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Green Innovation Enterprises and Environmental Entrepreneurship for Poverty Alleviation in Kenya

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Abstract

World Economy today depends on business investments that are propelled by Green technology, innovations and entrepreneurial activities. In recent years, developing economies in Asia, Africa and Latin America have embarked on easy capital access to Small Medium Enterprises (SMEs) to facilitate their economic growth. Kenya is among the Middle Level Income Countries that have gained global recognition through entrepreneurial innovations. In this study we assess the role of entrepreneurship towards poverty alleviation in Kenya. The objectives of the study were: to evaluate the role of entrepreneurship in poverty alleviation in Kenya; to identify entrepreneurship innovations and their economic contribution in Kenya and to determine the significance of entrepreneurship to Kenyan economy. Methodology of study took a parametric approach through pure desktop studies on entrepreneurship cases in Kenya. Success case studies of entrepreneurial innovations like M-pesa, M-soko and Uwezo Fund initiatives were assessed. The paper notes that activities undertaken in each of these case studies have made great contributions to poverty alleviation and economic development in both urban and rural areas of Kenya.

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Introduction

Entrepreneurship activities began in 1730s by Cantillion who viewed it as: “self-employment of any sort” (Kuratko, 2016). However, many chronicled definitions from world scholars have emerged that are related. They capture the concept of willingness to develop, organize, manage and venture in business-to start a business. World Bank (WB) report (as per 2016) on tackling inequality to end extreme poverty by 2030 indicate that, globally poverty levels continue to fall despite lethargic state of world economy today (Binswanger and Landell, 2016). About 800 million people live on less than US \$ 1.90 a day as per estimated international poverty line (WB, 2016). More than one billion people live in poverty in the world today in low-income countries. The World Economic Outlook (as per 2016), indicates that Middle Level Income Countries (MLICs) should invest on entrepreneurship and innovation through Small Microfinance Enterprises to curb poverty exacerbation (World Bank, 2020)

Poverty on the other hand has been defined by different scholars in the field of academia and research; that is relative and absolute poverty (Kartseva & Arkadskova, 2020; Moatsos, 2020 & Decerf & Ferrando, 2020). The universal standard definition of poverty is the state where one lacks the basic necessities for survival, which is commonly referred to as absolute poverty. Relative poverty is aligned to inequality in a state or locality where individuals feel isolation to equal access of public utilities. The World Bank report of 2016 estimated that about 9.6% of the world population by 2015 lived in extreme poverty making this a major global challenge. Additionally, UNICEF, in 2016, estimated that about 1.1billion of children in the world are born and live-in poverty situations. From academia, academicians have argued that world neoliberal policies have amplified inequality and extreme poverty trends through adoption of some pro-capitalism policies from giant global financial organizations (Genova & Lombardini, 2020; Lockwood, 2020 & Deakin, 2021).

The United Nations (UN), the world largest predominant institution that deals with poverty, classifies it into two categories: human poverty and income poverty. These classifications emerge because many scholars have defined poverty at different distinctions but fail to identify the two. Income poverty is purely monetary based with the World Bank projecting that people who live below US\$1 per day are in the category of extreme poverty while those living below US\$2 per day categorized as being in moderate poverty. Globally, approximately 1billion people live below \$1and nearly 2.6 billion people live on less \$2 per day (Chakraborty & Acharya, 2018 & Suarez *et al.*, 2018). According to (UNDP, 2015), South Asia has the highest levels of extreme poverty followed by India that is approximately 34%. In Sub-Saharan Africa (SSA), about 42% of population live in extreme poverty, which is, less one USA dollar per day. Human poverty, unlike income poverty, which is based on an only indicator based, is a multidimensional association of dimensions that encompass poverty. This includes material and social deprivation at the material level: clothing, shelter, and lack of proper diet. At the social level, it includes denial of education, employment and equal participation in the social institutions.

