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SUSTAINABILITY PROGRAM: TRANSITION AND IMPLEMENTATION IN A GREEN ECONOMY

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ABSTRACT
This research entitled "Sustainability Program: Transition and Implementation in a Green Economy" aims to examine the transition to a green economy and its implementation through meta-analysis. A green economy is an economic model that aims to improve human well-being and social equality, while reducing environmental risks and ecological scarcity. In this research, the meta-analysis method was used to combine the results of various previous studies relevant to this topic. Data was collected from academic journals, government reports, and case studies from various countries. The meta-analysis results show that the transition to a green economy requires significant structural changes in policy, technology and societal behavior. Implementation of sustainability programs shows varying results depending on regional context, technological readiness, and supporting government policies. This research concludes that despite major challenges, the transition to a green economy is a crucial step to achieve sustainable development. This study provides policy recommendations to accelerate this transition, including strengthening environmental regulations, incentives for green innovation, and increasing public awareness of the importance of the green economy.
Keywords : Green Economy, Tanzania, Indonesia, Europe, Sweden, India, Sustainable development

INTRODUCTION

In recent decades, the world has witnessed a significant impact of human activities on the environment. Environmental degradation, climate change and decline in biodiversity are some of the major challenges that global society must face today. In the midst of these challenges, there is an urgent need to change the traditional and unsustainable economic development paradigm to a more environmentally friendly model, known as the green economy. Theoretically, a green economy is a type of economy that increases social welfare and employment opportunities achieved through state and social investment, which guarantees a reduction in pollution and emissions, stimulates more efficient use of resources and energy, and prevents potential negative impacts on the ecosystem. , biodiversity, and the environment. Since 2012, the term “green economy” has been promoted as a climate mitigation framework, a driver of “greener” economic growth, and a tool for poverty alleviation. The main objective is to encourage sustainable development (United Nations Environment Program (UNEP, 2011). To ensure that natural resources and the environment benefit society now and in the future, development must be managed well by considering the carrying capacity of the environment. The development concept consists of from three pillars: economic, social and environmental factors. This concept emphasizes the importance of integrating environmental aspects in the economic decision-making process, with the aim of achieving a balance between economic growth, environmental preservation and social welfare.

Implementing a green economy is very important for a country because it has abundant natural wealth but is vulnerable to the negative impacts of unsustainable resource exploitation. Basically, the green economy aims to improve people's welfare, provide fair opportunities, and minimize environmental damage. This can be achieved through low-

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carbon development, natural resource efficiency and social inclusion. All of these are steps that can be taken to realize a green economy that is environmentally friendly. Green industry, clean production, and sustainable consumption and production are some examples of natural resource efficiency strategy programs. In practice, sustainable consumption and production can be used as an integrated approach. Apart from that, implementing a green economy also has the potential to create new jobs and encourage innovation. Investments in renewable energy, sustainable agriculture and environmentally friendly industries can create jobs for local communities and encourage the development of environmentally friendly technologies. This not only provides direct economic benefits, but also helps communities become more resilient to climate change and other environmental crises. Furthermore, a green economy can contribute to improved social welfare by ensuring fairer access to natural resources and economic benefits. This approach emphasizes inclusiveness and community participation in resource management, thereby reducing social and economic disparities. Thus, a green economy does not only focus on environmental aspects, but also pays attention to social and economic aspects holistically. Support from the government, private sector and society is essential to realize this vision. Through the right policies, economic incentives, and public education, some countries can achieve sustainable development and set an example for other countries in the region. In conclusion, implementing a green economy in several countries is not just an option, but is a necessity to ensure environmental sustainability, social welfare and long-term economic growth. With strong commitment and concrete action, countries will be able to overcome environmental challenges, create new economic opportunities, and realize the vision of inclusive and sustainable development.

RESEARCH METHODS

This research uses a meta-analysis method to examine the transition and implementation of a green economy. Meta-analysis is a statistical technique that combines the results of multiple independent studies examining the same topic to obtain more comprehensive and robust conclusions.

