

# Critical thinking on Green Economy for Sustainable Development in Africa

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**Abstract:** A low-carbon, resource-efficient, and socially inclusive economy is referred to as "green." In a green economy, the expansion of employment and income is fueled by public and private investment in such economic activities, infrastructure, and resources that enable lower carbon emissions and pollution, improved energy and resource efficiency, and the prevention of the loss of biodiversity and ecosystem services. One of the purposes of the green economy is to boost economic and investment growth while also improving social inclusion and environmental quality. The purpose of this research was to stimulate critical thinking about green economy for sustainable development in Africa. It was guided by the specific objectives, which included establishing a climate-smart agriculture and green economy for sustainable development; examining the potential for enhanced women's participation in the green economy; policy making to ensure women's role in a sustainable green economy; approaches to enhance women's participation in the green economy; and assessing the challenges facing the green economy. It was found that climate-smart agriculture helps to achieve the objectives of concrete sustainable development by tackling food security and climate challenges through incorporating the three facets of sustainable development. It was found that women in agriculture tend to be less corrupt and place a larger emphasis on social welfare and environmental issues than males, and this enhanced the green economy in Africa. However, a green economy emphasizes the need for more efficient resource use while enhancing policy coherence with nexus industries. Sub-Saharan African countries are embracing a green economy by lowering their reliance on charcoal and fuelwood, an energy source that has contributed to the destruction of forests. The multi-level approaches, multi-stakeholder approaches, local and participatory approaches, and gender equality in green were the approaches identified to enhance women's participation in the green economy. The challenges affecting green economy for sustainable development were dealing with diffuse environmental risks and poor policy implementation. Hence, to achieve greener growth, our economic and environmental policies must be more in tune with one another and even reinforce one another.

**Keywords:** Africa, Agriculture, Food, Government, Involvement, Policies, Women

## 1. INTRODUCTION

The integration of the three pillars of sustainable development is a common objective of both the green economy and climate-smart agriculture (Pearce et al., 2013). By concentrating on problems that can and must be resolved immediately in local communities but that have long-term, global effects, both make sustainable development concrete (Kiross, n.d.). The idea of a "green economy" is not wholly new. The London Environmental Economics Centre (LEEC) initially raised the idea in 1989 in a book titled "Blueprint for a Sustainable Economy," which was written by David Pearce, Anil Markandya, and Ed Barbier. However, the idea was not widely accepted at the time (Barbier, Markandya, & Pearce, 1990). It has become abundantly clear that the current development paradigm is not producing the desired results on all fronts, including the economic, social, and environmental fronts, with the onset of the financial crisis in 2007 and the failure of the majority of countries to move toward a sustainable development path (Barbier et al., 1990; Pearce et al., 1989).

The Green Economy is one that "improves human well-being and social fairness, while considerably lowering environmental dangers and ecological scarcities," according

to the United Nations Environment Programme (UNEP) (Ciocoiu, 2011). Another, more thorough definition of a green economy is "one that considerably reduces environmental dangers and ecological scarcities while improving human well-being and social fairness" (Vuola et al., 2020). A green economy can be defined as one that is low carbon, resource efficient, and socially inclusive (Loiseau et al., 2016) in its most basic form.

Agriculture continues to be a crucial tool for sustainable development and poverty alleviation, as the World Bank noted in 2007. (Szyja, 2016). It aids in development in a variety of ways. In nations with a large agricultural sector, it contributes an average of 29% of the GDP and 65% of the labor force. According to the World Bank's 2008 World Development Report, industries and services related to agriculture frequently make up more than 30% of the GDP in developing and urbanized nations. Currently, 2.5 billion people reside in homes where agriculture is practiced. These factors make agriculture essential to a green economy (Turyasingura & Chavula, 2022b).

Climate-smart agriculture can therefore be a key force behind the development of a green economy, both directly by boosting resource efficiency and resilience and indirectly by encouraging the growth of related services and

businesses (Alcamo et al., 2020). The necessary investments can also generate new employment prospects for rural impoverished people (Caron et al., 2018). The three pillars of climate-smart agriculture increasing productivity and incomes; strengthening resilience and adaptability; and decreasing carbon emissions and mitigating actions serve as a roadmap for development and food security.

The idea of a green economy has been strongly associated with the notion that investments should be concentrated on "green" industries since the end of 2008. This was done because these industries, as opposed to "brown" industries, were thought to be the ones that would create more jobs in the future (Alcamo et al., 2020). The distinction between "green" investments, which are those made in industries and endeavors that are advantageous to both the economy and the environment (in this case, the climate), and "brown" investments, which are those that are detrimental to both the economy and the environment, was first drawn as a result of climate change (Benson & Ayiga, 2022). The energy industry is the ideal illustration of a sector that offers a wide range of options (Linares & Labandeira, 2010).

