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WHAT DESTINATION AWAITS THE DEVELOPMENT OF BOTSWANA

THE SHARP EDGES OF DIAMOND DEPENDENCY: SOME POLITICAL ECONOMY CONSIDERATIONS

DANIEL MUTH
CENTRAL EUROPEAN UNIVERSITY, PHD STUDENT & JUNIOR RESEARCH FELLOW AT INSTITUTE OF WORLD ECONOMICS, CENTRE FOR ECONOMIC AND REGIONAL STUDIES, BUDAPEST
MUTH_DANIEL@PHD.CEU.EDU

Abstract

Botswana has long been lauded for developing uniquely strong political institutions and using its diamond revenues productively to enhancing the welfare of its citizens. However, depleting diamond sources conjoined with an inadequate level of economic diversity poses serious challenges to further development. Unequivocally, the country has arrived at a crossroads. Botswana must seize the narrow window of time before its diamond resources are depleted, by nurturing economic sectors and investing in human capabilities, in order to climb higher on the ladder of economic development. If they do not, the country may be set back dramatically after decades long successful policy efforts. This essay addresses the puzzle of why the development of Botswana has suddenly stagnated despite having powerful facilitating factors such as political stability and advanced economic policies. This essay will shed some light on the dilemma by discussing key political economy developments driven by the diamond dependency, and the way in which Botswana is integrated into regional markets. Current policy deliberations should be informed by a greater understanding of the main factors affecting past developments. Therefore, my aim is to contribute to the ongoing debate on the structural conditions affecting developmental outcome in the region, and to reinvigorate the discussion on possible policy solutions to mitigate/overcome contingency.

Keywords

political economy, resource dependency, Botswana, inequality, economic policy

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Introduction

Botswana is a sparsely populated, landlocked country in Southern Africa. It is home to 2.3 million people in an area roughly the size of France and shares borders with South Africa, Namibia, Zimbabwe and Zambia. It is a relatively homogenous country ethnically, where the Tswana group comprises 80% of the population. A former British colony, it achieved Independence in 1966. Since that time, Botswana gradually transformed from one of the poorest countries into a stable, middle-income nation with the highest Human Development Index in Sub-Saharan Africa (UNDP, 2019). The driving force behind this transformation was the discovery of diamonds in the late 1960s, which provided the funds for developing the county and became the most significant national asset in Botswana's modern history. Although the discovery of the precious mineral was a blessing, which uplifted the independent nation in all aspects of life, its tenacious economic dominance became an ever-increasing burden, crippling all other economic sectors, rendering achievement of further socioeconomic development impotent.

This essay has been written to contribute to critical political economy discussions on current socioeconomic developments in Botswana and stimulate dialogue about possible ways forward. By reviewing a great deal of literature, I aim to get a good grip on the political economy dynamics governing current developments and informing policy discussions. This is crucial as the main asset of the country; the diamond fields, will be soon depleted and there are no other economic sectors in sight that can drive or support further development.

1. The Puzzle

This essay analyzes the enormous challenges that can face resource-abundant developing nations, striving to break free from commodity-dependency, even when significant facilitating factors are in place. Examining this dilemma through the case of Botswana is illuminating for multiple reasons. First of all, contrary to other Sub-Saharan African countries, Botswana has developed political institutions which, many scholars argue, are crucial for mediating between various socioeconomic factors (such as effective use of foreign aid and regulating market forces) and for reaping and distributing economic benefits to the broader society (specifically on Botswana, see: Acemoglu, Johnson, Robinson and Rodrik, 2002 and Iimi, 2006 for a general overview, Brady, Blome and Kleider, 2016). From this perspective, Botswana is indeed a 'success story' because it has maintained a stable political environment since its Independence. It has not experienced coups, escalated elite disagreements, enclaves or excessive state spending, oftentimes seen in countries suffering from the resource curse (World Bank, 2000). Botswana holds regular and free elections and maintains a pluralistic media. It is revealing that Botswana has a lower corruption level than numerous more developed European Union countries (Transparency International, 2019).

The political sphere is not the only one in which Botswana has excelled in the last 50 years. The country is lauded for having had one of the highest rates of sustained economic growth; averaging 9% from its independence in 1966 up to the millennium. The number of people living under the poverty line fell from 59% to 20% in the period of 1985-2009 (Okatch, Siddique and Rammohan, 2013, p. 1). Measured by the standards of those scholars who suggest that the main concern of a country should be poverty alleviation and not inequality per se, Botswana has performed outstandingly. A stable and linear expansion of trade volumes was the main driver of this impressive economic growth (see Figure 1). The country also put their foreign aid and investments to economically and socially productive uses, such as infrastructure and education. This has fueled their continuous economic development and alleviated poverty (Maipose, 2008). As a result, the country transformed from a poor, aid-dependent country to a trade-oriented middle-income economy by the millennium. Their dependence on foreign aid dropped from 61% of the state budget in 1970, to a mere 2% by the year 2006 (Maipose, 2008, p.2).

Yet, despite the country's considerable achievements thus far, breaking the resource dependency might prove to be an insurmountable challenge. Botswana seems unable to diversify its economy, which would be a prerequisite for eliminating commodity dependency, establishing independence from the diamond dependency, and proceeding forward to the status of a high-income nation (IMF, 2018). At this time, Botswana still suffers from one of the world's highest and most persistent levels of inequality (World Bank, 2020c). It has recently become apparent that the country is stuck on the developmental ladder (both economically and socially). These observations lead me to my essay's research question:

How can we explain Botswana's stagnation despite its advanced economic policies and political institutions?

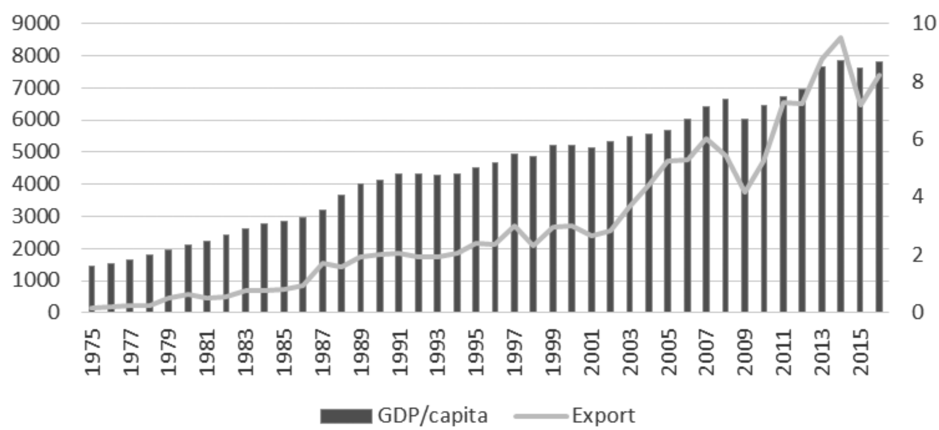

Figure 1. Development of exported goods and services (billions USD, constant 2010) and GDP/capita (constant 2010 USD). Own formatting. Source: World Bank (2020a, 2020b)

Stagnation primarily refers here to the lack of economic diversification but given the overall trend of slowing growth and social progress, and democratic backsliding, the term could be more encompassing. To gain insight, I propose examining the significance of the diamond industry in Botswana and its position in the global value chain and discussing the main implications of important social conditions, especially the long-lasting problem of inequality. The Botswanan case raises important questions about the developmental path of other Sub-Saharan countries because if the development of this economically successful country was bogged down, then what are the prospects for poorer, ethnically more heterogeneous countries where even basic institutions function insufficiently?

2. Theoretical Approach

While theories touting sound economic policies and a responsive political system are suitable to explain Botswana's developmental success over the last 50 years, they are inadequate to account for or even delineate the determinants of its stagnated progress. I argue that this impasse can only be understood from a more structural viewpoint that asserts the ability of a country to altering its relative position in the global value chain and division of labour. This is the analytical lens through which I will examine the role of the diamond industry and the prospect for Botswana's catching up. I will strive to present the significance of the diamond sector, its effects on domestic economic system and detail the social implications of this one-sided development. In order to fulfill this research purpose, I will synthesize a great deal of literature focusing on the diamond-development nexus from both a global and domestic perspective.

The essay proceeds as follows: first, I will give a brief overview of the economic policies and political environment that put the country on the developmental fast track leading up to the millennium. Then, I will discuss the role of the diamond industry, which appeared to be a blessing after the country's Independence but later locked Botswana into commodity dependency. Some other structural barriers will be mentioned as well in order to provide a more complete picture about the country's developmental challenges. I will show why it is difficult for Botswana to integrate itself into the regional economic system with higher value-added products and services. Subsequently, special attention will be paid to how the mining industry contributed to the inequality of the country, giving rise to burning and persistent economic and social maladies.

3. Economic Policies and Trade Regime

The Botswanan government implemented policies throughout its independent history that have been cherished by the Bretton Woods institutions. The country has made important steps towards trade liberalization to diversify its economy, developed ambitious plans and strategies (e.g. Economic Diversification Drive and Competition Policy, among others, for an overview, see: Malefane and Odhiambo, 2016) to better capitalize on trading opportunities (Malefane, 2020). As a result, the

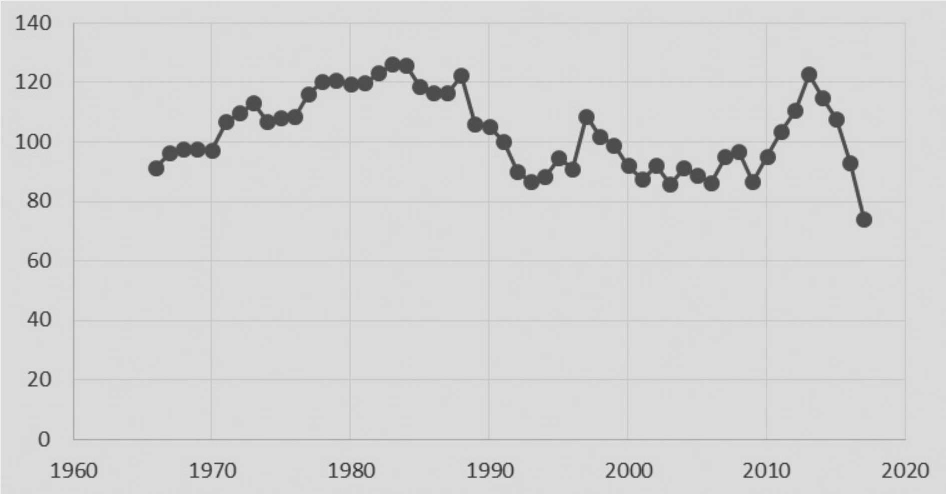

Figure 2. Trade openness (sum of exports and imports / GDP) as proxy for trade liberalization. Own formatting. Source: World Bank (2020d)

country successfully transformed from import-substitution-industrialization to an export-based trade regime. Additionally, the government made meaningful efforts to attract foreign investments and boost the competitiveness of domestic sectors. As part of this strategy, the country gradually eliminated trade restrictions; joined regional and multilateral trade agreements (e.g. SADC -South African Development Community and the Cotonou Agreement); provided a solid macroeconomic environment (low inflation, stable exchange rates and disciplined fiscal policy); enabled market access; facilitated privatization of state-owned enterprises; and reduced costs of doing business in the country (UNCTAD, 2003; Malefane and Odhiambo, 2016, Paul and Motlaleng, 2008). From the perspective of trade volume, the country benefited considerably from this developed framework and their trade relations became more liberalized (see Figure 2). However, the composition of exported goods did not change, a problem that will be discussed further in this study.

4. Consolidation of Democracy

Botswana is the oldest continuous democracy in Africa with regular, multiparty free elections. This stability was, in itself, extraordinary as well as crucial, especially because investors normally "prefer non-democratic governments when they operate in resource exporting countries" (Asiedu and Lien (2011, p.101). Nevertheless, Botswana, which secures more than 50% of its revenue from diamonds sales, received a steady flow of investments throughout its independent history while simultaneously being a democratic country (UNCTAD, 2003). The country has been standing firmly because it took advantage of its democratic system (e.g. accountability and protection of private poverty rights) and political stability provided by the unchallenged dominance of the Botswana Democratic Party (BDP). What are the historical reasons for the emergence and consolidation of this democratic regime, so rarely seen in the developing world? Two crucial political factors gave birth to this successful development (Sebudubudu and Molutsi, 2011). The first is the formation of a grand ruling coalition facilitated by ethnic homogeneity (Tswana) and a common ideological stance of the dominant economic groups (the white settlers and the new political elite who owned lands as well) that helped calm rising tensions and hold the traditional leadership figures (especially Chiefs) at bay during the transition.

The second factor is the successful co-opting of the traditional, historical social practices into the modern institutional arrangements. The transition to independence did not abolish traditional institutions, as was the case in many African countries, but blended them into the emerging configuration providing stability and continuity in a period where power struggles were intense. A good example is 'Kgotla,' which serves as a forum for citizens to debate changes in policy and law and settle disputes. This assembly facilitates information exchange, maintains social order and keeps local political power accountable. These two factors, along with the inclusion of minorities in leadership, consensus building and productive cooperation with mineral capital, enabled the crystallization of democratic governance.