Studies (Hout, 2016; Bu & Cuervo-Cazurra, 2020; Zameer *et al.*, 2020 & Fahrudi, 2020) in the academia, show that there is a new dimensional on poverty alleviation strategy paradigm that accords shift to policies and emphasis on innovation and entrepreneurship. This may provide solutions to global poverty that require collaboration between Private-Public Partnerships (PPP). Private sectors have less centered philanthropic donations that make it difficult for them to combat poverty in developing countries (Estes and Zhou, 2015; Lall & Park, 2020; Lawson-Lartego & Mathiassen, 2020 & Sinkovics *et al.*, 2021). However, adapting and aligning to enterprise-based solution will engineer growth of small businesses and innovation through entrepreneurship. Small businesses act as centers that spur productivity and economic growth (Li and Rama, 2015).

Methodology

The Methodology of the study took a parametric approach through pure desktop studies on entrepreneurship cases studies. Materials were obtained from library literature and internet through a scientific study where key disciplines on poverty alleviation and environmental entrepreneurship were reviewed. According to Whitehead (1991), a combined parametric approach and meta-analysis provides a quantitative and systematic analysis from randomized studies. In this study, discussions and summary of different results were used to base similar analysis to the study. The objectives of the study were: to evaluate the role of entrepreneurship in poverty alleviation in Kenya; to identify entrepreneurship innovations and their economic contribution in Kenya and to determine the significance of entrepreneurship to Kenyan economy.

Discussion

Reviewed Case Studies: Entrepreneurship and Sustainable Development Goals

September 25th 2015, the United Nations adopted agenda 2030 envisioned on Sustainable Development Goals (SDGs). The SDGs have a broader scope compared to Millennium Development Goals (MDGs) where they emphasize on economic, environmental and social progress across the globe. They too emphasize on inter-linkages among the three highlighted areas. Socioeconomic welfare to global citizens incorporates inclusiveness, collaboration and partnerships. Among the 17 SDGs, the driving goal is poverty alleviation across the globe. Combating poverty takes different dimension and among them is creation of global business partnerships that is flagged by SDG fund.

Poverty alleviation is the leading goal among the seventeen SDGs that target to uplift global population living below extreme poverty line. For instance, majority of SSA live in extreme poverty with an average age of 12-15 years having high dependency ratio. Through global initiatives from International Monetary Fund (IMF), World Bank (WB), Asian Development Bank (ADB) and African Development Bank (AfDB), the Low Middle Income Countries are engaging the youth on provision of loans to start small businesses to better their social welfare. The youth reflect future of these countries thus, a priority to empower them economically to facilitate economic growth (Omeje *et al.*, 2020 and Umezulike *et al.*, 2020)

Poverty is still a major problem affecting both rural and urban population in Kenya (Odhiambo, 2019; Patel *et al.*, 2020). According African Economic Outlook (African Development Bank, 2017), at least 45.9% of the national population lives below the national poverty line and 58.8% live under three US dollars a day. The report also indicates that 49.1 % and 33.7% of the Kenyan population in rural areas and urban areas respectively live below the national poverty line. There is a large disparity in national resource consumption with the lowest ten percent consuming 1.7% and the upper ten percent consuming 38.8% of the national resource. The development of capacity in entrepreneurship and innovations in agri-business would significantly help to alleviate poverty in rural and urban areas as well as bridge the gap between the rich and the poor in the global south countries.

Environmental Entrepreneurship for sustainable poverty alleviation

Setting entrepreneurial business base within any environment with existing opportunity need a healthy and safe environment (Doern *et al.*, 2019 & Okada, 2021). The majority of existing entrepreneurial activities in Kenya are found in small but rapidly growing towns with limited capacity to handle solid and liquid waste from business enterprises. The urban sprawl is having serious impacts on the environment and natural resources, through ineffective waste management, encroachment of natural areas and over-exploitation of essential natural resources, such as water and plant biomass (Katyambo & Ngigi, 2017; Shibia & Barako, 2017; Ondigo *et al.*, 2018 & Bosch *et al.*, 2019) The increasing population, especially in the arid and semi-arid areas of the country stretches existing environmental resources needed for development of enterprises and industries. These resources are traded for wealth creation and facilitation of growth on existing businesses. Due to rapid urbanization, the demand of wood products (charcoal, fuelwood and timber) as well as the demand for construction materials (bricks, sand and stones have been steadily growing. These environmental resources are crucial for expansion of small businesses run by the youth through entrepreneurship. Environmental entrepreneurship emphasizes on equitable utilization of natural resources without depletion (York *et al.*, 2016 & Qazi *et al.*, 2020). The growing entrepreneurial in Kenya should be aligned with the agenda for sustainable use of environmental resources.

