheries, among other sectors, will not be possible, defeating the very purpose of the Blue Economy.

Tools for a Blue Economy

Tools used to fulfil Blue Economy objectives are broad, covering the wide range of sectors mentioned above. They often involve large, international Non-Governmental Organisations (NGOs) such as The Nature Conservancy, or smaller local ones; inter-governmental agencies such as the World Bank, Global Environmental Facility (GEF), the United Nations (UN), or Indian Ocean Tuna Commission (IOTC); and private sector investors. Of utmost importance, however, is government buy-in through policy directives; this initiates the commitment to the concept by all stakeholders which is necessary for success.

The list below includes tools that can be used to achieve the goals of a Blue Economy. They should be implemented or developed in conjunction with the paradigms of equity, sustainability and longevity.

- Blue financing, including debt for nature swaps (DNS) and blue bonds
- Blue carbon initiatives
- Energy investments
- Environmental accounting
- Marine spatial planning (MSP)
- Cost Benefit Analyses
- Ecosystems approaches
- Government policies, including tax incentives

Blue financing is a tool that has gathered the most support thus far. The development of blue bonds has been instrumental in enabling countries to transition towards a Blue Economy. Consequently, blue bonds will be the focus of this paper. Initially, bonds will be introduced and discussed to aid in understanding the underlying concept. Blue bonds will then be explained, followed by a case study of how a blue bond – the first in history – was raised in Seychelles to assist the nation in realizing its Blue Economy objectives.

Bonds

What are bonds?

Bonds are the largest capital markets in the world (Roth, Thiele, and von Unger, 2019). A bond is known as a ‘debt’ or ‘fixed income’ security and is created when two parties come together: one looking to raise money to spend on specific projects (bond issuer) and one looking to lend money to earn interest on it (investor). The bond issuer has the aim of raising capital by selling bonds to investors, who are then owed money by the issuer. The bond will have a specific life span (term), usually of five, ten, or fifteen years, and return interest at a specific rate (coupon) for the duration of the term (Roth et al., 2019). The attraction of bonds is that the investor will get its capital back at the end of the term, along with interest payments at specified intervals during the loan, hence the name ‘fixed income security’.

Why use bonds?

Bonds exist to enable a government or similar issuing institution to raise money for projects at times when they do not necessarily have the capital available. The projects that the money is borrowed for are usually viewed as able to bring returns sufficient to outperform the interest that the bond issuer would have to pay the investor over the bond’s term. A large part of the attraction for investors is the perceived low level of risk of bonds. Being issued by institutions as large as governments, they are usually considered to be relatively safe investments.

Some governments or bond issuing institutions may have low credit ratings, meaning there is a higher risk associated with buying their bonds. This is combatted by two approaches: the issuer will offer higher interest rates to make the risk seem more worthwhile to investors; or the issuer will have another institution or government guarantee their bonds (a guarantor). This means that if the issuer were to default in their payments the investor would not be at risk as the guarantor would cover the issuer’s obligations.

How are bonds categorized?

Bonds are often issued with terms or objectives, enabling investors to have a sound idea of the general purpose of the bond. Consequently, bonds are grouped in the market so investors can compare similar bonds and make informed investment decisions. The first ‘green bonds’ were issued about a decade ago, financing investments in natural capital and sustainable development projects. Ten years later this is already a USD500 billion market. As previously alluded to, for bonds to be ‘green’ the issuers have to abide by guidelines and principles that have been established in the marketplace by such bodies as the International Capital Market Association (Roth et al., 2019).

About blue bonds

Internationally, investors are becoming increasingly aware of how the money they lend is used. This class of conscious capitalism is known as impact investing. Impact investing aims to create positive environmental or social impacts with the money invested whilst achieving a financial return for the investor. This growing populace is aware of how dependent humans are on the environment and ecosystem services, and hence the importance of having them functioning and healthy as possible.

Blue bonds are a new and innovative financing tool (FAO, 2017) with fundamental links to green bonds (Roth et al., 2019). They function in the same way as the general bonds introduced above. The idea behind blue bonds is to enable countries to raise the capital required to invest in their Blue Economy (Hanna, 2019). This may require the restructuring of sectors within their current economy, such as their fisheries, or investing in new possibilities, such as offshore renewable energy (FAO, 2017).

At least 54 of the world's coastal and island nations are lower or lower-middle income countries (World Bank and UN DESA, 2017). As a result, many of these nations are unlikely to have the financial resources to reform their current economies to the Blue Economy paradigm. In order to do this, such countries require outside investment. Aid and grant money is scarce and the needs of countries such as these are vast, thus other avenues need to be explored to raise funds necessary to meet their Blue Economy objectives. Enter blue bonds.

