Reforming Fiscal Policy towards Inclusive Growth in Africa: From Brown Growth to Green Economy

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Abstract
This study examines the state of transition to green economies in Africa. It dissects policy dilemma surrounding fiscal reforms towards green economy. Through empirical and theoretical framework, the study clarifies the ambiguity surrounding the concepts of 'green growth' and 'green economy', and contextualizes their usage in a manner that addresses Africa's needs for inclusive growth and sustainable development. Also, a proposed model on the logical complex of fiscal policy reforms on green economy demonstrates that institutional capacity, public perception; entrusted interest and governance are critical variables to address during fiscal policy reforms on green economy in Africa. Findings from the state of transition to a green economy reveal great potentials: in the East Africa, Kenya takes leading role; in the Southern Africa, South Africa and in the West Africa, Ghana. Nevertheless, further finding reveals that the transitions to green economy in Africa are still mainly financed through foreign assistance programmes. African governments and private-enterprises should take leading roles in the funding of green economy projects while complementing with foreign aids and expertise in order to guarantee sustainable policy implementation and inclusive growth for Africans.

Keywords: Brown Growth, Fiscal Policy Reforms, Green Economy, Green Growth, Inclusive Growth, Sustainable Development

Introduction

Increasingly, international development policy discourse has been dominated by the transition to more sustainable and inclusive economic model. Increasing environmental risks and loss of natural capital assets due to climate change (global warming) have turbo-charged continuous search for the best alternative means of meeting the growing needs of citizens sustainably. In response to global financial crisis of 2008 and global climate change, there have been paradigm shifts to low-carbon and climate resilient policy instruments through green economy.[1] Thus, promoting inclusive growth [without eroding natural capital assets and posing environmental risks] has become more pressing than ever. At the United Nations Conference on Sustainable Development, Rio+20, world leaders recognized green economies as the available alternatives to promote inclusive growth and sustainable development.[2] Therefore, broad spectrums of policy reforms have been implemented to boost the process of shifting from *brown growth*[3] to green economies across the world.

For over many decades, brown growth has been widely promoted. Many countries have celebrated development in terms of economic growth (GDP), economic development (per capita income) and other macroeconomic metrics. But little or no attention has been directed to examine if economic growth (GDP) or economic development (per

[1] According to the United Nations on Environmental Programme, green economy is one that leads to improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. UNEP (2011), Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication, www.unep.org/greeneconomy accessed on 15/08/2015

[2] World Bank (2012) *Inclusive Green Growth: The Pathway to Sustainable Development*. World Bank Group, Washington, http://siteresources.worldbank.org/EXTSDNET/Resources/Inclusive_Green_Growth_May_2012.pdf

[3] According to World Bank (2013), brown growth is a stereotypical measure of growth on economic production and consumption without accounting for environment sustainability. See also Darwakasing (2013).

capita income) has improved human welfare and sustained the environment on which economic production and consumption depends. Such appraisal of development has produced misleading results and provoked existing extreme poverty and rising environmental risks in developing countries. For example, Nigeria has become the largest economy in Africa after the rebasing of her GDP in 2014. Does this imply improved social welfare for average Nigerians? Even though most international institutions such as IMF and World Bank, various national bureau of statistics and experts have included other variables such as gender parity index, human development index and on to have more elaborate metrics, the included variables are still reduced to economic quantitative.

Almost half of the population of sub-Sahara Africa still lives in extreme poverty with less than US$1.25 a day.[4] Average youth unemployment rate stands at over 12 percent[5] and average economic growth of Africa is increasing every year (Figure 1).[6] In 2010, among the World's ten fastest-growing economies, six African countries were projected. Seven African countries were to be in the top 10 over the next five years.[7] While the projection holds true for Africa, it has come with lots of environmental risks and natural resource scarcities.[8] Environmental risks consists 28 per cent of the Africa's disease burden: diarrhea, respiratory infections and malaria account for 60 per cent of known environmental risks[9]. Outdoor air pollution is estimated to kill 800,000 people globally each year and about 40,000 of these deaths occur in Africa[10]. According to UNCCD, 4 to 12 per cent of agricultural Gross Domestic Product in Africa is lost due to deteriorating environmental condition and 135 million people at risk of having to move from their land due to desertification by 2020[11].

Source: Africa Economic Outlook (2014)

[4] While World Bank Report shows a change in poverty reduction rate from 56.8% in 1990 to 46.8% in 2011, the number of people living in extreme poverty continues to increase. World Bank Report (2011) on 1.5 billon people living in extreme poverty using 2005 Purchasing Power Parity has been criticized because when $2.0 per day was used, the number of people living in extreme poverty increased to 2.6 billion (http://www.poverties.org/poverty-statistics.html). Therefore, developing countries are poorer than they are portrayed in the World Bank Report.

[5] International Labour Organization Report (2013), World Bank Report (2014).

[6] According to Africa Economic Outlook (2014), average growth is 5% in 2013 and 5.8% was projected for 2014. If South Africa is included, the average growth of Sub-Saharan Africa stands at 6.1% in 2013 and 6.8% in 2014.

[7] The Economist, IMF Report, 2011:

[8, 9] Africa's vulnerability to the effects of climate change is increasing: changing pattern of rainfalls, floods and droughts (Africa Environmental Outlook, 2013; UNEP, 2013)

[10] In Angola, 6.9 percent of the national disease burden is attributable to solid fuel use; in Malawi the figure is 5.2 per cent. In Ivory Coast, the National Centre for Agronomical Research in Abidjan estimates that 65 per cent of the illness suffered by market gardeners, cotton growers, mango produces and consumers are due to pesticides (Africa Environmental Outlook, 2013).

[11] See UN Convention to Combat Desertification

Practically, when economic growth represented by Gross Domestic Product (GDP) is adjusted to account for lost of natural capital, the result is always low or negative.[12] A study conducted on national savings in Angola, Botswana, Cote d'Ivoire, Egypt, South Africa and Sudan revealed that, on average, the true wealth growth of Sub-Saharan Africa countries is estimated to be negative when there is an adjustment for lost of natural capital.[13] Impliedly, short-term gains generated by resource extraction do not significantly translate into overall gains in terms of saving to support future economic growth. Therefore, a critical challenge is to provide alternative means of promoting growth which is socially inclusive and environmentally sustainable.