5. The Diamond Industry at a Glance

The discovery of the first diamond fields in Botswana coincided with the beginning of the country's independence from Britain in 1966. Since then, Botswana has become one of the largest diamond producers in the world (NS Energy, 2020). The mining sector (mainly diamond, gold and copper-nickel) is undoubtedly the most significant economic sector in Botswana, with diamonds generating the lion's share of the trading profit and the bulk of foreign investments (UNCTAD, 2003). The sector accounts for approximately 60% of the government revenue (subject to market volatility) and 90% of the export (IMF, 2018). The accrued revenues from export have financed the state's developmental project. The joint venture of Debswana manages the production and export, while the Government of Botswana and De Beers Group each own 50% of the company. This shared ownership provided Botswana the opportunity to influence resource-allocation, as demonstrated by the successful in-sourcing of diamond beneficiation, thus integrating an important process of the supply chain into domestic production. Nevertheless, it should be noted that the negotiation process took decades and that the transaction only happened when De Beers lost its monopoly (and thus its strong bargaining position against the Botswanan government) in the world market, becoming more dependent on their sources of supply (Grynberg, 2013).

6. Economic Consequences and Prospects for Catching Up

Diamond dependency has had some markedly detrimental effects on economic development. Notably, the development of the agricultural sector was paralyzed by the import of agro products from more efficient neighbours, financed by the diamond revenues (Good, 2006). This rendered domestic investments redundant, leading to persistently low productivity and the lowest wages in all sectors. There was no growth at all in the agricultural sector between 1974 and 2000 (Seleka, 2005). This affected the rural population very negatively, where the main employer had been agriculture.

Another effect was that the enhanced state revenue facilitated the expansion of the public sector (both on the local and central levels and in the parastatals), that accounts more than half of the former employment. The wage premium in this sector is approximately 60%, contributing to slow job creation in other sectors (IMF, 2018). Even worse, most well-paying public servant jobs are concentrated in the capital, Gaborone, where the infrastructure is ideal for the establishments of manufacturing plants.

Even though Botswana faces many challenges caused by diamond dependency, structural factors might be even more formidable. Above all, the geographical proximity to South Africa produces disadvantageous conditions because the southern neighbor siphons off investments (especially labor-intensive manufacturing jobs) from Botswana (Good, 2006). Although the Botswanan government kept the minimum wage low despite significantly higher GDP/capita, and provided a more favourable business environment[1], the country cannot compete with the more populous, strategically located, economic powerhouse of South Africa. The rules of the South African Customs Union also prevent nurturing domestic industries since a disproportionate share of tariff revenues abnormally increases import dependency (Biedermann, 2020). Overall, it is difficult to see how a small country, despite its significant efforts, could surmount these structural barriers and become a regionally important economic player, not to mention integrate itself into the higher value-added segments of the world economy. The outlook on this front is even less promising if we consider that diamond production (and hence revenues) will soon drop dramatically (already by the mid-2020s). In this case, can the available fiscal capacity and narrow time frame possibly allow for economic transformation? (Grynberg, 2013)

7. The Polarizing Effects of Diamond

Botswana has generated one of the world's highest, tenacious, (albeit currently slowly downward- trending) inequality levels (Hillbom and Bolt, 2015). The most significant factor driving inequality in the country is the polarization between groups who benefited from resource abundance and increased trade, especially those working in the mining- and the public sector, and those groups which did not have access to these opportunities, especially the unemployed and informally employed youth and rural population (Ulriksen, 2016). Being a capital-intensive sector, mining employs only fraction of the workforce (currently 2%), creating an imbalanced concentration of wealth (Statistics Botswana, 2018, p.9).

Lack of economic diversity and diamond dependency multiplies inequality in other significant ways. By paralyzing other economic sectors, unemployment remains high, producing a sheer number of labor market outsiders who receive little support from the government and are unable to exert influence on policies, resulting in unchanged, disadvantageous policy positions. The unemployment rate is currently at 18%, and social assistance policies (coverage and expenditure) have stayed at a moderate level (Seekings, 2016; Okatch, Siddique and Rammohan, 2013; IMF, 2018). Ulriksen (2017) asserts that by keeping the minimum wage low and restricting social spending, thereby preventing tax increases, Botswana's objective is to attract foreign investments in labor intensive sectors in order to diversify the economy. However, as noted above, the object of diversification has not been accomplished thus far (Barczikay, Biedermann and Szalai, 2020), and the attempt has contributed to perpetuating the substantial income inequality in the country. By further analyzing the domestic effects, Mogalakwe and Nyamnjoh (2017) argue that limited social transfers keep rural, poor populations dependent on governments, thus material interests are linked to being loyal and voting for the ruling party. This theory is supported by data showing that groups which are generally considered marginalized such as rural people, women and very poor, demonstrate higher voting turnout (see Figure 3.) As

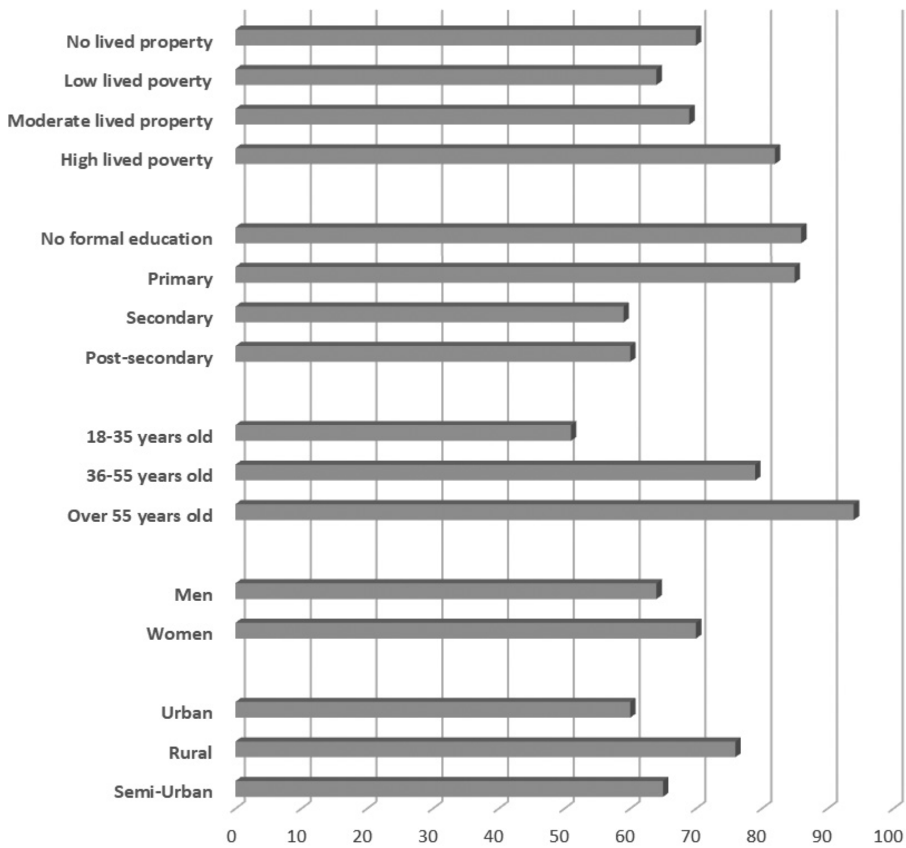

Figure 3. Voter turnout in 2014 by different socioeconomic groups (%). Own formatting. Source: Afrobarometer (2018, p.3)

a result of its failure to diversify its economy and increase spending on social policies, Botswana has stayed locked into inequality that prohibits the realization of further social progress (IMF, 2018; Ulriksen, 2017).

Although Botswana has held regular free elections, the Botswana Democratic Party, which has been in power since Independence, shows increasingly autocratic characteristics, such as media censorship and deep entanglement between the public and business elite, pointing towards cemented social structures (Mogalakwe and Nyamnjoh, 2017). Elite alliances were a crucial factor in the national development of Botswana and resulted in impressive economic growth (Sebudubudu and Molutsi, 2011), but recently these alliances have become tools for cementing power and privilege. One might theorize that the reason behind this development is the approaching depletion of the diamond deposits and the apparent dead-end of the diversification attempts. In this tenuous situation, incumbents are trying to exploit resources as much as possible in the remaining time, including rent and economic exploitation, causing eroding institutions and turning the developmental undertaking into a predatory rent-seeking project.

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Conclusion and Policy Recommendations

While for most Sub-Saharan African countries resource abundance proved to be a burden difficult to escape, Botswana successfully managed to reap the benefits by reducing poverty and investing in human development (e.g. provision of universal free antiretroviral treatment to people with HIV) and avoided common burdens (such as conflicts and appreciation in the exchange rate) but significant challenges remain. In order to overcome structural barriers, rethinking the trade relationship with South Africa and renegotiating the SACU mechanism will be inevitable. Undoubtedly, Botswana can better capitalize on the trade potential in the SADC and SACU, which can contribute to the emergence of new economic sectors counterbalancing the revenue loss caused by depleted diamond sources. Secondly, diamond revenues should be used more strategically. Conditional cash transfers (such as Bolsa Familia in Brazil) would increase the education enrolment rate and prolong growth spells by reducing inequality (IMF, 2012). Easier said than done but strengthening the civil society may be essential to keeping the political elite accountable in the upcoming, crucial period where the effective use of state revenue will be even more important due to the depleted sources of diamonds. Emergence from the diamond trade, and the conditions facilitating the creation of higher value-added economic segments, should happen over a relatively short time, thus the transition will be of utmost importance. This is crucial because if major transformation in the economy does not happen in the next decade, dreadful consequences will ensue. According to some estimations the GDP will fall by 20 % by 2025-26 when diamond sources will be nearly fully depleted (Grynberg-Sengwaketse-Mostwapong, 2015, p. 391 as cited in Kiss, 2016).

Another crucial policy prescription would be to decrease food imports and redirect transfers to the development of sustainable domestic agricultural production. Productivity enhancement and land reforms (unequal access to lands is also a rampant issue in Botswana, see: Malope and Batisani, 2008) are inevitable to achieve a higher level of self-sufficiency and provide a decent livelihood for the rural population. I believe this question should be top priority for policy makers as science claims that climate change effects (an entirely overlooked aspect in the literature) will be severe in Botswana. For example, more frequent and intense droughts will severely stress existing water management systems. Failure to invest sufficiently in climate adaptation could lead to considerable setbacks in the advances in poverty reduction won by decades-long policy work.

Note

1 Botswana ranks 40, South-Africa 106 in the Index of Economic Freedom, but 87 and 84 in the World Bank's 'ease of doing business' ranking (The Heritage Foundation, 2020; World Bank, 2020e).

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THE EFFECT OF GLOBAL FINANCIAL CRISIS AND ETHIOPIAN MONETARY POLICY MEASURES: REVIEW ON THE PRE-AND POST-CRISIS SCENARIO

ADISU FANTA BATE

PH.D. CANDIDATE, DOCTORAL SCHOOL OF BUSINESS ADMINISTRATION, FACULTY OF BUSINESS AND ECONOMICS, UNIVERSITY OF PECS, HUNGARY ASSISTANT PROFESSOR, WOLAITA SODO UNIVERSITY, ETHIOPIA - ADISUFANTA@GMAIL.COM

ORCID HTTPS://ORCID.ORG/ 0000-0003-2729-3934

Abstract

Policymakers and leaders usually fail to grasp a sound lesson from the economic hurdles and crises countries face. This paper, thus, is intended to review and articulate the causes and effects of the global financial crisis, and how the Ethiopian monetary policy reacted and mitigated the crisis. The data for the analysis were collected from various sources including IMF, World Bank, National Bank of Ethiopia, and research articles from 2003 to 2019. The review reveals that even during the crisis in 2009, Ethiopia was among the top five fastest-growing countries in the world by an average of 10.5%, which is twice the average growth of Sub-Sahara African countries (5 %). It had become the seventh-largest economy in Africa and the 69th in the world with a GDP PPP of 118.2$ Billion as of 2013. Some of the main reasons for the continued growth of the country amid crisis could be the desynchronization of the country's financial market with the international financial market, an insignificant share of mortgage loans in domestic financial sector services, and high-level government-led infrastructure investment coupled with China's economic alliance. However, the significant effect of the crisis was observed in the country's exports, remittance, and Foreign Direct Investment (FDI). To shun the related inflationary effect, the government increased the minimum deposit interest rate, reserve, and liquidity requirements, and reinstated the credit restrictions. Also, the immediate alert was given to commercial banks to give proper attention in managing credit risk and reducing non-performing loans to below 5% and overdraft facilities. Given the above-mentioned facts, the monetary policy measures were effective to stabilize the economy & sustain the growth. In the end, the offshoots & setbacks of the unsynchronized financial market, government-led investment & fettered mortgage loans are addressed, and the way forward is marked out.

