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Article

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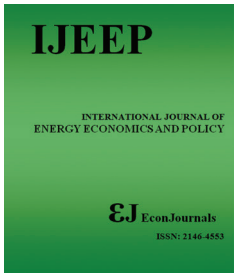

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Insights from EU Policy Framework in Aligning Sustainable Finance for Sustainable Development in Africa and Asia

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ABSTRACT

It is conspicuous that the mainstream financial system in the EU is transforming into a sustainable financial system by a supra/national policy and institutional framework for meeting the goals of SDGs and the targets of the Paris Agreement for climate change together with Nationally Determined Contribution. However, Botswana or Sri Lanka has no such framework. Hence, a need of the hour has arisen to evaluate the sustainable finance policies in Botswana, Sri Lanka, together with the EU seeking insights from the EU's policy framework. Since sustainable finance is not a well-grown branch of the conventional mainstream financial system, the nature of the knowledge is produced by social constructivism based on the grounded theory and the theory is inductively developed for achieving the purpose of the research. The study found, among other things, that incorporating existing policies into the multiple ministries and affiliated institutions together with the current industry-led policy initiatives to manage ESG risks are not adequate. Hence it is recommended various insights to be taken into consideration by the policymakers to formulate a national framework for mobilizing public and private capital to meet the goals of sustainability.

Keywords: Sustainable Finance, Policy Framework, Paris Climate Agreement, Sustainable Development Goals, Environmental, Social and Governance
JEL Classifications: E65, F36, F38, L51

1. INTRODUCTION

Botswana and Sri Lanka are members of two collective and universal frameworks for sustainable development, 17 Sustainable Development Goals (SDGs) of the 2030 Agenda, and the Paris Climate Change agreement. 2030 Agenda consists of 17 SDGs. Four of SDGs focus on the sustainability of the "biosphere" which is guided by SDGs Nos. 6, 13, 14 and 15. Seven of SDGs focus the "society" by SDGs Nos. 1, 2, 3, 4, 5, 7, 11 and 16. Four SDGs focus "Economy" by Nos. 8, 9, 10, 12. The last SDG No. 17 integrates all (SRC, 2017).

The Paris Agreement, together with Nationally Determined Contribution (NDC), sets out its target to keep the global temperature below 1.5°C or a maximum 2°C by the end of this century. In this regard, the tipping point of CO_2 is expected to be 450/550 parts per million. The present CO_2 parts per million in the atmosphere is 410 in January 2020 (CO_2 Earth, 2020). Since the business as usual deposits 40 billion tons of CO_2 into the atmosphere, increasing 2 parts per million in the atmosphere every year, the tipping point cannot be maintained without reducing carbon emission made by the burning of fossil fuels. As a result, 195 countries agreed by the Paris agreement to decarbonize their countries by climate mitigation actions such as solar, wind, hydro, biomass, and other renewable energy and climate adaptation projects.

The Investments for meeting the goals of 17 SDGs and the Paris Climate Agreement is called sustainable investment. The sources

of finances which could be used for sustainable investments are termed as sustainable finance. Sustainable finance includes climate finance, which was introduced in the summit of the Paris Climate Agreement. Climate finance is meant for the finances required for climate mitigation and adaptation activities. For example, finances that are necessary for renewable energy projects to cut down the CO_2 emission. Sustainable finance is a broader concept than climate finance. Sustainable finance is simply meant finances required for 17 SDGs, including climate finance. However, in practice, these terminologies are interchangeably used because the difference is rather theoretical than practical. After all, climate change is a significant issue related to global sustainability issues.

Accordingly, the investments required for these global and local sustainable issues are called sustainable investments. Sustainable investments in the corporate world are investments that address ESG risks: environmental risks, social risks, and governance risks. Corporations are, therefore, expected to perform beyond the financial performance, such as increasing shareholder wealth: Earning per share, Dividend per share, but they are expected for environmental performance, social performance, and economic performance. Thompson Reuters (as cited by Sila and Cek, 2017), provides a list of variables that can be used to measure ESG performance, such as Environmental performance: emission reduction, product innovation, and resource consumption reduction. Social performance: product responsibility, community, human rights, diversity and opportunity, employment quality, health and safety, and training and development. Governance performance: board functions, board structure, compensation policy, and vision and strategy. It was found that the performance for ESG has a positive impact on the economic (financial) performance of the corporation (Sila and Cek, 2017; Zhao et al., 2018)

Sustainable investing assets have now reached $ 30.7 trillion in five major markets, Australia and New Zealand, Europe, the United States, Canada, and Japan at the beginning of the year 2018. However, the responsible Investment from Africa is amounting to $ 428.3 billion in the middle of 2017. The bulk of assets, $ 399.9 billion, belong to Southern Africa. When looking at country-specific responsible Investment, South Africa has got the largest stock of sustainable investing assets, and it is followed by Nigeria and Kenya (GSIA, 2019). According to the report, the contribution to sustainable Investment in Botswana is insignificant (Bertha Centre-UCT GSB, 2017). Even though there is a steady growth in Asia in particular Japan, Hong Kong, China, and Singapore, for example, $ 2.18 trillion by 2018 in Japan (GSIA, 2019), the sustainable investment in the rest of the Asian countries including Sri Lanka is not satisfactory.

