



# Green Economy in Sub-Saharan Africa

Lessons from Benin, Ethiopia, Ghana, Namibia and Nigeria



# Content

Figure: Overview of the status quo of Green Economy in five selected countries	4
<b>Executive summary</b>	4
<b>1. Introduction</b>	6
<b>2. Green Economy: a relevant concept in Sub-Saharan Africa?</b>	8
2.1 Environmental and developmental challenges in Sub-Saharan Africa	10
Box 1: Promoting renewable energies in remote areas of Namibia	16
Table: Major challenges related to development and Green Economy in SSA	11
2.2 Economic opportunities through GE	12
<b>3. Status quo and potential for Green Economy in the region</b>	14
3.1 Policy and regulatory framework	15
3.2 Opportunities for greening economic sectors	17
Box 2: Climate Change Adaptation Insurance in Ghana	19
Box 3: Resource efficiency initiatives in industrial zones in Ghana	22
Box 4: Pendjari Biosphere Reserve in Benin	22
3.3 The role of the private sector	23
<b>4. Drivers and barriers to implementation</b>	24
4.1 Drivers for GE	25
4.2 Major barriers to GE	26
<b>5. Major conclusions</b>	28
Literature	30

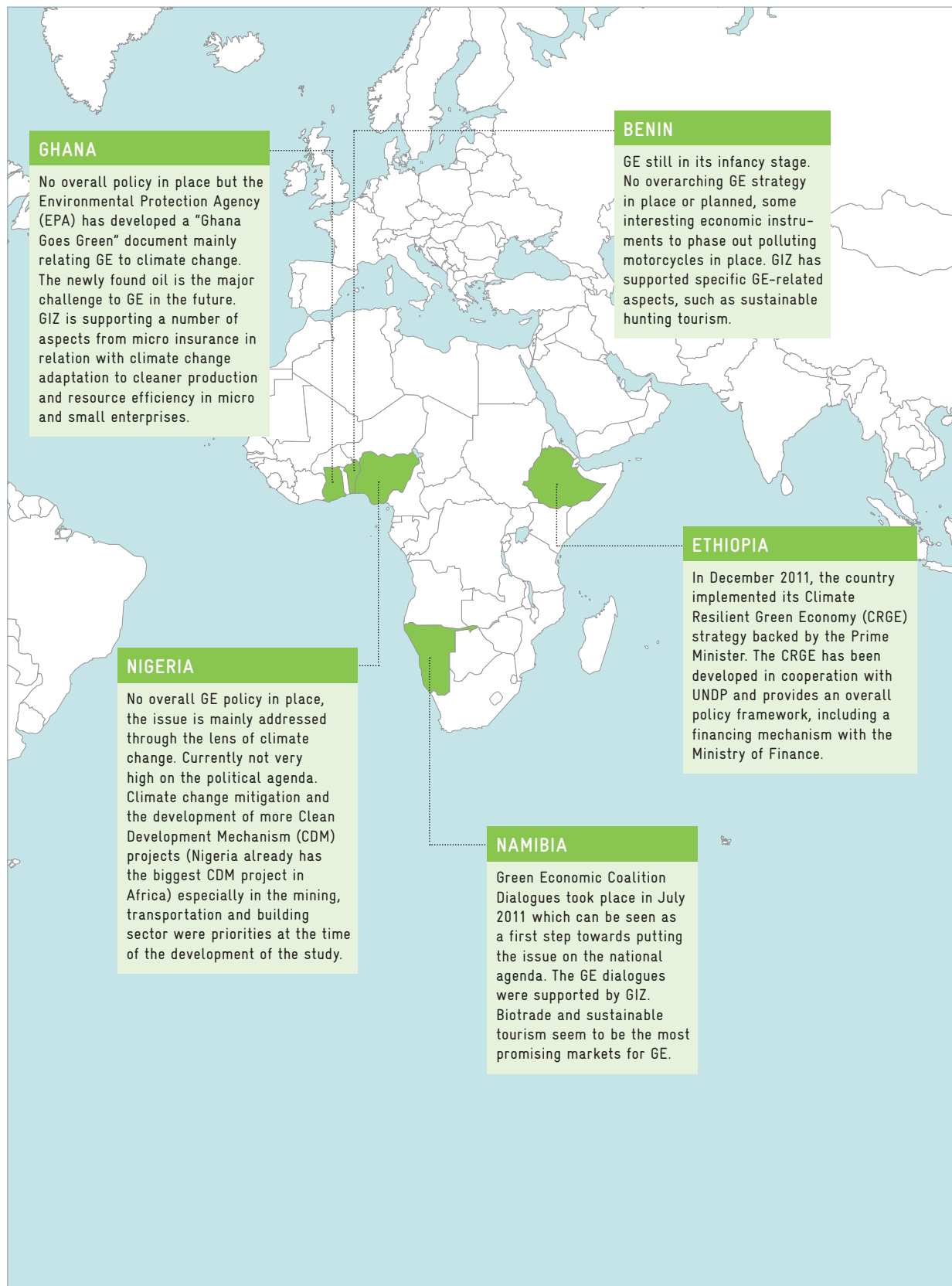


Figure: Overview of the status quo of Green Economy in five selected countries

# Executive summary

UNEP defines Green Economy (GE) as one that ‘results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities’. In short, an economy that is low carbon, resource efficient and socially inclusive. However, the concept and its implications are still vague when it comes to the African context. The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH’s sector network for sustainable economic development in Sub-Saharan Africa therefore decided to analyse the status quo of GE in Sub-Saharan Africa with a special focus on new challenges in the area of sustainable economic development.

This study is a synthesis report based on five country studies. In order to adequately apprehend the great variety of prevailing conditions and circumstances in African countries, five very different countries in terms of size, geographic position, DAC classification, economic situation and environmental setting were chosen: Benin, Ethiopia, Ghana, Namibia and Nigeria. In comparing the country studies to define commonalities and differences, the present study aims not to paint a comprehensive picture but rather to identify general trends for the region.

The comparison shows that the different countries are at very different stages in respect of implementing GE. While all countries integrate aspects of it in a number of strategies and policies, only Ethiopia has an overarching GE strategy in place. The legal and regulatory framework to foster GE is still in its infancy stage in all countries and concepts to realise the transition to a GE are not yet in place. The most promising markets related to GE tend to be those related to agriculture such as biotrade, sustainable tourism and renewable energies.

Additionally, the issue of GE usually falls within the responsibilities of the Ministry of Environment, whose capacities and implementation power are often limited. This leads to two important setbacks: first, the forces driving the transition towards GE are often so weak that demands and suggestions are often drowned out. Second, the topic is usually viewed from a purely environmental angle which does not take economic aspects and arguments sufficiently into account.

The study also aims to identify potential drivers for a GE. Here, the economic use of abundant natural resources could play a significant role. Effectively used and sustainably managed, these natural resources could offer great economic potential, which is currently under-exploited.

Another important driver is the need for affordable and sustainable energy sources, as a great part of the population still lacks access to energy. At the same time, economic transformation and economic growth, necessary to lift people out of poverty, will require substantial energy resources. The high cost of connecting remote areas and communities to the grid make the development of decentralized sustainable energy solutions as well as the use of renewable energies important drivers on the way towards a GE.

Finally, the country studies reveal that there is no general rule or silver bullet to achieve a transition to a GE in the context of Sub-Saharan Africa. To promote the transition within the framework of sustainable economic development, it is essential to bring ministries concerned with economic growth and development as well as private sector actors on board. To this end, it will be crucial to build capacity and create awareness among the respective stakeholders by highlighting the economic benefits and potentials GE offers. Through this, powerful cooperation partners and supporters can be gained. Closer inter-ministerial cooperation as well as cooperation between ministries and the private sector should also be fostered in order to generate concrete demand for GE initiatives.



A man wearing safety glasses and a dark t-shirt is working in a workshop. He is using a blue and black power tool, likely a reciprocating saw, to cut through a piece of metal. Bright orange sparks are flying from the point of contact between the tool and the metal. The background is a warm, orange-toned industrial setting.

# 1. Introduction

The manufacturing sector significantly contributes to the transition towards a Green Economy in Sub-Saharan Africa by improving resource efficiency, establishing cleaner production patterns and producing environment friendly products. Yet, its potential remains largely unexploited. Photo: © GIZ/Michael Tsegaye



**The following study has been commissioned by GIZ's sector network for Sustainable Economic Development in Sub-Saharan Africa as a result of on-going GE-related discussions and the challenges arising for Africa.** In order to achieve long-term sustainable growth, countries in Sub-Saharan Africa need to adapt their economies and growth models taking 'Green Growth' or 'Green Economy' concepts into account. Only in a scenario, where economic growth and the conservation and sustainable management of natural resources are equally taken into consideration, poverty can be reduced in a sustainable way. On behalf of the German Federal Ministry of Economic Cooperation and Development (BMZ), GIZ supports partner countries in the transition towards a Green Economy, helping them to use upcoming opportunities, manage potential risks throughout the transformation process, and tap into new markets and products based on a GE.

