Green Economy: A Progression Towards Realizing Sustainable Development in the Realm of International Environmental Law

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Green Economy: A Progression Towards Realizing Sustainable Development in the Realm of International Environmental Law

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Abstract: Environmental protection is a critical global concern as societies confront the pressing challenges of climate change, resource depletion, and ecological degradation. This paper explores the green economy's pivotal role in promoting sustainable development and advancing international environmental protection. A green economy shifts economic paradigms by integrating economic growth with environmental stewardship, prioritizing ecological resilience, and operating within planetary boundaries. This approach ensures that present and future generations can thrive without compromising environmental integrity. At its core, the green economy harmonizes economic progress, societal well-being, and environmental health, addressing the trade-offs inherent in traditional development models. It redefines wealth to include natural assets such as clean air, water, fertile soils, and biodiversity, fostering policies for sustainable land use, resource extraction, and renewable energy adoption. The green economy has also influenced international environmental law, driving a paradigm shift in global agreements, including the Rio Declaration and the Paris Agreement. This paper examines the legal principles underpinning the green economy, exploring its alignment with existing frameworks and its role in global environmental governance. In conclusion, the green economy offers a pragmatic, transnational strategy for achieving sustainable development, fostering a synergy between human prosperity and ecological health for a more harmonious future.

Keywords: Green Economy, Sustainable Development, Environmental Protection, International Environmental Law, Ecological Resilience

1. Introduction

One of the most significant outcomes resulting from the global increase in population is the surge in energy consumption and the growing demand for resources [1], [2]. With over half of the world's population residing in urban areas, the call for energy and its consumption in cities far exceeds that in rural regions, thereby making urban areas major contributors to carbon emissions and other detrimental pollutants, posing a notable threat to the environment [3],[4].

Given the limited nature of non-renewable resources, the pursuit of clean and renewable energy sources becomes imperative [5]. The concept of sustainable development has been a topic of international discourse for several decades, aiming to address these challenges [6],[7]. Sustainable development holds a central place within the sphere of international environmental law, aiming to integrate economic, social, and environmental facets [8]. The endeavor to achieve sustainable development has seen a plethora of national and international actions, manifesting in an array of initiatives and policies seeking its realization [9],[10].

Sustainable development emphasizes the interconnectedness of economic, social, and environmental components, urging diverse systems to prioritize overarching regulations. Governments have undertaken a range of schemes and strategies in their pursuit of sustainable development objectives, aligning with this core principle [11],[12]. The terminology of "sustainable development" gained momentum following the 1992 Rio Earth Summit and has since remained an intrinsic theme within international environmental law discussions, underscoring its enduring significance [13].

While the notion of sustainable development had been touched upon prior to the Rio Summit, it was in 1992 that the explicit declaration of sustainable development emerged. Subsequent international conferences and agreements consistently underscored the relevance of sustainable development, indicating its enduring pertinence [14],[15].

The transition from conventional economic approaches to a green economy, where ecological considerations are paramount, is not only achievable but also essential [16]. This transition acknowledges the finite nature of resources inherent in traditional economics and underscores the necessity of factoring in the rights of both current and future generations [17],[18]. Aligning economic principles with ecological concerns forms a cohesive framework for the realization of sustainable development [19].

Pressing global challenges, including economic upheavals, population growth, food security, and climate change, have impelled the United Nations to continue advocating for sustainable development [20],[21]. The Rio+20 conference in 2012 marked a significant milestone, focusing on evaluating progress and plotting a trajectory for the future [22],[23].

A nation's developmental trajectory necessitates a comprehensive approach towards sustainable development, with the green economy emerging as a pivotal tool [24]. This approach not only fosters poverty alleviation, enhanced well-being, and social equity but also enables governments to scrutinize and enhance their performance in this domain [25],[26].

At the core of this research lies a fundamental inquiry into the essence and role of the green economy in realizing sustainable development [27]. This study endeavors to elucidate the concept of the green economy and its interconnectedness with sustainable development, while also scrutinizing recent international endeavors in this sphere [28],[29]. By delving into the green economy within the contours of sustainable development, this research seeks to present a comprehensive analysis of global endeavors and trends in this realm [30],[31].

2. Transition from Neoclassical Economics to Green Economy

Moving from neoclassical economics to a green economy involves a significant shift in focus. The industrial revolution had profound effects on human life, leading to economic growth and raising concerns about the equitable distribution of capital between economic players and labor rights in certain countries [32],[33]. This prompted the development of economic theories centered around key production factors: capital and labor [34],[35].

In the 1970s, the emergence of environmental issues sparked worries in the economic sector [36]. Stricter adherence to environmental standards in production was believed by economic actors to potentially hinder economic growth. The gradual integration of economic, social, and environmental dimensions commenced with the Rio 1992 Conference and remains a central agenda for governments and international bodies [37],[38]. The concept of a green economy is pivotal in harmonizing these dimensions, and sustainable development hinges on its implementation [39],[40].

Most economists, regardless of their economic leanings, concur that immediate action is needed to address environmental concerns. Renowned economists like Pigou, Samuelson, and Quaz introduced concepts such as externalities, public goods, and the polluter-pays principle to tackle environmental challenges. Over time, these concepts evolved into vital components of environmental economics [41],[42].

Economic progress is inevitable for societies, yet overlooking environmental considerations can jeopardize development stability [43]. An inclusive approach to consumption policies plays a vital role in enhancing economic growth efficiency, generating employment, achieving well-rounded development, and safeguarding the environment [44]. Hence, transitioning towards a green economy is a strategic solution to confront global environmental issues. In conjunction with eco-friendly technologies, the application of the polluter-pays principle stands as a potent mechanism [45]. Today, this principle constitutes a cornerstone of international environmental jurisprudence [46].