When investigating the reason behind this, the EU has been able to attract sustainable investments. It is because of their systematic and gradual transition from the conventional mainstream financial system to a sustainable finance system developed on a legal, policy, and institutional regulatory framework (from now on referred to as national policy framework). As a result, the EU has been able to mobilize not only public capital but also private capital for sustainable investment. Both the institutional investors, such as pension funds, insurers, universities, foundations, banks, mutual funds, private equity funds, hedge funds, and the retail investors who are individuals, individual investors in professionally managed funds in banks or other investment platforms. Their contribution is now 75% and 25%, respectively in 2018 (GSIA, 2019). The contribution of both types of investors is crucial. It is because it has been estimated that to keep the average global temperature to 2°C, the energy supply and energy-efficient investments for decarbonization of the economies for the next 20 years would be 50 trillion US$, which is roughly equal to the GDP of the entire OECD countries (Kaminkar and Youngman, 2015).

1.1. Problem Statement

Even though there appears to have corporate-level/industry level policies for ESG risks in Botswana and Sri Lanka, for example, King IV Report: Code of Corporate Governance Institute of Directors (2016), Global Reporting Initiatives (GRI), International Integrated Reporting Council (IIRC), Code of Best Practice on Corporate Governance of Sri Lanka (ICASL, 2017), the sustainable finance market in Botswana and Sri Lanka is less developed and not been able to attract sustainable investments from both types of investors, institutional investors, and retail investors. In these circumstances, the objective of this research is to investigate the policy gap in Botswana and Sri Lanka in comparison with the European Union. The comparative study about sustainable finance policies enables ascertaining if the current state of the national policy framework related to principles of sustainable finance in Botswana and Sri Lanka is satisfactory or not. If the current national policy framework is not adequate, the objective of this investigation is to identify insights of the EU policy framework. The insights drawn from the inquiry can bridge the gap in conventional finance systems in Botswana and Sri Lanka. Therefore, the purpose of the research is to recommend factors to be considered in formulating a national framework for the transition of the mainstream financial system to the sustainable financial system.

To achieve the objectives and the purpose of the research, the following research questions (RQ) guide the study, namely,

RQ: 01- Why is the sustainable finance system in Botswana and Sri Lanka is less developed?

RQ: 02- What are the insights of the EU (supra) national policy framework of the Sustainable Finance System?

RQ: 03- What are the factors which could be recommended for a national policy framework to transform the mainstream conventional finance system to a sustainable financial system in Botswana and Sri Lanka?.

1.2. Significance of the Study and Limitation

The finding of the study is significant for policymakers to make a sound national policy framework that enables transforming the current conventional mainstream financial system to a sustainable financial system to achieve the goals of SDGs and the Paris Climate Agreement together with Nationally Determined Contribution. Further, these findings apply to many other African and Asian countries that have similar characteristics in the conventional finance system, which is not conducive for achieving goals of sustainable development and the Paris Agreement together with Nationally Determined Contribution.

However, the scope of this research is limited to four pillars of the EU policy framework, which aims to transform the conventional mainstream finance system to a sustainable finance system. The EU policy with four pillars is to top up its existing policy framework latter, which is not within this study.

After the introduction above is mentioned, the remainder of the research paper is dealt with the following manner. The methodology is explained in the next section. After that, the literature review is provided. The research findings are summarized before the beginning of the discussion. After the discussion, the conclusions and recommendations together with policy implications, are stated.

2. METHODOLOGY

For the purpose above mentioned, the underlying research philosophy of this study is the interpretivism because a national policy framework for the inclusion of sustainable finance principles into the mainstream financial system in a country is a new phenomenon appearing during the last decade. Since sustainable finance is not a well-grown branch of sustainable development, the nature of the knowledge is produced by social constructivism because the knowledge is rather subjective than objective. Hence, the value questions of qualitative nature are used to collect data by semi-structured interviews from financial institutions and analysis of various policy documents. Data so collected are qualitatively analyzed then and there till the saturation point is satisfied. However, the qualitative study is based on the grounded theory by constant comparison with the same source and different sources for triangulation as well, namely, interviews and document analysis, the multi-method qualitative methodology underlying with interpretivism. Mills et al. (2006) argue that constructivist grounded theorists design their research for mutual construction of meanings and meaningful reconstruction of the findings on the grounded theory. The qualitative process began with identifying codes. *Vivo* codes were used in this respect. Codes were categorized later into themes. After that, the concepts were developed, identifying relationships among themes. Finally, the theory was inductively constructed by the constructivist approach subject to the reconstruction based on the grounded theory. For example, the responses of the interviewees that the ESG framework is not effectively applied in the absence of a national policy framework were reconstructed by constant comparison that a national framework for sustainable development is required to establish first and followed by ESG policy framework. In the same approach, the researchers who are conversant with business matters tested wherever possible the perceptual map introduced by Mojtahed et al. (2014), identifying different perspectives when developing the theory under the constructivist approach.

3. LITERATURE REVIEW

The success of the transition of the current mainstream financial system to a sustainable financial system is dependent on embracing more ethics than a legal framework of sustainable development by the finance system. Morality for sustainable development means the principles that govern the behavior of individuals, organizations, societies, or economies. Ethics is the collection of morals for sustainable development, in particular, behavior for the creation of ethical capital in particular in the context of this study. The ethical capital is one of six types of the capital of an organization, in addition to (i). Physical capital, which mobilizes natural resources, (ii). Economic capital, which mobilizes financial capital, (iii). Human capital, which mobilizes labor resources, (iv). Intellectual capital, which mobilizes intellectual resources, and (v). Social capital, which mobilizes civil society resources. Bull et al. (2010) argue that the organizations may have all of these six types of capital, but the mixture of them may be different among organizations.