Blue bonds are, for any coastal nation, rich or poor, a means of mobilizing capital. This is done by either issuing their own blue bonds or partnering with a third party to issue a blue bond on their behalf, to raise the capital required for Blue Economy transformation. With this capital, nations are able to implement the mechanisms and tools required to transition from their current economic practices to those associated with the Blue Economy; that is, projects with positive environmental, economic, and climate benefits. According to the World Bank and UN DESA (2017), the fundamentals of the Blue Economy include:

> …*growth driven by investments that reduce carbon emissions and pollution, enhance energy efficiency, harness the power of natural capital – such as the oceans – and halt the loss of biodiversity and the benefits that ecosystems provide.*

With impact investing on the rise, there is a growing market of conscious investors wanting their money to 'do good' while earning returns. The Nature Conservancy has committed to raising USD1.6 billion of blue bonds by 2025 through assisting with sovereign debt restructuring and conservation commitments for countries that are willing to partner with them (Avery, 2019). Due to this kind of commitment and the growth in impact investing, the likelihood of the blue bond market thriving is high. Blue bonds will, however, need to operate in a similar manner to green bonds whereby guidelines and principles should be established, enabling investors to have a sound idea of where their capital is going.

The island nation of Seychelles

Seychelles, an archipelago in the Indian Ocean consisting of 115 islands, is a nation with a small population of approximately 97,600 (National Bureau of Statistics, 2019a) and high annual tourism numbers – almost four times the population at approximately 361,800 in 2018 (National Bureau of Statistics, 2019b). Fisheries and tourism are the primary sources of employment providing formal employment for at least 17% and 26% of the population respectively (Hindle, 2019). These sectors are also significant contributors to GDP with fisheries constituting 20% and tourism indirectly 55%, whilst fisheries are responsible for 93% of the nation's exports (Hindle, 2019). Consequently, it is clear how crucial a healthy marine environment is for the country's success.

Over-exploitation of the nation's marine environment is possibly the greatest risk to Seychelles' economy. Currently, the country's small-scale artisanal and sport fishing industries are open access, meaning there are few to no regulations on catch size or limit. Thus, there is valid concern regarding the risk to the nation's fisheries. Fisheries at risk would lead to income losses for fisherman and direct negative impacts on the tourism industry, having ramifications for the country's economy and the population's wellbeing. Food security would be highly compromised as most of the fish consumed is locally caught (Ministry of Finance Trade and Economic Planning, 2017).

However, the forward and visionary thinking of the country's leadership saw Seychelles being an early adopter, and certainly a vociferous driver, of the Blue Economy concept in 2013. The government understands that the comparative advantage Seychelles holds is in its natural capital (Government of Seychelles, 2017). It also recognizes that the two primary sectors, fisheries and tourism, are exceedingly dependent on healthy coastal and marine ecosystems, the management of which has traditionally been compromised by 'insufficient financing, capacity, and legal and institutional frameworks' (Ministry of Finance, Trade and Economic Planning, 2017).

In 2015 a landmark 'debt for nature swap' (DNS) was initiated by Seychelles where, in return for a portion of debt-forgiveness by the Paris Club, Seychelles was to use the funds instead for environmental initiatives. The Nature Conservancy was responsible for raising USD21.6 million for the DNS and assisted Seychelles in implementing a Marine Spatial Plan, aimed at protecting 30% of their 1.4 million km^2 exclusive economic zone, and providing financing, through grants, for sustainable causes related to the Blue Economy (Hindle, 2019). The grant-administering organization, Seychelles Climate Change and Adaptation Trust (SeyCCAT), was developed legislatively as a local independent trust. It then became responsible for disbursing up to USD750,000 per year of the grant money to successful applicants for projects in line with specific Blue Economy objectives (Hindle, 2019).

Whilst the DNS was critical in initiating large-scale movement in Seychelles' Blue Economy, further funding was required to enable investment in broad scale transition to a Blue Economy.