In 1974, the polluter-pays principle was introduced as a means to prevent pollution and incentivize European nations to utilize environmental resources responsibly [47],[48]. The Rio Declaration of 1992 underscores the responsibility of national authorities to internationalize environmental safeguarding costs and employ economic tools that ensure polluters bear the cost of their actions, all while fostering public welfare and without hampering international trade and investment [49],[50].

This principle serves a dual purpose: preempting pollution and compensating for environmental harm. Prior initiatives primarily focused on prevention and were centered on government oversight and public authority regulation of environmental quality [51].

Employing market-driven economic instruments can significantly contribute to environmental preservation [52],[53]. These instruments motivate economic agents to curtail pollution by adhering to set standards [54]. Taxation plays a pivotal role in internalizing externalities. Imposing taxes on producers of pollutant-laden goods encourages adherence to product quality standards [55],[56]. Internalizing externalities translates to setting taxes proportionate to the environmental harm stemming from specific goods' production [57]. Economically, it makes sense for economic agents to strive to minimize their costs, especially those linked to increased prices due to environmental taxes. However, excessively high taxes could result in inflated prices, impacting shareholders' profits and workers' wages. Conversely, consumers, through taxation on goods and services, contribute to pollution reduction and absorb additional costs [58],[59].

Making the transition to a green economy and implementing measures like the polluter-pays principle and internalizing externalities via taxation play a pivotal role in environmental preservation and sustainable development [60]. This approach effectively balances economic growth and environmental concerns [61]. The discussion about the importance of the polluter-pays principle for preventive purposes should not deter us from examining its compensatory role. The application of the polluter-pays principle as a restorative measure is achievable [62].

While the preventive aspect primarily involves actions to avert environmental damage, the compensatory aspect focuses more on rectification. As guided by the fundamental principle of rights, ensuring that no harm goes uncompensated necessitates addressing significant environmental harm and providing restitution [63].

So it is essential to turn to principles of civil liability to address environmental damages [64],[65]. The majority of international regulations and norms concerning civil liability are based on a concept of strict liability. The Lugano Convention on civil liability for hazardous activities affecting the environment emphasizes the appropriateness of establishing a system of strict liability, considering the polluter-pays principle [66]. In this form of liability, questions of fault, negligence, or disregard, which are foundational in theories of fault-based liability, are not relevant. Thus, as previously mentioned, the compensation for damages is essential, and the responsibility for covering these costs lies with the party responsible for causing the harm [67].

It is evident that preventive measures and the utilization of economic instruments can play a crucial role in internalizing the costs of externalities and the burden of environmental damages through the polluter-pays principle. The implementation of this principle within each country's legal framework in the field of environmental protection can contribute to sustainable development and the harmonization of its three key dimensions.

Fig .1: Interplay of the environmental, economic, and social aspects of sustainable development.

3. Integrating environmental dimensions into the framework of a green economy

Incorporating ecological dimensions into the framework of a green economy leads to achieving sustainable development with economic, social, and ecological facets. Finding a balance between economic and environmental concerns requires us to depart from the traditional development model and establish the foundation for implementing an eco-friendly economic approach. The conventional development approach, which prioritizes maximizing natural resource utilization without regard for the rights of present and future generations, inevitably imposes adverse effects on the environment. Changing production methods and adapting consumption patterns represent effective strategies for optimizing natural resource utilization.

Tackling global environmental challenges demands a shift toward a green economy. Embracing a green and ecological economic model aims to curtail greenhouse gas emissions, safeguard natural resources, promote social and individual equity, and address inequalities. A significant objective of the green economy is reducing greenhouse gas emissions. Effectively transitioning to a green and ecological economy necessitates the reduction of these emissions. The Framework Convention on Climate Change, established in 1992, stands as one of the most important international agreements aimed at preventing an increase in greenhouse gas emissions. The central goal of this convention is to stabilize the emission levels of these gases. In this regard, signatory states committed, as stipulated in Annex I of the convention, to revert their greenhouse gas emissions to 1990 levels by the year 2000. The formulation of the Kyoto Protocol aimed to develop practical measures for reducing greenhouse gases.

The need for implementing these measures stems from the fact that an escalation in greenhouse gas emissions poses a significant challenge for the global community. The consequences of climate change encompass a range of outcomes, including rising sea levels, tsunamis, challenges related to environmental biodiversity, and more. The Kyoto Protocol obliges industrialized nations to reduce their greenhouse gas emissions by an average of 5.2% in comparison to their emissions levels during the years 1990 to 2012. To fulfill these commitments, the Kyoto Protocol introduced flexible mechanisms. The United Nations Framework Convention on Climate Change, similar to numerous other analogous conventions, outlines fundamental principles and commitments related to collaboration among nations in a specific domain, while assigning the particulars of cooperation to protocols or supplementary agreements [3].

It is worth noting that the connection and reliance between the Framework Convention (primary instrument) and protocols or supplementary agreements (subsequent instruments) maintain the autonomy of each document from the others. From a legal perspective, each of these documents is deemed an international treaty, but with the distinction that only states that are parties to the Framework Convention (primary instrument) can become parties to its supplementary protocols or agreements (subsequent instruments). As such, the Kyoto Protocol aims to elucidate and delineate the boundaries of the commitments outlined in the Framework Convention for reducing greenhouse gas emissions. To achieve this, the Kyoto Protocol set in motion a tripartite approach involving emissions trading, joint implementation, and clean development.