Wagner-Tsukamoto (2007) identifies three levels of ethical capital, namely, passive unintended moral agency, passive intended moral agency, and active intended moral agency. Players of finance system (people or organizations) who maximize shareholders' wealth while complying with a minimum standard of the law accumulate passive unintended moral agency of ethical capital. For example, these organizations follow the rule of the business paying the minimum salary and wages for maximizing shareholders' wealth. Players of finance system (people or organizations) who maximize shareholders' wealth, while accepting the fact that they operate in a community, and therefore they acknowledge the importance of other stakeholders, accumulate passive intended moral agency of ethical capital. For example, these organizations follow the rule of the business paying the salary and wages above the minimum while maximizing shareholders' wealth. Players of finance system (people or organizations) which maximize stakeholders' wealth by corporate social responsibility while accepting the interests of other stakeholders accumulate active intended moral agency of capital. For example, these organizations internalize CO_2 emission with the use of renewable energy and create value for the environment/planet as a stakeholder. The capital utilized for this purpose is ethical.

The challenge for sustainable development is how to create public and private ethical capital. Since sustainable development is a global issue, two international frameworks have been agreed by all most all nations, including Botswana and Sri Lanka, namely, the United Nations' 2030 agenda for 17 SDGs and Paris agreement. Even-though sustainable development is a global issue, the impact is local, and therefore the decision making is a local issue inherent to the respective country. Botswana has domesticated 17 SDGs, and relevant indicators have been mapped in the 2036 Vision. Sri Lanka has prepared a voluntary national review for implementing (Statistics Botswana, 2018a,2018b) all SDGs. Both countries have relied on the existing organizational structure of the government and the current policy framework. (Ministry of Sustainable Development, Wildlife and Regional Development, 2018; Stats Bots, 2018a;2018b). Hence, these goals cannot be achieved without a national policy framework focussing on the transformation in the respective country.

The absence of a national policy framework contributes to unsustainable economic activities, which enable encroaching nine ecological boundaries (Rockström et al., 2009), making the planet inhabitable. It is because the earth is unable to be resilient with distortions caused by the unsustainable developmental activities

that have been taking place since the industrial revolution. As a result, the planet is now unable to provide its essential services to all beings. For example, Sea level rises, glaciers are melting, the long summer is hotter than earlier. The shorter winter is colder than earlier. The gravity of the water shortage has been intensified. The precipitation has caused variation of the seasons, decreasing the productivity of the harvest of agricultural products. Species are extinct.

When considering the context of Botswana, it is the most vulnerable country other than Namibia for the adverse impact of global warming. Botswana is a semi-arid country that has got characteristics such as unreliable rain, low rainfall, constant drought, and a high rate of evaporation. New (2018) elaborates on what global warming 1.5°C or higher means to Botswana. Accordingly, 1.5°C means 2.2°C and 2°C means 2.8°C. As a result, under these two scenarios, annual rail rainfall will drop by 5% and 9%, respectively. Dry days will increase by 10 days and 17 days respectively, extreme weather events, heat waves will increase by 50 days and 75 days respectively, maize yields could drop by 20% and 35% respectively. The hotter and drier future makes less water for agriculture and poor health. Therefore, urgent actions are needed for climate mitigation actions and climate adaptation actions. In this respect, the biggest challenge is to align the current finance system to a sustainable finance system.

These adverse effects have increased not only the economic cost of human beings but also the survival of all beings. As a result, sustainable investments have become the need of the hour of the planet. Hence, a national policy framework is needed. It enables to translate sustainable development goals and climate change targets of the Paris agreement into tools in the respective country by which the investors, institutional and retail investors in that country, are directed to have their investment practices required for the sustainable development of that country.

However, it is worth noticing that a national policy framework does not effectively operate in isolation. There shall be an underlying layer of corporate-level/industry level policy framework called ESG (Environment, Social, and Governance) policy framework. These two layers of policy frameworks go hand in hand together.

ESG policy framework paves the way for (six) approaches that could be used in sustainable investment decision making by the investors. Even-though there are overlaps among them, there is a way to differentiate them. One of them is the negative screening, which means the exclusion of specific types of companies of industries such as gambling, alcohol, tobacco, burning fossil fuels. The second approach is positive screening, which means the inclusion of companies that are environmentally friendly and socially responsible, for example, companies that are concerned with pollution, diversity, product safety. The third approach is thematic investments. It means the investment directly relates to sustainability, such as investments for climate mitigation, climate adaptation. Another approach is Environment, Social, and Governance (ESG) integration, which is used to understand risk and opportunities in a better way. Environment means the operations of the company do not harm the environment by activities relates to renewable energy, water management, pollution control, and lower carbon emission. Social means the company is concerned with community/people related activities such as fair labor practices, data protection, no forced labor, no child labor, health standards, freedom of associations. Governance means the quality of governance, such as the constitution of the board, corruption policy, audit policy. The fifth approach is active ownership, which means the investor as a shareholder or shareholders actively involved and get the management engaged in decision making for creating a long term value together with sustainability. The last but not least approach is impact investing, which means investments are considered if it can make both profit and social/sustainable impact as well.

To conclude, it is remarked here that corporate-level ESG framework such as King IV Report: Code of Corporate Governance Institute of Directors (2016), Global Reporting Initiatives (GRI), and International Integrated Reporting Council (IIRC), Code of Best Practice on Corporate Governance of Sri Lanka (ICASL, 2017), cannot alone achieve the goals of sustainable development. The national policy framework is more powerful, authoritative, and superior to guide and develop the corporate/industry level policy framework to work hand in hand together for common goals of sustainable development.

4. FINDINGS

Public capital alone is not adequate, but private capital as well, is imperative to achieve the goals of SDGs and Paris Climate Change together with Nationally Determined Contribution. Botswana needs $18.4 billion for climate mitigation and climate adaptation programs to reduce CO_2 emission by 15% based on 2010 by 2030. The commitment of Sri Lanka for NDC is 5-10% voluntarily and further 15-24% on a conditional basis (Haque et al., 2019). The conventional mainstream financial system, which is guided by the ESG policy framework, cannot bridge the financial gap in the absence of a national framework for transforming the conventional finance system to a sustainable finance system.