Furthermore, harmonizing policies towards achieving balanced economic, social and environmental needs have been proved cumbersome tasks for policymakers. The complexity lies in the choices of policy adopted to address the three needs concurrently (economic, social and environment). Nevertheless, transition to green economy has not only opened up sustainable innovations that preserve natural capital and reduce environmental risks but also redressed social impacts by taxing activities detrimental to human wellbeing and redirecting generated returns to investment towards clean and efficient technologies, natural capital and social infrastructure.[14] In United States, it was estimated that US$ 25 per ton of carbon could bring in about one percent of the country's GDP, or more than US$ 1 trillion over a decade.

A study on Australia fiscal reforms also provides that environmental taxes amounted to AU$26 billion and accounted for 2 percent its GDP and 7 percent of total tax revenues between 2010 and 2011.[15] Thus, fiscal policy can be veritable tools available to redress economic, social and environmental impacts as demonstrated in Austria and United States. Fiscal policy affects pricing-and price investments decisions, consumer behaviour, social well-being and the overall economic structure.[16] The Doha Declaration on Financing for Development (2008) and the Bussan Partnership for Effective Development Co-operation (2011) stress the greater role of fiscal policy through taxation to fund development.[17] The fact is that fiscal policy has great potentials and promising mechanisms that can correct price signals within the formal economy to include environmental and other costs so that tax system takes environmental criteria into account.[18] In a green economy, fiscal policy tends to move tax system from primarily levying jobs and incomes towards environmental damages and unsustainable practices in order to internalize externalities to the environment.

According to UNEP Reports of 2011, Africa is well positioned to be the epicenter of a global shift to more sustainable economies that promote growth without eroding underlying stock of natural wealth.[19] It was established that the removal of fossil fund subsidies in Africa would free public resources amounting to 1.4 per cent of the region's GDP, thereby giving room for public resources to be channeled to other ends such as research and development on green investments to stimulate innovation, reduce waste and the cost in production processes. [20] Recent studies show that Ghana and South Africa have initiated reforms on fiscal policies to support development of energy markets in the areas of sustainable food production, renewable energy and emerging efficiency.[21] Also, Kenya has initiated renewable energy feed-in-tariffs since 2008, embedded sustainable natural resource utilization into its 2010 constitution and mainstreaming green economy in its Second Medium Term Plan (2013-2017).[22] There are also evidence of building capacities for green economies through different approach in Mauritius, Egypt and Burkina Faso.[23]

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[12] Arrow et al. 2004; *Adjusted net savings = Net national savings + Education expenditure – (energy depletion + net forest depletion + carbon dioxide +particulate emission damages)*

[13] UNECA, 2012: *Green Economy in the Context of Sustainable Development and Poverty Eradication*: What are the Implications for Africa? Access: www.uneca.org (3rd July, 2015).

[14] UNEP (2014)

[15] *Discussion Paper: Environmental taxes in Australia – Experimental new statistics, 2000-2011*, Australian Bureau of Statistics. Available at: www.abs.gov.au/ ausstats/abs@.nsf/Products/ 17A6A5ACF1856FFFCA257 AD2000E4E30?opendocument

[16] UNEP (2015)

[18] GIZ (2013). Environmental Fiscal Reforms. Environmental Policy and Sustainable Development. Deutsche Gesellschaft für . Internationale Zusammenarbeit (GIZ) GmbH

[19] The United Nations on Environmental Policy Reports (2014a,b,c,d, e &f)

[20] IMF Reports (2013).

[21] IISD, 2012, UNEP, 2013 & 2014.

[22, 25] UNEP. (2014). Green Economy Assessment Report – Kenya

Essentially, Africa depends so much on natural capital assets for sustenance: agriculture is still the mainstay of most Africa countries even though other natural capital assets like crude oil, gold and diamonds also enhance its economic fortunes.[24] The larger population of sub-Saharan Africa depends on nature for foods, water and shelters.[25] Given the richness of its natural capital assets and characteristics of large young population,[26] Africa stands to benefits from a shift to green economies. In a green economy, growth in income and employment generations is strengthened by public and private investments in clean technologies, thereby boosting energy and resources efficiency, preventing loss of biodiversity and preserving ecosystem services.[27]

However, the ideal of inclusive growth is not automatic; it requires fundamental reforms of fiscal policy in order to accommodate a paradigm shift to green investments across multiple sectors. Thus, the study is informed by three phenomena: (1) the current global glut in oil prices, which has created opportunities to various reform policies on fuel subsidies in order to redirect the savings towards investment in green and clean renewable energies in Africa; (2) the rising environmental risks due to the existing fiscal policies which have promoted *brown growth*, and (3) the exigent need for policy reforms that are growth inclusive, environmentally sustainable and socially equitable. Objectively, the study first clarifies ambiguity surrounding the concepts of green economy and green growth and contextualize their usage in manner that addresses Africa challenges; (2) examines the state of transition to green economy in Africa and (3) unlocks logical complexes of fiscal policy reforms towards green economy in Africa.

Literature Review

Conceptualizing Green Growth, Green Economy and Sustainable Development

Related terms to the concepts of green growth and green economy are not new in the Africa's literatures because there was conception on sustainable development among in Africa before it gained global currency through the Brundtland Report in 1987.[28] Africa leaders had already recognized the links between environment and development for over four decades. African Convention on the Conversation of Nature and National Resources (Algiers 1968) took place five years after the formation of Organization of Africa Unity in 1963.[29] Also, the Lagos Plan of Action in 1980 proposed concrete measures to address the interface between environment and development having recognized the need for sustainable use of the continent's natural resources.[30] Subsequently, the African Ministerial Conference on the Environment (AMCEN) was established in December 1985, following a conference of African Ministers of Environment held in Cairo, Egypt. This conference focused on the promotion of regional cooperation on environmental challenges of the continent.[31] The mandate that established AMCEN could be linked to what is known as sustainable development today. AMCEN was established to:

Provide advocacy for environmental protection in Africa; ensure basic human needs were met adequately and in a sustainable manner; ensure that social and economic development was realized at all levels; and that agricultural activities and practices met the food security needs of the region.[32]

Besides, the concepts of green growth and green economy are confusingly interchanged among scholars, policymakers and international organizations. This confusion has led to the misconceptions of green growth as green economy. Implicitly, the misconception of the concepts have tendency to slow down the realization of inclusive

[24] Africa Environmental Outlook (2013)

[25] In sub-Saharan Africa countries, most people living below the global poverty line could not afford to stay in the cities where infrastructures are provided by governments and private sectors. Thus, they have to depend on natural water from rivers and wells for drinking, and fertile soil and good climate for farming. In fact 330 million of the 884 million people in Sub-Sahara Africa population have no access to safe drinking water; Ogoni community in the Niger Delta in Nigeria is exposed to hydrocarbons in outdoor air and drinking water at elevated concentrations. (Africa Environmental Outlook, 2013)

[26] Africa is richly endowed with natural asset capital and approximately 70 percent of its population under the age of 30 with an estimated 11 million young people expected to join the labour market every year (UNECA, 2012)

[27] UNECA, (2012) A Green Economy in the Context of Sustainable Development and Poverty Eradication: What are the Implications for Africa?