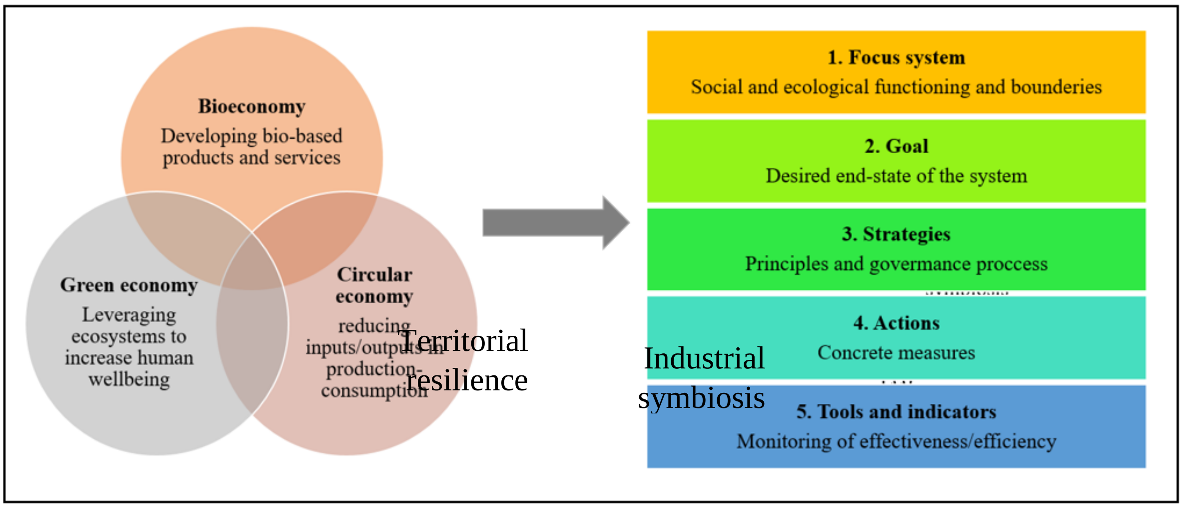

Fig .2: Integrating the green economy, circular economy and bio-economy in a strategic sustainability framework.

- **Emissions Trading Mechanism or Emissions Trading Rights Mechanism:** This approach permits participating nations that have committed to reducing greenhouse gas emissions to trade their allotted emissions rights as part of meeting their obligations. Consequently, a country that surpasses its prescribed emissions reduction targets on the global stage can transfer its excess emissions allowances to another nation [5].

- **Mechanism of Collaborative Implementation (MCI):** This approach enables participating nations to collaborate and potentially obtain emissions reduction credits from executed projects aimed at reducing greenhouse gas emissions in other developed countries. Within the framework of the Kyoto Protocol, both parties involved, namely the host nation and the investing nation, are required to make reductions in greenhouse gas emissions. As an example, Country A could undertake a power generation initiative in Country B, resulting in lowered emissions. Alternatively, Member Country A could also establish and execute an emissions reduction project within Member Country B to fulfill its emissions reduction commitment. Hence, by engaging in such endeavors, Member Country A can gain emissions reduction credits.

- **Clean Development Mechanism (CDM):** The Clean Development Mechanism functions similarly to the Collaborative Implementation mechanism, but with a key difference – it emphasizes projects or initiatives geared towards development. Within the framework of the Clean Development Mechanism, initiatives aimed at reducing emissions of greenhouse gases are put into action. The main contrast between the Clean Development Mechanism and the Collaborative Implementation mechanism lies in the fact that the host nation is a developing country. This mechanism entails the involvement of both member nations and developing countries.

To aid industrialized nations in fulfilling their commitments at a reduced cost, a mechanism has been established that allows them to execute emission reduction projects in developing countries. This offers the advantage of implementing emission reduction initiatives in a developing country at a lower cost while receiving emission reduction credits in return. This mechanism significantly contributes to achieving sustainable development in these developing nations. Consequently, the Clean Development Mechanism not only plays a pivotal role in ensuring countries' commitment to reducing greenhouse gas emissions, but it also serves as a means to foster sustainable development and economic advancement in developing countries.

Among the essential criteria for the viability of projects under the Clean Development Mechanism, two aspects stand out: additionally, and sustainable development. The concept of additionally stipulates that the proposed project should result in a reduction of emissions beyond what would naturally occur without the project. In other words, emissions should be lower than they would be without the project. The second criterion, outlined in Article 12 of the Protocol, holds significant importance. The objective of the Clean Development Mechanism is to support non-Annex I parties (developing countries) in achieving sustainable development and to assist Annex I parties (developed countries) in fulfilling their commitments to emission reduction and limitation, as specified in Article 3 [6].

Thus, it can be inferred that the Clean Development Mechanism is an effective and rational approach, as both parties involved (investor country and host country) perceive tangible benefits. Developed countries, by investing in development projects in developing nations, can take substantial steps toward meeting their reduction commitments while gaining recognition for their emission reduction efforts. Developing nations can also reap advantages from increased investment in clean development projects, leading to decreased greenhouse gas emissions and contributing to sustainable development. This is why governments, in the final document of the Rio+20 Conference, have reiterated the necessity of enhancing international cooperation in green economy policies, including the provision of financial resources, capacity building, and technology transfer to developing nations.

To delve deeper into the concept of the green economy, we will further explore its emergence during the Rio+20 Conference.