Keywords

Monetary policy, Global financial crisis, Subprime Mortgage, FDI, labor market, Ethiopia

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Introduction

In the history of the global economy, in 20th and at the advent of the 21st century, the four salient features have taken place: the 1930s' Great Depression, the 1980s' Latin American debt crisis, the 1997/98s' Asian Financial crisis, and the recent global financial crisis of 2007/08. It was noticed that the great depression of 1930 evolved with a slide of the New York Stock Market in 1929. The collapse of the stock market was caused by a decline in the value of assets in the credit portfolio of banks. As the consequence, 11,000 out of the 25,000 banks in the USA had faced bankruptcy in 1933. The severity of the depression effect was not limited to the USA but also spread to other developed countries. Thus, it led to a 50% decrease in the industrial outputs in the USA, a 33% lay-off rate in Germany, and a 25% export decline in Great Britain (Kindleberger, 1986; Paul, 2010).

Most importantly, the Great Depression and the Global Financial Crisis have at least three things in common (OECD, 2009). First, both were originated from the same country, the USA. Second, both were amplified by the conditions in the financial markets. Third, both were shortly transmitted to other countries and become global phenomena. The financial crisis is a problem related to the limited supply of money or financial resources and when the demand exceeds supply and liquidity becomes challenging for market actors (Pop, 2009; Neuhauser, 2015). The financial crisis of 2007 – 2008 was triggered by the decline in prices of residential properties (houses) in the USA at the end of 2006 and the beginning of 2007 (Pop, 2009; Verick and Islam, 2010; OECD, 2009; Assefa, 2019). The crisis was also called the subprime mortgages (Pop, 2009). Subprime mortgage /lending is making loans to people who may have low credit ratings and difficulty in maintaining the repayment schedule due to setbacks such as unemployment, natural calamities, social issues like divorce, and medical emergencies (Heyford, 2019). Then, while the decline in the prices of houses started, it became too much challenging for the banks to refinance those mortgages. The banks, at the same time, attempted to reset adjustable mortgage rates to a higher level which all together created a repayment problem for subprime borrowers (Pop, 2009; Ngowi, 2010; Griffith-Jones). Commencing in mid-2007, the financial crisis immediately metamorphosed from the US crackdowns on the house mortgages to the worst recession that the world has ever encountered for over six decades. Besides, some of the complex and interlinked factors behind the emergence of the crisis in 2007 were lax financial regulation and misperception of risk, global imbalances, and loose monetary policy (Verick and Islam, 2010; Cornelia, 2009; Assefa, 2019; Neuhauser, 2015).

Different scholars and economists have debated much about the possible causes of the global financial crisis of 2007/2008 (Verick and Islam, 2010; Gál, 2011; Pop, 2009). Subprime mortgages have been pointed out as the first obvious cause of the crisis (Pop, 2009). He also argues that structured finance products and credit derivatives as the second obvious cause of the crisis because they (derivatives) intensified the transmission of risk and losses among banks and market actors. The securitization, which is structured finance, unprecedentedly increased the interconnectedness among financial institutions, while globalization elevated the integration of financial entities across countries. Both increased the diffusion of toxic products to banks around the world that aggravated the geographic spread of the crisis (Pop, 2009; OECD, 2009; Neuhauser, 2015).

Some of the main factors behind the crisis are identified as loose monetary policy in terms of interest rates, misperception of risk, lax financial regulation, and global imbalances (OECD,2009; Verick and Islam, 2010; Gál, 2011). From mid-2003 to mid of 2004, the interest rate was just 1 percent in the USA. Then from the end of 2004 until the first mid of 2007 it was sharply increased and reached the peak, then during the recession period, it has fallen approaching zero level until 2009 (Verick and Islam, 2010). Unnecessary competition among banks pushed them to increase market share by giving loans to unqualified low-rating households. Thus, the inability of many US households to pay back their mortgage loans has triggered a financial crisis, which reduced to zero the value of the associated mortgage-backed securities (OECD, 2009; Assefa, 2019; Ngowi, 2010).

In the United States, generally, the three key players involved in the global crisis are government, financial institutions, and households. On the government side, measures such as financial deregulation of the 1990s onwards and liberal monetary policy adopted between 2002 to 2005 immensely contributed to the occurrence of the crisis. The intensive USA government interference in housing finance drastically increased moral hazard. Also, the huge incentives set up by the government initiated all actors to take excessive risk from Wall Street to Main Street ((Verick & Islam, 2010; Gál, 2011; Neuhauser, 2015); Whereas, on financial/housing agency side, actions such as using over-the-counter transactions, off-balance-sheet entities (SIVs) and complex securitization of assets (CDOs) that enabled banks to pass away risks without prudence. Also, the securitization is coupled with the failure of credit rating agencies in assessing risk accurately, shallow risk analysis/assumptions, remuneration incentives that encourage risk-taking, excessive leverage and reliance on short-term debt (repo), and aggressive and poor mortgage lending standards. On the other side, the overambitious goal of households in borrowing beyond their means led to failure to repay the loan that provoked the crisis (Verick & Islam, 2010; Neuhauser, 2015). The borrowers had no or less personal liability for the debt and they could choose from a package of mortgage services with different interest rates and attractive terms of amortization periods and low down-payment (Gál, 2011; Verick & Islam, 2010; Neuhauser, 2015).

Altogether, the combination of the above-mentioned factors and low returns on the other assets fuelled the excessive leverage and investment in risky assets, namely the mortgage-backed securities. In this case, we see that sub-prime mortgage was at the center of the crisis but was not the only cause (Verick and Islam, 2010). The perception of risk was distorted by two factors: the interest rates were low and the increasing of housing prices every year from 1991 until the second half of 2006 (Pop, 2009). The unprecedented appetite of the Middle East and export powerhouses – led by China, for scaling up reserves of foreign exchange in US dollar-exchanged assets (typically low-yield US government bonds) enabled the persistence of low-interest environment in the US (Zsolt Gál, 2011). Thus, this had given birth to 'global imbalances' that pertain to the 'excessive consumption of deficit countries (led by the US) and 'excessive savings of surplus countries' (led by China). Also, the global imbalance can be manifested in terms of financial flows where developing countries benefited more from international capital flows, FDI, and could build up vast foreign currency and reserves (OECD, 2009, Neuhauser, 2015).

Ethiopia is one of these developing countries which attracts high FDI and relies on foreign aids. Ethiopia has been one of the fastest-growing economies in the world and it has grown by a double-digit average of about 10.5%, twice the average of Sub-Sahara African countries, which is 5%. But the effect of the financial crisis on the Ethiopian economy has been debatable as the country is not yet directly participating in international financial markets that include stock exchange markets. However, the effect was inevitable and multifaceted. For instance, the commercial bank of Ethiopia experienced substantial setbacks in terms of loan dispersed for importers (LI) (214%), interest income from the foreign deposit (217%,), ROA (16%), total revenue from international banking actives (39%) decrease (Assefa, 2019). The author of the current study observed only three relevant papers: Asfaw (2018), Assefa (2019), and Megersa, & Cassimon (2015), published in reputable journals concerning Ethiopia. This could lead to failure in drawing a proper lesson from the crisis, which most likely makes policymakers and leaders give wrong justification and conclusions. Hence, in this paper, an attempt is made to briefly elucidate the causes and effects of the global financial crisis and the Ethiopian government monetary policy measures. The following questions are, specifically, attempted to be answered: how did the global financial crisis affect the Ethiopian economy relative to other economies? And what were the monetary policy measures implemented by the government to resolve the impact of the crisis? The next sections portray the research methodology and the general outlook of the monetary policy frameworks and objectives. Then, it briefly deals with the general economic growth of the country. Thirdly, it shortly discusses the financial crisis causes and consequences. Fourthly, it addresses the effect of the crisis and the possible monetary policy measures taken as the responses. Finally, the conclusion is drawn, and ways forward are underscored.

Research Methodology

It seems hard to obtain full-fledged scientific researches from databases that address the causes and effects of the crisis on FDI, aid, foreign trade, remittance, and the economy in general, and the respective policy responses, especially for developing countries. This study, thus, follows a narrative approach by adapting a comprehensive review of literature, which is commonly used to fill research gaps by inculcating studies and reports from all authentic sources to create a clear and all-around picture about a subject (Littell, Corcoran, & Pillai, 2008). To garner scientific works (if any), the key topics applied for the search of articles are *the causes and effects of the global financial crisis, the effect of the global financial crisis on Ethiopian economy or busi-*

ness, and the Ethiopian monetary policy measures or response to mitigate the global financial crisis. Surprisingly, from EBSCO and Web of Science database search using the term *Global financial crisis and Ethiopia,* only three relevant research articles: Asfaw (2018), Assefa (2019), and Megersa, & Cassimon (2015) were found. This implies that the causes and effects of the global financial crisis have not been well addressed in the Ethiopian context and, if that is the case, the appropriate lesson from the crisis has also been not grasped. Hence, in addition to research articles published from 2003 to 2019, the data were collected from both international as well domestic organizations databases like the International Monetary Fund (IMF), World Bank, and National Bank of Ethiopia websites. Studies selection is based on a snowball technique in which a search continues from an article to another article to trace out all the viable records. Based on the data obtained, the effect of the crisis, especially, on inflation, foreign direct investment, export and import, foreign aid, foreign exchange, labor market, and remittance are addressed to show how the monetary policy measures of the country mitigated these effects on the economy. As shown in Figure 1., the study addresses the causes of the financial crisis, the areas of effect of the crisis, and the role of monetary policy measure as a moderator of both the causes of the crisis and its effects on the economy.

Overview of Ethiopian Monetary Policy

According to Ethiopia Federal Democratic Republic government proclamation number 591/2008, the monetary policy of Ethiopia is controlled by the National Bank of Ethiopia (NBE) (Abate, 2008**;** National Bank of Ethiopia, 2009). The NBE has a board of directors with the chairman and its governor who work as the main executive body. The governor establishes the Monetary Policy Committee (MPC), which

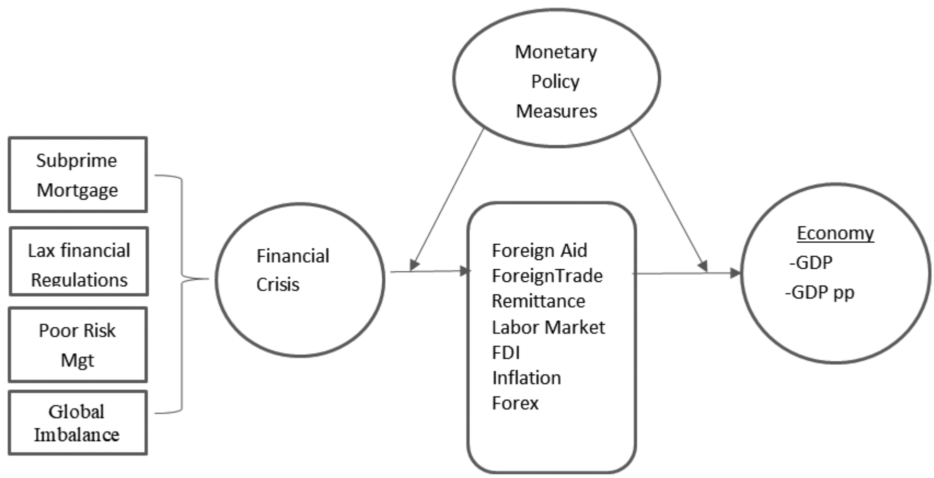

Figure 1. The Conceptual Framework of the Study. Source: Own Review, 2021

formulates policies and evaluates the proper implementation and impacts of policies. According to the proclamation, the bank is accountable to the Prime Minister of the government (NBE, 2009).

The monetary policy denotes regulatory measures and a bundle of actions used by the national bank including, but not limited to (Abate, 2008; NBE, 2009, 2019):

- determining the minimum rate of interest on deposits or the rate of rediscount imposed on commercial banks
- deciding on the level of required total deposit reserve of commercial banks
- changing commercial banks' reserve holding through sales of government securities and open market purchases
- regulating commercial banks' financial activities in setting minimum level capital requirements; and
- intervening in foreign exchange markets

In line with these duties, Ethiopia's monetary policy works on the following objectives:

- To ensure the conduciveness of monetary, credit, and financial conditions for sustainable economic growth
- To maintain the national currency's purchasing power by determining the level of money supply and controlling foreign exchange rate market
- To catalyze and ensure the efficient allocation and mobilization of domestic and foreign savings for productive economic activities
- To ensure the emergence and growth of capital and financial markets and their fit in meeting the needs of the economy
- Moreover, maintaining the price & stabilizing the exchange rate are the main objectives of the monetary policy of Ethiopia (Abate, 2008**;** NBE, 2009; 2019).

One of the key indicators of macroeconomic stability is price stability, which plays an indispensable role in the private sector's investment decision making, households' consumption as well as international trade and savings (Abate, 2008). Besides, maintaining exchange rate stability determines the competitiveness of domestic firms in the international market and exerts a huge influence on both import and export items. Using exchange rate intervention as a tool for monetary policy is also found to affect both foreign reserve position and domestic liquidity (Abate, 2008). To achieve its final target of maintaining price and exchange rate stability, the monetary policy considers achieving the optimum quantity of money supply as an intermediate target (NBE, 2009). To cope up with the economic situation of the country, managed floating exchange rate regime has been practiced in Ethiopia since 1992. It is also expected to be continually implemented in the years to come (NBE, 2009). The bank Interest rates are not fully liberalized in Ethiopia. The National Bank of Ethiopia determines the minimum rate of bank deposit while other banks, including state-owned and privately owned, can set all lending and deposit rates above the minimum. So far, between January 1999 and July 2008, the minimum interest rate has been adjusted only twice as a response to the crisis, but the average rate of deposit has been changed a few more times (Loening, Durevall,& Birru, 2009).