This study is a synthesis report based on five country studies. In order to adequately apprehend the great variety of prevailing conditions and circumstances in African countries, five very different countries in terms of size, geographic position, DAC classification, economic situation and environmental setting were chosen: Benin, Ethiopia, Ghana, Namibia and Nigeria. Comparing the country studies to define commonalities and differences, this study does not aim to draw a comprehensive picture, but to derive general trends for the region. The focus is also set on opportunities and challenges arising within the framework of sustainable economic development. Thus, other very important topics linked to GE such as water- and waste-management, climate change or agricultural production could not be analysed in-depth. However, the inter-linkages to their respective economic potentials and risks have been established and highlighted. Both the analysed sectors and the addressed topics are based on UNEP's GE concept and are analysed with focus on the transformation to a more sustainable economic development.

The five country studies are based on an analysis of secondary literature, strategy papers of the respective governments, research papers and in-depth interviews with relevant stakeholders active in the field of GE. Each country study ends with recommendations based on the analysis. Stakeholders interviewed included public institutions, universities, research institutes, relevant NGOs, experts on GE, donor organisations active in the respective countries and some selected private sector initiatives. The focus has only been on those actors that would be able to provide an input on GE and sustainable economic development, especially related to the ecological transformation of the economy and the identification of possible markets, products and services for a greener economy. Additionally, all country studies analyse the prevailing legal and regulatory framework conditions as well as the economic potential for a transition towards a GE.

The study therefore solely focuses on those aspects of GE that are directly related to the ecological transformation of the economic system and does not include an exhaustive overview on GE in the various countries. Thus the main objective of this synthesis report is to identify trends and possible interventions to promote the transition towards a GE in the context of sustainable economic development in Sub-Saharan Africa.

While recent developments, such as the Rio+20 summit or new developments on the regional level have been taken into account when writing this report, the five country studies were developed throughout 2011 and do not take any further developments into account.





# 2.

## Green Economy: a relevant concept in Sub-Saharan Africa?

The replacement of fossil fuels through other sources of energy essentially reduces greenhouse gas emissions. Furthermore, abandoning traditional cooking fuels, such as firewood or charcoal, improves indoor air quality and particularly reduces health risks for poor households. Photo: © GIZ / Kamikazz, Senegal



**In the middle of the global financial crisis, the United Nations Environment Programme (UNEP) called for a global Green New Deal, encouraging governments to support economic transformation to a greener economy.** In the light of the Rio+20 conference, GE has become a topic that is discussed and promoted by a variety of international organisations and governments, most prominently in Asia, but also starting in African countries.

The UNEP report ‘Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication’ defines a Green Economy as one that results in ‘improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities’. In its simplest form, a GE can be thought of as one which is low-carbon, resource efficient and socially inclusive. In a GE, growth in income and employment should be driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services. These investments need to be catalysed and supported by targeted public expenditure, policy reforms and regulation changes. The development path should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and as a source of public benefits, especially for poor people whose livelihoods and security depend on nature.<sup>1</sup>

However, the concepts ‘Green Economy’ and ‘Green Growth’ are still quite vague in the African context as they are discussed and defined in different ways by different institutions. Additionally, many actors interviewed expressed their concerns about the similarities to the original concept of sustainable development. Furthermore, they are also concerned that industrialised countries will use higher environmental standards only to protect their own markets. The concept of ‘Green Economy’ would then serve merely as a cover for new forms of (Eco) protectionism.

The African Development Bank (AfDB) recently published a discussion paper titled ‘Facilitating Green Growth in Africa’ that served as an input for Rio+20, which embraces the concept of Green Growth and defines its importance for Africa.<sup>2</sup> It defines Green Growth in the African context as ‘pursuing inclusive economic growth through policies, programmes and projects that invest in sustainable infrastructure, better manage natural resources, build resilience to natural disasters, and enhance food security.’<sup>3</sup> Together with the OECD, the UN and the World Bank, AfDB is developing, on behalf of the G20 Development Working Group, a series of policy tools for promoting Green Growth through a toolkit for policy makers. It is also greening its portfolio, especially on the country level, and investing, particularly in Green Infrastructure.

GE is highly relevant to the African context, as it provides economic opportunities and growth potential for African economies highly dependent on natural resources. At the same time, the potential for economic growth itself is put at risk through the existing environmental challenges that climate change and environmental degradation pose for African economies.<sup>4</sup> The AfDB emphasises the fact that Green Growth can be instrumental in sound management of these highly relevant natural resources. Most of the population rely directly on natural resources for their immediate livelihoods, jobs and well-being. Thus managing natural assets and resources in a more sustainable way will not only reduce vulnerability to overexploitation and consequently reduce acute threats to the environment and economic growth but also increase the benefits of using these abundant natural resources.<sup>5</sup>

1 UNEP, Green Economy, A synthesis for policy makers, p.1

2 AfDB, Facilitating Green Growth, Perspectives from the AfDB, June 2012

3 AfDB, Facilitating Green Growth, Perspectives from the AfDB, June 2012

4 UNEP, A Green Economy in the context of Sustainable Development and Poverty Eradication – What are the implications for Africa? 2011

5 AfDB, Facilitating Green Growth, Perspectives from the AfDB, June 2012

## 2.1 Environmental and developmental challenges in Sub-Saharan Africa

Sub-Saharan Africa is one of the regions most affected by climate change.<sup>6</sup> Changes in rain patterns and increasing weather- and climate-related disasters will significantly intensify the vulnerability of African economies, which are highly dependent on natural resources. Based on the information from the various country studies, it is apparent that there is a general increase in the frequency of droughts and floods, as well as other natural disasters.

Water scarcity and water management are increasing problems, especially within a scenario of growing population and economies where the livelihoods of a majority of the population depend on natural resources and agriculture. Water scarcity is made more severe by late and unpredictable rain patterns. Additionally, uneven distribution of water resources is a major problem in a number of countries, such as Ethiopia. Access to water is an area in which most of the countries have managed to improve performance throughout recent years, however, coverage is not complete and the problem persists, especially in Nigeria.

Increasing desertification and land degradation are among the major causes of low and in many places declining agricultural productivity; a process accelerated by increased population and livestock pressure. In Ethiopia this is even leading to food security risks. Generally there is no awareness of the link between bad farming practices and land degradation and there are few incentives for more sustainable land management. In some areas (especially in Nigeria and Benin) nomads are moving to less arid areas, disrupting local ecosystems, increasing land erosion rates and causing social conflicts with the indigenous farmers.

Deforestation rates are extremely high all over Sub-Saharan Africa. Around 4 million hectares of forest (which is also another important livelihood source for a significant proportion of the population) is being lost per year.<sup>7</sup> This leads to further degradation of land, increased carbon emissions, and loss of income sources, especially for poor sections of the population.

The table provides an overview of the most important environmental and developmental risks identified in the country studies.



	BENIN	ETHIOPIA	GHANA	NAMIBIA	NIGERIA
Climate change	Droughts, floods and late, violent rains are three major climatic risks	Suggested increase in rainfall variability with a rising frequency of both severe flooding and droughts due to global warming	Increasing pressure on disaster and relief agencies	Increasing frequency of droughts and other natural disasters	Frequency and intensity of extreme events such as droughts, windstorms, floods and erosion are likely to increase
Water scarcity	Water scarcity is highest in the north. Vulnerability studies conducted in 2001 predict a reduction in rainfall in the range of 20% to 30% nationally by 2025 with resultant water reduction from 40% to 60%	Uneven distribution is the major problem. Although Ethiopia has relatively abundant water, it has one of the lowest reservoir storage capacities in the world		Most important challenge: increased water scarcity, exacerbated by unstable rainfall patterns	Less than 50% of the country's water demand is met by the available supply
Desertification & land degradation	Only in the north, because of conflicts between herders from the north and farmers	Population living on degraded land: 72%. Land degradation is one of the major causes of low and in many places declining agricultural productivity and continuing food insecurity and rural poverty	Population living on degraded land: 69%. No awareness of the link between bad farming practices and land degradation, no incentives for sustainable land management, pressure of mounting population	92% of the land area is defined as hyper-arid, arid or semi-arid. Population living on degraded land: 28%. The bush infestation affects 26 million hectares and has led to a 60% decline in commercial livestock over the last 40 years	40% of the land area is defined as hyper-arid, arid or semi-arid. Population living on degraded land: 12%. Presently losing about 350,000m <sup>2</sup> annually of its land mass to desert. Increased population and livestock pressure on marginal lands have accelerated desertification in some areas
Energy	People without access to electricity: 73% Share of fossil fuels: 37% Share of renewable energy: 62% Import of hydro energy	People without access to electricity: 85.1% Share of fossil fuels: 9% Share of renewable energy: 91% Huge untapped potential for hydropower	People without access to electricity: 47.1% Share of fossil fuels: 32% Share of renewable energy: 68%	People without access to electricity: 65.7%. Share of fossil fuels: 68% Share of renewable energy: 21%	People without access to electricity: 53%
Access to water and sanitation (population without access in %)	People without access to: • water 25% • sanitation: 88% Benin is currently developing its national water policy to include a strategy for sanitation and hygiene.	People without access to: • water: 62% • sanitation: 88% Access to safe water has been tripled throughout the last few years (area where most progress has been made)	People without access to: • water 18% • sanitation: 87%	People without access to: • water: 8% • sanitation: 67%	People without access to: • water 42% • sanitation: 68%
Other challenges	Loss of forest cover, the extension of erosion in all its forms and in all places, especially on the coasts of the Gulf of Guinea in the south	Chronic food insecurity of 10%; historically very vulnerable to extreme weather conditions	Timber exploitation and mining/forest depletion/annual loss of 10% of GDP due to environmental degradation	HIV Aids pandemic/equitable access to education/food crisis/energy crisis	

Table: Major challenges related to development and Green Economy in Sub-Saharan Africa<sup>8</sup>

<sup>8</sup> The table uniquely reproduces the major environmental and development challenges as described in the five country studies. Further challenges, such as waste treatment and water are therefore not reflected in this table.