4. Formation of the Green Economy within the Framework of the Rio 2012 Conference

Similar to the significance of the 1992 Rio Conference, the Rio+20 Conference held great importance as it saw active participation from numerous countries and international organizations. Alongside reviewing previous efforts in sustainable development, this conference confronted the pressing challenges that the global community faces in terms of sustainable progress. Assessing the international community's track record in this field provides a blueprint for shaping future sustainable development and establishing a framework for advancement in the years ahead. Notably, participation in this conference extended beyond UN member states and international bodies to encompass non-governmental organizations [7].

The conclusive document of the conference bore the title "Our Aspirations for the Future." This document encompassed four distinct sections, addressing issues related to (a) renewed political commitments, (b) the integration of the green economy into the sphere of sustainable development and poverty reduction, and (c) the establishment of an institutional framework for sustainable development.

In the preamble of this document, particular emphasis was placed on eradicating all forms of poverty, fostering inclusive economic growth, realizing millennium goals, bolstering collaborative efforts, scrutinizing existing and emerging challenges, prioritizing human development, and reaffirming commitments to sustainable development while bridging existing gaps. Governments remain resolute in their commitment to leave no stone unturned in promptly attaining globally agreed-upon development goals and millennium targets by the year 2015. The final document of the Rio+20 Conference leans on three fundamental pillars for the renewal of political commitments.

a) **Highlighting the Principles of Rio and Previous Action Plans Regarding the Environment and Sustainable Development:** The document in question emphasizes and reconfirms the comprehensive compilation of international documents formulated before the Rio 2012 Conference. The majority of these cited documents take the form of declarations, action plans, or strategies, which lack a strict legal obligation in the exact sense. However, simultaneously, reference is made to treaty documents such as the United Nations Framework Convention on Climate Change, the Convention on Biological Diversity, and the United Nations Convention to Combat Desertification, underscoring the importance of these three documents in promoting sustainable development. All member states are encouraged not only to fully uphold their commitments to the principles and regulations set forth in these documents but also to implement effective and specific measures across all levels and enhance international cooperation [8].

b) **Strengthening Integration, Implementation, and Cohesion:** Assessing the Progress Accomplished and Uncovering Existing Gaps in the Execution of Goals set forth in Major Sustainable Development Conferences, while also Addressing Persistent and Emerging Challenges. The strides made in the realm of sustainable development and poverty alleviation have not been evenly distributed, prompting governments to emphasize the importance of upholding previously established commitments. Bridging the developmental disparities between developing and developed nations, creating conducive environments, and bolstering international cooperation, particularly in areas such as finance, lending, trade, and technology transfer, have been underscored.

   Beyond achieving seamless integration of the three dimensions of sustainable development, it is crucial to address multifaceted and interrelated issues encompassing financial, economic, food, and energy crises, which have notably impacted the capacities of various countries, especially those undergoing development. For instance, over a billion individuals worldwide still endure severe poverty, and approximately 14% of the global population grapple with malnutrition, shedding light on ongoing concerns related to public health and infectious diseases.

   Additional barriers hinder the attainment of sustainable development, including specific challenges faced by vulnerable countries, particularly in Africa, less developed landlocked nations, countries with moderate incomes, or those embroiled in conflict. It is noteworthy that distinct action plans or strategic pathways were designated for each of these challenges prior to the Rio +20 Conference, and the final conference document reaffirms and validates these approaches [9].

c) **Prominent Entities and Other Involved Parties:** The latest notable aspect receiving attention during the recommitment to political principles is the significance of major entities and influential stakeholders. Thus, this section initially delves into the topic of broad public participation. Participation signifies the inclusion of all voices in decision-making hubs. Genuine participation involves the capacity and opportunity to influence public decision-making processes, requiring continuous and active involvement. Citizen and stakeholder engagement prompts governments to make well-informed choices, considering the needs and requisites of these stakeholder factions, enabling them to safeguard their own interests. An inclusive approach triggers the involvement of groups directly or indirectly impacted by decisions, fostering a sense of ownership among them. This engenders the perception that the accomplishment or shortcomings of endorsed plans are attributable to their actions. The deeper the sense of belonging among citizens and stakeholder groups, the more dynamically they become engaged in the decision-forming process.

   The role of the general populace and their involvement in sustainable development is fundamentally assessed, particularly with regard to their entitlement to access information and their accessibility to administrative and legal avenues for fostering

> sustainable development. Once again, reference is made to the tenets of Article 10 of the Rio Declaration of 1992, underscoring its observance within the domain of sustainable development. Attaining information and participating in decisions pertaining to policies and programs for sustainable development, along with their conception and implementation at all levels, are focal points of the global community's interest. Consequently, primary and influential groups such as women, youth, non-governmental organizations, indigenous communities, labor unions, farmers, fishermen, and others are accentuated in the arena of sustainable development, emphasizing the active role of civil society in driving sustainable development [10].

As demonstrated above, the concept of a green economy has gained unprecedented attention on the agendas of certain governments and international bodies, as it holds the potential to advance sustainable development. This economic approach, while placing a strong emphasis on the value of nature and the environment, plays a pivotal role in eliminating poverty and addressing its root causes. By examining the implementation plan of the Johannesburg World Summit on Sustainable Development, it becomes evident that the core pillars of sustainable development—economic growth, social advancement, and environmental preservation—remain central. The fight against poverty, adaptation to changes, reform of unsustainable production and consumption models, and the responsible management of natural resources for both economic and social progress are deemed imperative.