The General Economic Growth in Ethiopia

Since 2004, the last more than one decade, Ethiopia has been one of the fastest-growing economies in the world and it has grown by a double-digit average of about 10.5% to 11%, twice higher than the average Sub-Sahara African country, which is 5 percent (UNIDO, 2013; Ethiopia Country Report, 2014 and Tekeba, 2018). It had become the seventh-largest economy in Africa and the 69th in the world with a GDP purchasing power parity of 118.2$ Billion as of 2013 (Tekeba, 2018). The Ethiopian economic growth scenario conforms to Keynesian and structuralism concepts of development and it has adopted developmental state policy (Priewe, 2016). Since 1992, the country has been following Agricultural Development leads Industrialization Policy (ADLI) and intensively working to transform agriculture into industrialization (National Planning Commission, 2016). Ethiopia is the only country in Sub-Saharan Africa and, perhaps, even worldwide which remarkably grows out of subsistence agriculture, without special natural resource endowments like oil, with the integration of public investment and positive terms of trade (Priewe, 2016). The key to this achievement is believed to be the adoption of the idea of a "developmental state" that successfully guided Asian tiger economies like China, Japan, Taiwan, Korea, and Singapore to a sustained high growth trajectory. From 1992-2003, a very insignificant per capita growth was observed. GDP per capita grew by 8.0% p.a from 2003 to 2014, showing an increase of 2.3-fold; overall GDP increased by 10.9% p.a. (Priewe, 2016). Figure 2., shows gross investment and savings since 2000.

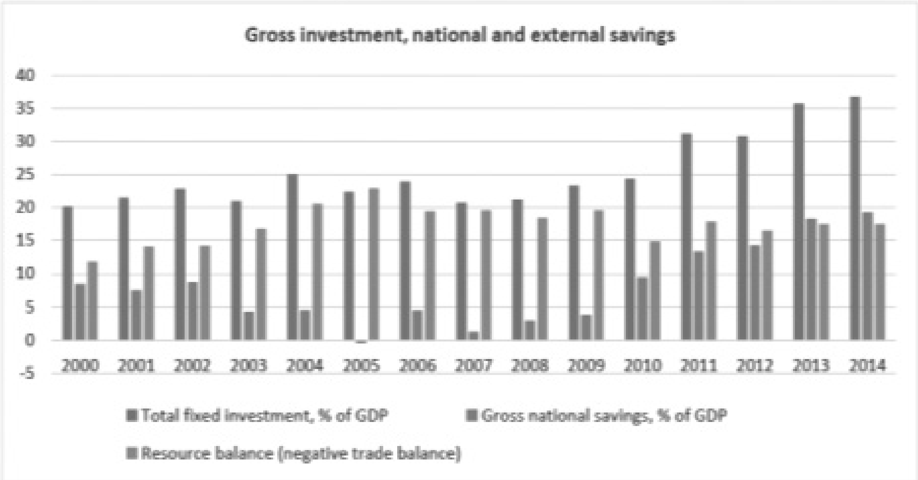

Figure 2. Gross Investment and National savings pre and post-global crisis period. Source: Priewe, (2016) and National Bank of Ethiopia, (2015)

In Figure 2., above, we see the national savings and gross investment six years before and after the global crisis of 2007/2008. The term "national savings" is simply to means the share of output remains unconsumed by households or the government. It is misleading as it does not indicate the true financial positions of the country. The share of "national savings" got shrink until 2007 and elevated afterward up to 19% of GDP in 2014. Nevertheless, we do not have enough evidence to say that the shrink in national savings was due to the crisis, there might be other economic reasons like productivity decreases. Next, as shown in Figure 2, the gross investment is almost twice the share of GDP from 2000 to 2014, approaching 37% of GDP (Priewe, 2016). During the crisis it showed slowdowns but soon after, 2009, we observe steadfast growth.

Below, Figure 3. shows that there is a significant gap between export and imports, 9.8% and 27.3% of GDP, respectively. This simply indicates that the amount of goods or values of goods Ethiopia imports exceeds the export. However, we do not see a remarkable difference in the trend before and after the global financial crisis. In line with this, we see smooth change on current account balance, net ODA, and trade balance throughout the period, except external debt which was highly fluctuating.

As we discussed above, Ethiopia has been experiencing high growth in the world economy which even continued during the global crisis. It is believed that the absence of drought and moderately favorable weather for agriculture during this time made it possible to grow (Priewe, 2016). Besides, the emergence of China in Ethiopia and additional foreign markets along with high government-led investment in infrastructure contributed immensely to the country's development. As we can see from Figure 4, immediately after the crisis in 2009, Ethiopia is among the top five fastest-growing countries at the world level. Thus, the impact of the 2007/2008 global crisis has been debatable and controversial in Ethiopia (Paul, 2010), but it does not mean that the economy escaped the effect of the crisis (Asfaw, 2018; Assefa, 2019). The next section illustrates how the global financial crisis affected the economy and the monetary policy measures taken by the government.

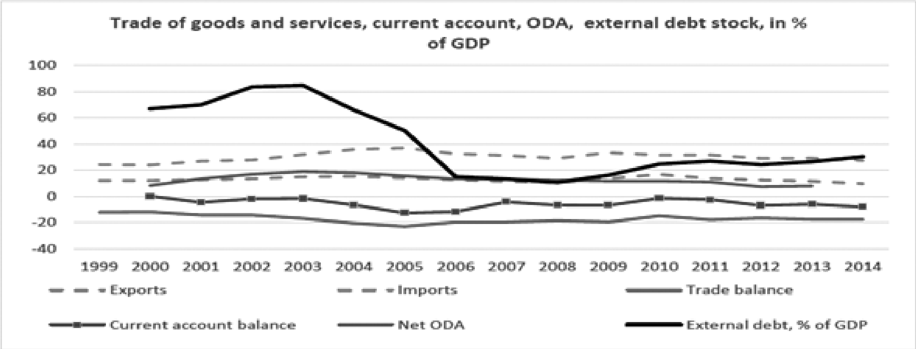

Figure 3. Trade, External Debt and Official Development Assistance (ODA). Source: National Bank of Ethiopia, Annual Report (2014/2015)

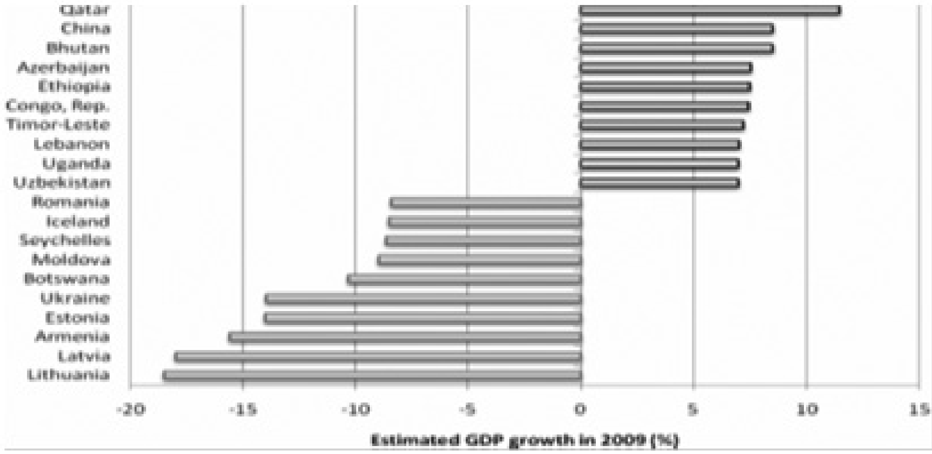

Figure 4. The fastest growing and contracting countries in 2009. Source: IMF World Economic Database (October 2009)

The Consequences of Global financial crisis 2007/2008

The Economic Consequences of the crisis

The financial crisis that simultaneously affected most of world financial markets turned out to be an economic crisis in many countries (OECD, 2009; Pop, 2009; Griffith-Jones, 2016). Its effect mainly erupted as a world economic crisis in September 2008 and the economic activities in developed and developing countries alike fell awfully in the final quarter of 2008 (Paul, 2010). First, the USA economy was directly hit by the meltdown in the sub-prime mortgage sector and its repercussion of the financial crisis. Consequently, the economy of the USA, along with other developed countries that are financially integrated, fell into recession in December 2007. It was estimated to have shrunk by 2.7% in 2009, which was, however, smaller than most G20 countries and the average of advanced economies' (-3%) contraction (Verick and Islam, 2010). In 2009, it was widely spread to different economic sectors including construction and car manufacturing sectors (Pop, 2009). But China, Australia, and India had minimized the major contraction despite their global integration. As we saw in Figure 4, above, some of the low-income countries such as Uganda and Ethiopia also managed to continue their fast growth despite the downturn (Verick, and Islam, 2010). However, the decline in the demand for exports from least developed countries, including Africa, and remittances & transfers were observed (Paul, 2010; Griffith-Jones, 2016).

In fact, the effect of the crisis on less developed countries has not been reached at a consensus, but it is obvious that they are highly exposed to a plethora of banking, currency fluctuation, external debt, and inflationary issues (Verick and Islam, 2010). As compared to other regions, the effect of the global economic crisis in Africa was very less (Paul, 2010). The African Development Bank report (2009) associates this less margin effect of crisis with the limited financial market integration between Africa and developed countries, Africa's low share of total capital flows, and less number of African countries' leveraging funds on international financial markets (Paul, 2010). Also, the study shows that those middle-income countries, especially in Eastern and Central Europe and the Commonwealth independent states were the most severely affected by the crisis. Those countries which are shrunk by the highest margin include Lithuania, Armenia, Latvia, Ukraine, and Estonia, which experienced a 14% or more decline in GDP of 2009 (Verick and Islam, 2010).

Specifically, coming to the Ethiopian case, the direct impact of the crisis would not be significant mainly because of two reasons: First, the financial sector is not integrated with the global financial ecosystem, and no foreign banks are operating in the country still now. Second, in the financial sector activities of the country, mortgage borrowing does not have a significant effect on the national economy, and it was not directly affected by the "Sub-Prime Mortgage" crisis (Paul, 2010). Nevertheless, we cannot say that the country is free from the effect of the global financial crisis as a big chunk of money in one or another way come from developed countries those desperately affected by the crisis (Paul, 2010; Verick and Islam, 2010; Asfaw, 2018; Assefa, 2019). The study also shows that the effects of the crisis were highly being felt by the country's economy from Oct. 2008 onwards. Especially, quarter II of 2008/09, when there was a 22.8% decline in total exports, seemed to be the greatest hit of the crisis compared with a quarter I of the same fiscal year (Paul, 2010).

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The Consequences of the Crisis in the Labor market

The effect of the financial crisis of 2007/2008 is, in fact, multidimensional. The unemployment rate, in OECD countries alone, had increased from 5.7% in the 3rd quarter of 2007 to 8.6% in the 3rd quarter of 2009, showing about 10.1 million workers without jobs. According to the ILO's report (2010), at the global level, the size of unemployed individuals was estimated to be 212 million as of 2009; indicating a raise of the number by almost 34 million in 2007(ILO, 2010). On the contrary, countries such as Germany, Austria, and the Netherlands managed to avoid major devastation in the labor market despite a greater fall in their outputs. In the USA, unemployment has risen far more than in other countries and the same story is true with Denmark, Slovakia, Spain, and Turkey. As we discussed above, the countries severely suffered from both fall in output and deterioration in the labor market are Estonia, Ireland, Lithuania, and Latvia. The effect of the crisis on the Hungarian labor market is medium but it has faced severe economic contraction from 2.2 to negative 6.3% (Paul, 2010; ILO, 2010). Regarding Ethiopia, as GDP was growing during the crisis, both economic contraction and labor market shock are not significantly felt or not easy to single out. Generally, there are four major risks that African Countries, including Ethiopia, faced during the financial crisis: fiscal risk, capital outflow risk, export risk, and liquidity risk (African Development Bank, 2009; Paul, 2010; Griffith-Jones, 2016).

In nutshell, there are four gateways via which the impact of the global financial crisis has spread into Ethiopia and other African countries: FDI (capital outflow risk), remittances, Trade (export risk), and Foreign aid (Getnet Alemu, 2010; African Development Bank, 2009; Paul, 2010; Megersa, & Cassimon, 2015; Griffith-Jones, 2016). Despite the Ethiopian government estimation of 11.2% real GDP growth in 2008/09, according to IMF and WBG, overall growth was anticipated to have been as low as 7.5% (IMF, 2009) and 6% (World Bank, 2009; Getnet Alemu, 2010), respectively.