Seychelles' blue bond

Recently, Seychelles was classified as a high-income country, meaning that it was no longer eligible for concessional funding sources previously available to it (FAO, 2017). As a result, the government of Seychelles was under pressure to find alternative means of financing its transition to a Blue Economy. Thus, in 2018 the Seychelles government, with assistance from the World Bank, issued the world's first blue bond, pioneering the concept internationally. The aim of the bond was to raise capital for investment into the country's Blue Economy. Due to its commitment to the United Nations (UN) Sustainable Development Goals (SDGs), particularly SDG14, impact investors wanting to support such agendas were targeted (Roth et al., 2019). The proceeds from the bond were earmarked specifically for improvements in priority fisheries governance, expanding the current marine protected areas (MPAs) and the development of the Blue Economy (Roth et al., 2019).

The Seychelles blue bond raised USD15 million in capital, with a maturity of 10 years and a coupon of 6.5%. The bonds were purchased privately and in equal value (USD5 million) by three impact investors in the USA: Calvert Impact Capital, Nuveen and Prudential, with Standard Chartered being the placement agent (World Bank, 2018). To provide investors with peace of mind, the World Bank issued a repayment guarantee of USD5 million. Additionally, the Global Environment Facility (GEF) provided a concessional loan of USD5 million to assist with coupon (interest) payments to the investors (Roth et al., 2019).
Having the World Bank and GEFs assistance proved hugely beneficial to Seychelles as the interest rate payable decreased to 2.5%, whilst keeping the coupon at 6.5% for the investors.

The Seychelles government decided that the capital raised should be allocated to two independent funds: the Blue Investment Fund (BIF) and the Blue Grants Fund (BGF) (Hindle, 2019). The BIF has the aim of lending money to organizations who seek to grow the country's Blue Economy whilst profiting from the endeavor. As such, BIF money is loaned to organizations just as ordinary loans are: for a specific length of time at a specified interest rate, with payback terms agreed upon. The Seychelles government has allocated USD12 million to the BIF, which will be administered by the Development Bank of Seychelles (DBS). Specifically, BIF funds will only be loaned to 'prescribed activities aimed at encouraging value adding and diversification of the sector consistent with conservation and fisheries management plans milestones' (FAO, 2017).

The BGF has goals in line with those of its administering entity, SeyCCAT. SeyCCAT is already administering grant money received from the DNS, and has since been allocated USD3 million of the blue bond capital. SeyCCAT's mandate is to issue grant money competitively to applicants whose project proposals fall in line with Blue Economy objectives, but specifically aims to 'build synergies between fisheries management, marine conservation and climate resilience' (FAO, 2017). Being grant money, there is no return expected, unless the applicant does not adhere to the terms and conditions of the grant. As a result, a further aim of SeyCCAT is to ensure transparency, accountability and efficiency in their financial management. Grants enable a broad range of smaller, non-profit driven activities to take place that will assist the country move from a marine economy to a Blue Economy. Such projects are necessary and could otherwise not be possible if financial returns were expected of the projects. Projects funded are often marine research oriented.
Specifically, the blue bond proceeds are expected to be used to:

- Finance the transition to the Mahé Plateau Demersal Fisheries Management Plan
- Provide complementary funding to other sustainable fisheries initiatives, such as the World Bank SWIOFISH 3 project, and continue the development of Seychelles' EEZ marine spatial plan
- Allow fish stock recovery, whilst aiding the restructuring of the sector as a result of policy reform and management measures
- Generate increased revenue for government, showing that investing in sustainability makes business sense
- Develop conservation and fisheries management planning capacity building and institutional strengthening for the development of the Blue Economy.

(*Source: FAO, 2017)*

In particular, and with the support of the BIF, the aim of the blue bond for the Seychelles government is the integration of investment and governance. It hopes that the private sector will invest increasingly in the Blue Economy, specifically in: 'scientific services, logistical services, development of skills, eco-labelling and post-harvest and value-adding activities as alternative business opportunities for fishers, as well as public investment in rebuilding fish stocks and addressing over-capitilisation' (Government of Seychelles, 2017).

The Seychelles blue bond is indeed a pioneering activity. If it is successful and well documented, there is scope for it to be repeated by other countries seeking innovative finance options.

References

Avery, H. (2019). *Blue bonds get boost from TNC and World Bank*. EuroMoney website: https://www.euromoney.com/article/b1f3p8wqt3td31/blue-bonds-get-boost-from-tnc-and-world-bank [Accessed 28 August 2019].

Burgess, M. G., Clemence, M., McDermott, G. R., Costello, C., and Gaines, S. D. (2018). Five rules for pragmatic blue growth. *Marine Policy*, *87*, pp.331–339. https://doi.org/10.1016/j.marpol.2016.12.005

European Commission. (2019). *The EU Blue Economy Report. 2019.* https://doi.org/10.2771/21854

FAO. (2017). *Innovative Ocean Financing: Seychelles Blue Bonds.* Blue Growth blog: Food and Agricultural Organisation website: http://www.fao.org/blogs/blue-growth-blog/innovative-ocean-financing-seychelles-blue-bonds/en/ [Accessed 24 August 2019].