According to (Bansal *et al.*, 2019), it is imperative that programs that aim to alleviate poverty be environmentally sustainable. One approach to achieving environmental sustainability is to incorporate environmental concerns in enterprises and business models aimed at alleviating poverty. The other approach is to adopt environmental entrepreneurship or developing green businesses. This approach is gaining popularity through establishment of green-house production of cut flowers and vegetables, such as tomatoes, butternut pumpkins and French beans. Eco-entrepreneurship or Green business is improving the welfare of people living in poverty prone areas (Bruin and Lewis, 2016).

Green Entrepreneurship is a process of wealth creation through optimal use of natural or man-made resources by ensuring minimization of greenhouse gas emissions and waste *generation to*

reduce air, water and solid waste pollution thereby increasing profitability while enhancing an overall positive impact on humanity (Yang *et al.*, 2021). Environmental Entrepreneurship aims to increase productivity, job creation and poverty eradication. Some successful case studies of green business are through SMEs that support Smart Climate Agriculture (SCA) like: tissue culture bananas and green maize production. Eco-entrepreneurs who venture in (SCA) sustain the ecosystem with equitable utilization of business opportunities while conserving the environment. They create a better business environment, which helps to conserve natural ecosystems while generating income for the entrepreneurs.

Environmental entrepreneurship is anchored under green economy initiatives in Kenya that are intersectoral with focus on key thematic areas of the Kenya Green Economy Strategy and Implementation Plan 2016-2030. Through SMEs, green products have been made available in the market. These comprise of power saving bulbs, small solar panels and biodegradable carrier bags. These products are sold in the Kenyan markets by entrepreneurs with the aim of increasing their capital and reducing poverty index (Muithya & Muathe, 2020). Selling of these products has been facilitated by access of small loan from government and small borrowing among entrepreneurs (Dutz & Sharma, 2012; Warsame & Ileri, 2018 & Munuve *et al.*, 2020).

Case Studies of Entrepreneurship Innovations that Contribute to Poverty Alleviation in Kenya

Technological Innovation and Environmental Entrepreneurship, A case of EcoPost for Fencing

Eco-friendly and entrepreneurial innovations to add fulcrum on sustainable development domiciled on environment and entrepreneurship is emerging in Kenya. These innovations add value to waste. EcoPost (www.ecopost.co.ke) a company in Kenya championing sustainability in environment is changing the mindset for plastics in Africa. The applied model is to add value to pollutant plastics. Collection-purchase-recycling and manufacture of material that supplement other environmental demand resource like timber. EcoPost manufactures building materials from collected plastics from garbage collection centers, landfills the subject them for recycling. This green innovative technology improves socioeconomic wellbeing across the value chain from collection, purchase, transportation, recycling and manufacturing. At the source of collection, the collected plastics are purchased by EcoPost impacting the wellbeing of sellers. This is an act of environmental entrepreneurship where both the environment is protected from degradation and obtaining of materials that are sustainable for use after manufacture of the end products. Some of the produced products are fencing posts that will control of trees to have wooden fencing posts. Studies (Oyake-Ombis *et al.*, 2015; Muise *et al.*, 2016) show that of the total 70 million metric tonnes of waste generated, 20% of that waste is plastic. Converting this 20% to value will boost developing economies in Africa and tenacity to sustainable environmental management.