## 2.2 Economic opportunities through GE

Africa contains seven out of the ten fastest growing economies in 2012 and is experiencing its longest income boom for 30 years, with gross domestic product growth rates averaging about 5 % annually over the past decade.<sup>9</sup> However, economic growth is mainly based on resource exploitation and research shows that adjusting GDP to the loss of natural growth leads to significantly lower, and in some cases even negative, growth rates.<sup>10</sup> Additionally poverty, unemployment, underemployment and low human development remain the major concerns and challenges to be tackled in the future.

In a key note speech at the African Economic Conference, the Ethiopian Prime Minister emphasised that despite the environmental and social challenges, Africa is in a good position to shift to GE and to use the economic potential resulting from GE. This is mainly due to the fact that its economic backbone and its most important sector for employment are based on agriculture and the exploitation of natural resources, which is where the economic transformation to a GE needs to start.<sup>11</sup>

Conserving and enhancing the natural capital of the continent will be an important source of income, livelihood and jobs for the majority of Africans and an excellent starting point for a transition towards a GE. Sectors affected by conserving the natural capital include not only agriculture and natural resource exploitation, but also important service industries such as tourism.

Another important economic opportunity for GE arises from the fact that (i) a large share of the population in Sub-Saharan Africa is still without access to modern energy and (ii) an economic transformation and the economic growth necessary to lift countries out of poverty will require important energy resources and electricity generation. Apart from Ghana, the majority (> 50 %) of the population in the analysed countries do not have access to electricity.<sup>12</sup> The African continent has enormous untapped potential sources of renewable energy, including solar energy, biomass and wind energy that incur few opportunity costs and entail huge potential for job creation,

economic development and long-term energy security.<sup>13</sup> This includes job creation through the development of new industries related to renewable energy and also the possibility for diversified economic activity. It also includes powering of rural businesses, as well as the possibility to diversify local production processes, for example through upgrading of farming activities, refrigeration possibilities etc.

Another aspect, especially for those countries aiming for industrialisation, is the availability of mature, efficient and sustainable technologies, and the possibility to leapfrog towards them with the support of the international community. This could help to avoid an industrialisation process that would follow the same path as the industrialised countries.<sup>14</sup> With the availability of new and cleaner technologies and options, as well as regarding the magnitude of the already existing environmental challenges and degradation, Africa should not opt for a 'grow first – clean up later' approach. A decision in favour of unsustainable growth patterns, investments in polluting technologies and infrastructure would create immense and avoidable costs as those technologies would need to be replaced at a much higher cost in the future and because current use of polluting technologies and infrastructure leads to irreversible destruction of natural resources.

Despite these benefits and opportunities for GE, the continent lags behind and awareness of GE remains low. Only a few countries have recently developed a GE strategy, such as Ethiopia and South Africa. However, taking into account both the necessity for growth and the conservation of natural resources, a comprehensive GE strategy can lead to more sustainable and inclusive growth opportunities.

9 IMF Regional Economic Outlook, 2012/The Economist, 2011

10 UNEP, A Green Economy in the Context of Sustainable Development and Poverty Eradication: What are the implications for Africa, 2011

11 Keynote address by Meles Zenawi on Green Economy and Structural Transformation in Africa, October 2011, [www.uneca.org/aec/2011/updates/Speech%20by%20HE%20Meles%20Zenawi.pdf](http://www.uneca.org/aec/2011/updates/Speech%20by%20HE%20Meles%20Zenawi.pdf)

12 Human Development Report, 2010, <http://hdr.undp.org/es/estadisticas>

13 Keynote address by Meles Zenawi on Green Economy and Structural Transformation in Africa, October 2011, [www.uneca.org/aec/2011/updates/Speech%20by%20HE%20Meles%20Zenawi.pdf](http://www.uneca.org/aec/2011/updates/Speech%20by%20HE%20Meles%20Zenawi.pdf)

14 Keynote address by Meles Zenawi on Green Economy and Structural Transformation in Africa, October 2011, [www.uneca.org/aec/2011/updates/Speech%20by%20HE%20Meles%20Zenawi.pdf](http://www.uneca.org/aec/2011/updates/Speech%20by%20HE%20Meles%20Zenawi.pdf)







3

## Status quo and potential for Green Economy in the region

Renewable energies exhibit a high potential for economic development in SSA since they help to surmount energy poverty, create employment, and reduce adverse effects on the environment. Photo: © GIZ / Cordula Kropke



The following chapter provides an overview of the status quo of GE in the five countries analysed, as well as of their respective GE potentials. It analyses the relevant policies and regulatory framework in the selected countries, the relevant economic sectors, and also provides examples of regional and national initiatives that are currently being undertaken.

### 3.1 Policy and regulatory framework

The various country studies show that there is growing awareness at national level about the necessity to address and tackle the different challenges arising from environmental degradation and climate change and, consequently, to shift development patterns towards greener development models. The analysed countries tend to integrate GE-related aspects at the highest levels of national strategies but in terms of implementation, there are few tangible effects for the beneficiaries.

Most of the countries studied have endorsed a number of international treaties and conventions relating to GE. Amongst other commitments, they combat climate change (UN Framework Convention on Climate Change – UNFCCC), desertification (UN convention to combat desertification) and the loss of biodiversity (Convention on Biodiversity, Convention on International Trade in Endangered Species of wild fauna and flora). Likewise, there is a clear tendency to integrate environmental aspects and sustainability into the long-term national vision, even if the concept of GE is neither mentioned specifically and nor is central to the vision. The central focus remains on poverty eradication for the poorer countries (Ethiopia, Benin) and on economic growth and the generation of prosperity in middle income countries (Namibia, Nigeria and Ghana).

As an example, both Nigeria and Namibia have mainstreamed sustainable development into development planning at the highest level. The long-term development frameworks for these countries (Vision 2020 and Vision 2030) integrate the concept of sustainable utilisation of natural capital for ensuring development. For example, one of the important objectives of Namibia's Vision 2030 is to 'ensure the development of Namibia's natural capital and its sustainable utilisation, for the well-being of the country's social, economic and ecological well-being'.<sup>15</sup>

The view expressed by Nigeria's National Planning Commission that the concept of GE can be successful, if it is very closely related and integrated into the overall country vision, is also shared by the other countries analysed.

However, transferring the outcomes of international treaties to country-specific situations, as well as incorporating GE strategies into National Development Plans remains a challenge. The general focus is usually on promoting economic development and surmounting the most pressing social concerns, without considering the potential of GE for reaching more inclusive and sustainable growth. At the same time, line ministries and related government agencies are too understaffed to be able to implement all international agreements in a sound and coherent manner.

As with international treaties and conventions, countries have the tendency to develop a series of National Sector Strategies that relate to a number of GE topics. All of the countries analysed have developed strategies for climate change mitigation and adaptation, biodiversity, industry, tourism, agriculture, fisheries, water and sanitation, transport, etc. Nevertheless, when it comes to implementation, there remains a lack of clear competencies, staff and funding for a comprehensive implementation through coherent action plans. Consequently, there is an urgent need to support institutions (e.g. by capacity building on GE topics, M&E, human and financial support) in order to enhance the realisation of GE-commitments made within various national strategies.

Similarly, the analysis shows that, apart from in Ethiopia, no coherent strategies for GE have yet been developed by the countries. Most of the green strategies developed so far focus on sustainable development and climate change mitigation (Benin, Ghana, Namibia, Nigeria) rather than on the economic opportunities of GE. The need for raising awareness and building capacities on the benefits of GE is very strong.

In the case of Ethiopia, the country has developed a Climate Resilient Green Economy (CRGE) strategy, based on its Growth and Transformation Plan (2011–2015). This document describes the steps required for transforming Ethiopia's economy into one which is carbon neutral and climate resilient and, furthermore, defines the roles and responsibilities of governmental and non-governmental stakeholders. The country's Green Growth plan focuses mainly on seven areas (transport, industry, crop, livestock, REDD, energy and building and green cities) and was presented by the Ethiopian Prime Minister in Durban, South Africa in December 2011. Alongside the overall policy framework, it includes financing mechanisms from the Ministry of Finance, which are expected to make the implementation of the plan more feasible.

15 Office of the President, Namibia Vision 2030, 2004

In Namibia, as a first step towards developing an overall GE strategy, so called Green Economic Coalition Dialogues took place in 2011. They have been supported by GIZ and were the first national stakeholder consultations related to GE in the country. The Green Economic Coalition Dialogues represent an important entry point for the topic of GE in the Namibian context. They provide a more in-depth overview of the different positions and interests relating to the topic.

One option to enhance and strengthen awareness of GE at national level could be the integration of GE indicators into national monitoring and evaluation systems. This could help to assess the potential impact of GE on social and economic parameters and to prepare the ground for elaborating on greener development plans.