The need for significant investments in research (HLPE, 2012). These investments need to be coordinated on a worldwide scale in order to cover the full spectrum of challenges that need to be addressed. Particularly in fields where return on investment cannot immediately help the commercial sector, more funding for public research is required. Research will need to be closely linked to extension services, open to local knowledge, and responsive to the demands addressed by all stakeholders, including small-scale food producers, in order to address systemic challenges that need to be tailored to local specificities and requirements (HLPE, 2012). The preservation of diversity will also benefit from the spread of technologies (Turyasingura, Mwanjalolo, et al., 2022). It should include the development of the human capacity to accommodate the technology and structured partnerships to ensure that it is adapted and established locally to achieve green economy goals.

The transition to a green economy could also benefit from research that integrates various effect evaluations, such as methodological innovation in evaluation studies. This has to do with evaluations of the distributional and environmental outcomes of significant baseline trends like digitalization and automation, globalization versus nationalization, etc., as well as the potential for green innovation partnerships and various circular economy-inspired business models. For these assessments, having an awareness of probable future directions for the greening and decarbonization of significant process sectors may be highly beneficial. Enhanced evaluations of policy tools and policy combinations are unquestionably required as well. Such analyses are by no means straightforward, particularly in view of the rising significance of technology-specific rules. They need to consider the many policies' roles in innovation systems, manage important interaction effects, and acknowledge the ongoing evolution of policy.

## 1.2. PRINCIPLES OF GREEN ECONOMY

**The well-being of humanity:** This goes beyond only material wealth to prioritize human development, health, happiness, education, and inter-communal harmony.

**Justice:** The green economy prioritizes equity, equality, fostering communal togetherness, and defending human rights (for example the rights of minorities and marginalized). It promotes the interests of all people, including those who have not yet been born, and seeks justice through transition.

**Planetary bounds:** The green economy acknowledges that all human life depends on a thriving natural environment for survival and reproduction. The fundamental value of nature is defended, and biodiversity, soil, water, air, and other ecosystem resources are all protected.

**Efficiency and sufficiency:** Low carbon, diverse, and circular because it acknowledges that there are real limits to economic expansion imposed by planetary boundaries and because it matches economic incentives with actual societal costs.

**Good governance:** The green economy creates institutions with a dynamic democratic accountability system, transparency, and the strongest possible foundation in environmental and social research as well as local wisdom. Public engagement, informed consent, accountability, and transparency are given top priority in civil life as shown in the (Fig. 1) below;



Fig 1. Goals of Green Economy (Ali, 2018).

## 2.0. DELIBERATIONS

### 2.1. Climate-smart agriculture and Green Economy for Sustainable Development

Sustainable agriculture is necessary for a green economy (Scherr et al., 2012). In fact, according to FAO, agriculture is essential to a green economy. Because of this, the FAO suggested "Greening Economy with Agriculture" as the primary message for Rio+20 (Bellù et al., 2011). Climate-smart agriculture helps to achieve the objectives of concrete sustainable development. In tackling food security and

climate challenges from a forward-looking viewpoint, it incorporates the three facets of sustainable development (Barbier et al., 1990). The demand for greater resource efficiency and resilience serves as its main inspiration (Newell et al., 2019).

The integration of the three pillars of sustainable development is a shared objective of both the green economy and the CSA. Both put sustainable development into practice by concentrating on problems that can and must be resolved immediately in local communities but that have long-term, global effects. Concerns about climate change, which must be handled both internationally and locally, as well as food security, which must be addressed both locally and globally, are brought together by CSA. In order to accomplish this, it combines established practices, institutions, and policies. What is novel is the requirement for practices and policies to be synchronized and harmonized in order to solve the many issues that agriculture and food systems confront today and in the future. The goal of avoiding incompatible and conflicting policies by internally managing trade-offs and synergies while pursuing several objectives is also novel.

## **2.2. The Role of Agriculture in a Green Economy**

Since agriculture has both direct and indirect effects on people and the environment, it is directly related to the concepts of a green economy and has a crucial role to play in one (Georgeson et al., 2017). (Musvoto & Nortje, 2018). Agriculture occupies a significant position in the global green economy, notably in Africa and other developing nations, due to its size (in terms of land area and resource consumption, such as water), effects on the environment, and direct contribution to human well-being.