Foreign Direct Investment (FDI)

The amount of the capital investment in June 2008 was 61,333.2$ million while it declined to only 28,510.3 million in Dec. 2008 (-53.5% -shrinkage). Especially, the crisis has immensely affected Ethiopia's investment environment. As of March 2008, about 2100 investment projects were approved, while about 1966 were applied in December of the same year (Paul, 2010). On an annual basis, foreign investment capital in terms of newly approved projects increased by 82.1% in the pre-crisis period but decreased by 20.7% in 2008/09 (Lulit, Emezat, and Zelalem, 2011). It is because the major sources of Ethiopian FDI such as Germany, the US, France, and the UK have been strongly hit by the crisis. Also, due to the liquidity shortfall in banks, investors from these countries are forced to reduce FDI inflows to Ethiopia (World Bank, 2009). As we can see from Figure 5, below, FDI sharply decreased from the second quarter of 2008 up to the first quarter of 2009. For instance, the US approved FDI worth $428.2 million in 2008 but declined to $166.6 million in 2009. UK-approved FDI declined from $417 million to $42.1 million, whereas FDI from Germany declined from $613 million to $66.8 million (-89.1%) in the same years. This simply shows that FDI in Ethiopia was significantly affected and sharply decreased due to the crisis in developed countries, especially until the second quarter of 2009 (see also Figure 5., below) (National Bank of Ethiopia, 2010; Lulit, Emezat, and Zelalem, 2011).

Foreign Trade

The export earnings in Ethiopia faced a slowdown because of the slides in world market demand coupled with domestic reasons (Lulit, Emezat, and Zelalem, 2011). The impact of the crisis was realized in the Ethiopian export both in terms of volume and unit values especially at the end of the 2007/08 fiscal year (Lulit, Emezat, and Zelalem, 2011; Paul, 2010; Assefa, 2019). The intensity of trade, both export, and import, relative to GDP shows the degree of integration or openness of the economy with the rest of the world. In the Ethiopian case, we see a consistent increase in the openness of the economy, from 35.7% as of 2000/01 to 50.6% as of 2004/05 and 50.4% in 2005/06. Then it started to slope down to the record of 39.4% in 2008/09. It seems that even more than the effect on FDI, the external shocks of the crisis was mainly felt in exports. The values of exports decreased from 23.7% as of 2007/2008 to -1.2% as of 2008/2009, whereas those of imports from 32.8% to 12.8 percent in the same period. Because of the loss of market demand in the major destination countries that were weakened by the recession, the Ethiopian export and import trade were significantly affected (World Bank, 2009; Getnet Alemu, 2010; Paul, 2010). Assefa (2019), specifically, argues that because of the decline in the demand for coffee in destination countries, the effect was felt in coffee exporting villages and significant school dropout was observed in those villages.

Remittance

Generally, remittance is believed to be less pro-cyclical, less volatile, and less likely subject to barriers of politics. Hence, it's regarded as a more predictable means of getting foreign exchange for low-income economies than any other capital flows (Getnet Alemu, 2010; Megersa, & Cassimon, 2015). The remittance from Ethiopians living abroad is regarded as the main source of foreign exchange and a crucial

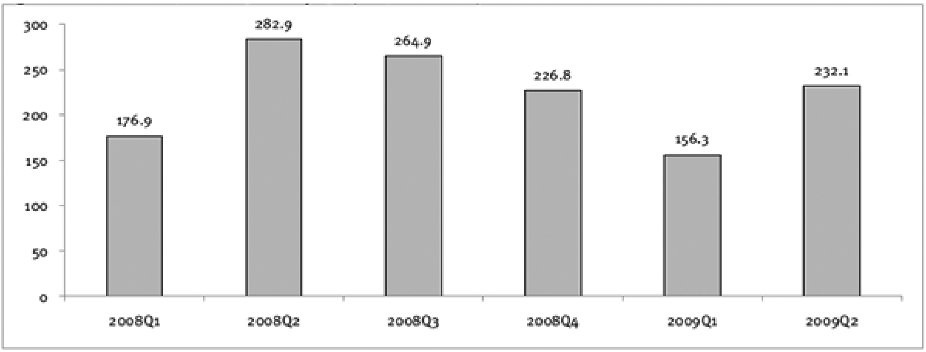

Figure 5. The flow of FDI in Ethiopia during the global crisis. Source, National Bank of Ethiopia (2009)

means of income that improves the living conditions of receiving households (Getnet Alemu, 2010). In 2007/2008, it reached about $1 billion. The money flow from Ethiopian Diaspora was affected by the recession that resulted in the loss of jobs in the West. However, it is not an easy-going thing to accurately estimate the impact of the global recession on Diasporas remittance.

For instance, even a 30% reduction in remittance would mean a $300 million loss to the country's economy, which is equivalent to the loss of foreign exchange income from coffee export (Paul, 2010; Megersa, & Cassimon, 2015). It can be in the form of official cash, in-kind, underground, or informal channels (Getnet Alemu, 2010). The crisis resulted in a 9.6% decrease in cash transfers from private individuals. Cash transfers increased again in 2009/10 (8.2%) but at a level lower than their pre-crisis level (Lulit, Emezat, and Zelalem, 2011). On average, the inflow from remittances declined by 6.5% between January and June 2009. As we see from Figure 6., below, the monthly remittance inflows, especially after September 2008, have been drastically decreased and continued up to negative 10 as of April 2009. This was happened due to a global crisis in developed countries that put pressure on the labor market and forced Diasporas to lay off (Getnet Alemu, 2010).

Foreign Aid

The least developed countries including Sub-Sahara African countries are highly dependent on aid from developed countries (Paul, 2010; Griffith-Jones, 2016; Ngowi, 2010). The development initiatives of Ethiopia are beyond domestic capacity because of the high-level import intensity, insignificant levels of domestic savings, limited capacity to produce capital goods, and to secure enough foreign exchange (Getnet Alemu, 2010). Ethiopia highly relies on various bilateral and multilateral donors to finance many of its development programs and aid is an important source of deficit financing (Getnet Alemu, 2010) and a means of financing capital expenditure (30 to 40%) (Lulit, Emezat, and Zelalem, 2011). Despite a decline in the second quarter of 2008, in the second quarter of 2009, aid showed up to be increased. According

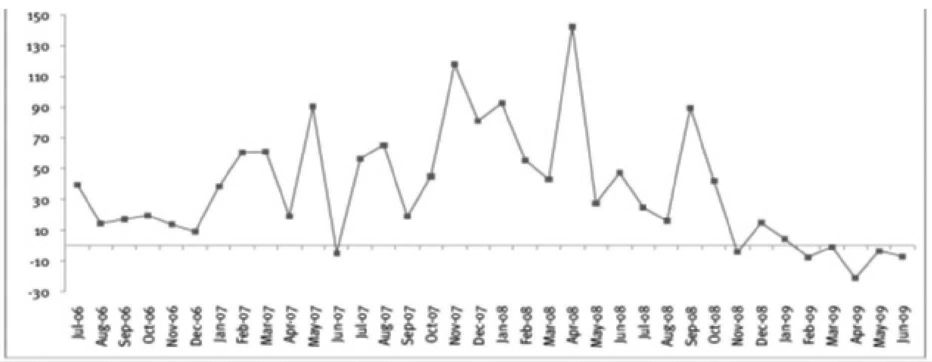

Figure 6. Remittance Flow to Ethiopia during the Financial Crisis. Source: National Bank of Ethiopia, 2010

to a National Bank report, the government of Ethiopia managed to get a significant increase of aid from the World Bank via the International Development Association (IDA) in the 2nd quarter of 2009. The official transfers increased (almost doubled) from $281,256 million to $513,228 million in the 2008/2009 1st and 2nd quarters. This is because the IMF provides budgetary support to all developing countries to withstand the financial crisis (Paul, 2010). Also, Ethiopia obtains the biggest proportion of aid from multilateral organizations such as the European Union, African Development Bank, the World Bank, IMF, and individual countries such as the U.S. and UK (Lulit, Emezat, and Zelalem, 2011). In general, as we have also seen in Figure 3., above, it seems that aid inflows have not been severely affected by the crisis as the result of donors' commitment to the prior aid agreement and the country's long lasted diplomatic relationship (Paul, 2010**;** Lulit, Emezat, and Zelalem, 2011).

The Monetary Policy Measures Taken by Government on Global Financial Crisis

Monetary policy response

The pressure of inflation and the adverse effect of the external shocks had forced the National Bank of Ethiopia (NBE) to reassess its policy stands from monetary easing to monetary tightening since July 2007. Accordingly, it elevated both the minimum level of deposit interest rate and reserve and liquidity requirements and instituted credit restrictions (National Bank of Ethiopia, 2009). Temporarily, until removing inflationary pressure, the NBE had set a ceiling on the loan amount it would provide. In July 2007, the minimum rate of deposit interest was raised from 3 percent to 4 percent; the reserve and liquidity requirements of banks were increased from 5% to 10% in the same period. This liquidity and reserve requirements of banks were scaled up further to 15% in April 2008 to halt domestic credit expansion and greater scale monetary growth. NBE intended to keep broad money growth below 20 percent in the 2008/09 budget year by diluting private sector credit offered to low priority areas (National Bank of Ethiopia, 2009).

In the case of Ethiopia, using the interest rate as an inflation mitigating measure was less effective because of underdeveloped financial markets. Instead, they use of direct instruments of monetary policy such as controls on credit expansion could be the optimal policy response. As a short-term solution, significantly cutting back government borrowing from the banking system, specifically, was an optimal strategy in fiscal deficit reduction as well as alleviating inflationary pressure and combating the worsening external position (Getnet Alemu, 2010). The administrative measures such as a government-subsidized wheat import and distribution program coupled with the monetary policy response, indeed, worked very well to shun the inflationary tendency. Headline inflation, which raised from 15.8percent in June 2007 to 46.1% in Feb. 2009, drastically, declined to 18.7% in Sept.2009 (National Bank of Ethiopia, 2009).

Banking and Financial policy response

To alleviate the adverse effect of the crisis, the country's government also strengthened the regulation of banking, microfinance, and insurance institutions by modifying proclamation inculcating the emerging circumstances in the local and external environment. The commercial banks were alerted to give proper attention to managing credit risk and reducing default loans to below 5% by making proper follow-up on overdraft facilities. Besides, the NBE urged banks to be serious in lending activities, to make sure the quality of credit and not to take excessive risks. Also, the NBE took action to reduce the exposure of local banks to the international financial market by collecting and transferring maturing funds available in the banks to central banks such as the Bank of England, Federal Reserve, and Deutsche Bundes bank (Getnet Alemu, 2010; National Bank of Ethiopia, 2009).

Fiscal Policy Response

From the fiscal policy point of view, the response taken was to accelerate the collection of revenue and reduction of expenditure in lower priority areas. This had to be attained without compromising the need to elevate spending on critical poverty-oriented sectors, like agriculture. Accordingly, the government made a decision not to borrow from the domestic banking system on a net basis in 2008/09 (as a result domestic borrowing was only 2.7percent of GDP in 2007/08). To increase revenue, the installed base of the VAT system is expanded to incorporate more traders and sectors, such as restaurants, cafes, etc. This indeed resulted in a 31.5 percent rise in revenue from VAT, from Birr 2.15 billion in 2007/2008 to Birr 2.83 billion (approx. 92,908,730.20$) in 2008/2009 (Getnet Alemu, 2010; National Bank of Ethiopia, 2009). The Ethiopian labor market policy responses to the crisis revolve around four main areas: improving the gap between supply and demand of the market, increasing and maintaining labor demand, targeting vulnerable groups, and providing income support (Verick and Islam, 2010).

Conclusion

Monetary Policy is a driving engine on the hands of governments to steer their up financial markets, in particular, and economic growth in general. Financial markets refer to any marketplace where the trading of securities occurs, including the stock market, bond market, forex market, and derivatives market, among others. Due to a lack of direct integration with the world financial market, the Ethiopian economic growth rate was not severely affected by the financial crisis as compared to other developed and developing countries. And the country was even one of the top five fastest-growing economies during the crisis. The Ethiopian national savings and gross investment were continuously on the rise starting from 2007 until 2014 and no significant unique effect from the financial crisis was observed as compared to the pre-crisis period. This could essentially be associated with the rise of domestic government-led investment in infrastructure and strategic alliance partnership deals with China. However, due to the crisis in developed countries, FDI and remittance flow was continuously sliding down until the second quarter of 2009. As the result of the loss of market demand in the major destination countries, the Ethiopian international trade, especially export value was seriously hit and shrunk from 23.7% in 2007/08 to -1.2% in 2008/09.

In contrast, the foreign aid or ODA was not affected, even increasing due to the provision of funds from UN organizations like IMF and World Bank. To shun or minimize the possible inflationary effect, the government increased the minimum deposit interest rate, reserve, and liquidity requirements, and reinstated the credit restrictions. The alert was given to commercial banks to give proper attention in managing credit risk and reducing non-performing loans to below 5% by making proper follow-up on overdraft facilities. Also, to withstand the crisis, the government effectively worked on increasing revenue from VAT and implemented a subsidized wheat import and distribution program. Moreover, the main reasons for the continued growth of the country amid crisis were the desynchronization of the country's financial market with the international financial market, an insignificant share of mortgage loans in domestic financial sector services, and high-level government-led infrastructure investment coupled with China's economic alliance. Therefore, the effectiveness of the above short-run measures does not justify the flawlessness of the monetary policy and its perpetuity for all time.