Hence, there is a need to transform the conventional financial system into a sustainable financial system. In this regard, what is required is to have a national policy framework in place. Recently introduced, the national policy framework of the EU provides many insights for the purpose.

One of the insights of the (supra) national policy framework of the EU is that the objectives of EU policies required for sustainable development have been codified under four pillars. One of the pillars is sustainable finance policies. The second insight is that the first three pillars have been aligned with the sustainable financial system. The next insight is that there is a coherent action plan, implementation, and supervision process tied with the energy resilience introducing supranational/national frameworks to implant the principles of sustainable finance for energy vulnerability, security, poverty, and justice (Gatto and Drago, 2020). Another insight is the EU's strategy for energy research and innovation activities with the EU. Further, comply or explain the strategy of disclosure or even regulatory pressure

is preferred to than giving an option for not reporting. The last but not the least insight is that the EU is transforming the conventional mainstream finance system to a full-fledged sustainable finance system to meet sustainable development goals on a fast track, probably before others.

5. DISCUSSION

As discussed in the literature review, there are two layers of policy frameworks: national-level policy framework and corporate level policy framework. They operate hand in hand in the EU by attracting ethical capital from institutional and retail investors for achieving the goals of sustainable development. Hence the EU enables achieving goals of sustainable development (Mikova et al., 2019). In the context of Botswana, the King IV: Code of Corporate Governance (Institute of Directors, 2016), Global Reporting Initiatives (GRI), and International Integrated Reporting Council (IIRC), Code of Best Practices of Sri Lanka are corporate-level policies that address the ESG risk (ICASL, 2017).

However, the absence of a national policy framework for aligning sustainable finance into the mainstream financial system in Botswana demonstrates that the industry-led compliance with the ESG approach has detached the financial and capital markets from a sustainable finance system. Further, such an ESG approach alone is unable to meet the national and global goals of sustainable development. It is evident by the fact that "Nonetheless, many companies do not have specific sustainability policies because they are still not fully conversant with the issues as well as the global agenda on the SDGs, and thus have adopted mostly isolated practices that are not entirely integrated into their business operations. Conversely, other companies, which have recognized sustainability as key to their business, have adopted some practices but have not attained the level of reporting and accounting for sustainability. Indeed, some companies are well advanced and have adopted some global reporting systems, which have earned them international recognition in the international frontiers" (UNDP and BSE, 2018).

Hence, to understand the nature and quality of the national policy framework for meeting the goals of sustainable development by aligning sustainable finance into the mainstream financial system, the four pillars policy framework of the EU is benevolent.

5.1. Pillar 01: Climate and Energy

Accordingly, one of the pillars of policies of the EU relates to climate and energy. In this respect, one of them is The 203°C limate and Energy Framework (European Commission, 2014a), which aims among other things, to reduce greenhouse gas emission by 40% below the 1990 level by 2030 and by 85-95% below 1990 level by 2050. A Framework Strategy for a resilient Energy Union with a Forward-Looking Climate Change (European Commission, 2015), also called Energy Union Package aims to achieve several objectives. They are to take action to form a single energy market, reduce the dependency on third countries for the supply of its energy, increase energy efficiency, and increase renewable energy use. The third important policy is the EU Strategy on Adaptation to Climate Change (European Commission, 2013), which aims, among other things, to promote climate adaptation strategies and funding in critical areas such as coastal and marine, health, infrastructure, and rural development.

When considering the situation in Botswana, the country is endowed with a conducive natural environment for the production of solar electricity. The sun-drenched country receives 320 sunny days with 3200 sunshine hours per annum with average insolation of 2200 kWh/m^2 (6-6.5 kWh/m^2/day). One of the highest levels of irradiation in the world (Mooiman and Edwin, 2016). The next most available renewable energy is bioenergy from cow dung. The cattle population is 2.2 million. As solar power plants, there are a few biogas digesters have been installed in the country. Wind power is not potential for large scale wind power projects, and Hydropower is not possible as well.

Botswana has agreed by Nationally Determined Contribution (NDC) to meet the Paris Climate Change agreement by reducing CO_2 emission by 15% based on 2010 and further estimated the cost required as $ 18.4 billion. Botswana import fossil fuel, diesel, petrol, petroleum gas, aviation gas, and paraffin for transport and to produce a part of electricity (Sekantsi and Timuno, 2017). The vision 2036 of Botswana provides for the importance of energy security, clean energy, and a net exporter of energy (Government of Botswana, 2016). Sri Lanka also imports fossil fuel, including coal for producing a part of electricity and transport. Sarangi et al. (2019) point out that the intensity of energy security is high in countries that import and subsidize fossil fuel to the public in the absence of generating electricity with renewable energy but emit excessively CO_2 in producing electricity. The Vision 2025 of Sri Lanka also provides energy security and clean energy (Integrated Research and Action for Development, 2018). However, there is no pillar of policies which relate to climate and energy in both countries.

However, in 2007, the electricity Supply Act was amended to give authority to the minister for issuing and controlling the licenses for generating electricity under which the Botswana government issued a permit for a grid-tied 1MW solar PV project in Tobela village in the Shoshong constituency. However, the only power purchase agreement of the independent power producer so far reported is not available to the public. A few small and medium-size grid-tied and off-grid solar PV projects have been installed for internal consumption. The amendment is not adequate for de-risking the investment and deregulation the (solar) energy market. The situation in Sri Lanka in this respect is better than Botswana. 50% of the total electricity is produced with renewable energy sources. Large scale and small scale hydro projects represent 44.5% (installed a long time ago), wind 3.5%, biomass 1%, and Solar PV 1%. The balance of 50% is produced with coal and oil (Integrated Research and Action for Development, 2018). There is no specially designed legal, policy, or institutional framework for renewable energy in Botswana (Mooiman and Edwin, 2016; Motsholapheko et al., 2018; Sekantsi and Timuno, 2017) and Sri Lanka as well (Haque et al., 2019; Mohamed Nijam and Abdul Nazar, 2017).