At the level of economic and regulatory instruments, there is little knowledge and awareness on which policy mixes could be developed to promote GE. Neither an overarching framework nor coherent strategies that reflect the national commitments have been developed so far. Instead, a series of laws and regulations have been progressively set to respond to specific needs. At the legislation level, the most frequent to be found focus on returning those rights to communities which concern natural resources, environment or natural species protection. Most of the countries promote environmental impact assessments (Namibia, Ghana, Benin) but there is generally a lack of capacity for implementation. In Namibia and Nigeria, based on information from the respective Ministries of Finance, no projects incentivising a switch to more environmentally friendly technologies are currently planned. Similar situations can also be found in the other countries. There are only a few isolated measures, such as tax exemptions for solar panels in isolated areas in Benin, which are intended to improve access to energy. Another interesting example is the successful implementation of tax exemptions for environmentally friendly motorcycles in Benin (ZECO 4 initiative). Due to this tax incentive, almost all highly polluting motorcycles have been replaced by cleaner alternatives. In Namibia the government provides subsidised loans under the Solar Revolving Fund to stimulate the use of renewable energy technologies in both, rural and urban areas. The Solar Revolving Fund is a credit facility where Namibians, especially those from off-grid communities, receive a loan for off-grid renewable energy technology. The Solar Revolving Fund is attached to a number of certified distributors (see example in Box 1) who are issued with a purchase order from the fund once a loan application has been approved. The relevant ministry conducts a verification visit to ensure that the system has actually been installed and that the loan has been used for the intended purpose.

As previously mentioned, initiatives are isolated and there is a general lack of economic incentives. Green procurement initiatives, besides the few relating to solar heaters in Namibia, are yet to be promoted.

#### BOX 1: PROMOTING RENEWABLE ENERGIES IN REMOTE AREAS OF NAMIBIA THROUGH SOLAR SHOPS

In Namibia, the Ministry of Mines and Energy has developed a solar shop programme as a way to promote renewable energies in remote areas. The concept of solar shops will help to ensure that solar equipment and technology can be easily distributed throughout the country. To achieve this objective, existing distributors and hardware shops are offered the opportunity to become official distributors of solar equipment with the help of subsidised loans for the stocking and warehousing of this technology. The programme plans to create 108 solar shops. At the same time, individuals buying renewable energy technology from the solar shops can apply for a loan from the Solar Revolving Fund.

For further information, see:  
[www.mme.gov.na/energy/pdf/SRFFactSheet.pdf](http://www.mme.gov.na/energy/pdf/SRFFactSheet.pdf)

Additionally, governments promote a number of other initiatives relating to GE. One of the most interesting is the creation of Natural Resource Accounts (Namibia, Nigeria and Ethiopia). National Resource Accounts help to evaluate the contribution of the environment to national wealth by developing 'satellite' accounts for natural assets such as fish, forests, wildlife, water and minerals. The idea is to feed additional data into conventional national economic accounts so that the gross domestic product (GDP) also incorporates elements reflecting a country's natural capital, which is a crucial component of the GE-approach. Measuring the natural capital of the country will help to factor the depletion of natural resources into GDP. This is especially important for countries where natural resources are the most important asset type and where the predominant source of income and employment is based on its exploitation. Only if the natural resource base is secured or conserved in the long term, a country could achieve sustainable growth. Therefore, natural resource accounts are an important planning mechanism for strategic development.

Another concept that is becoming increasingly popular in all five countries is Community Based Natural Resource Management (CBNRM). CBNRM is an approach that allows local communities to manage natural resources in order to provide for their own livelihoods. The respective community acquires the legal rights over local natural resources, is responsible for their sustainable manage-

ment and receives the economic benefits that accrue. The approach empowers local communities and provides the potential to increase the income of even the most isolated and fragile populations whilst facilitating conservation management in rural areas.

A series of programmes promoting renewable energies as well as biofuels (bioethanol, jatropha) have been developed in the five countries as they are especially suitable for providing off-grid energy solutions to remote communities. Nevertheless, these programmes are still underdeveloped. At the same time, the massive use of biofuels is heavily criticised and biofuels should only be promoted if they do not negatively affect food production. In the case of Namibia, an Environmental Impact Assessment analysing the potential impacts of industrial plantation of jatropha was unfavourable and the cabinet has therefore decided not to proceed with the project.

An analysis of the governmental actors responsible for GE shows that in most of the countries the Ministry of the Environment or similar ministries lead in most aspects related to GE. This is also one of the major reasons why the focus of GE is generally on ecological aspects rather than on economic development. Additionally, Ministries of Environment are commonly weaker ministries and, thus, frequently lack the financial power and coordinating capacity to support the mainstreaming of GE into government policies. However, there are also counterexamples. In Ethiopia, for instance, government still managed to develop a comprehensive Green Growth strategy even though there is only an environmental authority and no Ministry of the Environment.

Nevertheless, for topics relating to economic development other players, such as the Ministries of Industry and Trade (or equivalents), would be need to play a more active role in order to increase the impact. However, their interest, knowledge and technical capacity are rather limited in many countries.

A similar set-up to the one proposed in Ethiopia, where the national response to climate change and the development of the GE framework is being implemented in a tripartite way, could be an interesting way forward to mainstream GE with all relevant players. While the Environmental Protection Agency (EPA) is in charge of coordinating the national response to climate change and the GE framework, the Prime Minister's office has been incubating the process. It leads the steering committee responsible for resource mobilisation, taps into climate financing from international organisations as well as from national budget, and defines the strategic direction relating to long-term GE development. The steering committee and the EPA are supported by a number of technical

committees that are chaired by the relevant ministries. The mobilised budget is available through a National Finance Facility for Climate that is attached to the strategy and is administered by the Ministry of Finance and Economic Development.

## 3.2 Opportunities for greening economic sectors

Given the challenges of achieving inclusive and sustainable growth, creating jobs and reducing poverty while, at the same time, conserving natural resources as a basis for economic development in Africa, a change in the perception of economic opportunities is needed. GE cannot only focus on the legal and regulatory framework, but needs to be perceived as an opportunity to reach inclusive and sustainable growth in all economic sectors. To show the benefits of GE, initiatives that reduce poverty and generate income as well as employment should be prioritised, as they are more likely to be implemented by governments in the region. The focus should be on those activities that provide the greatest economic potential.

UNEP's GE Report focuses on the following key sectors, exhibiting the potential to combine economic and environmental interests of a given country: agriculture, buildings, cities, energy, fisheries, forests, manufacturing, tourism, transport, waste and water.<sup>16</sup> The following chapter bases its analysis on these key sectors defined by UNEP. Given the country contexts of Benin, Ethiopia, Ghana, Namibia and Nigeria, special emphasis has been put on agriculture, tourism and energy, as well as a number of cross-cutting issues.<sup>17</sup> The sectors analysed in more detail have been chosen both for their overall economic importance and due to the fact that most of the existing initiatives take place in these sectors. The following chapter does not aim to provide an exhaustive overview of the different sectors, but rather highlights those opportunities that provide the most promising economic potential in relation to GE in the region.

### Agriculture

Agriculture is one of the most important sectors in all of the countries, especially when it comes to employment. A predominant share of the population – between 60 % in

<sup>16</sup> UNEP, Green Economy 2010

<sup>17</sup> Cities have only been considered as a cross-cutting issue related to transport, waste, manufacturing etc. as an analysis of the city ecosystems would be beyond the scope of this study.



Nigeria and up to 85 % in Ethiopia – depends to a great extent on agriculture as a source of livelihood. However, the sector only accounts for 8 % of GDP in Namibia up to 46 % in Ethiopia. While agriculture remains an extremely important sector, it is generally characterised by low productivity, the dominance of small-scale producers cultivating small landholdings, low technology use, and the reliance on human labour. The only exception would be Namibia, which additionally has a strong focus on commercial livestock, accounting for 60 % of its exports. Agriculture is extremely vulnerable to environmental risks and the implications of climate change which, in turn, provides a strong argument for the integration of GE aspects into development strategies. This reasoning is further supported by the necessity to increase sustainability and productivity in order to improve the livelihood of a large share of the population. The following examples depict common initiatives implemented in relation to GE and agriculture.

### ■ Biotrade

‘Trade in Biodiversity based businesses or biotrade refers to those activities of collection, production, transformation, and commercialisation of goods and services derived from native biodiversity under the criteria of environmental, social and economic sustainability.’<sup>18</sup>

In most countries, a potential for the development of biotrade for indigenous crops, which can be used for medical and industrial applications, biofuels (jatropha, prosopis, oil palm) or food supply, has been identified as the most interesting and promising opportunity. Indigenous livestock breeds are also seen as an opportunity since they are adapted to local conditions and can provide a living even to the most isolated populations. Africa’s rich biodiversity and the accumulated knowledge of it result in interesting products for commercialisation and export. This relates to livestock breeds, wildlife, indigenous crops and vegetables, timber and non-timber forest products, indigenous fisheries and marine resources as well as indigenous natural products. Compared to its potential, biotrade appears underdeveloped in most of the countries analysed. There are still a number of issues that need to be resolved, for instance bridging the gap between producers and the market, searching for commercially interesting markets and issues related to innovation or intellectual property. With regard to export products, an additional challenge results from the necessity to provide consistent quality and quantity. However, this might impose a huge obstacle considering that producers in the respective countries are mostly small-scale and located in remote areas.