Safaricom Success story of M-pesa & SMEs

Entrepreneurial innovations have been on the rise in Kenya since the start of this millennium (Kitigin *et al.*, 2021). The country has witnessed a paradigm shift through development of innovation hubs that are supported by the government and private partnerships in order to curb poverty in Kenya and Eastern Africa. These innovations are accumulated through upping technology to solve problems and improve livelihoods. As a result, techno-entrepreneurs have been on the rise in Kenya. Today one of the leading companies in innovations within the ‘Silicon Savanna’ is Safaricom through its products to her consumers (Reardon *et al.*, 2021). One of its leading Safaricom products is M-pesa, and which has gained global recognition, and majority of telecommunication companies have emulated Safaricom to expand their market share (Akamanzi *et al.*, 2016). Safaricom has created thousands of jobs to the jobless youths and has been engaging in innovations through entrepreneurship to expand its annual financial turnover. Through Safaricom products, many people use its products as a business, including partnering with SMEs to improve their business capacities, and consequently their welfare and livelihoods (Jelassi & Martínez-López, 2020; Elert & Henrekson, 2020 & Elsner, 2021). The leading service within SME is agent banking that has partnered with Safaricom for money transfer. Unlike before, today people can pay their bills through M-pesa agents empowering young upcoming entrepreneurs. The state of joblessness has gone down among the youth as they are using Safaricom product to exploit untapped existing entrepreneurial opportunities within the market (Gitu, 2013; Ngige & Njuguna, 2020).

Through innovation, the banking services have been decentralized from urban areas to rural areas. Many urban and rural areas in Kenya today are dotted with M-pesa shops, and which have provided employment, communication and monetary services to many, including access to loans by entrepreneurs through link-ups to local banks. A product offered by mobile money transfer platform called M-banking is a rescue to many. Access to capital is easy as major banks in Kenya provide loans and easy access of money to their clients. Majority of their clients is dominated by emerging entrepreneurs in different sectors of the Kenyan economy.

The Uwezo Fund

Uwezo Fund is a flagship project that was started in 2013 by the Kenya government with the aim of empowering women and the youth with seed finances to start small businesses. This is anchored to Kenya’s Vision 2030 development plan and which is a legal initiative under the Public Finance Management Act, 2014. Uwezo Fund began as a way to facilitate MDGs that got faced out in 2015 mainly to eradicate extreme poverty and hunger. However, the post MDGs goals, the SDGs by 2030 globally target to end poverty and hunger. In Kenya today, the fund has empowered women and persons with disabilities financially. The initiative has built capacity to women and youth through reservation of a 30% government allocation of tendering opportunities to those who engage on goods and services-based supply entrepreneurship. Uwezo fund serve as an avenue for employment creation, incubating enterprise, catalyzing innovation and economic growth. This has cut poverty levels among women, youth and people living with physical disabilities and more of

these marginalized groups have gained center stage in entrepreneurial activities (MoDP, 2016). Some of the businesses that are mushrooming in Kenya with aid of Uwezo fund are:

- a) Carwash centers that have created self-employment for the youth in urban areas.
- b) Barber shops and salons in urban areas that are empowering women and youths financially.
- c) Green House farming in rural areas where farmers have had financial assistance from the initiative
- d) Cereals shops run by women and youth at the neighborhoods.
- e) Second hand items, mainly clothes “Mitumba businesses” and which have presently have expanded provide employment and income to many urban households.
- f) Welding works and motor vehicle, motor cycles, and farm implements repair works.
- g) Informal urban workers food kiosks.

It can be concluded that through Uwezo Fund the marginalized groups in Kenya have ventured into entrepreneurial activities that empower them financially and curb poverty levels within their localities. Some have now joined savings and credit cooperative organizations (SACCOS) to boost their savings and acquire more loans to widen their businesses.

OLX case study –Buy and Sell Anywhere in Kenya for Free

This is an e-commerce platform in Kenya that sellers and consumers advertise their products using the online facilities. This service is available both on mobile interface and website. This initiative has unlocked youth advertising entity in Kenya to the outer market. Any product can be sold through photo-adverts.