[28] Brundtland, G. H. (1987). *Our Common Future*. Oslo: Oxford University Press

[29] 1968 African Convention on the Conservation of Nature and Natural Resources called, Algiers, Convention (AMEN Secretariat, 2006)

[30] See Article establishing Lagos Plan of Action, 1980.

[31, 26] AMEN (2006). The History of African *Ministerial* Conference on Environment. AMEN Secretariat, Nairobi, Kenya.

growth in Africa. Historically, the misconceptions of what constituted 'good governance' as defined by IMF in the 1980s, which was part of the requirements engraved in the Structural Adjustment Programme (SAPs), left most Africa countries with huge debt burdens until it was corrected recently.[33]

According to the Organization for Economic Co-operation and Development (2011), green growth is defined as "fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies"[34]. Similarly, World Bank (2012) defines green growth as "economic growth that is environmentally sustainable and efficient in its use of natural resources, clean in that it minimizes pollution and environmental impacts, and resilient in that it accounts for natural hazards and the role of environmental management and natural capital in preventing physical disasters".[35] At the G20 2010 Seoul Summit Leaders' Declaration, Members define green growth as "inherently a part of sustainable development, a strategy of quality development, enabling countries to leapfrog old technologies in many sectors, including through the use of energy efficiency and clean technology.[36] Elsewhere green growth is considered as job creation or GDP growth compatible with or driven by actions to reduce greenhouse gases.[37]

Remarkably, the above definitions imply that green growth is a narrowed concept for inclusive growth in Africa since social inclusion or equity which is indispensable component of poverty alleviation has been excluded or reduced to a vestigial complement. The term (green growth) is more suitable in some countries characterized by low poverty rate and high environmental risks. Sub-Saharan Africa is characterized by high poverty rate, rising environmental risks and resource scarcities.[38]

For example, a removal of fuel subsidies and imposition of tax on carbon emissions have potentials of reducing risks posed by the use of hydrocarbon (*environmental protection*) and increasing investment in green and clean technologies (*green growth*). But the policy could, at the same time, make worse the existing poverty situation it fails to provide immediate and short-term supportive mechanisms for average citizens whose livelihoods depends so much on hydrocarbon machines or subsistence farmers who could not afford transporting their meager farm produces to market due to high cost of transportation. In addition, there is likelihood of rising unemployment rates as a result of shutdowns of some small and medium scale enterprises (SMEs). The importance of supportive mechanism is to ensures that the low-income group is not at a disadvantage by providing short-term assistance which may include provision of incentives by governments to private sector investing in renewable energies to reduce operational cost and regulate supply price to the public until return on the investment in renewable energies is sufficient to neutralize the adverse effects caused by the policy reform (*social inclusion or equity*).

Hence, the most appropriate concept to promote inclusive growth in Africa context is green economy. According to the UNEP (2011), green economy is "one that results in improved well-being and social equity, while significantly reducing environmental risks and ecological scarcities".[39] For UNEP, moving towards a green economy should be a strategic economic policy agenda for achieving sustainable development. This study defines green economy as a paradigm shift to an economy that promotes human welfare through social equity, and efficient and effective utilization of natural capital assets.

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[33] World Bank (1989), *Sub-Saharan Africa: From Crisis to Sustainable Growth: A Long-Term Perspective Study. Washington*; World Bank.
[34] OECD (2011), *Towards Green Growth*. Paris: OECD
[35] World Bank (2012) *Inclusive Green Growth: The Pathway to Sustainable Development*. World Bank Group, Washington,
http://siteresources.worldbank.org/EXTSDNET/Resources/Inclusive_Green_Growth_May_2012.pdf
[36] ILO (2012) *G20 Policy Brief: Working towards Sustainable Development – opportunities for decent work and social inclusion in a GE (draft).*
[37] Hubety et al (2011).
[38] Africa Environmental Outlook (2013); Africa Economic Outlook (2014); UNEP (2013)
[39] UNEP (2011)

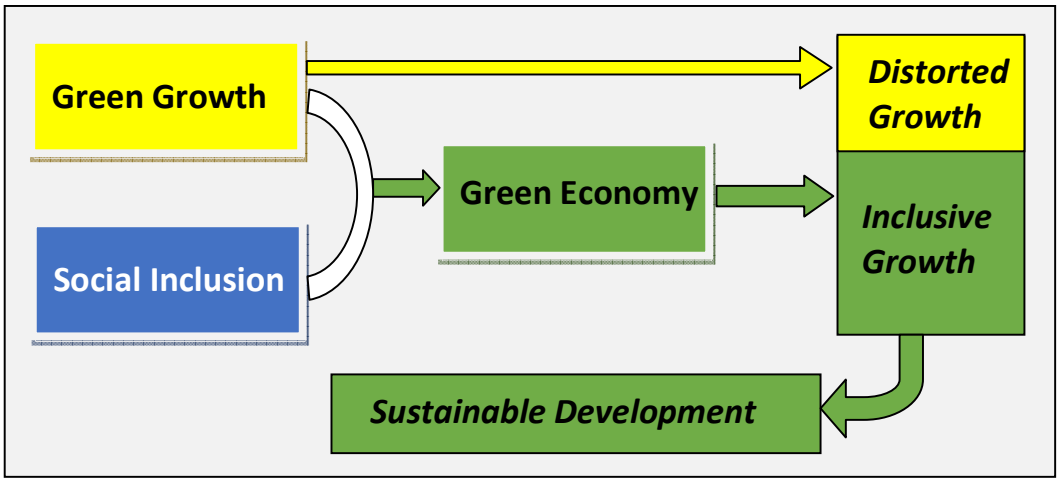

Figure 2: Green Growth vis-à-vis Green Economy

Green growth is conceived as a part of green economy cobweb, not an ends in itself. When green growth is exclusively pursued, it produces *yellow (DISTORTED) growth* because it has lost its *blueness (PURITANICAL NATURE)*. Until when social inclusion or equity, which is an indispensable component of poverty alleviation, is added to the pursuit of green growth, green growth remained distorted growth (Figure 2). As demonstrated above, if the policy reforms directed at removal of fossil fuel subsidies and tax imposition on carbon emissions failed to provide for short-term supportive mechanism, then the policy reform is only promote *yellow growth* but not green economy. Therefore, the path of development should preserve, boost and, where necessary, rebuild natural capital assets which constitute a source of public benefits, especially for the poor whose livelihood and security depend so much on nature in Africa.