The key divergence in the final document of the Rio+20 Conference from its predecessors regarding sustainable development is the specific focus on the green economy. However, this viewpoint is not universally shared, and some countries have reservations about embracing the notion of a green economy. Skepticism and concerns voiced by developing nations, such as Brazil, stem from the fear that adopting a green economy might hinder their economic momentum and stifle growth. The sentiments expressed by Bolivia's President Morales during the Rio+20 Conference underscore this sentiment. He characterized the green economy as a form of "new colonization" imposed by economically prosperous countries onto developing nations. This perspective is rooted in the belief that developed nations may intervene in the domestic policies of developing nations under the pretext of environmental protection. This issue also emerges in the context of trade relations between developed and developing countries. The stance of developing nations on this matter appears somewhat ambiguous, as they exhibit a lack of enthusiasm for international trade liberalization due to concerns about direct competition with larger industrialized nations [11].

In parallel, these countries perceive the restrictions and limitations on international trade through an ecological lens, viewing them as potential impediments to domestic production competitiveness and barriers to accessing markets in developed countries. These countries interpret these constraints as significant measures that primarily serve the interests of developed nations when implementing their trade policies. Conversely, industrialized countries regard constraints on international trade as vital for mitigating environmental issues. Consequently, they do not exhibit conflicting perspectives on environmental protection policies and strategies. Some nations, like the United States, oppose certain environmental protection measures and agreements, such as multilateral agreements like the Convention on Biological Diversity and the Kyoto Protocol, due to economic and trade considerations, which serves as compelling evidence of their standpoint.

During the Rio+20 Conference in 2012, President Rafael Correa of Ecuador highlighted that "60% of greenhouse gases are generated by the wealthiest 20% of countries, whereas the poorest 20% of nations contribute less than 1% of these emissions." Responding to global leaders' calls for environmental protection, India's government asserted that a "green economy is perceived as exploiting nature and committing an offense against the Earth and humanity."

Although a green economy may pose immediate challenges for developing nations, its long-term potential lies in substantial contributions to job creation, capacity enhancement, and social integration, ultimately aiding poverty alleviation. The eco-friendly nature of this economy and its rational, equitable resource utilization will promote sustainability and resource renewal. This, in turn, reinforces the third pillar of sustainable development, which is environmental preservation.

Consequently, the green economy emerges as a pivotal aspect of both sustainable development and the eradication of poverty, with each country adopting diverse strategies, viewpoints, models, and tools tailored to their specific circumstances and national priorities. The green economy should be viewed as an opportunity rather than a threat, as its realization serves as a potent instrument for achieving sustainable development and presents potential solutions for shaping policies [12].

The final Rio+20 Conference document outlines prerequisites for advancing green economy policies within the context of sustainable development and poverty eradication. It initially emphasizes the alignment of these policies with Rio's principles, the Agenda 21, and the Johannesburg Plan of Implementation. Subsequently, it provides an extensive inventory of conditions for harmonizing these policies:

- **a)** In line with international rights.
- **b)** Respecting the sovereignty of each nation over its natural resources, taking into account its circumstances, objectives, responsibilities, national priorities, as well as the degree of influence in decision-making regarding the three dimensions of sustainable development.
- **c)** Assigning a primary role to governments and engaging all relevant stakeholders, including civil society, emphasizing environmental considerations, and acknowledging institutions appropriately involved at all levels.
- **d)** Promoting sustainable and inclusive economic growth, facilitating innovation, providing opportunities, privileges, and practical tools for all, and ensuring the protection of human rights for all.
- **e)** Addressing the needs of developing countries, particularly those with unique circumstances.
- **f)** Enhancing international cooperation, encompassing financial resources, capacity development, and technology transfer to benefit developing nations.
- **g)** Avoiding the imposition of unjust conditions in development and financial assistance.
- **h)** Refraining from arbitrary or unjust discrimination, hidden limitations on global exchanges, abstaining from unilateral actions for addressing major ecological issues beyond the importing country's jurisdiction, and focusing on globally and regionally agreed-upon environmental solutions whenever possible.

i) Contributing to bridging the technology gap between developed and developing countries, reducing the technological dependency of developing nations through all available means.
j) Enhancing the well-being of indigenous communities, local and traditional populations, ethnic minorities, by acknowledging and relying on their identity, culture, and interests, refraining from jeopardizing their cultural heritage, practices, and traditional knowledge, while upholding and respecting non-commercial approaches that contribute to eradicating poverty.
k) Improving the welfare of women, children, youth, persons with disabilities, miners, small-scale farmers, fishermen, and workers in small and medium-sized enterprises, enhancing livelihoods and independence of indigenous and vulnerable groups, particularly in developing countries.
l) Supporting the empowerment of all capacities provided to women and men and ensuring their equitable participation.
m) Promoting productive endeavors to alleviate poverty in developing countries.
n) Addressing concerns pertaining to inequality and social integration, especially providing essential social support.
o) Boosting sustainable patterns of production and consumption.
p) Continuing efforts aimed at implementing equitable and non-exclusive development approaches to combat poverty and disparities.

Most of the specified conditions for promoting green development policies have been recognized in both the initial and subsequent phases of sustainable development documents. Some of these conditions possess a broad and overarching nature, such as the first condition, which entails harmonizing green economic advancement policies with international rights within the framework of sustainable development and poverty alleviation [13].

To gain a deeper understanding of the topic, the concept and legal aspects of the green economy will be examined in the upcoming section.