In Namibia, biotrade has demonstrated its potential. Its GDP share is around 4.5 % and it is estimated that it could reach up to 7 % of GDP in the future<sup>19</sup>. If biotrade is to succeed, it is essential to ensure that ecosystems are used sustainably so that exploitation can take place in the long run, which will represent another opportunity for preserving national natural resources. As a matter of fact, a study conducted in Nigeria, where more than 45 medicinal plants are harvested for trade on a regular basis in the rainforest, demonstrates that biotrade can become an opportunity to rehabilitate the natural forests. In Nigeria rehabilitation has been facilitated through conservation initiatives, ensuring respect for the existing environmental protection laws and attracting funding and technical support from interested stakeholders such as pharmaceutical industries, NGOs, states and local governments. As such, biotrade provides significant potential but it needs to be explicitly considered within international negotiations and it requires attracting further interest of the private sector in order to be able to fully capitalise on the existing opportunities. Innovation of indigenous products, building capacity for the supply chain, as well as building markets is also fundamental. In Namibia, the strong support for initiatives provided by various international partners, such as the Millennium Challenge Account, the EU Programme for Rural Poverty Reduction or the GIZ Biodiversity and Sustainable Land Management Project, sets the pace for the future. Another interesting project promoting regional exchange in regard to biotrade is the Biotrade Initiative working with Peru, Namibia and Nepal as pilot countries. The project is implemented by UNEP, UNCTAD and GIZ. It is a regional venture, focusing on the capacity to export certain indigenous, biodiversity-based products and analysing their impact on trade in the three countries.

### ■ Organic Agriculture

In this study organic agriculture is defined as ‘a production system that sustains the health of soils, ecosystems and people and relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved.’<sup>20</sup>

Organic agriculture is still in its infancy in the five countries that were studied and it remains a niche market with a very small production volume, which is primarily distributed on local markets. Nevertheless, if current

18 Definition from UNEP – UNCTAD; [www.unep-unctad.org/cbtf/biotrade.asp](http://www.unep-unctad.org/cbtf/biotrade.asp)

19 Bio Trade – A Catalyst for transitioning to a Green Economy, 2011

20 International Federation of Organic Agriculture Movements (IFOAM); [www.ifoam.org](http://www.ifoam.org)

trends continue, the market share will grow significantly in the next few years, exhibiting an important potential for export – especially for processed organic products. Organic agriculture often facilitates the exploration of alternative ways of farming that preserve the environment by reducing the use of agrochemicals through the use of organic fertilisers, such as Moringa in Nigeria, Moukouna in Benin, or bio-pesticides. It enables the exploration of production of endemic species more adapted to harsh climates and soils, such as jatropha (Nigeria), Moringa (Nigeria) or indigenous livestock (Namibia), or the substitution of harmful production methods for different commodities such as cotton, pineapple or palm oil with organic farming methods. Organic Agriculture Associations are active in all five countries, providing support to farmers, and promoting the development of new production and certification processes that will open new markets for exports. Much could also be done to provide access to infrastructure and develop adequate distribution systems, which remain the two main challenges for farmers who switch to organic methods. It also appears fundamental to promote marketing initiatives so that more significant markets are created.

In Nigeria, Ghana and Ivory Coast, GIZ is supporting access to improved sustainability certification in the cocoa sector. This is being done by promoting cooperation between standards initiatives, private enterprises and development organisations. The project is expected to provide training for cocoa farmers in order to improve their agricultural practices, meet the requirements of the three main standards initiatives in the cocoa sector – Fairtrade, the Rainforest Alliance and UTZ Certified – and to achieve certification by them.

In cooperation with the AEM Secretariat and financed by the International Climate Initiative (ICI), GIZ is supporting the development of an African Eco Label, the Eco Mark Africa. The Eco Label is being developed as part of the Marrakesh Process for Sustainable Consumption and Production. Working groups for agriculture, fishery, forestry and tourism have been set up and the standard setting process is currently under development.<sup>21</sup>

#### ■ Micro Insurance for farmers to reduce the risks of climate change and natural disasters

One of the possible solutions for financing the transition to GE in the agricultural sector is the development of micro insurance schemes. Micro insurance schemes help farmers to reduce the risks of climate change and natural disasters and they are perceived as crucial to secure livelihoods in a situation where weather patterns change

quickly and become increasingly unforeseeable. While flooding and droughts have always imposed risks on farmers, climate change is boosting these risks as extreme weather events are getting more frequent. Nigeria and Ghana have started developing micro insurance schemes for farmers. In Nigeria the system is implemented by the International Centre for Energy and Environmental Development for farmers in northern Nigeria. In Ghana, GIZ provides support to the National Insurance Commission and fosters the development and introduction of agricultural insurance solutions to protect farmers and other actors dependent on crops, in the event of crop failure due to extreme weather events.<sup>22</sup> If micro insurance is being implemented in a sustainable way, and maybe even provides insurance products for organic farming or biotrade, it can be an important leverage towards a GE, as it decreases the risks of farmers to a loss of income due to extreme weather events.

#### BOX 2: CLIMATE CHANGE ADAPTATION INSURANCE IN GHANA

In order to create a market for agricultural insurance, GIZ supports the National Insurance Commission in a project that focuses especially on capacity development for all relevant stakeholders, including the Ghana Insurers Association and its members, financial institutions, the Ghana Meteorological Agency, and farmers and their associations. In 2011, the first insurance product, a drought index insurance product for maize, has been launched in three northern regions. It is reinsured by Ghana Re and Swiss Re and addresses two different types of clients: individual crop farmers and the commercial and rural banks that provide credit to farmers.

## Energy

Access to energy is one of the major challenges in all five of the analysed countries and, consequently, bears a high potential for economic development. The percentage of the population without access to electricity and modern energy varies between 85 % in Ethiopia and 45 % in Ghana. The countries analysed represent a mix of countries possessing fossil fuels (Nigeria and Ghana) and countries heavily depending on energy imports.

A series of programmes promoting renewable energies (especially in the area of solar and biomass) as well as biofuels (bioethanol, jatropha) have been developed in the five countries since those measures are especially

21 For further information please check: [www.ecomarkafrica.com](http://www.ecomarkafrica.com)

22 Green Finance, An innovative approach to Fostering Sustainable Economic Development and Adaptation to Climate Change, GIZ, September 2011

suitable for providing off-grid energy solutions to remote communities. Nevertheless, these programmes are still underdeveloped and much could be done to promote their potential for GE. At the same time, as already explained before, the sustainability of biofuel programmes needs to be closely assessed before promoting their application on a large scale.

In Namibia, the Ministry of Mines and Energy is promoting renewable energies, especially solar energy, through solar shops and the Solar Revolving Fund. The Solar Revolving Fund subsidises solar home systems in remote areas. At the same time, the concept of solar shops will help to ensure that solar equipment and technology can be easily distributed and is available throughout the country. To reach this objective, the Ministry and the Renewable Energy and Energy Efficiency Institute are working with existing distributors and hardware shops. The latter are offered the opportunity to become official distributors of solar equipment and are eligible to receive subsidised loans for the stocking and warehousing of technology. There are 108 solar shops planned, the first of which opened in 2011.

In Ethiopia, a range of GE-related activities are being promoted. A special focus lies on Eco-Energy and private sector involvement in renewable energy is supported. GIZ is also active in this regard, building local capacity and international linkages for the provision of small-scale solar and hydropower systems, and promoting improved energy-efficient cooking technologies.

Nigeria has developed a renewable energy policy with action plans and targets, including plans for feed-in tariffs, subsidies and tax breaks. However, implementation is not forthcoming at present. At the same time, Nigeria aims to create a domestic market by integrating the energy and agricultural markets of the country. It intends to establish a home-grown biofuel industry, bringing economic empowerment to rural communities and reducing its dependence on fossil fuels while participating in the Clean Development Mechanism (CDM) programme. However, the possible negative aspects of biofuels, especially in relation to food security and food prices have to be taken into account, when promoting biofuels on a large scale.

In Ghana, the drive towards renewable energy continues to be slow, with no clear policies guiding the promotion of GE. Interest thrived briefly when a long dry period led to serious energy shortages due to Ghana's large dependency hydro energy. However, with the recovery of rain fall and the recent discovery of oil, the issue seems to be largely off the agenda.