Implications and Ways forward

The Ethiopian government's measure that increased the minimum deposit interest rate worked well, at least for the short-run, to curb inflationary pressure as banks absorb money from the market through it. However, it decreases domestic investment and export as well because it could encourage investors to prefer to make more money simply by depositing it in the banks rather than engaging in economic activities or international trade. That is why we see the slipping of the exports in the reports during the crisis. Rather, increasing reserve rate and liquidity requirements along with other credit restrictions seems to have been good. The increased gross investment, especially public investment, has contributed to the continual growth of the economy coupled with the strategic alliance with China that has accelerated the country's capital inflows during the crisis. However, the intensive government-led investment could lead to high-scale corruption and inefficiency. It has been well observed in Ethiopia that big public investment projects such as sugar factories, cement factories, industrial parks, and Ethiopian grand renaissance hydroelectric dam (GERD) have been exposed to embezzlement and excessive delay of completion. In this regard, a public-private partnership-based investment could be the ideal pathway for a developmental state like Ethiopia.

On the other side, the Ethiopian government's decision to keep away the country's financial market from the international market helps the economy by reducing vulnerability to external shocks like the financial crisis of 2007/2008. But it has also made the domestic financial market weak and remains as an infant. The country misses millions of dollars that could be obtained in the form of taxes, commissions, dividends, stock market, and foreign exchange traders' profit from the internationally integrated or synchronized financial and capital markets. Millions of online jobs could be created for the educated unemployed youths, the acute shortage of foreign currency could be minimized, and companies could publicly trade their shares if the forex market, stock markets, and other markets were open and financial market synchronization was pursued. It is possible to integrate with the international financial market and to remain unaffected or minimize the effect of shocks. For instance, India, one of the highly integrated capital markets, managed the crisis by initiating stimulus packages in the form of tax relief to boost demand and increased expenditure on public projects to create employment; Australia, which was one of the least affected, mostly applies short-term (up to three months) mortgage loans, a strong banking system that limits competition for corporate control and uses prudential supervision (Eslake, 2009). It was aggressive competitiveness among USA banks in giving mortgage loans to even clients with low credit rates that have fueled the subprime crises. And China immediately applied a strong fiscal stimulus package during 2007/2008 (Linyue Li et al.'2012) and well managed the effect of the crisis.

Moreover, the housing problem is one of the prime issues in which hundreds of thousands of citizens save their money for decades through the government's house construction development office but at the end of the day, they don't get their houses. This problem is mainly related to the lack of a mortgage loan facility and its accessibility, which could be resolved if there are specialized mortgage banks and professional investment agents could step into the market. In nutshell, countries like Ethiopia should not fear making all the necessary arrangements to integrate their financial markets with foreign stock exchange markets, banks, investment institutions, and brokers.

Even though the study sheds more light on the global financial crisis and offers amicable insights on the Ethiopian economy, in particular on its monetary policy, it is not free from limitations. The study is only limited to secondary sources of data and it could be more resounding if supported by primary data from the financial sector. Following the financial crisis, the world has experienced another global phenomenon, Covid19. However, any study that considers the two phenomena should notice the following points: first, the cause for the financial crisis is quite different from Covid-19; second, the consequences of the two crises could be similar, if not in terms of depth, when it comes to effects on the labor market, international trade, and inflation and other economic spectrum but the latter one seems not to have a devastating effect on financial markets. The respective effect of the two crises and the corresponding monetary policy responses of different countries could be another future research topic.

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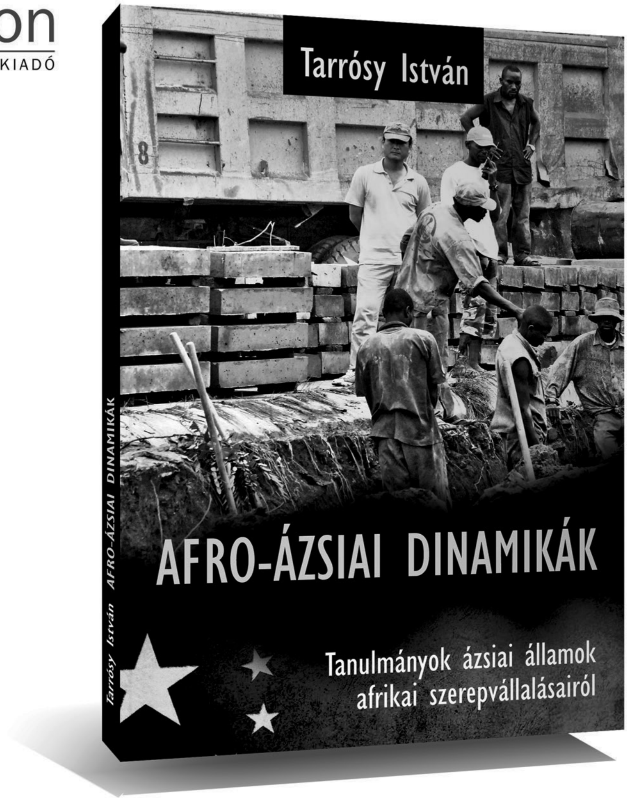

Tarrósy István

AFRO-ÁZSIAI DINAMIKÁK

A kötet a nemzetközi és geopolitikai stúdiumok számára hiánypótló műként a 21. század globális rendszerét egyre jelentősebben átjáró, azt meghatározó afro-ázsiai kapcsolatokkal, az afro-ázsiai interkontinentális tér szereplői által keltett dinamikákkal foglalkozik. Az egyes fejezetek az alapvető történelmi áttekintések után a mindennapokban tetten érhető geopolitikai valóságokat elemzik, könnyen fogyasztható módon.

A gondolatmenet homlokterében Kína, India, Indonézia és Japán, valamint további ázsiai szereplők globális térben elfoglalt pozícióinak ismertetése és az általuk, egymás között különböző formát öltő „új regionalizmus" paradigmájának bemutatása, valamint az új dinamikák által keltett hatalmi kihívások – főként az USA és az EU számára – felvázolása állnak. Az érvelés során a szerző kitüntetett figyelmet szentel az afrikai kontinensnek, ugyanis meglátása szerint az „új dinamikák" egyik fő terepe a szubszaharai térség.

A kötetben részben a szerző által hazai és külföldi tudományos folyóiratokban közölt elsőszerzős tanulmányok, illetve azok átdolgozott változatai, részben újonnan megírt fejezetek fűződnek koherens irodalommá. A könyv a széles olvasóközönség érdeklődésére tarthat számot, segítséget nyújtva a nemzetközi rendszer változásainak jobb megértéséhez.

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OVERVIEW OF KENYAN GOVERNMENT INITIATIVES IN SLUM UPGRADING: THE CASE OF KENSUP AND KISIP PROJECTS

DÁNIEL SOLYMÁRI, JANET MANGERA, RÁHEL CZIRJÁK AND ISTVÁN TARRÓSY

DANIEL SOLYMÁRI
DANIEL SOLYMÁRI MA, THEOLOGY AND INTERNATIONAL RELATIONS; ADVANCED STUDIES IN HUMANITARIAN DIPLOMACY AT ICRC. PHD STUDENT AT THE UNIVERSITY OF PÉCS, POLITICAL SCIENCE DOCTORAL PROGRAMME, FACULTY OF HUMANITIES AND SOCIAL SCIENCES

JANET MANGERA
JANET MANGERA MA IN SOCIOLOGY, UNIVERSITY OF NAIROBI. PHD FROM THE ROYAL ROADS UNIVERSITY IN APPLIED AND SOCIAL SCIENCES. TEACHING SOCIOLOGY AND DEVELOPMENT STUDIES AT THE MULTIMEDIA UNIVERSITY OF KENYA.

RÁHEL CZIRJÁK
MSC IN SPATIAL AND URBAN DEVELOPMENT SPECIALISATION, EÖTVÖS LORÁND UNIVERSITY. PHD CANDIDATE AT THE DOCTORAL SCHOOL OF EARTH SCIENCES OF THE UNIVERSITY OF PÉCS, GEOPOLITICAL DOCTORAL PROGRAMME.

ISTVÁN TARRÓSY
PHD IN POLITICAL SCIENCE AND AFRICAN STUDIES, UNIVERSITY OF PÉCS. FULL PROFESSOR AT THE DEPARTMENT OF POLITICAL SCIENCE AND INTERNATIONAL STUDIES, FACULTY OF HUMANITIES AND SOCIAL SCIENCES. DIRECTOR OF THE AFRICA RESEARCH CENTRE.

SOLYMARI.DANIEL@MALTAI.HU
TARROSY.ISTVAN@PTE.HU

Abstract

The goal of this paper is to explore the slum upgrading processes: the implementation of the Kenyan KENSUP project, associated successes and failures, and to draw possible lessons that can be learned from the initiative. The study utilized field work desk reviews to gather relevant information regarding slum upgrade processes in Kenya. The criteria used in the review process entailed exploring the context in which the KENSUP upgrading project was implemented, focusing on the legal frameworks, process of implementation, achievements, results, setbacks and failures in the processes in order to draw lessons for future programmes.

Keywords

urbanization in Africa, Kibera, slum upgrade, Kenyan government initiatives

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Introduction

Increasing population and degrading agricultural land coupled with shrinking land sizes are likely factors contributing to rural-urban migration. Since the 1950s and after numerous colonial territories got independent urbanization has accelerated across the African continent, leading to – among others – "new migration systems centred around fast-growing urban clusters, often located in or close to urban areas, capital cities or mining regions" (Castles et al., 2014: 177). The soaring numbers of city residents are thus putting pressure on governments especially in developing countries to review existing plans. The lack of employment in most cities and the high cost of living contributing to high poverty indices leave residents with little chance of living in standard houses or accessing better social services. Various cities in Kenya, particularly Nairobi and Mombasa, have distinct informal settlements – otherwise known as slums. For decades, Kenyan governments have been attempting to introduce various measures and projects to address both physical infrastructure and social services in these settlements through slum upgrading projects. While there have been notable successes, many challenges have threatened the initiatives as will be discussed in this paper.

In particular, this research article will investigate two main projects undertaken by the government of Kenya through the Ministry of Transport, Infrastructure, Housing and Urban Development, while the specific unit responsible for the coordination is the State Department of Housing and Urban Development. The two major projects considered in this study are the *Kenya Slum Upgrading Programme* (KENSUP) and the *Kenya Informal Settlements Improvement Project* (KISIP). The projects were jointly fostered with other partners, which will be elaborated on in the following sections. The analysis will explore various policy and legal frameworks under which the two projects were implemented, as well as review implementation processes, achievements, failures, and possible lessons learned.

Methodology and approaches

The study mainly used desk reviews to gather relevant information regarding slum upgrade processes in Kenya. The criteria used in the review process entailed exploring the context in which the KENSUP and KISIP upgrading projects were implemented, focusing on the legal frameworks, process of implementation, achievements, results, setbacks and failures in the processes in order to draw lessons for future programmes. The analysis focused on evaluating coordination aspects, participation (inclusion) approaches applied, mechanisms of handling grievances from affected communities, and intermediate results vis-à-vis project targets. The study did not focus on the long-term changes because one of the projects (KENSUP) is yet to be concluded whereas the other (KISIP) was concluded a few months prior to the analysis.

According to Arimah (2011), people residing in informal settlements experience the most deplorable living and environmental conditions. These are mainly characterized by insufficient water supply, poor environmental sanitation, lack of proper waste disposal arrangements, overcrowding, insecurity of tenure, and vulnerability to serious health risks. In addition, among the "key problems generated by overcrowding in slum conditions are disease and crime" (Collier, 2017: 430). In certain cases, such conditions drive people into easy recruitment for radicalism (Marsai, 2016: 110). Unless urgent measures by governments across the continent and the world at large input timely measures and resources, the conditions will only worsen rather than improve. A study by the United Nations a decade ago established that in the year 1950, 14.5 percent of the population of African countries lived in urban areas, and by 2007 the level of urbanization had increased to 38.7 percent (United Nations, 2008). Report from the OECD and other multilateral organizations predict that between 2020 and 2050 the population of the continent will double and "two-thirds of this population increase will be absorbed by urban areas" (Kanos and Heitzig, 2020).UN-HABITAT (2016) confirms these statistics by establishing that the number of people living in slums in Kenya increased from approximately 1.5 million in 1990 to 6.4 million in 2014, representing 56 percent of the urban population. This implies that pressure to access essential services will soon lead to the collapse of available structures in these areas in terms of governance needs, economic demand, and social unrest unless appropriate measures are taken. The study by UN-HABITAT further implies that planning strategies of more than a decade ago must be revised with financial allocation and policies adjusted to address the deteriorating conditions among slum dwellers who are largely disregarded in urban service delivery planning.