Botswana and Sri Lanka in a Sunbelt country have not yet started harvesting solar energy. Access to electricity in Botswana has

increased. The access was a national level of 55.6% in 2009, 63% in 2013, and further increased to 72% in 2016 (Motsholapheko et al., 2018). The access for electricity in rural areas below the urban areas and the consistent supply without breakdowns is a challenge, and therefore renewable energy is advocated as alternative energy. The renewable energy transition is a promising strategy that can be used for the economic development of rural areas (Clausen and Rudolf, 2020), where there is greater energy poverty than urban areas. The energy poverty can be defined as "the lack of access to modern energy services and products" (World Economic Forum, 2010 (as cited by Kumar, 2020). He further points out that energy poverty in different forms, such as lack of accessibility for modern energy services, non-availability of reliable services, and non-affordability. However, access to electricity in Sri Lanka is 98.7% (Integrated Research and Action for Development, 2018).

When deregulating the fossil fuel energy market to include the solar energy market, small, medium, and large scale solar installations are to be treated, taking into consideration of their inherent characteristic because all types of systems are essential. For example, Best and Truck (2020) point out that 70% of the total PV capacity represents small scale systems below 100 kWp in Australia. They further explain that a large number of small scale solar plants displaces a large scale solar power plant and even fossil fuel energy plants, which require a large upfront investment. De-risking the investment is the golden rule applied when deregulating the energy market. In this respect, there are various policies already in place in the global energy market, such as Renewable Energy Certificates (RECs), Feed-in-tariff system (FIT), Solar renewable Energy credits, renewable energy portfolio (Ndebele, 2020). Freire-Gonzalez and Ho (2018) assert the importance of Environmental Fiscal Reforms (EFR) by Environmental Tax Reform (ETR) in demotivating pollutant emission and motivating clean energy. Dissanayake et al. (2020) point out that out of three carbon mitigation strategies, carbon tax, fuel tax, and carbon emission trading, fuel tax enables reducing CO_2 emission than the other two strategies. They further point out that mix policy between fuel tax and carbon tax enables to reduce carbon emission for meeting Nationally Determined Contribution (NDC).

A deregulated market is essential because it offers customers choices from competitive suppliers who provide renewable energy/solar energy to customers at competitive prices (Ndebele, 2020). He further points out that deregulation for promoting renewable energy takes place, providing premiums or support for all renewable energy or specific energy such as solar or wind. In the deregulated energy market, energy innovation scenarios is a modern tool which is used by EU countries to forecast carbon emission targets committed by Nationally Determined Contribution (Paltsev, 2016). Kim and Wilson (2019b) point out that since an innovation system is embraced with uncertain variables, scenario analysis is a better way of exploring uncertainties. It enables identifying potential risk by understanding salient uncertainties and take informed decisions from near term actions to long term outcomes. Mikova et al. (2019), who analyzed low carbon energy scenarios of six EU countries, UK, Germany, France, Netherland, Denmark and Belgium, found ten common features of low carbon policy settings. Nine out of ten characteristics are relevant for all, such as modeling framework for diverse pathways, the ambitiousness of the targets, stakeholder involvement in particular public involvement, transparent technology options, non-technological aspects such as social acceptance, an economic component such as cost-benefit analysis, the degree of usage of scenarios in policy design, intermediate indicators of targets for achievement and revision of scenarios. Having analyzed, they concluded that these countries enable them to achieve their targets for the reduction of carbon emissions as modeled by their scenarios.

The facts above discussed enlighten what is required for Botswana and Sri Lanka is to have a legal, policy, and institutional framework to de-risk investment in renewable energy. Solar energy, which is the most abundant renewable energy, can be focused by both countries on meeting the targets of the Paris climate agreement together with their Nationally Determined Contribution.

5.2. Pillar 02: Policies Relating to Other Environmental Aspects

The second pillar is the Policies relating to other environmental aspects. One of the policies is called Circular Economy Package, also called the Circular Economy. Closing the loop: An ambitious EU Circular Economy Package (European Commission, 2019) aims to stimulate transition towards a circular economy covering the whole cycle: from production, consumption, waste management, and the market for secondary raw material. The clean air policy package was published in 2013 (European Council, 2020) aims to substantially reduce the air pollution for reducing the health and environmental impacts of air pollution by 2030 with an estimation to avoid 58000 premature deaths, save 123000K^2 of the ecosystem from nitrogen pollution, save 19000k^2 of forest ecosystem from acidification.

When considering the policies relating to other environmental aspects in Botswana, there are regulations, guidelines, ratification of conventions, multilateral environmental agreements for waste management, and clean air policy (Mmereki, 2018; Wiston, 2017). However, this regulatory framework has not specifically addressed the recent developments in these areas, such as circular economy, waste to energy, and zero waste management. Circular economy refers to an economic system that aims to minimize waste by use and reuse of products, material, and resources for a long period as possible by creating a secondary market. Waste to energy refers to processes used to generate energy such as electricity, heat. Zero waste management refers to processes to prevent waste so that there is no trash to be dumped to landfills and incineration. Hence, what is required in Botswana and Sri Lanka is to incorporate the insights of the Circular Economy Package, especially creating a secondary raw material market connected with the finance system.