The State of Transition to Green Economies in Africa

Transition to a more sustainable model - to promote inclusive growth and address widespread poverty, unemployment, environmental risks and scarcities – has been on the development agenda of Africa countries. The 19th Session of the African Union Summit held in July 2012 called upon the African Ministerial Conference on the Environment (AMCEN) to carry out a substantive of the outcomes of Rio+20 and develop a roadmap for the effective implementation of the outcomes in Africa.[40] Subsequently, the 14th Session of African Ministerial conference on the Environment (AMCEN) adopted the Africa Green Economy Partnership (AGEP) to develop and implement Regional Flagship Programmes (RFPs) as means to ensure the effective implementation of the Rio+20 outcome.[41] The flagship programmes include: Africa Green Economy Partnership (AGEP), Sustainable Land Management, Desertification, Biodiversity and Ecosystems-based Adaptation to Climate Change (LDBA), Partnership for Sustainable Consumption and Production (SCP) in Africa, African Programme on Sustainable Energy Development and Africa Integrated Environmental Assessment for Sustainable Development.[42]

[40, 39, 40] UNEP (2015) *ibid*

[42] 15th Ordinary Session of AMCEN: Progress Report on Implementation of Regional Flagship Programmes, AMCEN/15/INF/6, 2-6 March, 2015 (http://www.unep.org/roa/InformationMaterial/Events/15thAMCENSession/tabid/794089)

In 2014, a study conducted on transition to green economy revealed that half a million people in Senegal could move out of poverty by 2035[43] - 300,000 jobs created, increase in GDP by 11 percent and carbon dioxide emissions reduction by about 9 percent. In 2015, gradual transition to green economy has increased renewable energies in both Kenya and Ethiopia.[44] Through Greening Kenya Initiative Trust (GKIT) included in its Medium-term Plan (2013-2017), Kenya government has launched the Lake Turkuna Wind Power Project covering 40,000 acres (162km^2) in June, 2015[45]. Also, the Ethiopian government has opened Africa's biggest wind farm with 101 turbines and installed capacity of 153MW in May, 2015.[46] In Southern Africa, gradual transition to green economy in Mozambique has been productive: FANAE had provided off-grid solar electricity to 115 villages, 298 schools and 300 clinics, supplying a total of 1MW[47]. Also, South Africa's New Growth Path targets at creating 300,000 green jobs by 2020 through the allocation of $80million to a newly developed Green Fund and reforming fiscal policies towards a green economy.[48] Based on studies carried out by a number of foreign governments' sponsorship and international organizations facilitating transition to green economy in Africa, Table 1 reveals the state of transition to green economy in some selected Africa countries.

Table 1: State of Transition to Green Economy in Africa

Country	Green Economy Strategies	Objectives	Progress	Status
Burkina Faso	Poverty-Environment Indicatives (PEI): 2011-2015; National Investment Plan for Environment and Sustainable Development (2013)	▪ Promoting a green economy through increased investments for pro-poor environmental sustainability	▪ National Assembly adopted bill banning the production, import, marketing and distribution of non-biodegradable in May 2014 ▪ Established a web-based monitoring system for tracking poverty-environment indicators of the SCADD 2011-2015 ▪ the EU's Environment Development Fund 2014-2020 includes poverty-environment as one of its thematic areas and poverty-environment has been mainstreamed into the UNDAF ▪ Renewable energy investment scenarios are projected to save up to 100,000 hectares of forest area by 2050, corresponding to a reduction of about 16 thousand tonnes of CO2.	On-going

[43] http://www.gggi.org/project/main
[44] UNEP(2014). Green Economy Assessment Report – Kenya. Nairobi: UNEP
[46 , 50] http://www.greeningkenyainitiative.com/ Accessed (28/07/2015)
[47] Regional Workshop on Inclusive Green Economies for Poverty Reduction and Sustainable Development in Africa : From inspiration to Action – Mozambique Presentation at the 15th Session of AMCEN (28 Feb – March 2015, Cairo)
[48 , 53] UNEP (2015)

Egypt	National Green Economy Initiatives Green Information and Communication Technology Strategy	Long-term Plan for Wind Energy	▪ Egyptian Supreme Council of Energy approved Long-Term Plan for Wind Energy and fixed a target to meet 20% of electricity needs with renewable energy ▪ Installed 225 MW of wind energy capacity through the Egyptian Electricity Transmission Company	On-going
Ethiopia	Climate Resilient Green Economy Initiative (CRGE) (2011-2025)	▪ Aiming to be a middle income country by 2025 through improving resilience to climate change	▪ Installed 1,600 biogas digesters plants ▪ Opens Africa's biggest Wind Farm with 101 turbines and installed capacity of 153MW 18th May, 2015[49]	On-going
Ghana	Ghana's Shared Growth and Development Agenda (GSGDA) II: 2014-2017	To promote socio-economic transformation through inclusive, sustainable growth (and to achieve per capita income of least USD 3000 by 2020)	▪ Implementation of green business through the Switch Africa Green Project ▪ Developed a National Energy Policy on Green Economy Mainstreaming ▪ Implementation of fiscal policy reforms on energy	On-going
Kenya	Kenya's Medium-Term Plan (2013-2017) Greening Kenya Initiative Trust (GKIT – vision 2030)[50]	Building strong green industrial revolution and enhancing environmental protection through public participation in green initiatives	▪ Construction of the Lake Turkuna Wind Power Project covering 40,000 acres (162km2) in June, 2015 ▪ Implementation of feed-in-tariff ▪ Implementation of fiscal policy reforms on energy, transport and agriculture ▪ Implementation of Greening Key Initiative Trust (GKIT)	On-going
Mozambique	Mozambique's Green Economy Roadmap (2013-2019)	Achieving an integrated economic growth model that is favourable to human development, environmental resilience and sustainability by 2030	▪ Five year cycle Action plan for poverty Reduction ▪ Integration of the GE approach in the process of planning and budgeting and national accounting. ▪ By 2012, FUNAE had provided off-grid solar electricity to 115 villages, 298 schools and 300 clinics, supplying a total of 1MW. ▪ Implementation of Sustainable Forest Management Policies ▪ Revised Constitution (2014)	On-going
Rwanda	Rwanda's Green and Climate Resilience	To achieve sustainable land use, water management, preservation of biodiversity and ecosystem services	▪ Developed a national climate change and environment fund ▪ Adoption of Rwanda's Green Growth and climate Resilience National strategy in 2011 ▪ Eradication of Use of Plastic bags in February, 2015	On-going