5. Definition and Legal Characterization of the Green Economy

The emergence of international environmental law has directed global attention towards a range of environmental concerns. Among these, the concept of the "Green Product" or "Green Economy" and "Green Growth" entered economic discourse in the 1970s. The term "Green Economy" is commonly juxtaposed with the "Brown Economy," referring to an economy heavily reliant on non-renewable fossil fuels. Adherence to environmental regulations across production stages ensures that resulting products can be labeled as "green." To delve deeper into this topic, an analysis of the concept and legal dimensions of the green economy is in order.

Diverse definitions and interpretations of the green economy have surfaced over time. This concept can be examined both at a microeconomic and macroeconomic level. At the micro level, the "Green Economy" pertains to small-scale economic endeavors where factories and enterprises engage in producing environmentally friendly goods. On the macroeconomic front, the scenario becomes more intricate, as the mere production of green goods is insufficient. A comparison between the production of such goods and the utilization of non-renewable resources is necessary. This analysis determines the share of green products within a country's Gross Domestic Product (GDP), separate from revenues generated from non-green sources like oil. As a result, scrutinizing the share of each of these products in the GDP provides insight into the green economy's position within the broader macroeconomic landscape [14] .

The European Union perceives the green economy as a means of "promoting growth, generating employment, and alleviating poverty through investment in nature for the long-term well-being of the Earth." The EU accentuates factors such as economic growth, reduction of carbon emissions, and efficient resource utilization as pivotal steps towards realizing a green economy. To implement these measures, the European Commission focuses on market mechanisms such as tariffs, customs duties, and environmental subsidies, all of which are considered instruments for attaining the economic, social, and environmental aims of sustainable development.

The United Nations' "Green Economy Programme" regards the green economy as a conduit to enhance human welfare, foster social justice, and tackle environmental risks and resource scarcity. A common thread among various interpretations of the green economy is the reduction of carbon emissions. From the UN perspective, the green economy seeks to strengthen alignment between the three dimensions of sustainable development: economic growth, environmental sustainability, and social equity.

In economic analysis, the cost-benefit principle is pivotal in sustaining activities and promoting competitiveness. The higher economic costs associated with producing green products pose challenges for producers. In the short term, the production of such goods may deter businesses and factories in developing nations, as adhering to environmental standards may not be economically viable. Some developing countries contend that the bulk of carbon emissions stem from industrialized nations and that they are in the initial stages of development, making it challenging to justify the economic costs of abiding by environmental norms [15].

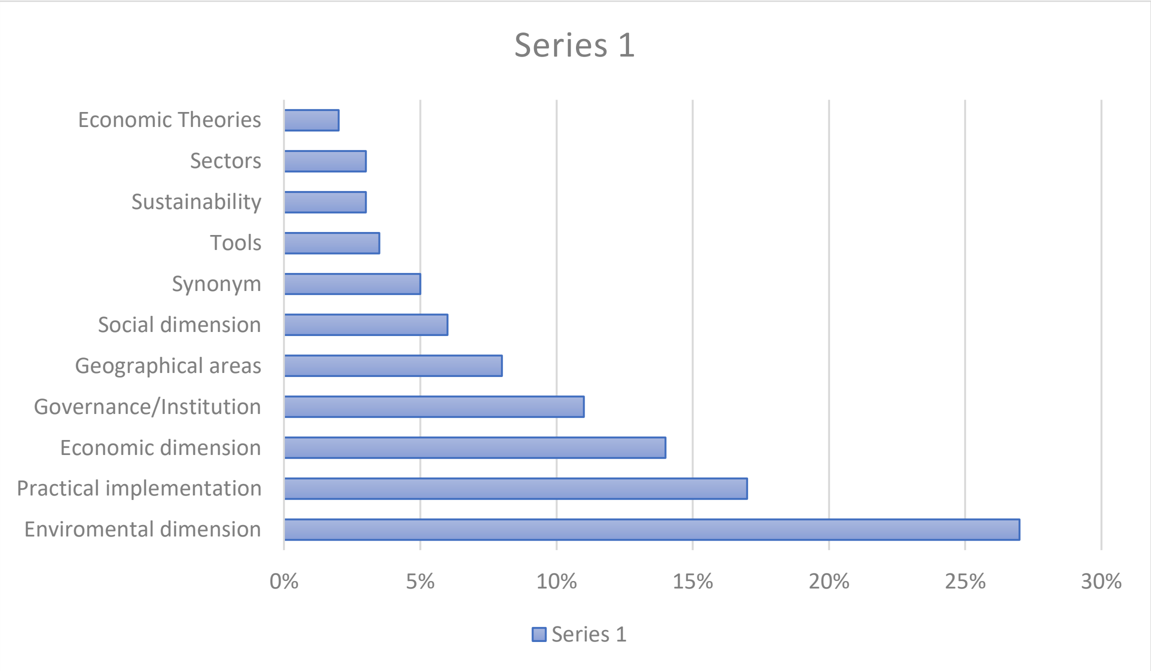

Fig .3: Green economy and related concepts.

The transition to a green economy is regarded as a prerequisite for achieving sustainable development. Assuming sustainable development is a rule or principle, this implies that the green economy forms an integral part of it. Amid ongoing debates among legal scholars regarding the nature of sustainable development, characterizing the green economy's nature as a principle remains uncertain. Despite numerous environmental documents from the 1990s underscoring the theme and objective of sustainable development, and many countries' constitutions indirectly or directly emphasizing it, the International Court of Justice (ICJ) has refrained from definitively labeling sustainable development as a "principle." Nonetheless, it is evident that the concept of sustainable development can be seen as an overarching policy necessitating strategic approaches to realize it.