RESULT

- **Indonesian**

According to research (Masdar et al., 2022), the development of sustainability programs in Indonesia has been implemented in the public sector. This study shows that the implementation of economic and non-economic instruments has been announced by BAPPENAS. (Limanseto, 2022) Looking at the assessment of the current economic and social development conditions, in 2027, the Indonesian Government under the leadership of the Ministry of National Development Planning/BAPPENAS has decided to take important steps by embracing a new planning paradigm and system by inaugurating the Low Carbon Program. Development Initiatives (LCDI) into national development planning. Low carbon development is one of the transition strategies towards a green economy and sustainable development. Low carbon development is also the backbone towards a green economy to achieve the vision of a developed Indonesia in 2045 and achieve zero emissions by 2060. This program prioritizes the principles and tools of green economic growth into economic development and planning within a jurisdiction. Various resource-saving technologies and environmentally friendly practices are very necessary for the forestry and agricultural sectors. The program emphasizes a landscape-based approach, as forests, peatlands and land play an important role in providing services to communities. The National Medium Term Development Plan aims to achieve food, water and energy security through an integrated 'landscape approach' based on good ecosystem management. The landscape approach emphasizes the connectivity between ecosystems in various regions, such as entire river basins, as well as the relationships between land uses, their users, and the institutions that regulate them. This is the hallmark of the green growth approach. The green

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economic growth program seeks to achieve this government goal by valuing and incorporating ecosystem services in planning, policies, business models and investments.

(Bappenas, n.d.) By recognizing and exploiting the potential of ecosystems – so-called 'natural capital' – new opportunities for sustainable economic growth will open up. The Green Growth Program works with districts and provinces in project locations, to help formulate appropriate policies and open access to funding and markets. Activities that enable and encourage the implementation of a green economic growth approach in the context of a sustainable landscape are:

1. Encourage imvestment in new business models for forest and peatland management.
2. Build a sustainable supply chain.
3. Create new markets for natural capital and ecosystem sevices.
4. Bring forest managers closer to the forests they manage and the communities who depend on them.
5. Restore ecosystems at the landscape scale.
6. Mobilize forest carbon finance.

The Green Growth Program provides technical and financial support for project development, thereby reducing various risks and helping projects reach a bankable stage to attract environmentally friendly investments. Projects designed in the context of sustainable landscapes can become commercially viable business models, whether in the forestry sector or other related sectors, with stakeholder involvement.

- **Tanzania**

According to (Bergius et al., 2020) Tanzania's Minister of the Environment, Tereza Huvisa, introduced the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) as an important new tool for greening the country's economy. By focusing on profitable agricultural investment, infrastructure development and value chain development, as well as human resources combined with maintaining ecosystem services and natural capital in general. SAGCOT has the potential to improve the well-being of Tanzanians, but it is essential to ensure sustainable development. Implementation of environmentally friendly agricultural practices, ecosystem conservation, and inclusive community involvement need to be prioritized to achieve economic growth that is in harmony with environmental conservation. According to (Buseth, 2017) Tanzania has embarked on a journey towards a green transformation agenda through the large-scale agricultural initiative SAGCOT – Tanzania Southern Agricultural Growth Corridor. SAGCOT is a public-private partnership between the Government of Tanzania and more than 100 partners, including agricultural companies, local organizations and associations, a small number of donors and development partners, and most importantly foreign/multinational investors and business companies. When launching this initiative in 2010, the government stated that it was a new, environmentally friendly pathway to economic growth, increased agricultural production and environmental conservation. To “unleash the region's potential,” SAGCOT aims, by 2030, to “mobilize investments of 3.5 billion USD, convert 350,000 hectares of land to commercial agriculture, create 420,000 new jobs, and permanently lift 2 million people out of poverty.” poverty". Their strategy is to engage small-scale farmers in large-scale and commercial agricultural production and provide market access and agricultural assistance to small-scale farmers through partnerships in value chains, out-grower models, and a small number of plantations. SAGCOT targets one third of Tanzania's land mass, covering about five million hectares of land, with a population of about ten million people. SAGCOT was championed as a green economy initiative, characterized by green transformation, green growth, or, in its own terms, ‘agricultural green growth’.

Under SAGCOT, a number of new large-scale investments are planned in Kilombero. One of SAGCOT's flagship projects was the UK-based company Agrica, which acquired the defunct Mngeta Farm in 2007 and later joined as a SAGCOT partner. The redevelopment of these rice plantations has resulted in significant conflict and dispossession of the property

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rights of small farmers and herders, who used the land before and after land clearing in 1986. Efforts to incorporate some of the small farmers and other farmers in the surrounding areas into smallholder farmers outside this scheme was largely unsuccessful. Participating rice farmers complained of differences of opinion regarding rice prices as well as severe logistical problems around the timing of production loans and distribution of inputs. However, it is important to conduct a critical analysis of its impact on local communities and the environment. Rigorous monitoring and evaluation is needed to ensure SAGCOT truly achieves its goals as an inclusive and sustainable green transformation tool.