[49] http://www.evwind.es/2015/05/18/ethiopia-opens-africas-biggest-wind-farm-with-101-wind-turbines/52206
[50] http://www.greeningkenyainitiative.com/

Senegal	Senegal's National Strategy for Economic and Social Development (2013-2017)		Investments in the expansion of solar and wind capacity in Senegal are projected to create between 7,600 and 30,000 additional jobs by 2035	On-going
South Africa	South Africa's New Growth Path	Creation of Green Jobs	▪ In 2011, new Green Economy Accord was signed on creating 300,000 green jobs by 2020 ▪ Implementation of a carbon tax in 2016 ▪ Allocation of $80million to a newly developed Green Fund	On-going

Source: Author's Compilation from various National Websites and previous studies.

Obviously, the level of transition to green economy differs among Africa countries. While Burkina Faso, Ghana, Senegal, Kenya, Uganda, Ethiopia, Rwanda, Egypt, South Africa and Mozambique are progressively mainstreaming green projects into national development planning,[51] others adopt climate change lens. A study conducted on the state of transition to green economy in Nigeria revealed that no exclusive green economy policy has been formulated but related issues are mainly addressed through the lens of climate change.[52] Nigeria government prioritizes climate change, mitigation and development of Clean Development Mechanism (CDM) projects. CDM is a project-based framework initiated to achieve cost-effective solutions for mitigation of greenhouse gases. It was initiated in 2004 through Kyoto Protocol focusing on developing countries with no emission reductions target. Nigeria has the biggest CDM projects in Africa in the mining, transportation and building sector.[53] Through CDM projects, Nigeria governments have received supports in terms of reducing flaring and venting of gas associated with the extraction of crude oil.[54] Table 2 shows various CDM projects implemented in Nigeria.

Table 2 : Registered CDM Projects in Nigeria, Ghana and Senegal

S/N	Registered	Title	Host Parties	Other Parties	Reductions
1	09-Nov-06	Recovery of associated gas that would otherwise be flared at Kwale oil-gas processing plant, Nigeria	Nigeria	Italy	1496934
2	01-Feb-09	Pan Ocean Gas Utilization Project	Nigeria	Norway	2626735
3	12-Oct-09	Efficient Fuel Wood Stoves for Nigeria	Nigeria	Germany	31309
4	16-Oct-10	Recovery and marketing of gas that would otherwise be flared at the Asuokpu/Umutu Marginal Field, Nigeria	Nigeria	Norway	256793
5	15-Dec-10	Municipal Solid Waste (MSW) Composting Project in Ikorodu, Lagos State	Nigeria	Belgium Ireland Norway Luxembourg Portugal	281781
6	12-Jul-12	LFG project in Nigeria	Nigeria	France	129932

[52, 52] Johanna, Jochand & Richeter (2013), Green Economy in sub-Sahara Africa. Lesson from Benin, Ethiopia, Ghana, Namibia and Nigeria.

[54] Adejuwon, S. A (n.d). Clean Development Mechanism Implementation in Nigeria: Monitoring Sustainable Development, Federal Ministry of Environment, Nigeria. Access on 2/12/2015 from https://www.google.cm/nigeria.acp-cd4cdm.org%2Fmedia%2F333523%2Fcdm-sd-monitoring-nigeria_adejuwon.pdf

7	29-Oct-12	Afam Combined Cycle Gas Turbine Power Project	Nigeria		550234
8	18-Dec-12	Lafarge WAPCO Partial Substitution of Alternative Fuels in Cement Facilities Project in Nigeria	Nigeria	France	166557
9	24-Dec-12	Recovery and Utilization of Associated Gas from the Obodugwa and neighbouring oil fields in Nigeria	Nigeria		288147
10	28-Dec-12	Kainji Hydropower Rehabilitation Project, Nigeria	Nigeria	Sweden	873474
PoAs					
1	25-Apr-13	Distribution of Improved Cook Stoves in Sub-Saharan Africa	Senegal Ghana Nigeria	Netherlands	39114
2	31-Dec-12	Energy Efficiency of Nigeria's Residential Lighting Stock by Distributing up to 40 Million Compact Fluorescent Lamps (CFLs) to Residential Households Connected to the National Grid	Nigeria	United Kingdom of Great Britain and Northern Ireland	28892
3	06-Dec-12	African Improved Cooking Stoves Programme of Activities	Ghana Nigeria	United Kingdom of Great Britain and Northern Ireland	15477
5	07-Nov-12	Distribution of fuel-efficient improved cooking stoves in Nigeria	Nigeria	Sweden Nigeria	46717
6	10-Nov-11	Improved Cooking Stoves for Nigeria Programme of Activities	Nigeria		8912

Source: Federal Ministry of Environment, Nigeria, 2015

However, it is noteworthy that the commitments on transition to green economy in Africa are mainly driven through foreign aids. Most studies carried out on green economy programmes in some selected Africa countries were achieved through foreign assistance programmes.[55] This justifies the reason for disparity in the levels of transition to green economy in Africa. A good number of African governments have not recognized urgent need to channel resources towards green investment projects. For example, Nigeria, the Africa's largest economy, is yet to be on the list of the leading Africa countries reforming policies towards a green economy despite being rated in 2014 as the 29th high risk country in the world with projected loss 6-30% loss in GDP by 2050.[56] It is also important to note that transition to green economy in Africa is affected by lack of political will, weak institutional framework, lack of commitments and clearly defined goals on policy and strategies.