The sources of air pollution in Botswana include industrial operations such as coal-fired power stations, mining, and smelting activities, metal processing, traffic emission, household fires for cooking, heating and lighting by burning fossil fuels, wood and biomass, natural sources such as dessert and wildfire irruptions, windblown soil erosion and mineral dust. Wiston (2017) points out that Botswana has been ranked as the most polluted countries with serious air pollution due to the facts that non-application

of standards set by the regulatory framework and inadequacy of them as well. He further points out that there is a need to link air pollution and prevention of health effects. Hence, what is required in Botswana is to assess the link and introduce an air policy to avoid health hazards similar to the clean air policy of the EU. When considering air pollution, it is not different from Botswana. In addition to industrial air pollution. It is reported that the deaths caused by indoor and outdoor pollution are 4200 and 1000, respectively (Nandasena et al., 2012). They further argue that air pollution mitigation policies are not adequate and need a revision of policies related to the air quality and air quality monitoring system (Manawadu and Ranagalage, 2013).

5.3. Pillar 03: Investment and Growth

The third pillar of the policies relates to investment and growth. In this respect, several funds have been created. Among them, the investment plan for Europe (European Commission, n.d.), also called Junker Plan formed the European Fund for Strategic Investment (EFSI) together with the European Investment Bank to mobilize private investments, technical assistance and improve the business environment by removing regulatory barriers. Cohesion Fund (European Commission, 2014b) aims to reduce economic and social disparities of member countries whose Gross National Income (GNI) per inhabitant is <90% of the EU average. EU External Investment Plan aims at booting investment in partner counties in Africa and neighboring European countries. The fund contributes to goals of sustainable development to tackle the root causes of migration and to improve economic and social development. When considering the situation in Botswana and Sri Lanka, there are no such funds created for investment and growth.

5.4. Pillar 04: Sustainable Finance

The fourth pillar of policies is Sustainable finance. The insight which can be drawn here is that the first three pillars have been aligned with the sustainable finance system. Niculescu (2017) elaborates that there is a need of $ 5 to 7 trillion investment with $ 2.5 trillion gaps in developing countries for achieving the goals of sustainable development and further points out that the World Bank estimates that 50 to 80% will come from domestic sources including great potential from private funding and private capital, but private sector contributes currently only 10% of the current infrastructure.

One of the pillars of sustainable development policies is committed to transforming the conventional mainstream financial system into a sustainable financial system that is crucial for sustainable development. It strengthens the other three pillars of sustainable development policies. In this mission connecting with other policies, procedures, and the process began with appointing a High-Level Expert Group (HLEG) to collaborate with the European Union and investors in December 2016. HLEG consists of 20 experts from civil society, the financial sector, academia, observers from the EU, and international organizations. The main objective of HLEG was to ascertain which areas of reform are necessary to align the financial services industry for a sustainable finance stream. It published its interim report in July 2017, and in a few weeks, two recommendations were implemented (University of Cambridge, 2017), demonstrating that prompt actions for sustainable development are required. The final report was published in January 2018 (High-Level Expert Group on Sustainable Finance, 2018) and recommended, among other things, a classification system/taxonomy, clarifying the duties of investors, improving disclosure, green fund, and green bonds. In responding to the recommendations, an action plan was published in March 2018 providing ten actions (Appendix 01) clustered under three areas, namely, reorientation of capital flows towards sustainable investments, mainstreaming sustainability into risk management, fostering transparency and long-termism in financial and economic activity (Principles for Responsible Investment, 2018). In May 2018, four legislative proposals, taxonomy, disclosure and Duties, Benchmarks, and Sustainability Preferences, were published. The remarkable insight of EU taxonomy is that it integrates the ESG policy framework for disclosure by creating low carbon benchmarks.

In July 2018, the Technical Expert Group (TEG) with 35 members representing civil society, academia, business, finance sector, observers, and international public bodies, was established to determine the EU on various technical aspects required for the implementation of action plan such as technical screening criteria to determine if economic activity is sustainable or not, developing principles and standards applicable for issuing the EU wide green bonds, creation of low carbon benchmarks and positive carbon impact benchmarks and recommendation of non-binding guidelines under the non-financial reporting directives which cover corporate disclosures and ESG issues taking into the consideration of the findings of Task Force on Climate-related financial disclosures.

In January 2019, the EU published draft amendments to Insurance Distribution Directives (IDD) and Markets in Financial Instruments Directives (MiFID II) to regulate the investment firms and insurance intermediaries to comply with ESG considerations. These amendments address the investment advising process, the portfolio management process, and the disclosure requirements.

In June 2019, TEG published three reports, a Taxonomy report, Green Bond report, and Benchmarks report, which are under the public consultation process for receiving the feedback, and the delegated acts are expected to be adopted by the EU in early 2020. The insights which can be drawn with the fourth pillars is that there is a coherent action plan and implementation and supervision process tied with the goals of sustainable development introducing a (supra) national frameworks to implant the principles of sustainable finance for energy vulnerability, security, poverty, and justice (Gatto and Drago, 2020) in the fabric of conventional mainstream financial system in their countries. Further, Gatto and Busato (2019) explain the role of resilience that it enables to be adaptive for improving the performance by learning and adaptation, informed but continuous change for economic, societal, and ecological governance and the last but not the least insight is that the EU is transforming the conventional mainstream finance system to a sustainable finance system to meet sustainable development goals before long.

The transition from a conventional mainstream financial system to a sustainable financial system in Botswana and Sri Lanka is

imperative. The investments required for low carbon infrastructure and sustainable development are not adequate. Additional sources of finance are needed by institutional investors and retail investors. They are not adequately investing in renewable energy infrastructure and other sustainable activities due to various factors such as lack of confidence, technological risk, inadequate policies, high capital intensive investment, and unsatisfactory experiences. Hence, legal, policy, and institutional framework for deregulating the energy market and de-risking the investment with an objective of mobilization of capital from institutional and retail investors for renewable energy are imperative (Hafner et al., 2020).