It is commonly acknowledged that access to energy increases the quality of life in rural communities and, at the same time, creates employment and provides opportunities for the development of Green and Inclusive Business Models. On the one hand, jobs could be directly created through the installation and maintenance of renewable energy systems in remote areas. On the other hand, they can also be created indirectly through the fact that access to energy increases the diversification potential for local communities. For instance, farmers would be enabled to further process or store products, if they had access to energy. Additionally, jobs that depend on access to electricity (for example recharging of mobile phones, ability to diversify or process certain agricultural products etc.) can be created and there is a potential to increase productivity (e.g. through new production techniques that require energy or through the fact that shops can also be open at night due to lighting etc.) with existing jobs and business opportunities.<sup>23</sup>

The global market for carbon credits provides a new and significant economic opportunity for most African countries.<sup>24</sup> As non-Annex I parties to the UN Framework Convention on Climate Change (UNFCCC), all the analysed countries are eligible to host GHG mitigation projects to earn certified emission reductions (CERs). Most of them have recently established Designated National Authorities for CDM. Nevertheless, although a number of project idea notes have been assessed, Nigeria and Ethiopia are the only countries to have registered CDM projects under the UNFCCC so far. The most promising country by far is Nigeria, which has registered several projects that are generally linked to the oil industry and gas flaring. This also comprises the largest CDM project registered in Africa. Other projects deal with topics such as fuel-efficient wood stoves, municipal solid waste composting facilities or hydropower rehabilitation projects. A recent study by the World Bank<sup>25</sup> estimated that Nigeria's potential for clean development was up to \$1.25 billion due to sales of carbon credits. The country stands to gain tremendously by implementing CDM projects, as it has the potential to fill the gap in the power sector as well as improve the economic earnings through investments in clean energy systems.

In the case of Ethiopia, the CDM project focuses on alleviating poverty through a community based afforesta-

23 Questionnaire for the Member States on Experiences, Success Factors, Risks and Challenges with Regard to Objective and Themes of UN Conference on Sustainable Development (UNCSD); 2010

24 The information on Carbon Credits is based on information from 2011. While its continuity has been assured after the end of Kyoto in 2012, prices for CERs have fallen by more than 70%. However, the CDM Policy Dialogue urges the international community not to abandon the CDM, but to strengthen it for the future. [www.cdmpolicydialogue.org](http://www.cdmpolicydialogue.org)

25 Low-carbon Energy Projects for Development in Sub-Saharan Africa – Unveiling the Potential, Addressing the Barriers, World Bank, 2008



tion / reforestation project which will allow the restoration of indigenous forest species at a mountainous site in the Humbo area.<sup>26</sup>

Regarding these different initiatives and examples, it appears that carbon markets and emissions-reducing initiatives are to play an increasing role in Sub-Saharan Africa in the years to come. They are great drivers for greening the economy since they hold a great potential for fostering energy efficiency, renewable energy solutions, reforestation, etc. while providing employment for a wide range of the population. This also includes the poorest segments, as in the case of community based reforestation projects or power generation from renewable energy. Nevertheless, the complexity of the CDM mechanisms or programmes such as REDD still remain a barrier for many countries and there is a great need for capacity building so that all the potential for mitigation can be fully unleashed in Sub-Saharan Africa.

## Forestry

Deforestation is another major issue in the analysed countries. In Benin for example, deforestation reached a rate of 80 % in the last 20 years and in Ghana the government tries to enforce tree planting for those businesses that exploit forest resources, but with limited success. In Namibia and Ethiopia, while not being significant in the national accounts, forestry plays a crucial role in community development, as it provides ecosystem services, especially for the rural poor.

In the general context of deforestation, there is a series of opportunities that can be economically profitable while preserving forests from depletion. Community Based Forest Management is becoming increasingly popular for ensuring sound management of natural resources while providing income and employment for the poorest parts of the population. In this context, sustainable biotrade of endemic species holds a real potential. Offset markets through the promotion of CDM and VCM or Reducing Emissions from Deforestation and Forest Degradation (REDD) start to be promoted in most countries with the help of international programmes.

Nigeria, Ethiopia and Ghana, in partnership with the World Bank's Forest Carbon Partnership Facility (FCPF), participate in the REDD Readiness Preparation Proposal (R-PP). The R-PP is a plan that lays out what needs to be done in order to comprehensively prepare a country for utilising the opportunities of the implementation of REDD. REDD is understood to include all the elements

mentioned in the Bali Action Plan, Section 1 (b) which calls for 'policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries'.

## Manufacturing

The manufacturing sector – especially relating to light manufacturing – appears largely underdeveloped compared to its potential. Nevertheless, there exists a variety of opportunities for innovating new products based on national natural resources.<sup>27</sup> In this sense, there is a lot of potential for conditioning, processing and commercialising green products, such as those related to biotrade, organic agriculture or other natural resource based products.

Moreover, in some countries, resource efficiency and cleaner production (CP) initiatives have been promoted by various donors and the government. Although the potentials for saving resources and thereby costs as well as improvements in competitiveness have been shown in a number of the pilot projects (such as in an UNIDO financed project in Namibia), CP and resource efficiency projects have not managed to overcome the demonstration phase in any of the countries until now. Still, incentives to engage in CP are often hampered by low prices of subsidised energy and a great deal of awareness raising and capacity building is needed to develop a good understanding for CP and to see not only the environmental, but also the economic benefits of the concept. In that sense, programmes like the one developed by the Ethiopian Cleaner Production Centre<sup>28</sup> (the only CP centre within the five countries of the study) for reducing waste generated at source, the Namibian Cleaner Production initiative supported by DANIDA between 2005 and 2007 or the resource efficiency initiatives in industrial zones in Ghana supported by GIZ provide examples of good practices to be followed and replicated. The concept of CP, resource efficiency and climate change mitigation could also be an important input for national industrial policies, especially for economically relevant and resource-intensive sectors which could benefit from reduced fuel and energy costs.

27 Worldbank, *Light Manufacturing in Africa: Targeted Policies to Enhance Private Investment and Create Jobs*, Chapter 1: Good possibilities for light manufacturing in SSA, 2010

28 Member of the UNIDO/UNEP CP Centers global network and managed by the Ethiopian Science and Technology Commission

26 For further information on CDM, see carbon markets

### BOX 3: RESOURCE EFFICIENCY INITIATIVES IN INDUSTRIAL ZONES IN GHANA

In Ghana, GIZ is facilitating the establishment of industrial zones with reliable access to energy and business development services in selected district capitals in several regions. Among other activities, it supports the plans of regional and local governments to promote new industries and create industrial zones with improved infrastructure. Through the implementation of the Profitable Environmental Management training, companies in the industrial zones managed to decrease environmental hazards, while at the same time improving the safety of the site, attracting more customers and improving the business performance of companies.

## Tourism

Tourism is an important source of income for many African countries. However, while it may contribute to income generation, its benefits are still often poorly distributed and the communities that are the object of tourism may be confronted with serious side effects, such as environmental degradation, increase in land prices, over-exploitation of local customs and cultures, etc. Promoting sustainable or eco-tourism seems to provide suitable solutions to these challenges. Moreover, when linking tourism to community based projects it can additionally provide income to the most vulnerable populations through the creation of new economic opportunities, while preserving the environment and raising awareness on vital issues. In Namibia the CBNRM-based tourism led to the empowerment of local communities as well as to a commitment for long-term sustainable development.<sup>29</sup>

Moreover, a number of initiatives promoting ecotourism labels have been supported as a way of fostering this new type of tourism, such as the Eco awards in Namibia which focus on promoting the creation of Eco-friendly accommodation establishments. Countries like Ghana, Namibia, Benin and to a lesser extent Nigeria, have developed several projects of sustainable community based ecotourism aiming to create mutually beneficial relationships between conservationists, tourists and local communities. For example, in Ghana, fishing villages, wildlife officials and American researchers developed an ecotourism project to protect endangered turtles, while at the same time creating jobs for local guides who would otherwise have been involved in poaching turtles for their meat, shells and skins.

Sustainable hunting tourism programmes also appear in several countries (such as the one supported by GIZ in the Pendjari Biosphere Reserve, Benin). Regulated shooting quotas and increased revenue from trophy hunting managed to provide financing of protected areas and raised income for the local population. Furthermore, it reduced poaching and increased acceptance of the protected areas amongst local people.

Finally, we see that various countries have shown interest in assessing the potential for becoming carbon neutral tourism destinations (Namibia). This would include offsetting of all national tourism related emissions (especially related to transport). However, although the potential seems significant, no concrete action has been taken so far.

### BOX 4: PENDJARI BIOSPHERE RESERVE IN BENIN: MANAGING A CONSERVATION AREA THROUGH HUNTING TOURISM

In Benin, hunting tourism has become a part of the concept for managing the Pendjari conservation area, with the support of GIZ. Each year, local park administration officials allow sport hunting of a small number of animals. The fees the tourists pay for the hunting permits help finance the protected area. Most of the income from hunting fees stays within the region and benefits the park's 30,000 inhabitants. Park officials coordinate and agree community development plans with the 30 villages located in the buffer and development zones of the protected area. The local population has undertaken some reserve-management tasks, enabling many families to earn additional income. The national park currently offers employment to 130 people from the surrounding villages as trackers, gamekeepers and tourist guides.

## Waste

Waste-management practices are currently poor in the African context. Dumping of waste, especially in uncontrolled dumpsites, increases the level of environmental hazards. Additionally, waste-management infrastructure is basically non-existent in large parts of rural Africa and the increasing urbanisation challenges waste-management in major cities. At the same time, waste generation is expected to increase as a result of industrialisation and urbanisation.<sup>30</sup>

<sup>29</sup> Rapid environment and Trade Assessment, National Report for Namibia, 2009, page 39

<sup>30</sup> United Nations Economic and Social Council, Economic Commission for Africa, Africa Review Report on Waste Management, 2009

In relation to economic opportunities, there is untapped potential for recycling and waste-to-energy in all of the countries. In most countries recycling initiatives are isolated and in their infancy. Interesting initiatives include building houses from recycled material in Nigeria and recycling activities through a private sector company in Namibia. The latter collects plastic, glass and other recyclable products and ships them to South Africa for recycling. The set-up of a recycling plant in Namibia is not cost-effective due to the small volume of waste. Moreover, recycling and waste-management is particularly hampered in remote rural areas by insufficient accessibility.