Categories of online accessible OLX products include: agriculture and foods, vehicles, mobile phones and tablets, home furniture and garden, real estates, construction and industrial, electronic and videos, fashion and beauty. From these categories, the sellers post their products as classified adverts for buyers to access and evaluate their values before purchase. This e-commerce service has gained popularity among the youthful population in Kenya through smart mobile phones to sell their products. A report by Communications Authority of Kenya 2014, indicated that the mobile phone penetration share in Kenya is estimated to be 79.2%. Additionally, approximately 50% of the Kenyans have access to internet through phones and other electronic media (Internet World Statistic, 2014). This statistic shows a boost to e-commerce business exacerbation in Kenya with the majority of population being the youth conducting entrepreneurship (Ernst and Young, 2013).

The M-soko Initiative

This is a Kenya online techno-entrepreneurship entrepreneurial initiative that assists entrepreneurs in buying and selling their products with aid of E-technology. A variety of products, mainly agricultural are sold online. The platform allows the seller to advertise his/her agricultural products and awaits bids from potential buyers. The initiative has improved SMEs in the following ways:

- a) Provision of free and accessible of free market to agricultural products that are highly perishable.
- b) It has reduced over 70% middle men crisis in Kenya that undermine farmer sells.
- c) Farm produce are easily sold in the market by farmers without past witnessed hustle to obtain market for agricultural produce.
- d) Access of agricultural products across all location in Kenya has become easier.
- e) The socioeconomic welfare of sellers has been boosted through entrepreneurship activity that is within their reach (Smartphone).
- f) The sellers have the power for bargain before delivery of their goods at a profit.

Importance of entrepreneurship to poverty alleviation in Kenya

Kenya has moved a step higher as per the World Economic Survey report (2016) from Low Income Country to a Middle-Income Country in the world. This has been amplified by progressive economic growth. A recent report by World Bank Group (as per 2016) on economic growth indicate that Kenya's economic performance remains solid with a progressive economic growth of 5.6% in 2015 to 5.9% in the year 2016. The World Bank projected this growth to hit the 6% mark by 2017. However, to surpass this trajectory, Kenya has to create a favorable business environment - to spur entrepreneurial activities. Some of the benefits Kenya has witnessed from entrepreneurship towards poverty alleviation are:

Increase of society welfare. Majority of the Kenyan population has deviated to business as the available jobs cannot sustain the increasing population. Both the youth and women are becoming self-employed in their businesses. For instance, as indicated in the 2017/2018 government budgetary allocation, the Kenyan government allocated: KES 18.3 billion towards the youth empowerment program; KES 0.6 billion for Youth Enterprise Development Fund; KES 0.7 billion for Youth Employment and Enterprise (Uwezo Fund) and; KES 0.8 billion for Women Enterprise Fund. This shows government continued support to empower the youth and women through entrepreneurship (National Economic Survey, 2017).

Promotes economic growth and development. Through entrepreneurship, local capital has increased across all country localities. More tax generation is being tapped as the governments continuously increase its devotional government share.

Increase of SMEs numbers. With more innovations through businesses, small microfinance institution and SACCOs have emerged that support entrepreneurs through easy access of capital to expand their businesses. A study by Central Bank of Kenya (2016) showed that SMEs made 98% of Kenyan businesses creating 30% of jobs and contributing to 3% of the GDP. The survey also indicated that of the total 800,000 jobs were created in 2014, 80% of which were created by SMEs.

Conclusion

Kenya has sophisticated entrepreneurship by regional standards but could increase its global footprint through increased investments in Information Technology (IT). The country aims to have a robust, diversified and competitive manufacturing sector to help its transformation into an industrialized middle-income economy by 2030. The overall goal for the industrial sector is to increase its contribution to GDP by at least 10% per annum and propel the country towards becoming Africa's industrial hub.

Entrepreneurship is the path that needs to be prescribed for all developing countries as way of solving their urban and rural unemployment and poverty crises and facilitate economic growth. It not only uplifts innovation, occupation and incomes access to capital, but ultimately leads to better welfare and livelihoods. Adding value chain to generated wastes in urban areas will facilitated linkages between environment and waste collection. There is urgency to develop a model that is under the umbrella of sustainable development and entrepreneurship. Better technologies are lacking that produce products that are biodegradable to the environments when they on waste mode.

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Competing Interest

The authors declare no competing interests.

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