Fiscal Policy Reform towards Green Economy in Africa

Unlike European Union characterized by common monetary and fiscal policy, Africa Union (AU) has no common fiscal and monetary policy. Among the eight recognized regional blocs of AU, each Member State belonging to a bloc has different monetary and fiscal policies, even though there is little progress of fiscal and monetary policies harmonization in the East Africa Community.[57] The disparity emanates from different levels of regional integration and colonial legacies (which have promoted different economic orientations). For example, tax mix patterns in Africa are not the same for all countries. South Africa obtains most of its tax revenues from direct taxation while

[55] UNEP, GIZ, Foreign German Ministry, OECD , EU, etc are the sponsors of most studies carried out on green economy in Sub-Saharan Africa countries (UNDESA, 2012).
[56] Kreft & Eckstein (2014). Global Climate Risk Index 2014. Accessed on 23rd July, 2015 (www.gremanwatch.org/en/cri).
[57] UNECA, (2012) A Green Economy in the Context of Sustainable Development and Poverty Eradication: What are the Implications for Africa? Addis Abba: UNECA

countries like Senegal and Uganda rely on mostly on indirect taxation. Other countries like Libya, Equatorial Guinea, Angola and Nigeria almost entirely rely on one single type of tax[58]. Kenya and Mauritania have a relatively balanced mix of different types of taxes[59]. Therefore, fiscal policy reforms on green economy may likely take different approaches in order to address country-specific and regional-specific needs or the overall continental visions of 2063.

Interestingly, one fundamental agenda of Economic Community of West Africa States (ECOWAS) is to increase access to modern energy services by 2020. In a bid to its goal, ECOWAS Renewable Energy Policy (EREP) was formulated in 2012.[60] Although EREP has common timeframe for implementation among ECOWAS Member States, the level of implementation of EREP differs among the countries. For example, Ghana government focuses on reforming fiscal policy towards renewable energies while Burkina Faso is more concern with deforestations.[61] For Nigeria, it is through climate change lens and CMDs. In the East Africa Community (ECA), Kenya and Rwanda are taking leading role in reforming their fiscal policies on energy and agriculture towards green economy. Ethiopia is also shifting its fiscal policy focus towards investment in wind power and agriculture. In the Southern Africa and Northern Africa, South Africa and Egypt are playing leading roles in implementing fiscal policy reforms on water and energy respectively.[62]

Evidently, there have been fiscal policy reforms on energy, transport, mining, agriculture and building in Africa though with mixed outcomes. Most of the fiscal policy reforms were implemented to lessen governments' burdens from subsidies - the policy reforms were not originally intended to avert environmental risks or specifically designed to promote inclusive growth until 21st century. Table 2 reveals the results of a recent study conducted on energy subsidy reforms in some selected countries in sub-Saharan Africa.

Table 2: Energy Subsidy Reform Episodes in Sub-Saharan Africa

Country	Energy Product	Reform Episode	Reform Outcome	Reform Impact	IMP-supported program during the reform episode	Conditionality on energy subsidy reform
Ghana	Fuel	2010	Partially Successful	50 percent price increase on average	NO	
Namibia	Fuel	1997	Partially Successful	0.1+ percent of GDP	NO	
Niger	Fuel	2011	Partially Successful	0.9 percent of GDP	No	
Nigeria	Fuel	2011-12	Partially Successful	Subsidies declined from 4.7 percent of GDG in 2011 to 3.6 percent in 2012	NO	
South Africa	Fuel	1950s	Successful	Successfully avoided subsidies and secured supply	NO	
Kenya	Electricity	Mid-1990s	Successful	Subsidies declined from 1.5 percent of GDP in 2001 to zeros in 2008	YES	YES
Uganda	Electricity	1999	Successful	2.1 percent of GDP	YES	YES

Source: IMF, 2013

[58, 57, 59] Africa Economic Outlook (2014) *Ibid*

[60] ECOWAS (2012) ECOWAS Renewable Energy Policy; ECOWAS Renewable Energy Policy (EREP) is to secure an increasing and comprehensive share of the Member States' energy supplies and services from timely, reliable, sufficient, least cost and affordable uses of renewable energy sources.

[61] UNEP (2015). Scoping Study on Fiscal Policy Reform on Green Economy in Ghana

[62] Klein, *et al.* (2013). Environmental *Fiscal Reforms. Environmental Policy and Sustainable Development*. Germany: Internationale Zusammenarbeit (GIZ) GmbH

Generally, the design and implementation of policies that promote inclusive growth takes different forms. There have been related measures such as integrated natural resource management implementation, environmental standards, regulations and certification schemes and on before the green economy gain global currency.[63] A paradigm shift to green economy, low-carbon and climate resilient policy instruments was in response to the global financial crisis of 2008 and global climate change. While green economy was initially confined to environmental lens, in the recent a number of international organizations and experts have realized the need to have broad spectrum approach to green economy including fiscal policy reforms. Some of these organizations include the Organization for Economic Co-operation and Development (OECD), the World Bank, United Nations Environment Programme (UNEP), Economic and Social Commission for Asia and the Pacific (UNESCAP), United Nations Department of Economic and Social Affairs (UNDESA), United Nations Environment Management Group (UNEMG), United Nations Conference on Trade and Development (UNCTAD), International Labour Organization (ILO), the Global Sustainability Panel, the Green Growth Leaders, the Global Green Growth Institute, the Green Economy Coalition, and a number of experts[64]. For instance, OECD (2011) reveals that a policy mix instruments will be needed in two broad areas: (i) framework conditions that mutually reinforce economic growth and the protection of natural capital; and (ii) policies targeted at incentivizing the efficient use of natural resources and making pollution more expensive. Furthermore, the Global Sustainability Panel (2011) underscores the importance of policy action in key areas to move towards green economy. These include internalizing environmental and social costs, creating incentives for investment, increasing finance and expanding how we measure progress beyond GDP.[65] UNDESA (2012) categorizes policy on green economy into four main approaches: (1) the desired outcome or pathway; (ii) the type of policy measure; (iii) the target sectors or types of capital; (iv) a mixed approach adopting a combination of these[66]. Also, UNEP (2011), OECD, UN, World Bank (2012); Global Sustainability Panel (2011), Cosbey (2011, 2012), Constanza *et al* (2012), UNDESA, UNEP, UNCTAD (2011) and OECD (2011c) adopt the desired outcome or pathway approach for green economy policies. According to these studies, policies on green economy are to be developed on specific goals. Thus, UNESACAP and KOiCA (2012) employ five tracks to demonstrate the desired outcome approach to green economy policies:

Track 1:	Improving the quality of growth and maximizing net growth
Track 2:	Changing the invisible structure of the economy: Closing the gap between economic and ecological efficiencies
Track 3:	Changing the visible structure of the economy: Planning and designing eco-efficient infrastructure
Track 4:	Turning green into a business opportunity
Track 5:	Formulating and implementing low-carbon development strategies

Therefore, the desired outcome or pathway approach to green economy policy would mean that fiscal policy reforms on renewable energy, climate change and energy security can be developed based on identified needs of a region, sub-region or a country. In West Africa, the need to improve citizens' wellbeing in terms of access to modern energy services and renewable energy gave birth to ECOWAS Renewable Energy Policy (EREP) in 2012. EREP was developed in response to energy poverty, energy security and climate change mitigation in West Africa States.[67]

Over a decade, Ghanaian government has made several attempts of reforming policy on Ghana's fossil-fuel pricing structure. In 2001, the government of Ghana liberalized fuel prices and an automatic price setting mechanism was established to link domestic oil prices to international ones.[68] But the rising global oil prices by the end of 2002 exerted pressure on the government such that it discarded the price setting mechanism. Another attempt was made in 2003 to reintroduce the pricing mechanism but fuel prices increased by 90 percent and considerable pressure from

[63, 67] UNDESA (2012) *A Guidebook to the Green Economy: Exploring Green Economy Policies and International Experiences with National Strategies.* http://sustainabledevelopment.un.org/index.php?page=view&type=400&nr=634&menu=35.

[65] Global Sustainability Panel (2011) *Resilient People, Resilient Plant: A Future Worth Choosing*, http://www.un.org/gsp/

[66] UNDESA (2012) A Guidebook to the Green Economy : Exploring Green Economy Policies and International Experiences with National Strategies.

[67] ECOWAS (2012), ECOWAS Renewable Energy Policy. Abuja: ECOWAS Secretariat

[68] Klein, *et al.* (2013). Environmental *Fiscal Reforms. Environmental Policy and Sustainable Development*. Germany: Internationale Zusammenarbeit (GIZ) GmbH

the public influenced the retraction of the pricing mechanism. To address persistent failure in policy reforms on fossil-fuel subsidy, a research was carried out on the effect of fossil-fuel subsidy on wellbeing of Ghanaians. Findings revealed that fossil-fuel subsidy promote regressive growth, that is, the wealthier households were disproportionately benefiting from fuel subsidies than the poor. The finding was used as a campaign communication to change public's perception on fossil-fuel subsidies and the pricing mechanism was reintroduced. The savings from the subsidies were reinvested in to education (removal of primary and secondary school fees and increase infrastructure facility in the health sector).[69] Despite the fiscal reform, rising global oil price in 2007 and 2008 as well as politics (becoming object of political campaign) led to the abandoning of the pricing mechanism.
Nevertheless, based on the framework of EREP, Ghana is currently reforming its fiscal policy on renewable energy while Nigeria on Clean Development Mechanism (CDM) projects in mining, transportation and building. However, it is important to note that the CDM project of Nigeria can only promote climate change mitigation (which is one of the agenda of EREP) and not addressing energy poverty and security of Nigeria or the entire ECOWAS. Thus, performance parameters will have to be developed in order to measure performance of each Member States against the EREP components over a defined period. This is necessary to ensure that various components which the realization of improved access to modern energy services is put in place.

Unlocking Complexes of Fiscal Policy Reforms in Africa

Generally, reforming policy on white paper is very easy but translating the formulated policy into action remains cumbersome. Evidently, policy development and implementation is very intricate especially when new policy is introduced to completely or partially replace the old ones. Therefore, fiscal policy reforms towards green economy needs proper dissection of cost-benefit and tradeoffs in order to avoid a situation of promoting a *yellow (distorted) growth*. A distorted growth promotes regressive growth – a situation whereby the poor bear much burden of policy reforms while the rich are better off.

Logically, fiscal policy reform involves manipulating government expenditures and revenues in favour of some specific areas that present great potentials. A change in government revenues and expenditures has direct impacts on the savings, investments, and expenditures and, of course, overall wellbeing of citizens. The result of changes in savings, investments and consumption patterns of citizens [especially if the changes put citizens at a disadvantage] is resistance or shifting of loyalty to opposition groups who always criticize government's agenda and programmes. Therefore, for a successful fiscal policy reforms towards green economy in Africa, four logical complexes have to be addressed. These include *governance, institutional capacity, public perceptions* and *entrusted interests* (Figure 4). These factors have potentials to slow down the realization of inclusive growth in Africa or render the reform exercise futile if they are not properly and logically internalized through what can be called *an established channel of accomplishment* specific to an area of concerns. *An established channel of accomplishment* refers to how previous reforms have been successfully implemented, how it gained public acceptance and the impact of politics on policy implementation (*governance*). Ghanaian government was able to successfully implement policy reforms on fossil-fuel subsidy removal in 2008 after several failed attempts. However, the politics of the state (*governance*) rendered the reformed policy futile in 2009 when global oil price rose by 90%. The opposition parties turned the situation to political campaign for election and the incumbent government was forced to abandon the reformed policy.[70] Indisputably, in 2008, the fossil-fuel policy reform was successfully implemented to increase government contribution Ghanaian well-being but 'politics of the state' (governance) rendered the reform exercise futile in 2009.