FAO. (2018). *Achieving Blue Growth: Building vibrant fisheries and aquaculture communities*. https://doi.org/10.1007/978-3-319-63498-2

Government of Seychelles. (2017). *Seychelles blue bond: transitioning to sustainable artisanal fisheries and strengthening value chain benefits through innovative finance and partnerships.* United Nations Ocean Conference website: https://oceanconference.un.org/commitments/?id=16283 [Accessed 26 August 2019].

Hanna, D. (2019). *Is blue the new green? How blue financing can support the fight against climate change.* Standard Chartered website: https://www.sc.com/en/explore-our-world/is-blue-the-new-green-blue-bonds/ [Accessed 25 August 2019].

Hindle, J. (2019). *Investing in the Blue Economy: How Should Impact Be Measured?* Imperial College Business School: London.

Hudson, A. (2018). *Blue Economy: a sustainable ocean economic paradigm*. United Nations Development Programme website: https://www.undp.org/content/undp/en/home/blog/2018/blue-economy-sustainable-ocean-economic-paradigm.html [Accessed 30 August 2019].

Keen, M. R., Schwarz, A. M., and Wini-Simeon, L. (2018). Towards defining the Blue Economy: Practical lessons from pacific ocean governance. *Marine Policy*, *88*, pp.333-341. https://doi.org/10.1016/j.marpol.2017.03.002

National Bureau of Statistics, Seychelles. (2019a). *Population and Vital Statistics: Mid Year Population Estimates*

National Bureau of Statistics, Seychelles. (2019b). *Visitor Statisitcs: 2019-Q3.*

Ministry of Finance Trade and Economic Planning. (2017). *Third South West Indian Ocean Fisheries Governance and Shared Growth Project (SWIOFish3): Environmental and Social Management Framework for SWIOFish3 Project*. Victoria, Mahé.

Pauli, G. (2019). *The Blue Economy: A Report to the Club of Rome*. The Blue Economy website: https://www.theblueeconomy.org/ [Accessed 27 August 2019].

Roth, N., Thiele, T., and von Unger, M. (2019). *Blue Bonds: Financing Resilience of Coastal Ecosystems - Key Points for Enhancing Finance Action*. Luxembourg.

Senaratne, M., and Zimbroff, A. (2019). The Blue Economy in the Indian Ocean – A Literature Review. *Seychelles Research Journal*, *1* (2), pp.121-145.

UNEP, FAO, IMO, UNDP, IUCN, and World Fish Centre. (2012). *Green Economy in a Blue World*. Nairobi, Kenya.

UNEP Finance Initiative. (2019). S*ustainable Blue Economy Finance*. Sustainable Blue Economy Finance website: https://www.unepfi.org/ecosystems/sustainable-blue-economy-finance/ [Accessed 26 August 2019].

United Nations. (2012). The Blue Economy Concept Paper. In *Rio +20 United Nations Conference on Sustainable Development*. https://doi.org/10.1057/s41301-016-0046-9

United Nations. (2019). *Goal 14: Conserve and sustainably use the oceans, seas and marine resources*. Sustainable Development Goals website: https://www.un.org/sustainabledevelopment/oceans/%0D [Accessed 26 August 2019].

Wenhai, L., Cusack, C., Baker, M., Tao, W., Mingbao, C., Paige, K., … Yufeng, Y. (2019). Successful blue economy examples with an emphasis on international perspectives. *Frontiers in Marine Science*, *6* (JUN), pp1-14. https://doi.org/10.3389/fmars.2019.00261

World Bank. (2018). *Sovereign Blue Bond Issuance: Frequently Asked Questions*. World Bank website: https://www.worldbank.org/en/news/feature/2018/10/29/sovereign-blue-bond-issuance-frequently-asked-questions [Accessed 26 August 2019].

World Bank, and United Nations Department of Economic and Social Affairs. (2017). *The Potential of the Blue Economy: Increasing Long-term Benefits of the Sustainable Use of Marine Resources for Small Island Developing States and Coastal Least Developed Countries*. https://doi.org/10.2826/190498

Stuart Laing, M.Com. is currently a researcher with the James Michel Blue Economy Research Institute, University of Seychelles.