Historical background of slum upgrading in Kenya

Informal settlements began to appear in Kenya many decades ago during the colonial era as natives could not live in proximity to white settlers and administrators due to racial differences (Wangari & Makau, n.d.). After Nairobi was declared a capital of the East Africa Protectorate in 1901, the British developed a master plan for the growth of Nairobi in 1948. This plan focused on the "building of new administrative buildings set in landscaped public spaces, a modern commercial centre, a greatly enlarged industrial area to attract investment, a vastly improved transport system, and the construction of new African housing estates" meant only for African servants working for the British (Anderson, 2010: 138). This plan excluded African-inhabited parts of the city while Asian communities, due to their involvement in railway development, would also be allocated separate locations for residence (Anderson & Mwelu, 2013). Natives would require a pass to gain access into white settlers' residences (Wangari & Makau).

The Africans who settled in Nairobi therefore chose new habitats for themselves by cutting down wooded areas. The once green, informal settlements were also noticed by the Kenyan administration: they filled them up, carved out more parts of the forest, and donated land to Nubian soldiers recruited from northern Sudan in recognition of their service to the crown. It is no coincidence that in Nubian, the word Kibera means forest. Together with their families, they formed the first more homogeneous community of the district, which had almost become a new quarter. Estimates put hundreds of thousands to half a million Nubians settled in Kibera.

When Kenya gained independence, the status quo exacerbated by autocracy and corruption served to further entrench class segregation and social exclusion of the poor (Huchzermeyer, 2011). The repeal of the native restriction law after independence, poor agriculture in rural land, and a lack of employment opportunities in the rural areas forced people, especially the youth, to move to urban areas in large numbers (K'Akumu and Olima, 2007).

According to Amnesty International (2009), slum residents around Nairobi have existed since the city's formation at the turn of the 20th century, and it asserts that government responses have consistently failed to ensure the state's obligation to realize the critical human right to adequate shelter. Mutisya and Yarime (2011) allude to this by stating that failure of the Kenyan government to improve informal settlements and provide the minimum support for basic requirements and services has led to unimaginable suffering among slum residents. Irrespective of various sessional papers developed by the government, the authors argue that this approach coupled with failure to strategically address growth and proliferation of informal settlements has led to their social exclusion within the city's development plan. Although around the millennium the government began investing in strategies that would lighten the plight of slum dwellers – notably the UN-HABITAT and Government of Kenya memorandum of 2004, which began in 1999 – Amnesty International and other civil organizations demanded an immediate end to all forced evictions, and for the government to legislate and enforce a clear prohibition on forced evictions in 2009 (Amnesty International, 2009).

According to Anderson and Mwelu, (2013) global concerns and a call for slum-free cities in the 1970's prompted the Kenyan government to devise ways to respond to mushrooming slums. To combat the upsurge of slums, the government of Kenya tried various strategies such as forced eviction, resettlement, site and services schemes and upgrading (UN-HABITAT, 2008). However, until 2000, when the UN member countries developed and adopted the Millennium Development Goals, forced eviction was the dominant form of slum eradication in Kenya (Anderson and Mwelu, 2013). After the adoption of the MDGs, Kenya, a signatory to the UN goals, began shifting its approach to slum upgrading, and in 2000 the head of state and UN-HABITAT Executive Director launched discussions on how the Government of Kenya (GoK) and UN- HABITAT could engage in slum upgrading (Anderson and Mwelu, 2013). On 15 February 2003, the government and UN-HABITAT entered into a Memorandum of Understanding (MOU) under which UN-HABITAT would oversee the Kenya Slum Upgrading Project (KENSUP), which would cover the three largest Kenyan cities, starting with Nairobi's largest slum, Kibera (Anderson and Mwelu, 2013). Later, in 2005, the GoK developed specific KENSUP Implementation and Financing Strategies covering the period 2005-2020 in line with the MDGs' time frame. Figure 1 and 2 show Kibera and its territorial divisions, together with its water and sanitation points.

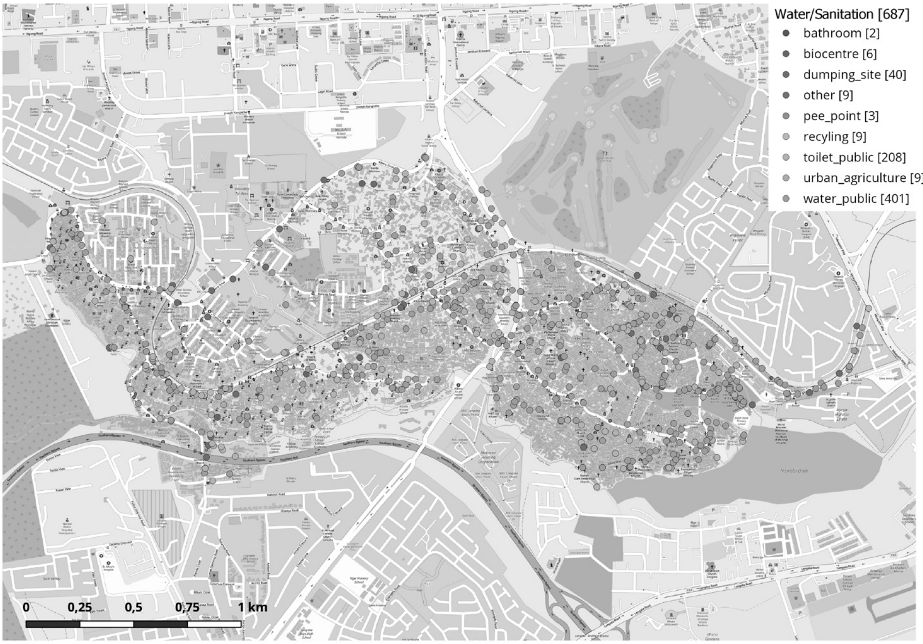

Figure 1. Detailed street map of Kibera and its territorial divisions. Water and sanitation service points on the site. Own editing of the authors.

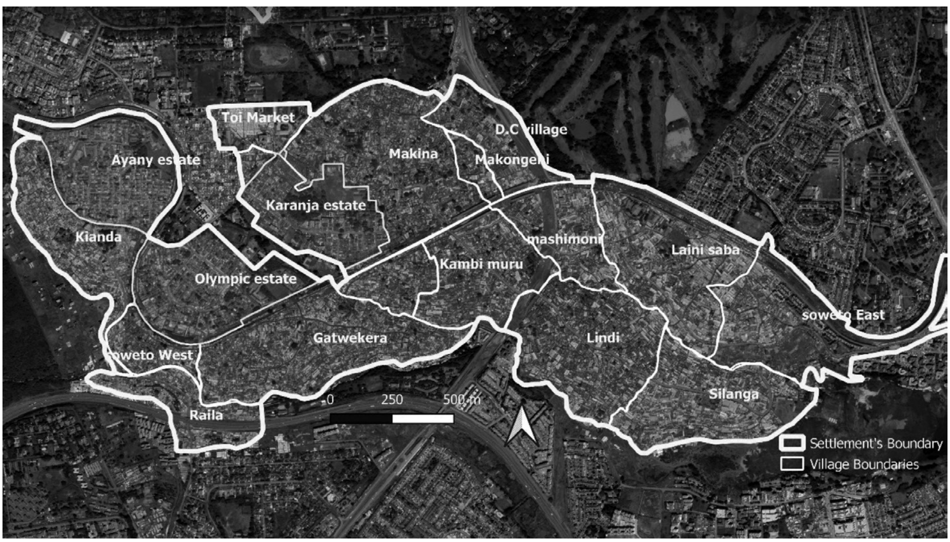

Figure 2. A map of Kibera Settlement, its villages and settlement densities. Source: UN Habitat: Informal settlements' vulnerability mapping in Kenya, June 2020: https://unhabitat.org/sites/default/files/2021/08/the_case_of_kibera_edited.pdf?utm_medium=website&utm_source=archdaily.com (9.11.2021)

While recognizing the fact that there have been the briefly mentioned initiatives to upgrade informal settlements in the country, in the next sections this study focuses on (KENSUP and KISIP.

Legal and policy provisions concerning slum upgrades

Although Kenya is a signatory to various regional and international treaties on habitat, initiatives to upgrade informal settlements were hampered by the lack of an appropriate policy framework to guide the process of upgrading informal settlements (MTIHUD, 2013). In 1987 the United Nations General Assembly adopted a resolution on an international year of shelter for the homeless. In 1996 the UN-HABITAT held a conference in Istanbul to re-evaluate declining living conditions. In 1999 the UN-HABITAT and the World Bank formed a new organization called *Cities Without Slums* to persuade governments of the need to upgrade their informal settlements and integrate them in their development plans (World Bank and UN-HABITAT, 1999).

Notable laws and policies have been enacted over the last decade and a few of them are outlined below:

The Constitution of Kenya, 2010

Article 43 of the constitution of Kenya 2010 recognizes lawful ownership of property and land acquired legally. It explicitly states that the State shall not deprive a person of property of any description and requires prompt payment in full with compensa-

Photo 1. Kibera street view in the Kambi muru village. Own photo.

tion to any person so deprived (Government of Kenya, 2010). Article 43 also allows for a right of access to a court of law in the event of injustice, which is particularly important when legal owners of parcels of land are required by the government to vacate in the event of settlement expansion or establishment (Government of Kenya, 2010).

National Slum Upgrading and Prevention Policy, 2013

In 2013, the government realized that besides having engaged in activities to upgrade the status of informal settlements in the country, there was a gap in terms of a clear framework that would allow for an inclusive approach to the whole process (KENSUP, 2013). Thus, the National Slum Upgrading and Prevention Policy was established to strengthen the capacity of urban community groups and enable them to participate meaningfully in upgrading processes. The policy helps with enforcing laws and creating accountable and transparent institutions to coordinate slum upgrading and prevention programs. It also includes the establishment of sustainable income generating sources for slum dwellers, known as SACCOs, to enhance provision of financial services, and an effective slum upgrading and prevention information and communication strategy (KENSUP, 2013).

The National Land Policy, 2007-2009

The National Land Policy defines informal settlements as the occupation of land without formal recognition, if they do not comply with the physical and land use planning due to the absence of security of tenure (Juma, 2011). Such settlements host many Kenyans and present a challenge to land planning and development. This policy has been behind various interventions developed in this act to address problems related to slums: taking inventory of genuine squatters and people who inhabit informal settlements, determining whether the land is suitable for human settlements, establishing an appropriate mechanism for removal and resettlement, enhancing sustainability in handling subjects of land in informal settlements, establishing measures to prevent slum development, and creating an appropriate legal framework for eviction based on internationally acceptable guideline. Juma (2011) also notes the ineffectiveness of this policy to remedy the situation due to poor implementation strategies, especially the failure to prevent the increase of more slums. The legal framework on informal settlements has not yet been in place due to long-standing bureaucratic procedures involved in making

In 2013, the government realized that besides having engaged in activities to upgrade the status of informal settlements in the country, there was a gap in terms of a clear framework that would allow for an inclusive approach to the whole process.

the draft bill into law as set out in reports from the Department of Slum Upgrading. Section 3.6 of the Lands Policy recognizes land redistribution to provide the disadvantaged and the poor with access to land for residential and productive purposes. It further articulates the need to resettle or enable access to land by historically dispossessed persons, and to provide them with infrastructure and basic services such as shelter, water, and sanitation facilities (Ministry of Lands, 2007).

The Land Laws (Amendment) Act, 2016

The amended Act prohibits unlawful occupation of private, community, or public land and provides a procedure for eviction. It further eliminates the retrospective application of the Land Law Act in respect to charges – with the exception of the requirement to serve notice to spouses and other persons who were not required to be served under the repealed Acts of Parliament (Government of Kenya, 2016).

The Kenya Slum Upgrading Programme (KENSUP)

Although several slum upgrading initiatives have been carried out in Kenya (private or governmental, NGO, or faith-based organizations), this paper focuses on two main projects – KENSUP and KISIP. Anderson and Mwelu (2013) made distinctions between these two projects, stating that the central difference is that *KISIP had a short-term* (5 years, 2011-2016) scope focused on informal settlements' infrastructure and land tenure in 14 Kenyan counties, *while KENSUP is a country-wide, long-term strategy* (2005-2025) focusing on housing and related issues. However, during implementation of KISIP, additional funding was sought, which resulted in project being extended to December 2019 (Kamunyori, 2019).

Photo 2. The sewage system in Kibera. The area fills with water after a heavy rain. Own photo.