In the world, agricultural land accounts for 37% of the total land area, while in sub-Saharan Africa, it accounts for 42% of the total land area (as defined by the Food and Agriculture Organization of the United States (FAO, 2010). 70% of all water withdrawals worldwide are made for crops and livestock, and in some underdeveloped nations, this percentage might reach 95%. (Praveen & Sharma, 2019). In Sub-Saharan Africa, agriculture is the largest employer and is the most direct way to spur economic growth and employment for young people (Benson, n.d.; Turyasingura, Alex, et al., 2022; Turyasingura & Chavula, 2022). Globally, the agriculture sector as a whole provides livelihoods for 2.5 billion people (Clover, 2003; Boliko, 2019).

Numerous agricultural practices have the potential to either better or exacerbate the social, economic, and environmental problems that the green economy seeks to solve (Gitz et al., 2016). A rapidly growing population can be fed and provided with livelihoods through agriculture. It can also lessen the dangers associated with climate change and meet rising energy demands in the face of depleting fossil fuel supplies (Smyth et al., 2016; Praveen & Sharma, 2019).

## **2.3. Attributes of Agriculture that Make It Relevant to a Green Economy**

Agriculture is especially relevant for meeting social ambitions of a green economy like poverty reduction and livelihood support because of the rural nature of agriculture, which places it close to a large, often poor population. This is especially true in Africa. According to the UN Food and Agriculture Organization (FAO, 2019), the population of Sub-Saharan Africa will continue to be largely rural up to 2033, and the total number of people living in rural regions will rise until 2050.

Agriculture offers genuine prospects for reducing poverty and supplying people with a variety of other things that are crucial to their well-being, provided that it is conducted in ways that are in line with the goals of the green economy (Hall et al., 2017). For instance, the Millennium Ecosystem Assessment (MEA) (2005) points out that because the natural environment's ecosystems directly impact well-being, it is impossible to think about well-being in a vacuum. Additionally, agroecosystems produce a range of ecosystem services that are directly related to human well-being, such as the control of soil and water quality, carbon sequestration, support for biodiversity, and cultural services (MEA, 2005).



**Plat 1:** Green economy and agriculture from authors.

Economic expansion in the agriculture sector, in particular, has been shown to be a key factor in reducing poverty. There is proof that agricultural development and smallholder farmer poverty reduction are strongly correlated (Smyth et al., 2016). In addition to offering chances for reducing rural poverty, agriculture can also help to reduce urban poverty by offering an alternative to moving into urban slums (Pérez-Escamilla, 2017). According to the UN, increasing agricultural production would help rural development and slow the trend toward urbanization, which puts a strain on public services in urban areas while also increasing agricultural output (especially in food-deficit countries) and improving smallholder farmers' livelihoods and ecosystems (World Bank 2007).



**Plat 2:** Reducing rural poverty through agriculture

Last but not least, agriculture's direct contribution to food production is a characteristic that immediately connects it to green economy concepts aimed at improving the provision of social protection and access to basic services. In addition to its current function, agriculture's ability to provide food has the potential to open up economic and livelihood prospects for Africa in the future (Georgeson et al., 2017).

#### **2.4. Potentials for enhanced Women's Participation in the Green Economy**

"Women are tremendous change agents and important managers of natural resources. Women aren't only victims; they can and should play a key role in paving the way for sustainability and environmental reform.



#### **Plat 3:** Women involvement in agriculture

##### *Consumer-driven change and women as change agents*

Economies and businesses are driven by demand supply (e.g., local and global commodity prices). Therefore, these two factors and the increasing understanding of the limits to the exploitation of natural resources by governments, private businesses, civil society and consumers are leading the transition towards a greener economy (Cook et al., 2012). Furthermore, a transition to greener production methods can potentially also reduce production costs (e.g., through reduced water and energy consumption). The transition to a greener economy is also reflected in international treaties although these are still to be put coherently into practice.

In less developed nations, women farm laborers who could start green initiatives frequently do not participate in the monetary market. Women are disproportionately employed in the most casual and exploitative jobs in the majority of developing countries (Leach et al., 2015). It is anticipated that industries like agriculture and forestry will benefit greatly from the shift to a low-carbon economy and provide at least 2 million green employment (e.g. organic agriculture, biofuels and forest conservation).