Having explored the broad concept of the green economy and its legal essence, it becomes imperative to scrutinize the goals and stakeholders of the green economy.

6. Green Economy Trailblazers and Economic Actors

As previously emphasized, the preservation of the environment confronts numerous complex challenges. To counter these emerging ecological issues, the global community has introduced the concept of the green economy, aiming to address specific environmental predicaments. The fundamental objectives of the green economy can be succinctly summarized as follows:

- **a)** Addressing greenhouse gas emissions.
- **b)** Safeguarding precious natural resources.
- **c)** Prioritizing equity and social justice.

Undoubtedly, the realization of these objectives necessitates collaborative efforts from all international stakeholders [16-17].

In the realm of international law, a diverse array of participants has entered the global stage. Beyond states and international organizations, new entrants are actively involved in shaping, executing, and overseeing international regulations and norms. This trend extends to the domain of environmental international law as well.

Significant importance must be attributed to the primary and foundational entities of international law. The partnership and dedication of states to their international commitments across all sectors, including the green economy, will play a decisive role. While the green economy isn't legally mandated as a binding commitment, a shift toward it is imperative for attaining sustainable development. For instance, a pivotal target of the green economy is the reduction of carbon emissions. Realizing this objective hinges on the cooperation of nations with the highest carbon emissions.

The application of policies advancing the green economy ensures a progression toward sustainable development. Yet, such implementation requires collective endeavors. The production of eco-friendly products entails active involvement from both producers and consumers, with each party assuming a vital role in achieving the desired outcomes. Producers who adhere to environmental criteria and regulations substantially contribute to the creation of green products. Meanwhile, consumers who opt for these products complete the cycle. The manufacturing of green products is contingent on adhering to standards and harnessing clean energy sources, which, in turn, culminates in the conservation of natural resources and guarantees sustainable development. Although green products may command a higher price, the willingness of consumers to pay the extra cost hinges on their societal awareness and understanding [18].

In this context, governments assume a pivotal role, overseeing the production and consumption of green products while promoting their uptake among consumers. Governmental backing through tax incentives and exemptions for green product producers can serve as potent incentives. Thus, governmental involvement is paramount and holds immense potential for driving effective sustainable development. The final document of the 2012 conference underscores the implementation of green economy policies by nations collectively committed to sustainable development. It underscores that each country can adopt a fitting approach aligned with its national plans, strategies, and priorities.

The second set of key players in this field are international organizations. Combining economic, trade, and environmental matters, along with establishing regulations in this domain, can make a substantial contribution to enhancing the state of the environment. The establishment of a green economy within the framework of the United Nations, in conjunction with initiatives by the World Bank and the United Nations Environment Programme (UNEP), warrants examination. The World Bank's attention to environmental concerns traces back to the 1980s, prompted by the pressures exerted by non-governmental entities in major shareholder countries of the bank, specifically highlighting the environmental repercussions. Between 1984 and 1994, the World Bank formulated approximately 400 documents categorized as "Support Policies," "Operational Guidelines," "Strategic Directives," "Prevention and Pollution Reduction Handbook," and "Best Practice Guide." These documents encompass a range of topics, including environmental assessment, ecological habitats, indigenous populations, forests, pesticides, dams, forced migrations, as well as water and energy management.

The World Bank allocates investments to environmental initiatives, although this financial allocation never surpasses 10% of the overall investment. Generally, the implementation of environmental policies by the World Bank is constrained in scope. The World Bank classifies projects based on their ecological impacts into three groups, with only projects presenting significant risks undergoing comprehensive scrutiny and local consultation. In the 1990s, about 186 projects, constituting a mere 12% of Group A projects deemed high risk, underwent thorough environmental evaluations. Over half of the Bank's undertakings were deemed to have no adverse impact on the environment. Nonetheless, certain projects have faced strong criticism. Activities such as extensive dam constructions or industrial exploitation of forests in countries like Brazil or Indonesia have encountered significant disapproval due to their detrimental effect on forest ecosystems.

In 2012, the World Bank drafted a report named "Pathway to Sustainable Development: Inclusive Green Growth." In this report, the World Bank encourages governments to steer their policies toward inclusive green growth. The recent report from the World Bank underscores the following points:

- **a)** The importance of "Efficient Green Growth" as a necessary component for achieving sustainable development.
- **b)** Recognizing that political barriers, inflexible behaviors, established norms, and the absence of vital financial mechanisms pose the primary obstacles to green growth. The focus should be on policies and investments spanning the next 5 to 10 years, with the aim of transitioning away from unsustainable growth and avoiding detrimental health effects.

- **c)** Progress hinges on adopting interdisciplinary solutions that address economic, political, sociocultural, and psychological facets.
- **d)** Acknowledging that green growth isn't a one-size-fits-all concept; it should be grounded in varied strategies customized to each country's circumstances, priorities, and local resources. This perspective asserts that all countries, regardless of wealth, possess the potential to pursue green growth without compromising their developmental trajectory.

The report from the United Nations Environment Programmer titled "Towards a Green Economy: Pathways to Sustainable Development" stands as a groundbreaking effort in elucidating the concept of a green economy [19-21]. So it is apt to briefly touch upon the role of UNEP in shaping the green economy and highlight key aspects outlined in this report. The recent UNEP report holds significance for the following reasons:

- **a)** It explicitly delves into the idea of a green economy.
- **b)** It offers practical strategies for governments to adopt.
- **c)** It serves as a guiding document for discussions at Rio+20 concerning the green economy.