- **Europe**

Germany's Energiewende (energy transition) program is a national initiative to switch from fossil and nuclear energy sources to renewable energy such as wind, solar and biomass. The goal is to reduce carbon emissions, increase energy efficiency and develop environmentally friendly technologies. (IERS, 2016) Since the tsunami disaster that damaged the nuclear power plant in Fukushima, Japan, in 2011, a trend has emerged in European countries to abandon nuclear energy and fossil fuels and switch to the use of new and renewable energy.

According to (Chen, 2024) Germany, a leading developed country, has demonstrated significant changes in its energy consumption and environmental footprint over the last five decades. From 1973-2000 fossil fuel consumption in Germany rose from 14.06 Exa joules to a peak, then a marked reversal was seen post-2000, with fossil fuel consumption reducing to 9.37 Exajoules in 2022. This shift shows Germany's effective efforts to improve energy efficiency and switch to more sustainable energy sources.

Meanwhile in Germany, in 2011 Chancellor Angela Markel officially launched the **Energiewende Program** or energy transition program with four main targets, namely:

1. Gradual cessation of use of nuclear power plants until they are completely eliminated in 2022;
2. Reduction of greenhouse gas emissions from the 1990 baseline: 40% in 2020, 55% in 2030, 70% in 2040, 80-95% in 2050;
3. Development of renewable energy and increasing its role in electricity consumption: 40-45% in 2025, 55-60% in 2035, more than 80% in 2050;
4. Increased energy efficiency resulting in a reduction in electricity consumption from the 2008 baseline: 10% in 2020, 25% in 2050.

One of the main keys to the success of this Energiewende program is the commitment of stakeholders, starting from the government, business actors, research institutions and interest groups in society. Because initially implementing the Energiewende program was not an easy process, especially as many parties still wanted fossil fuel projects to continue and survive. However, the German government is very consistent in inviting all parties to discuss the challenges in developing new and renewable energy, as well as looking for various solutions.

- **Sweden**

Sweden runs a Zero Waste program which aims to reduce waste thrown into landfills through increased recycling, reuse and conversion of waste to energy. Sweden also has one of the highest recycling rates in the world. More than half of the world's population, 59% of them. (Li & Zhuo, 2019) The amount of solid waste generated worldwide is increasing. Traditional urban development models are not sustainable, and many countries and regions have put forward the concepts of "circular economy", "sustainability", and "zero waste", with the aim of recycling and reusing waste to achieve economic growth while minimizing the impact on the environment.

But Sweden is setting an example for the rest of the world. Less than 1% of household waste in Sweden ends up in landfill. Of the 4.4 million tonnes of household waste produced by the country, every 2.2 million tonnes is converted into energy through a process called

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waste-to-energy (WTE). The concept of "zero waste" has gained international consensus. With the introduction of the United Nations' 17 Sustainable Development Goals in 2015 serving as a backdrop, countries have begun to actively explore the circular economy and zero-waste construction practices.

(Li & Li, 2021) Canada and Australia focus on commercial waste, while Singapore focuses on industrial solid waste. The European Union integrates human waste into economic development, guiding sustainable development through macro policies. The goals include reducing the use of toxic and hazardous substances in products, ensuring safe recycling of waste, and prioritizing improving resource efficiency as fundamental goals, with the aim of achieving mutually beneficial outcomes for the economy and the environment. Swedish law also holds waste producers responsible for handling all costs related to the collection and recycling or disposal of their products. In 1975, only 38% of household waste was recycled in Sweden, but now Sweden is aiming for a zero-waste future by 2020. What started in the 70s with strict waste disposal regulations has now resulted in a society with a “waste hierarchy” has become ingrained. WTE systems are not perfect – they can be expensive and are known to release environmental pollutants. However, WTE also continues to develop, supported by the discovery of new technologies that enable WTE to reduce environmental impacts.

Sweden's waste management system has turned it into a global reader, and recovers more energy from each tonne of waste than any other country, according to Swedish Cleantech. In fact, this Scandinavian country is so good at waste management that it imports almost 800,000 tonnes of waste from countries such as the UK, Norway, Italy and Ireland to meet the needs of its 32 WTE plants. By leaving no waste behind and recycling 99% of its waste, Sweden is on track to achieve zero waste and sustainable energy by 2020.

- **India**

According to research (Vardhan et al., 2022) presented at the International Conference on Devices, Circuits and Systems, green hydrogen has great potential to become a sustainable source of clean energy in India. They emphasized that the development of green hydrogen technology could help reduce dependence on fossil fuels and significantly reduce carbon dioxide emissions. This research is in line with our findings, which show that investment in green hydrogen infrastructure will not only benefit the environment but can also drive economic growth by creating new jobs and opening up investment opportunities in the renewable energy sector.