The energy innovation portfolio is the primary strategy used for achieving public goals. Strategic Energy Technology (SET) plan was established to coordinate energy research and innovation activities for achieving climate change policy objectives of the EU such as renewable energy, energy efficiency, energy security, energy union, economic growth, creation of employment, and global competitiveness (Kim and Wilson, 2019a). Energy research and innovation is another insightful area of EU policy framework. There are many energy innovation portfolios schemes in place during the last decades, such as the EU SET-Plan which consists of Renewable energy, Energy efficiency, Carbon capture, and Storage, Smart grid, Sustainable transport, and Nuclear power. ARPA-E in the US and Mission Innovation (Kim and Wilson, 2019b). A regulatory framework that focuses energy innovation portfolio is continuously required to be subject to scrutiny by measurement, verification, and enforcement of policies to be a resilient energy framework for achieving the goals of low carbon economies (Thomas and Rosenow, 2020). In this respect, Galeotti et al. (2020) point out various environmental policy indicators used in many countries such as Pollution abatement and control expenditures over GDP in Australia, Government R and D and expenditures over GDP in Austria, Implicit tax rate on energy in Belgium, Total revenue for energy and environmental taxes over GDP in Canada, OECD environmental policy stringency indicator (all instruments Denmark, OECD environmental policy stringency indicator (market-based Instruments) in Finland, OECD environmental policy stringency indicator (non-market-based instruments) in France.

The energy innovation portfolio is a vital strategy that can be adopted in Botswana and Sri Lanka. Renewable energy, Energy efficiency, Carbon capture and Storage, Smart grid, Sustainable transport are possible components of the energy innovation portfolio. In this respect, solar energy is the priority of the sun-drenched solar belt countries where the business fundamentals can be connected with goals of low carbon economy only with a sustainable finance system.

When considering the sustainable financial system in Sri Lanka, an emerging country, Sri Lanka, which faces the adverse impacts of climate change as one of the 40 vulnerable countries for climate change. The increasing environmental risks include frequent floods, earth slips, erosion of coastal and marine ecosystems, air, water pollution, and loss of biodiversity in one of the hotspots in the world. Unless the climate risk is managed, there is a possibility of losing 1.2% of gross Domestic Product (GDP) by 2050 (CBSL, 2019). The approach used for SDGs, Paris Agreement and NDC is to incorporate them into the multiple ministries and related institutions. The current corporate governance policy framework focuses, preferably on the industry level than the national and global objectives. For example, the agreement of 18 banks with the Sri Lanka Sustainable banking initiatives, the Sri Lanka Banks Association, provides for minimum standards or principles to voluntarily comply with environmental and social risks. Another example is that the Colombo Stock Exchange (CSE) introduced voluntary compliance for sustainability reporting.

Sustainable finance is not yet addressed as a pillar for meeting the national and global level goals of sustainable development as a signatory for the collective, universal frameworks, 2030 Agenda for 17 SDGs, and Paris agreement of climate change together with Nationally Determined Contribution. In 2016, Sri Lanka became a member of the Sustainable Banking Network (SBN). It is a collaboration for technical support and financial assistance from the United Nations Development Programme (UNDP). CBSL (2019) together with the stakeholders of the finance sector, Sri Lanka Banks' Association (SLBA), The Finance Houses Association of Sri Lanka (FHA), and Securities and Exchange Commission of Sri Lanka (SEC), paved the way for publishing Road Map for Sustainable Finance in Sri Lanka in April 2019.

The road map provides explicitly six strategies as core pillars, which would be addressed by policies and implemented by an action plan during 3-time frames, short between 2019 to 2020, medium-term between 2021 -2025, and long term between 2025-2030. These six core pillars are financial vision 2030, ESG Integration into financial markets, Financial inclusion, Capacity building, International Cooperation, and Measurement and Reporting.

When considering the situation in Botswana it is similar to Sri Lanka in some respect. Multiple ministries and related institutions have been assigned SDGs, Paris Agreement, and NDC within the existing policies, but there is no at least a road map. The financial system in Botswana also consists of both domestic and international institutions such as retail banks, development banks, investment banks, Insurance companies, investment funds, sovereign wealth funds, pension funds, stock exchange, and non-banking financial institutes. But the alignment of the mainstream financial system together with the sustainable financial system is critically important for achieving the national and global goals of sustainable development. In this respect, in a UNEP inquiry into the design of a Sustainable Financial System in African countries concluded that innovative financial and capital market policies, regulations, and standards are required for high potential areas such as disclosures, credit risk management, fiduciary duties, lender and investor liability and bond markets (UNEP, 2015). In this respect, Camilleri (2015) points out an insight for disclosures that most EU countries use to comply or explain strategy instead of giving an option for not reporting and further explain that organizations respond to more regulatory pressures of reporting, which provide more benefits to stakeholders.

Accordingly, there is no national framework for transforming the existing financial system to a sustainable financial system in

Botswana. When considering the framework in this regard, the framework of the EU for sustainable development together with the current process of EU, which align it with the global goals of 17 SDGs and the Paris agreement of climate change together with Nationally determined Contribution (NDC), can be used as a guideline for transforming the financial system into a sustainable financial system in Botswana and Sri Lanka. In this mission, Sustainability Banking Network (SBN) technical assistance is readily available for Botswana. Besides, there are various international organizations available to collaborate in this respect. Among them, The Equator Principles Association, Network for Greening the Financial System, Climate Action in Financial Institutions (2017) are also available for sharing experiences.