Though there seems to be an awareness of the importance of managing waste, there is still a lack of comprehensive waste-management and recycling policies. To respond to this challenge, one interesting initiative has been the organisation of an international symposium on waste-management by the Government of Benin in 2010. Based on the recommendation of the symposium, a promising national waste-management programme has been developed with the assistance of the UNDP.

### 3.3 The role of the private sector

The role of the private sector has mostly been analysed through available secondary information as well as interviews with representatives from business associations and from a few companies considered to be pioneers in their respective branches. The overview is therefore not exhaustive and mostly focuses on the activities of large companies. Although they are very promising, aspects of green inclusive business, especially related to new and innovative business models at the base of the pyramid, are beyond the scope of this study.

The various case studies show that with regard to private sector engagement, the most active private sector was observed in Nigeria and Namibia (both classified as middle income countries), where a number of interesting initiatives are being promoted by the private sector. This is especially true for Namibia in the area of bush encroachment and tourism and for Nigeria in the oil sector, where companies have large green energy programmes.

Namibia additionally has a very strong consultancy sector, also in relation to environmental topics, that is partly shaping the discussion of GE in the country.

Generally, it can be stated that the participation of the private sector in GE issues is mostly a new concept. Apart from some multinational companies and isolated domestic companies, the private sector so far has not taken the lead in GE.

Corporate Social Responsibility (CSR) is currently still in its infancy stage in all the countries analysed. The majority of initiatives result from a philanthropic rather than a CSR approach focussing on green economic opportunities. These initiatives are usually promoted by multinational companies like Shell and Chevron in Nigeria, which have a strong social and environmental impact on local communities. The focus is not only on environmental aspects, but usually includes the provision of infrastructure, health and microcredit. Projects are often developed in partnership with several actors, comprising governmental and local authorities, international NGOs or multilateral organisations. GIZ is active in Namibia where it provides support to a series of projects under its PPP fund to promote and co-finance CSR or sustainability projects with private companies or in Benin through the 'Cotton Made in Africa Initiative'<sup>31</sup> with the Otto Group. Despite this situation, it is likely that CSR will play an increasing role in Sub-Saharan Africa under the leadership of multinationals following the global trend of social responsibility. A great deal of support will be needed to accompany and promote this phenomenon through capacity building and advice to companies, private sector organisations, governments, and NGOs.

With regard to the potential future engagement of companies, opportunities have been identified for the tourism sector (based on the example of Namibia) as well as with regard to project development for carbon offsetting, micro insurance in the agriculture sector affected by climate instability and promoting research and development for new inclusive markets based on natural resources. In the event that sustainable tourism grows, marketing Namibia as a 'carbon free' destination would be worth consideration; there might be potential to win international tourism operators as participants or promoters of this concept.



A large-scale construction project is shown in silhouette against a clear, light blue sky. A tall crane is positioned on the right, its boom extending diagonally across the frame. To the left, a complex structure of scaffolding and steel beams is visible, with several workers perched on top. The overall scene conveys a sense of industrial activity and infrastructure development.

# 4.

## Drivers and barriers to implementation

Eco-efficient buildings and construction exhibit a large potential to reduce energy and resource requirements within the housing sector. The market is highly innovative and provides vast employment opportunities. Photo: © GIZ/Jens Neuhaus

Throughout the analysis process, a number of trends relating to drivers and barriers to the implementation of GE in Sub-Saharan Africa have been found.

## 4.1 Drivers for GE

### Use of the economic potential of the abundance of natural resources

One of the major drivers for GE is the fact that Sub-Saharan Africa is endowed with a high diversity of natural resources and an abundance of natural capital. Furthermore, an important share of the population relies on ecosystem services for basic needs and the economies of Sub-Saharan Africa are generally based on the exploitation of natural resources. Conserving and enhancing the natural capital of the continent will be an important source of income, livelihood and employment for the majority of Africans and a great starting point for a transformation of economies to GE. Sectors affected by conserving the natural capital include not only agriculture and natural resource exploitation, but also important service industries such as tourism. There are a number of interesting and innovative approaches that link conservation to poverty alleviation and rural development. Tourism as a key industry or a potential upcoming industry depends on an intact environment. Strengthening green and sustainable tourism could be an important driver in various fields such as natural resource management, energy and water. The efforts relating to biotrade are another interesting aspect.

In a recent study, UNEP analysed whether biotrade can serve as a catalyst for a transition to a GE in Namibia. The study estimates that the contribution of biotrade to the economy could increase by 50 % over a period of ten years, leading to a total share of 7 % of GDP. Moreover the poverty reduction potential of biotrade is estimated to be quite considerable: with about 250,000 people affected directly through income generation and benefits derived to around one million Namibians.<sup>32</sup> However, these numbers seem quite high and should be interpreted with caution.

### Need for access to modern and sustainable energy

The African continent has an enormous untapped potential of renewable energy sources, including solar energy, biomass and wind that incur few opportunity costs and entail a huge potential for job creation, economic development and long-term energy security.<sup>33</sup>

At the same time (i) a large share of the population in Sub-Saharan Africa is still without access to modern energy and (ii) the economic transformation and economic growth necessary to lift countries out of poverty will require important energy resources and electricity generation. The high cost of connecting remote areas and communities to the grid make the development of decentralised sustainable energy solutions as well as the use of renewable energies an important driver on the path towards GE.

### Commitment of relevant actors

The political commitment for sustainable development, climate change mitigation and adaption are important drivers that help to gain momentum for GE in the various countries. Political commitment is starting to develop, as evidenced through the outcome of the recent Sixth African Economic Conference for the regional level, as well as a series of government strategies and policies relating to climate change such as in Ethiopia, Ghana and the Green Economic Dialogues in Namibia. However, detailed analysis of the situation reveals that there are still an important number of challenges relating to the awareness, capacities and political interest in GE.

Moreover, the UN Rio+20 conference, in June 2012, and the availability of funds and the interest of donors and development banks, are important drivers and raise the interest in GE within the context of poverty eradication and sustainable development in Africa.

NGOs can be another interesting driver for GE. While NGOs tend to focus on topics such as natural resource management, ecological agriculture, climate change etc. rather than on the economic aspects of GE, they accumulate a very significant amount of experience and knowledge and have developed a huge number of pilot projects that can be replicated. Based on the analysis and especially because of their focus on 'green' topics, they might be a good information source, but generally would not in every case be the ideal ally for a purely economic intervention on GE in Sub-Saharan Africa.

32 UNEP, Green Economy Sectoral Study: BioTrade – A catalyst for transitioning to a green economy in Namibia, 2012

33 Idem; Why a GE matters for LDCs, UNEP, 2011



## 4.2 Major barriers to GE

In relation to barriers for GE, very clear trends can be observed in the five countries analysed. They generally coincide with the major challenges identified by a UNCSD survey conducted in 2010:

### 1. Inadequate knowledge and awareness of GE

Knowledge and awareness of GE are weak in all the countries studied. Consultants report that it has been necessary to describe and explain the concept in most of the interviews. In most of the countries there is currently no agreed-upon definition of what GE actually means in relation to the national context and how it can complement the activities that are currently implemented under the umbrella of sustainable development or climate change. However, some of the countries, such as Namibia and Ethiopia, are in the process of defining their views on GE.

Lack of awareness is not only a factor hindering public institutions; it also has a number of consequences for society in general. There is much to be done to raise awareness of the importance of managing growth without jeopardising the country's natural capital at all levels of society, including schools, universities and the general public. In key environmental locations such as forests etc., residents are relatively unaware of how their actions impact on the local environment.

### 2. Human and institutional capacity

In all the countries studied it was perceived that there is a major gap in human and institutional capacity when it comes to the implementation of a broad GE concept. This is particularly true for those ministries that are not directly involved in the implementation of environmental topics. While they are extremely important actors in relation to a broader GE concept, they have very little implementation capacity and lack expertise and knowledge of the benefits of GE. In general terms, policies (relating to climate change, environment and sustainable development) that have been developed by the different responsible bodies are perceived as exhaustive and complete. However, the translation of these policies into action and the implementation and enforcement processes of those policies relating to GE are a major challenge for the Sub-Saharan African context. Another important factor is that the leading ministries (generally environment ministries) tend to be overwhelmed by the responsibility of such a

large concept. Environmental ministries are often rather weak and have many responsibilities but limited budget and human capacity to mainstream a topic such as GE on a broad scale. There is also a perception that market based approaches to GE are rather slowed down by strong government presence and that a stronger involvement of private actors and the civil society would multiply the effects of the concept.

### 3. Missing mainstreaming of GE

Almost all the initiatives, projects and programmes that are currently developed or implemented, focus almost exclusively on environmental aspects. The Ministries of Finance, as well as Trade and Industry are hardly involved and there is very little awareness of the role that they could play in promoting GE. This not only applies to government, but to a large extent also to donor-driven programmes. There are a number of donors, such as UNDP, GEF, as well as GIZ and others actively working in Sub-Saharan Africa. However, the projects that are supported are mostly related to climate change, sustainable agriculture, natural resource management and cleaner production. While a number of these activities can be linked to GE, not one programme specifically focusing on GE has been identified during the course of the study; besides the GE programme of UNDP in Ethiopia and the activities related to the organisation of the Green Economic Dialogues in Namibia, most activities focus on environmental topics rather than economic programmes with a GE focus.