[69] Klein, *et al.* (2013). Environmental *Fiscal Reforms. Environmental Policy and Sustainable Development*. Germany: Internationale Zusammenarbeit (GIZ) GmbH

[70] Klein, *et al.* (2013). Environmental *Fiscal Reforms. Environmental Policy and Sustainable Development*. Germany: Internationale Zusammenarbeit (GIZ) GmbH

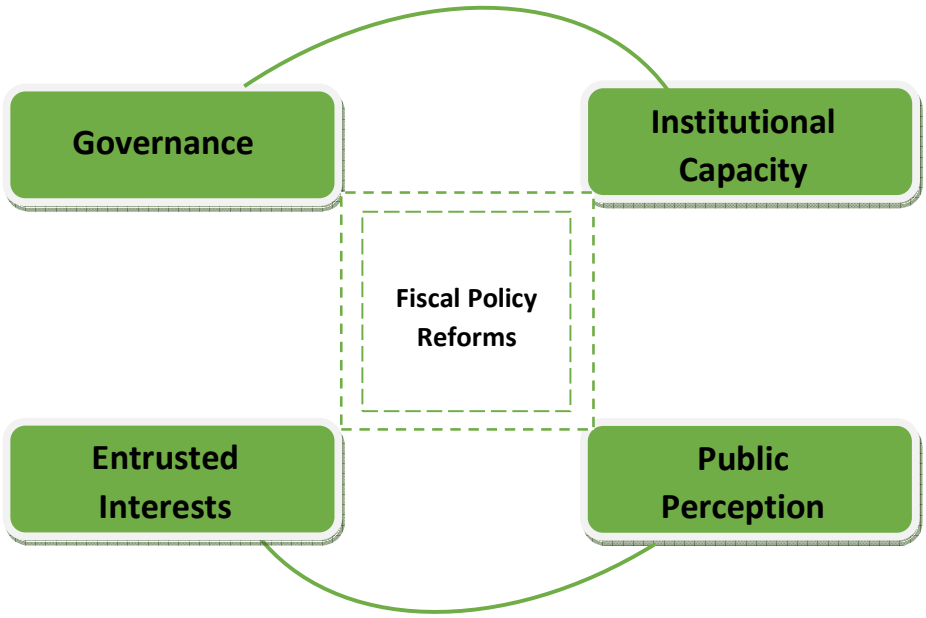

Figure 4: Logical Complexes of Fiscal Policy Reform towards green economy in Africa

The second factor is *institutional capacity*. This is explained as human and institutional development towards implementation of fiscal policy reforms on green economy. The fiscal policy reforms require training of technocrats as well as established institutions so as to ensure efficiency and effectiveness during implementation of the reformed policy. For example, the staff of ministry of finance needs to acquire skills in environmental accounting while staff of the ministry of environment needs to acquire minimum knowledge on environmental economics and on. It also requires a set of established institutions (a logical functional relationship between ministry of finance and ministry environment). The mainstreaming of fiscal policies to a greening economy in Kenya is done through interlinks of the two ministries (finance and environment).[71]

Also, the third factor, *public perception*, refers to citizens' understanding and feelings of the policy reforms. Citizens are usually attracted to policy reforms which directly affect their immediate needs. In the Africa context, a little change in the financial portfolio of governments in terms of its revenue and expenditure have sharp effects on their citizens due to high level of dependence on governments for supply of basic necessity as waters, education, electricity and security. As a result, a successful fiscal policy reform on green economy requires consultative and democratic approach in order to enjoy public acceptance. In the case of Nigeria, after six months of campaign in favour of fossil-fuel subsidies removal by its government, fuel prices increased by 117% in January, 2012.[72] The removal generated lots of resistance from the public such that the Nigeria government was forced to reduce it to 46% within three weeks.[73] Despites intensified efforts of the government to convince citizens of the need to implement removal of fossil-fuel subsidy, the campaign failed to gain Nigerians' confidence as it was perceived as

[71] UNEP, (2011), *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication*, www.unep.org/greeneconomy

[72,74] Eyraud and Clements (2012). *Going Green*. Finance & Development, IMF. Vol. 49, No. 2.

discriminatory policy reform against the masses. On the contrary, the Ghanaian government was able to change its citizens' perceptions on the same issues before it was thwarted by politics of the state.[74]

The fourth factor is what can be called *entrusted interests*. This explains can be explained as targets of the policy reform [what exactly the policy reform is set to achieve]. In the case of Ghana, government had carried out research and demonstrated that fossil-fuel subsidies did not improve the well-being of Ghanaians and made publication about the outcome before the policy reforms was implemented. Thus, the policy gained public acceptance. In the case of Nigeria, the fossil-fuel subsidies removal was implemented at three critical points which might indicate discrimination against the masses (1) a period when there was fuel scarcity, (2) a period when the global price of fossil-fuel was high and (3) a period of economic hardship with records of massive corruption among government officials. Therefore, success any fiscal policy reform on inclusive growth in Africa depends on the strategies adopted by governments and policymakers in the management of the four factors. Governments have to demonstrate exigent need for policy reforms through a clearly defined channel of establishment that is well suited to citizens' aspirations, aversive of political manipulations, flexible, consultative and diplomatic.

Conclusion and Policy Implications

In the recent times, transition to green economy has occupied international discourse on development policy. Green economy has been recognized as viable available means to achieve sustainable development and inclusive growth. However, the ideal of inclusive growth is not automatic; it requires reforming fiscal policy to so as to accommodate a paradigm shift to green investments across multiple sectors. A fiscal policy reform on green economy is expected to be broad to cover wide areas of needs, strategic (to meet short, medium and long-term needs), flexible to accommodate adjustments and innovations, and all-inclusive to address the needs of average citizens. Hence, this study examines the state of transition to green economies in Africa. It dissects policy dilemma surrounding fiscal reforms towards green economy.

Moreover, four logical complexes were identified as fundamental to guarantee the successful fiscal policy reforms on green economy in Africa: institutional capacity, public perception, entrusted interest and governance. Each factor was comparatively analyzed in the light of existing policy reforms on fossil-fuel subsidy removal of Nigeria and Ghana. While the failure of policy reform on fossil-fuel subsidy removal in Ghana was attributed to state politics (governance) and externalities, that of Nigeria was a result of citizens' loss of confidence in government programmes and the perception that the policy reform was discriminatory against the masses. In addition, findings from the state of transition to a green economy in Africa reveal great potentials: in the East Africa, Kenya takes leading role; in the Southern Africa, South Africa and in the West Africa, Ghana. Nevertheless, the transition to green economy in Africa is mainly financed through foreign assistances.

African governments and private-enterprises should spearhead major funding of green economy projects while complementing with foreign aids in order to ensure sustainability. Governments and policymakers should learn how to identify and define a clear channel of accomplishments so that the policy reforms would bridge gaps between public policy and citizens' policy preference. Proper dissection of citizens' policy preference through a coordinated research and subsequent analysis of cost-benefits and tradeoffs could help boost public acceptance on any fiscal policy reform. Further research is suggested on quantitative analysis of the impacts of fiscal policy reforms on economic development of Ghana, Kenya and South Africa.

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