In addition, (Vardhan et al., 2022) stated that supportive government policies and fiscal incentives are key factors in accelerating the adoption of green hydrogen. This is also confirmed by the results of our analysis, which show that the implementation of appropriate policies and financial support from the government can increase the attractiveness of investment in green hydrogen projects. Therefore, to achieve the green energy transition target, cooperation between the public and private sectors is needed in developing and implementing green hydrogen technology.

Thus, it can be concluded that the findings of this study support the view that green hydrogen is an important element in future green economic strategies. The results of this study and research (Vardhan et al., 2022) show that the development of green hydrogen has the potential to provide broad positive impacts, both from an environmental and economic perspective.

DISCUSSION

DisMany countries have prioritized sustainable programs for a green economy until 2023, driven by the urgent need to tackle climate change and ensure sustainable development. The following is a summary of several main programs in various countries and their impact on the green economy.

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On the Asian continent, Indonesia, BAPPENAS is a program that prioritizes green economic growth principles and tools in economic development and jurisdictional government planning. By implementing sustainable development programs in the public sector using economic and non-economic instruments to achieve green economic growth. The landscape approach promoted by Indonesia aims to balance economic development with good ecosystem management. This program covers various aspects, such as the development of renewable energy, energy efficiency and sustainable agriculture. Applying a landscape approach is at the core of the Green Growth program. By managing forests, peatlands and natural resources in an integrated manner, we can create healthy and resilient ecosystems. This approach opens up opportunities to develop various sustainable businesses, such as ecotourism, organic farming and sustainable forest management.

On the African continent, Tanzania, the implementation of the "Southern Agricultural Growth Corridor of Tanzania (SAGCOT)" is a new tool intended to improve the Tanzanian economy. By placing a strong emphasis on value chain development, successful investment in agriculture, infrastructure and human resources, as well as conserving ecosystem services and natural capital in general.

Meanwhile in Europe, the European Union's ambitious ambition to achieve carbon neutrality by 2050 is known as the "European Green Deal" throughout Europe. Various efforts are part of this program, including preserving biodiversity, investing in environmentally friendly technology, and reducing emissions. One of them is Germany which is implementing the Energiewende program which aims to reduce carbon emissions and increase the use of renewable energy. This is a clear example of a clean energy transition to achieve environmentally friendly economic development. The Energiewende includes various policies and incentives to encourage the development and use of renewable energy, such as wind, solar and bioenergy.

In the Nordic countries, Sweden implements the "Zero Waste" program. The goal of Sweden's "Zero Waste" initiative is to reduce the amount of waste that ends up in landfills by increasing recycling, reuse and converting waste into energy. This program can be an example of efficient and sustainable waste management. Zero Waste Sweden implements various strategies, such as public education, an effective waste sorting system, and advanced waste processing technology. This makes Sweden one of the countries with the highest recycling rates in the world.

On the Asian continent again, India, the "Green Hydrogen Mission" was also introduced in India in 2021 with the aim of making the country a center for the production and export of environmentally friendly hydrogen. To reduce dependence on fossil fuels, this initiative encourages the development of environmentally friendly hydrogen technology and accompanying infrastructure. This program has the potential to reduce carbon emissions and encourage a low-carbon economy. India's Green Hydrogen Mission includes development of environmentally friendly hydrogen production technologies, infrastructure development and international cooperation.

CONCLUSION

A strong global commitment to encouraging sustainable development and overcoming climate change is demonstrated by the Sustainable Program in the Green Economy until 2023. Organizations such as the European Green Deal, Zero Waste, SAGCOT, KLHK, and the Green Hydrogen Mission are examples of these countries' commitment. efforts to reduce carbon emissions, increase the use of renewable energy, and develop environmentally friendly technology. With this program, there are additional aspects that support the global transition to a low-carbon economy. This includes investment in green infrastructure, technology that reduces emissions, and efforts to create green jobs.

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Despite significant progress, there are still problems. For this initiative to be successful, sufficient funding, consistent political support and international collaboration are required. Addressing the socio-economic impacts of this transition is also important. This includes providing protection to affected communities and workers. Overall, these programs show that many countries want to incorporate sustainability principles into their economic policies. With the right approach and global cooperation, the transition to a sustainable and inclusive green economy can be achieved, providing hope for a cleaner and more prosperous future for everyone.

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