However, globally, women make up less than 20% of the workforce in these core industries. Female labor participation rates range from 2% in wealthy nations, where few women engage in mechanized agriculture, to as high as 60% in underdeveloped nations, where many low-income workers are women engaged in small-scale farming and forestry-related industries (Brandl & Zielinska, 2020). A large portion of women's subsistence work is typically excluded from official government statistics since it is challenging to identify and count informal workers. Despite the fact that numerous green jobs can be developed in the resource-based industries of agriculture, forestry, ecotourism, and other sectors, it is likely that women in developing nations will not Good governance in the green economy depends heavily on women. Only 18% of parliamentary seats are held by women globally, while many nations have no female lawmakers at all.

However, according to UN data, women in government tend to be less corrupt and place a larger emphasis on social welfare and environmental issues than males do. Generally speaking, women are more likely than males to support government action in the market to outlaw unsustainable products and to fund ecologically favorable products. When it comes to carbon prices, the gender disparity in green activism is most pronounced (Dhar, 2019). According to European studies, more women than men support carbon fees to reflect the true environmental costs of manufacturing and transportation (UNDESA, 2012). However, political perspectives which favor technological quick fixes over regulatory intervention fuel the market-based trajectory of the green economy.

#### **2.5. Policy making to ensure women's role in a Sustainable Green Economy**

It is the responsibility of governments to make the green economy sustainable through a range of policies which would assure a fuller role for women. These include: Combating traditions and discrimination which economically disadvantage women, and putting women's empowerment at the center of development assistance programmed that aim to promote the green economy in developing countries (Dhar, 2019);

- ❖ Enforcing anti-discrimination laws in developed countries and mandating businesses to adopt family-friendly practices including child care, flexible work and extended leave to increase the participation of women in green jobs;
- ❖ Including provisions in government stimulus spending, public procurement and development assistance which require employers to adopt affirmative action goals to correct the under-representation of women in their workforce while greening their activities;
- ❖ Giving women special skills training and apprenticeships to work in the green economy and recruiting them to fill "non-traditional" jobs in agriculture, industry and services in both developed and developing countries; and
- ❖ Enacting quotas in all countries to get more women onto corporate boards and into top-level management in industry and government to increase their influence on the development of the green economy.
- ❖ Gather sex-disaggregated data and gender analyses in key sectors such as agriculture, forestry, fishery, energy and water to identify obstacles and potentials for women's participation and engage in cost-benefit analyses for the transition towards a greener economy.
- ❖ Integrate practical work experience in green sectors into the curriculum (work placement, work shadowing, school-based enterprises).

## 2.6. Approaches enhancing Women's Participation in the Green Economy

### *Multi-level approaches*

The gender patterns and examples assessed in the scope of this study have revealed that women's participation in green growth and greening as such, is dependent on a number of factors at micro-meso and macro level (Schulz & Bailey, 2014). It is influenced by international and national policies and corresponding interventions located at different levels. A multi-level approach is therefore indispensable if the potential of women's participation in green growth is to be fully realized (Nhamo & Mukonza, 2020).

Micro level interventions entail a number of aspects related to alternative production and manufacturing methods. These include the assessment of gendered implications of the transition to green methods and products and the development of gender-sensitive value chains.

Meso level interventions need to foster female entrepreneurship, e.g., through (green) skills development, support for cooperatives, associations, unions, chambers and networks as well as the dissemination of promising examples and role models (Zacchia et al., 2022). Efforts should be made to connect producers with markets and to link niche markets with (national, regional and global) mainstream markets. Scaling up green MSMEs should also be supported at this level.

### *Multi-stakeholder approaches*

The transition to a green(er) economy and providing equal advantages for women and men involve several actors at various levels. Governments, the commercial sector, producers, consumers, development organizations, and civil society are all jointly responsible for this. All governmental institutions and other key stakeholders face the fundamental problem of convergent, aligned, and integrated work across the social (Dear, n.d.), environmental, and economic elements of the green economy. The business sector must invest in innovation and transformation while not ignoring its social duties. Governments must develop gender-sensitive green policies and devote human and financial resources.

The transition to a green economy can be significantly aided by Creating Shared Value (CSV), a new business concept founded on the notion that economic value can be produced via the development of societal value (Yldrm & Yldrm, 2020). It acknowledges the importance of societal requirements, such as a safe environment and favorable working conditions, as sources of markets and economic possibilities (Chavula & Turyasingura, n.d.). In order to encourage clusters of (local) suppliers and engage in green business and societal solutions, large enterprises are increasingly using CSV. Organizations in the civil society can act as watchdogs and raise public awareness of the issues.

### *Local and participatory approaches*

Since local solutions have been shown to be the most successful and are frequently replicable, strategies should be built on them. In order to foster ownership and prevent negative side effects of the shift to the green economy, such solutions should be founded on gender-sensitive analyses and created through participatory processes. Such evaluations and strategies ought to draw from the experiences that many governmental, civil society, and development groups have had with community and participatory dialogue.