### 4. Inadequate coordination between various actors and pooling of resources

GE must be addressed by various political institutions and ministries and there is a general consensus that inter-ministerial cooperation is of the utmost importance while still being a huge challenge. While the Ministry of the Environment (or similar ministries) normally takes the lead in implementation of GE, there is a strong need for cooperation with other line ministries, especially in with regards to those aspects strongly related to economic development and the growth agenda. Even in Ethiopia, where an inter-ministerial steering committee and technical committees are established at federal level, there is a lack of capacity to create and exploit synergies between the various institutions.

However, inter-ministerial communication is not the only challenge. There is a general lack of effective coordination and pooling of efforts and approaches related to GE into an integrated approach. In the case of Ethiopia, it has



been mentioned that the uncoordinated effort of various civil society organisations and private sector associations working on the creation of awareness and implementing the Green Growth agenda, led to fragmented activities that failed to create the impact that they could have had. Coordinated, strategic and systemic support would be necessary to enable these organisations to increase their impact.

ment, the scientific basis for climate change scenarios and energy. Research is not focused on economic topics, such as the impact of GE on different economic sectors etc. The existence of applied research and teaching related to GE is currently rather weak in the various countries. Existing initiatives such as that on biogas in Ghana have not received sufficient scientific research support to be able to prove the environmental and economic impacts of their promotion.

## 5. Lack of knowledge of the potential of GE for job creation and economic growth

Some of the countries analysed are experiencing relatively slow economic growth and unsolved challenges relating to unemployment, poverty and high inequality. These problems that need to be solved as soon as possible are often perceived as contradictory to the implementation of GE and tend to hinder a broader discussion on GE, as GE is still not seen as a way to enhance competitiveness, to open new markets and, thus, to create new jobs.

## 6. Unfavourable geographic conditions

Another important hindrance to the implementation of a number of GE initiatives is the specific nature of the countries' geography. One of the major challenges is low population density and small market size. In Namibia especially, these problems often prevent market based approaches from being profitable. Transport costs as well as high unit costs resulting from small production quantities are critical challenges in the Namibian context. This also applies to other small countries as well as to the rural areas of the bigger countries analysed.

## 7. Lack of data

Data needed to assess GE policies are often not available. Environmental statistics are insufficient in most of the countries and there are only very limited possibilities to measure the impact of GE policies in terms of their influence on the environment, since in many countries, no or very little information is available on the costs of environmental degradation and natural resource depletion. This could make it hard to justify certain investments, as quantifying the exact impacts of environmental degradation on economic growth and an assessment of the related risk is often impossible

The number of research organisations dealing with GE topics is rather limited. In each country a few faculties that deal with specific aspects of GE, but research seems to be mainly concerned with natural resource manage-



# 5. Major conclusions

The concept of Green Economy reaches beyond the mere protection of the environment. It contributes to social as well as economic development and, accordingly, addresses major development challenges in Sub-Saharan Africa. Photo: © GIZ / Markus Kirchgessner



**Based on the analysis of the status quo in relation to GE in the five selected countries, and also on the analysis of the actors involved and possible drivers and barriers to implementation, the following conclusions can be drawn:**

**1** The concept of GE is not fully understood and is often assumed to be another fashionable term for sustainable development. Moreover, people still make a distinction between economic growth or economic development and green economic development.

**2** GE issues are already covered by national policies and strategies but coherent GE strategies are non-existent and the political will to build up the capacities in order to implement the policies thoroughly is missing. As growth and employment generation remain priorities and since only little knowledge about the concept and its potential for creating employment and growth exists, GE is comparatively low on the political agenda in most countries.

**3** Ministries of Environment are responsible for GE. A lack of cooperation with ministries for economic development leads to 'green' being overemphasised. GE is used as an argument to justify 'green initiatives' with positive economic implications, rather than being considered as a strong engine and opportunity to propel economic development.

**4** GE is a multidisciplinary approach that requires environmental, economic and sector-specific knowledge. Therefore, it calls for close cooperation between actors possessing this knowledge and having the interest and/or the authority to change strategies and approaches.

**5** Key drivers for the concept of GE are the high diversity of natural resources, especially related to agriculture, tourism and biotrade, the immense need for new energy sources, and the availability of donor financing for GE.

**6** There are potential markets for green products in sectors such as agriculture, construction, tourism, and energy. However, due to lack of examples and business cases, economic incentives, regulatory instruments, missing government support, undeveloped domestic markets for GE products and a lack of institutional and human capacity, the private sector has not really started to capitalise on them.

**7** The promotion of GE is also hampered by the insufficiency of Business Development Service (BDS) providers with an in-depth knowledge of GE and an understanding of the wider concept of GE.



# Literature

## Green economy country studies

- Adiku, Samuel:** The status of Green Economy in Ghana. 2011
- Fekade, Yared and Koscov, Martin:** Green Economy in Ethiopia. 2011
- Klein, Johanna and Jochaud, Philippe:** Green Economy in Namibia. 2011
- Nwaijuba, Chinedum:** Green Economy in Nigeria. 2011
- Satougina, Honorat:** Green Economy in Benin. 2011

## Other literature

- AfDB:** Facilitating Growth, Perspectives from the AfDB. 2012
- GIZ:** Green Finance, An Innovative Approach to Fostering Sustainable Economic Development and Adaptation to Climate Change. September 2011
- IPCC:** Fourth Assessment Report (AR4) Climate Change. 2007
- IMF:** Regional Economic Outlook. 2012
- Office of the president:** Namibia Vision 2030. 2004
- UNCSD:** Questionnaire for the Member States on Experiences, Success Factors, Risks and Challenges with Regard to Objective and Themes of UN Conference on Sustainable Development. 2010
- UNEP:** A Green Economy in the Context of Sustainable Development and Poverty Eradication – What are the Implications for Africa? 2011
- UNEP:** Why a Green Economy Matters for LDCs. 2011
- UNEP:** Green Economy, A Synthesis for Policy Makers. 2010
- UNEP:** Green Economy Sectoral Study: BioTrade – A catalyst for transitioning to a green economy in Namibia. 2012
- United Nations Economic and Social Council, Economic Commission for Africa, Africa Review Report on Waste Management. 2009
- World Bank:** Low Carbon Projects for Development in Sub-Saharan Africa – Unveiling the potential, addressing the barriers. 2008
- World Bank:** Light Manufacturing in Africa: Targeted Policies to Enhance Private Investment and Create Jobs. 2010
- World Bank:** From Growth to Green Growth – A Framework. 2011
- Zeidler, Juliane et al.:** Rapid Trade and Environment Assessment, IISD. 2009

## Websites and links

- AfDB:** Promoting Green Economy for African Structural Transformation. October 2011. [www.afdb.org/en/news-and-events/article/promoting-green-economy-for-african-structural-transformation-8465](http://www.afdb.org/en/news-and-events/article/promoting-green-economy-for-african-structural-transformation-8465), retrieved on August 20, 2012
- CDM in Africa:** <http://cdminafrika.ning.com/profiles/blogs/cdm-potentials-in-nigeria>, retrieved on September 2011
- CDM Policy Dialogue:** [www.cdmpolicydialogue.org](http://www.cdmpolicydialogue.org), retrieved on October 18, 2012
- Cotton Made in Africa:** [www.cotton-made-in-africa.com](http://www.cotton-made-in-africa.com), retrieved on October 5, 2012
- Ecomark Africa:** [www.ecomarkafrika.com](http://www.ecomarkafrika.com), retrieved on August 20, 2012
- GEF:** [www.thegef.org/gef](http://www.thegef.org/gef), retrieved on August 20, 2012
- Human Development Report:** <http://hdr.undp.org/es/estadisticas>, retrieved on August 20, 2011
- International Federation of Organic Agriculture Movements (IFOAM):** [www.ifoam.org](http://www.ifoam.org), retrieved on October 4, 2012
- Keynote address by **Meles Zenawi** on Green Economy and Structural Transformation in Africa. October 2011. [www.uneca.org/aec/2011/updates/Speech%20by%20HE%20Meles%20Zenawi.pdf](http://www.uneca.org/aec/2011/updates/Speech%20by%20HE%20Meles%20Zenawi.pdf), retrieved on August 20, 2012
- Republic of Namibia – Ministry of Mines and Energy:** [www.mme.gov.na/energy/pdf/SRFFactSheet.pdf](http://www.mme.gov.na/energy/pdf/SRFFactSheet.pdf), retrieved on August 20, 2012
- SEED initiative,** Fostering a Green Economy Transformation and Social and Environmental Entrepreneurship in Africa: [www.oecd.org/dataoecd/63/33/47670108.pdf](http://www.oecd.org/dataoecd/63/33/47670108.pdf), retrieved on August 20, 2012
- UNEP/UNCTAD:** [www.unep-unctad.org/cbtf/biotrade.asp](http://www.unep-unctad.org/cbtf/biotrade.asp), retrieved on October 4, 2012

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