Summarizing the findings of the UNEP report:

- Merely 2% of the global Gross Domestic Product (GDP) is invested in 10 pivotal sectors, facilitating a shift towards a low-carbon economy and judicious resource utilization.
- A highly green economy not only spurs the growth of natural capital but also enhances overall gross domestic income.
- Embracing a green economy encourages investments in natural capital and amplifies its value.
- The green economy plays a role in combating poverty.
- Progressing towards a green economy gradually results in the creation of fresh job opportunities.
- Prioritizing public expenditures and investments in areas conducive to ecological transformation across economic sectors is fundamental.
- The green economy has the potential to fuel growth and generate employment, akin to the coffee economy, yielding optimal environmental and social outcomes in both the short and long term.

Various stakeholders, including economic players, local communities, unions, farmers, citizens, and civil society as a whole, can assume diverse roles. Economic actors play a pivotal role in optimizing resource production and utilization, minimizing waste, and more. The transition to a green, ecological, and equitable economy necessitates active collaboration from non-governmental entities. After scrutinizing the nature and rationale behind the subject, we will delve into the favorable conditions for transitioning to a green economy and the global initiatives in this sphere [22].

7. Transitioning to a green economy entails certain conditions and prerequisites

Moving towards a green economy certainly involves several regulatory measures, including addressing the obstacles that hinder green investments. Creating a favorable environment for transitioning to a green economy undoubtedly benefits from regulations. Setting minimal standards can effectively counter the unpredictability of certain economic activities. Establishing technical standards for products and production processes on both national and international levels is a crucial aspect of this framework. On a global scale, improving energy conditions and efficiency, as seen through various mechanisms in the Kyoto Protocol aimed at reducing carbon emissions, serves as a significant tool for achieving environmental objectives. Encouraging green investments across different economic sectors is another key factor that can facilitate the shift from a fossil fuel-dependent economy to a sustainable green one.

Subsidies are economic tools that have varying impacts on countries' economies, often creating artificial markets. One of the significant downsides of subsidies is their potential to distort prices. These distorted subsidies artificially lower the commercial costs of activities within an unstable environmental context. A significant global environmental concern relates to subsidies allocated to fossil fuel production and consumption. In 2008, subsidies for fossil fuel consumption were estimated at $557 billion, while subsidies for fossil fuel production were estimated at $100 billion. These subsidies not only harm the environment but also impede the development of renewable energy technologies. Gradually phasing out subsidies linked to fossil fuel production and consumption could potentially lead to a 6.9% reduction in greenhouse gas emissions.

It is important to note that subsidies extend beyond the energy sector and apply to areas such as agriculture, transportation, and fisheries, among others. Subsidies directed at clean and renewable energy sources are inherently different from those aimed at fossil fuels. Clean energy subsidies promote environmentally friendly investments and help mitigate greenhouse gas emissions [23-25].

Taxes serve as another economic tool that aids in achieving maximum societal welfare. Tax revenues play a pivotal role in sustainable development and social equity. Imposing taxes on production and consumption acts as a suitable response to safeguarding the environment. This concept was originally introduced by the English economist Pigou. Incorporating the costs of environmental damage caused by the production and consumption of goods and services into their prices forms the theoretical basis of the Pigouvian approach. Polluters should bear taxes proportionate to the extent of environmental pollution. The "polluter-pays" principle has been integrated into international environmental law and further developed within the framework of economic development cooperation during the 1970s.

Negative externalities arising from the production of goods or services can significantly impact the environment without being accurately reflected in the goods' or services' prices. For instance, the use of chemical pesticides and fertilizers can have substantial adverse effects on soil and groundwater, yet these damages are often not factored into the price of agricultural products. In this case, consumers of these products benefit from market prices that do not truly represent the actual cost of the product. Hence, incorporating the costs of environmental damages allows for a more accurate reflection of the actual product price.

8. Conclusion

Substantial efforts have been undertaken by the global community since the 1990s to realize sustainable development. The Rio Conference of 1992 marked a pivotal moment in addressing the concept of sustainable development. Achieving economic, social, and environmental dimensions of development necessitates a shift from a fossil-fuel-dependent economy to a more environmentally friendly one, known as a green economy. The Framework Convention on Climate Change and the Kyoto Protocol exemplify tangible steps toward curbing greenhouse gas emissions. The international community seeks the active participation of developed and developing nations to attain these objectives. However, it is regrettable to admit that, despite the flexible mechanisms outlined in the Kyoto Protocol, the prospects for effectively controlling greenhouse gas emissions are not particularly optimistic. This skepticism primarily arises from the hesitance of developing countries, notably China and India, to commit to preferential rights, as well as the non-adherence of the United States to the Kyoto Protocol. These combined entities account for over a quarter of global greenhouse gas emissions. In 2012, the Rio+20 Conference, encapsulated in its final document titled "The Future We Want," reemphasized the importance of sustainable development and underscored the significance of transitioning to a green economy. However, despite elevated expectations for substantial alterations in international environmental protection frameworks and the potential establishment of a "High Commissioner for Future Generations" and the elevation of the United Nations' Environmental Programme to a specialized international entity tasked with defining specific goals, the outcomes of the 2012 conference did not generate substantial optimism. It is crucial to underscore that the document failed to provide a precise definition of the green economy, which is pivotal due to its multifaceted implications. A clearly articulated definition of the green economy would be instrumental in implementing effective strategies and interpreting forthcoming economic and trade accords within the purview of the World Trade Organization. To conclude, it is imperative to acknowledge that sustainable development constitutes a binding commitment and necessity, not merely a discretionary option. Thus, the transition towards a green economy is an inescapable imperative.

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