### *Gender equality in green*

The employment of a gender perspective in green suggests an emphasis on the structural roots of sexism (Martinez-Fernandez et al., 2013; Chavula & Hassen, 2022). It entails continuously recognizing and comprehending the various roles and rights of women and men, as well as the unique difficulties experienced by many disadvantaged groups. At the home, neighborhood, national, and international levels, inequities between those who perform the work and those who control the benefits must be rectified (Nhamo & Mukonza, 2020). At every stage of the project cycle, interventions run the risk of being ineffective, inefficient, and unsustainable if gender-specific requirements

and social, economic, and cultural realities aren't considered (Leach et al., 2015).

Working just with women is not the only way to incorporate a gender viewpoint in order to increase women's participation (Turyasingura, Ayiga, et al., 2022). Gender is a relational term that emphasizes the interdependence of roles, therefore changing (power) relations will only be successful if both men and women are involved and are aware of the advantages. (Nelson & Huyer, 2016) It should be remembered that various groups of women and men may have various tactical preferences and practical requirements (Dhar, 2019).

### 2.7. Challenges facing Green Economy

According to Geels (2004), it has been argued repeatedly over the past ten years that traditional economic models need to be changed in order to solve major social and economic problems like climate change, biodiversity loss, water scarcity, etc. For instance, tackling climatic and environmental concerns clearly involves both engineering competence regarding the many technical solutions that might be used to lessen the negative impacts and knowledge of natural science (e.g., carbon-free energy technologies) (Söderholm, 2020). However, promoting sustainable technological progress also involves a number of non-technical difficulties in societal, organizational, political, and economic spheres (Söderholm, 2020). For instance, the so-called transitions literature acknowledges that a variety of industries, including those that produce energy, provide water, etc., can be viewed as socio-technical systems or innovation systems (Megwai et al., 2016).

In addition, the issues with the environment have become more and more about focusing on various kinds of diffuse emissions affecting green economy (Borel-Saladin & Turok, 2013). These come from several industries, including agricultural, shipping, aviation, and road transportation (Gray et al., 2021). Large areas are affected by diffuse source pollution, which may not be alarming on its own but can have detrimental effects when combined with other diffuse sources. This difficulty is made more difficult by the rising significance of global environmental issues like climate change, as well as by globalization and increased worldwide trade in consumer goods. International talks and burden-sharing are frequently necessary to resolve these problems, but even those have proven challenging (Ciscar et al., 2013). The challenges of coming to a strong enough global climate agreement serve as an example of this challenge (Carlos et al., 2012).

According to Söderholm (2020), a greater emphasis on circular economy solutions will suggest that the various economic sectors must become more interdependent. In fact, it is this interdependence that initially makes the desired efficiency increases possible. This calls for new ways for businesses to collaborate, including new business models. But in other circumstances, getting there might be challenging. One illustration is the use of surplus heat from various process sectors, which can be used to power greenhouses or residential heating systems. Although this type of bilateral

energy cooperation is currently relatively frequent (for instance, in Sweden), advancing it might be difficult and/or expensive. Investments in this kind of cooperation depend on the relationship (Williamson, 1983).

Incremental innovations, e.g., increased material and energy efficiency in existing production processes, are key elements for the transition to a green economy (Söderholm, 2020). However, more profound and even radical technological innovation is also needed. For instance, replacing fossil fuels in the transport sector as well as in iron and steel production requires fundamental technological shifts and not just incremental efficiency improvements (Calcott & Walls, 2005). There are, however, a number of factors that will make radical innovation inherently difficult. Hence, we highlight three important obstacles like investments, constructions, technology in farming other than using citizen science to ease conservation has greatly affected green economy in Africa.

### 3.0. CONCLUSION

Understanding what a green economy is and how it applies to a particular sector is a crucial first step in the implementation of successful green economy projects. A thorough application of the concept and its modification to a particular project circumstance are made possible by such understanding. The course unit gives background knowledge so that students can better understand the key phrases and ideas. Consequently, a green economy may result in sustainable growth. Additionally, it can help end poverty. But the pace of change toward a green economy varies from nation to nation. Resources, information, and knowledge are essential for the transition to a green economy. To achieve greener growth, our economic and environmental policies must be more in tune with one another and even reinforce one another. One part of this is new technologies or safe, sustainable energy sources. It affects not just what we eat, drink, recycle, reuse, fix, produce, and consume, but also how everyone of us behaves every day of our lives

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