Sustainability Banking Network (SBN), whose members are banking regulators, banking associations, and environmental regulators from immerging markets, provide knowledge sharing and capacity building for formulating necessary policies, guidelines, initiatives required for managing environmental and social risks. The network-assisted by IFC-International Finance Corporation, World Bank Group, has got 38 member countries, including South Africa, which represent US$ 43 trillion, 85% of the total banking assets in immerging markets (IFC, 2019).

The Equator Principles Association has adopted the risk management framework. The framework enables determining, assessing, and managing environmental and social risk decision making in financing projects. The membership of the association consists of 97 financial institutes from 37 countries, including South African banks, ABSA Groups Limited, FirstRand Limited, Nedbank Limited, and Standard Bank of South Africa Limited (The Equator Principle Association, 2020).

Network for Greening the Financial System share their experiences, best practices voluntarily and contribute to the development of environment and climate risk management in the financial sector to contribute to the transition to a sustainable economy. The membership of the Network consists of 48 members, including the South African Reserve Bank and eight observers, are banking associations, central banks, and supervisors (NGFS, 2019).

Climate Action in Financial Institutions (2017) share expertise, knowledge, and practices among the members to manage the environmental risk for achieving the global objectives to control the global average temperature not to rise above 2°C by the end of the century and further pursue to keep it below 1.5°C by making the financial flow consistent in respective of members. The membership of the Institute consists of 44 institutions including BMCE Bank of Africa and West African Development Bank and two networks, ALIDE and ADFIAP latter two which have 85 Banks in 22 countries and 127 members in 44 countries respectively.

6. CONCLUSION AND POLICY IMPLICATIONS

Climate finance is the finance required for meeting the targets of the Paris Agreement, together with Nationally determined Contribution (NDC). Sustainable finance is the finance needed for sustainable development, including climate finance. There is a global trend to transform the conventional mainstream finance system to a sustainable finance system. In this regard, there are two policy frameworks in operation, National policy framework, for example, EU policy framework discussed above and Industry level ESG policy framework, for example, King IV: Code of Corporate Governance, Southern Africa and Code of Best Practice on Corporate Governance of Sri Lanka. The striking feature of these two policy frameworks of the EU is coherent within them and between them for the common objective of sustainable development through the sustainable finance system.

In Botswana, there were several joint programs between government and UN agencies, academia, and Parliament on the 2030 agenda for sustainable development (Republic of Botswana and United Nations, 2017). There was only one high-level symposium on sustainable finance had in 2016, and after that follow-up process was conducted with selected players in the field, the banking sector, and the BSE (2017).

The existing the industry-led compliance with Environmental, Social and Governance standards prescribed by King IV, Global reporting Initiatives (GRI), International Integrated Reporting Council (IIRC), Code of Best Practice on Corporate Governance of Sri Lanka, or any other professional organization is not merely enough to meet the national and global goals of Sustainable development and Paris agreement of climate change together with Nationally Determined Contribution of Botswana.

6.1. Policy Implications

Therefore, to introduce a national framework to transform the current financial system to a sustainable financial system in Botswana, it is recommended

i. To have separate pillars of sustainable development policies, including policies for sustainable finance with its own identity adequate for the transition similar to the EU Sustainable finance system.
ii. To strengthen the policy framework for Sustainable finance by the inclusion of a classification system/taxonomy, green bond standards, Benchmarks, and financial and non-financial disclosure for ESG risk compliances.
iii. To align the sustainable finance systems enable the provision of the investment required for sustainable development, which includes $ 18.4 billion for the Nationally Determined Contribution of Botswana (Republic of Botswana and United Nations, 2017) and Sri Lanka. This financial commitment to the EU is EUR 177 billion per annum (European Environment Agency, 2017).
iv. To strengthen the national policy framework by an action plan, implementation, and supervision.
v. To maintain coherence with each of pillars and between pillars for sustainable development trough sustainable finance system
vi. To obtain technical and financial support from international organizations such as Sustainable Banking Network and International Finance Corporation (IFC, 2019).
vii. To collaborate and share experiences of sustainable finance system with International organizations such as The Equator

Principles Association, Network for greening the financial System, Climate Action in Financial Institutions (2017).

viii. To make awareness of Sustainable financial system among all players such as Institutional Investors, Retail investors, Intermediaries, all institutions, directly and indirectly, engaged with the finance system and the public

ix. To make all the relevant data required for evaluation of the progress of the transition

x. To make available political willingness on a fast track for the above

6.2. Conclusion

Aligning the mainstream financial system with sustainable development by incorporating a sustainable finance system does not take place automatically. It is necessary to have a (supra) national policy framework for sustainable development through the sustainable financial system. Hence, what is essential is that a national policy framework with legislative and non-legislative elements for the transformation of the existing conventional financial system to a sustainable finance system. It enables creating innovative and profitable opportunities for institutional and retail investors for their fair contribution for sustainable development. Zeppini and van den Bergh (2020) elaborate on the importance of a framework stating that an increase in oil prices will induce to shift from oil to gas, worsening climate change in the absence of regulatory framework. It is because the investment in renewable energy is not attractive because of fuel subsidies. Hence, a proper regulatory framework is required to motivate investments in renewable energy.

Such a policy framework should be strengthened by an action plan followed by implementation and supervision to meet the national and global goals of sustainable development from the whole financing and investment chain similar to EU: Action Plan: Financing Sustainable Growth. In this respect, the strengths of political intervention and fast track are the factors that determine the success story. Any delay in formulating policies necessary for sustainable development goals, mandatory compliance, for example, a carbon tax rather than voluntary compliance, urgent actions, and disruptive actions will be inevitable in the future.

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