The Kenya Slum Upgrading Programme (KENSUP) has partnered with various partners, though the Government of Kenya and UN-HABITAT are its main partners (UN-HABITAT, 2016). The project came about as a result of the Cities Alliance. Based on the Cities Alliance's objectives, the initiative for upgrading slum conditions was established in 1999. Obare (2020) recounts that in 1999 UN-HABITAT and the World Bank formed a new organization known as Cities Alliance with the aim of pressuring governments to upgrade their informal settlements and integrate upgrading strategies in their development plans. In 2000, the World Bank came up with an urban policy and a subsequent shift to more directly embrace the urban poor by upgrading informal settlement. This was known as Cities Without Slums program. The utility to cities aesthetics was championed by the urban competitiveness agenda (Marrie, 2011; Obare, 2020). The two ideologies emerged to form a single idea known as Cities Alliance for cities without slums, which aimed at transforming the livelihoods of slum dwellers by 2020 (ibid). The idea was adapted by the UN General Assembly in 2000, which became MDG target 7.10 and spread the vision in many states' development polices (Obare 2020). Under the MDG, seven targets were set and the United Nations launched a project that aimed to improve the lives of more than 100 million people living in urban slums by 2020 (UN, 2000). In Kenya, the concept gained momentum in 2000 following a meeting between the head of state, President Moi, and executive director of UN-HABITAT. In January 2003, a memorandum was signed between the Government of Kenya and UN-HABITAT. However, the initial focus was on Soweto in Kibra.

In 2005, UN-HABITAT funded a situational analysis of the informal settlements in Nairobi and this led to the formation of KENSUP (UN-HABITAT, 2007b). UN-HABITAT (2007a) presents the objectives of KENSUP as follows:
KENSUP's primary objective –

- To improve the livelihoods of people living and working in slums and informal settlements in the urban areas of Kenya through housing improvement, income generation, and the provision of security of tenure and physical and social infrastructure.

KENSUP's specific objectives –

- Promote and facilitate broad-based partnerships utilizing consensus building and consultation among all stakeholders.
- Build institutional and human resource capacities at local and national levels for the sustainability of slum upgrading interventions.
- Facilitate the implementation of innovative and replicable pro-poor slum-upgrading models through pilot projects, delivery strategies, and approaches.
- Assist the Government of Kenya in the development of financial strategies and the mobilization of funds for slum upgrading.
- Undertake collection and dissemination of information for the promotion of sustainable slum upgrading practices and provision of linkages to global best practices.

Implementation of KENSUP

KENSUP was launched during the global observance of World Habitat Day on 4 October 2004. It was designed to demonstrate that the objectives set out in the Habitat Agenda and the Millennium Development Goals, which aimed to improve the lives of slum dwellers, could be achieved in Kenyan towns and cities through interventions promoting a multidisciplinary and integrated approach to slum upgrading (UN-HABITAT, 2007). KENSUP was envisioned to deliver the mandate of upgrading the slum conditions in the target settlements through participatory planning, and it placed communication at its core. However, the extent to which this has been realized will be discussed later in this study (KENSUP, 2016). The project had three levels of coordination and implementation: national, municipality/county, and community (KENSUP, 2016). The national level was comprised of the project secretariat; the municipality/county level was tasked with programme implementation with the community to achieve the intended results; the community level was comprised of a committee known as Settlement Executive Committee (SEC) (KENSUP, 2016). According to Amnesty International (2009), the SEC was comprised of two representatives of community-based organizations – one Non-Governmental Organizations (NGO) representative; two representatives of faith-based organizations; five tenants; two property owners; representatives for people with disabilities; widows; and the local Chief and District Officers.

Photo 3. In Kibera illegal cartel-type water vendors get water illegally by cutting through municipal piped networks. Own photo.

The implementation process had three phases. The first phase targeted upgrading informal settlements in Nairobi, Mavoko, Mombasa and Kisumu, whereas the pilot project was implemented in Kibera (Corburn J, 2013). This phase was designed to make physical infrastructure (water and sanitation, access roads, housing) improvements within the selected project areas, linked to income generation and integrating pro-poor governance. The second phase entailed refining the developed governance structure and stimulating investment. The third phase aimed to replicate and scale up project interventions (UN-HABITAT, 2008).

According to UN-Habitat 2007, the implementation was guided by key pillars: (1) inclusive participation of the community, (2) capacity building of the local community, authorities and central government to perform their duties, (3) subsidiarity, (4) partnership with all stakeholders, (5) communication and good governance, (6) provision of basic infrastructure as an entry point to slum upgrading, (7) sustainability, (8) affordable house financing, and (9) gender awareness.

The implementation process involved a series of steps:

Undertaking Situation Analysis and Mapping of Target Communities: The purpose was to analyse the situation in slums with effects of past interventions, which informed the groundwork for implementation. It entailed systematic social mapping including enumeration of slums, assessment of basic services, land, shelter, and employment, and physical mapping (UN-HABITAT, 2007: KENSUP, 2016).

Establishment of Project Management Committees: This approach empowered local organizations to organize themselves to take charge of their own needs related to housing, services, and infrastructure. Besides tackling sustainability demands, these committees would monitor and coordinate the implementation of project activities at the local level. As such, trainings were prioritized. Ideally, each participating neighbourhood was expected to establish its own project management committee, building association, water management committee, or solid waste management committee (UN-HABITAT, 2007: KENSUP, 2016).

Promoting and Facilitating Broad-Based Partnerships: In order to leverage the limited resources, the project operated through UN-HABITAT facilitated partnerships by bridging the gap between the different stakeholders, bringing them to the same negotiating table and supporting their collaboration (UN-HABITAT, 2007).

Formation of Housing Cooperatives: This component was informed by the fact that forming cooperatives with participatory processes and management would enable participants to collectively address related issues, including sanitation and waste management, and collective land acquisition.

The Kenya Informal Settlements Improvement Project (KISIP)

The Slum Upgrading Programme (KENSUP) had a budget of 883 billion Kenya Shilling (KES), and it was established in 2003 will a scheduled completion date in 2020. Struggling to raise capital to execute the KENSUP agenda, the government reviewed its action plan and introduced the Kenya Informal Settlement Improvement Project (KISIP) that sought to partner with donors as opposed to the original plan where it intended to finance the entire project budget. However, the new implementation plan under the KISIP programme is ongoing and has since been implemented in Nairobi's Kibera slums. Phase one cost a total of 2.9 billion KES (Mwangi, 2019).

The Kenya Informal Settlements Improvement Project (KISIP) began in 2011. Initially, the project was supposed to be implemented over a period of five years between 2011-2016 (Kamunyori, 2019). However, after adjustments 2019 became the project end date. Fourteen out of 47 counties in Kenya were expected to benefit from the initiative, which was jointly funded by the World Bank, International Development Association (IDA), French Agency for Development, Swedish International Development Cooperation Agency (SIDA), and the government of Kenya (Anderson and Mwelu, 2013). The main objective of the project was to improve living conditions of people in informal settlements in 14 counties in Kenya, with the Ministry of Transport, Infrastructure, Housing and Urban Development implementing the program (ICT, 2019).

According to Muraguri (2011) and Jooyato Surveys Limited (2019), KISIP is comprised of the following primary components:

- Institutional development and programme management
  Aimed at assisting in strengthening the capacity of the Ministry of Housing, the Ministry of Lands, and the participating counties, as well as financing programme management activities
- Enhancing tenure security
  Aimed at supporting growth and process systematization of ongoing efforts to secure regular tenure for urban slums to finance the following activities: community organization and mobilization, identification and demarcation of settlement boundaries, preparation of Part Development Plans, and issuance of letters of offer and allotment to individuals and groups.
- Investing in settlement restructuring and infrastructure
  Aimed at supporting implementation of settlement upgrading plans developed at the community level
- Planning for growth and supporting delivery of affordable housing and serviced land
  Aimed at supporting proactive planning to reduce the growth of new slums and mechanisms for delivery of land and housing to increase affordability for middle- and low-income households.

Implementation of KISIP

ICT (2019) outlines that prior to rollout of the resettlement process, information was published in the mainstream media including top-selling newspapers and bulletin boards. Planning of resettlements in various counties was done through a continuous participatory process involving the community, the national and county KISIP teams, the World Bank, and a project consultant. The process included undertaking a social-economic survey, community planning, presentation of base maps, public *baraza* meetings, verification of beneficiaries, community validation, and land surveying. Jooyato Surveys Limited (2019) indicates that tasks were implemented by various committees, including the Settlement Executive Committee (SEC), the Resettlement Implementation Committee, and the Settlement Grievance Redress Committee. The composition and mandates of the committees varied based on the roles and stage of involvement. The Settlement Executive Committee (SEC) was the main link between community, project team, and government. The resettlement processes were guided by a project specific resettlement framework intended to guide resolution of any displacement anticipated from project activities (ICT, 2019). Provisions within the framework enabled prompt and effective compensation at full replacement cost for loss of assets attributable directly to the project and provideed support during the transitional period to enable the affected persons to improve their living standards.

Photo 4. Kibera street view in the Kambi muru village. Own photo.

Stakeholder consultations

Stakeholder participation seems to have been considered a key element in all the settlement areas in the project based on the frameworks devised by the project team. An important component was the significance attributed to people affected by the project. Evidence of reports submitted to the donor depicted scanned copies of attendance of affected community members, thus increasing the credibility of the stakeholder engagement process (Jooyato Surveys Limited, 2019). According to EMS Associates Limited (2019), key stakeholders consulted in the resettlement processes included the National Land Commission, slum chief(s), the Ministry of Lands and Physical Planning, the Social Safeguard Specialist, County government representatives, the Assistant County Commissioner, the Community Development Officer, the County Surveyor, a representative from enforcement department, the Town Administrator, People Affected by the Project (PAPs), and the Ministry of Transport, Infrastructure, Housing and Urban Development.

Assessing the Kenya Slum Upgrading Projects' Achievements

According to Adebayo and Iweka (2014), infrastructure is understood to mean the physical and social framework of facilities through which goods and services are made available to the neighbourhood dwellers by the government, at highly subsidized or zero cost. The government has the duty to maintain the infrastructure necessary for sustaining the wellbeing of urban inhabitants. Infrastructure can be classified into two parts: social infrastructure and technical infrastructure (economic infrastructure). Malthaeus (1997) explains that social infrastructure is associated with education, health, and social services, while economic infrastructure produces services to facilitate economic production or serve as inputs to production related to electricity, roads, ports, telecommunication, railways, water, sanitation, and sewage. Adebayo and Iweka, (2014) also state that the gradual upgrading of both the environment and infrastructure in urban slums is seen as a measure to promote economic recovery that will benefit about 72% of the urban population living in Africa. The World Bank (2005) emphasizes that slum upgrading involves the elimination of slum conditions over the next thirty years and requires a sustained effort on a global scale. This is challenging considering that it will require substantial financial resources that the central and local governments may be lacking. Participation or involvement of other actors is therefore crucial for such development to be realized. The process is multidisciplinary, cutting across technical and financial lines among other sectors in the environment (ibid). Such an initiative would have to involve the national governments, international organizations, local governments, local residents, private investors, NGOs, media, civil societies, and international developers (ibid). In the next section we discuss achievements related to improving slums in Kenya.

Anderson and Mwelu (2013) state that both KISIP and KENSUP have had great government support in terms of financing and human resources. KENSUP was institutionalized through creating a slum development department under the Ministry of Housing, and a slum upgrading fund was put in place for its implementation. The

Kenya Slum Upgrading Low-Cost Housing and Infrastructure Fund (KENSUF) and also receives allocations from the national budget. The KISIP project also had financial resources of about $165 million through a repayable grant from the World Bank. KENSUP involves Government of Kenya and UN-HABITAT, while KISIP was developed through the World Bank and implemented by GoK.

As stated by Muraguri (2011) and the Department for Housing (2019), the achievements of the slum upgrading project can also be viewed in regard to specific implementation priorities. KISIP is perceived to have achieved the main development objective based on the results approved by the World Bank. Project reports estimate that over 1.3 million people have benefited from tenure security or improved access to basic services, surpassing the original target of 1 million at the start of the project. Some of the outcomes were improved roads and stormwater drainage, as well as the erection of high mast floodlights and footpaths. Approximately 262,780 people have benefited from improved water supply. To understand problems in the slums, mapping was a top priority. In Nairobi and an informal settlement in Kibera (the Soweto East village), various preparatory activities took place including socio-economic and physical mapping, enumeration of residents, preparation of a physical land use plan, and the construction of an access road. Muraguri (2011) also recounts that the GoK was able to set up a decanting site across the slum where residents were temporarily settled for construction to take place. Thereafter, 1800 households were resettled in 600 improved units in Soweto and an additional 1700 households were resettled in Langata.

Photo 5. Kibera street view in the Kambi muru village. Own photo.

In line with the priority to assist in setting up and developing institutional programme structures within the target areas, a number of projects have been established in many towns in Kenya – Nairobi, Mombasa, Nyeri, Kakamega, Nakuru, Lamu and Malindi – including the construction of classrooms, health centres, early childhood development centres, renovated social halls and market stalls, and upgraded roads. Some examples follow: in Kisumu, construction of market stalls in Manyatta Bandani, Magadi, and Nyalenda; in Nairobi, construction of 822 housing units and 245 stalls in Soweto, and an access road to the Kibera slums; construction of classrooms in Huruma-Eldoret, Mukhaweri in Bungoma, and Amalemba in Kakamega; construction of a social hall and a nursery school in Malindi; protection and improvement of shallow wells in Lamu; construction of a social hall and a dispensary in Nakuru; in Makueni, construction of the Mavoko sustainable neighborhood project comprising 462 residential units, *jua kali* sheds, a commercial centre, a primary school, nursery schools and a police station; and installation of high mast flood lights in the following counties: Kisumu, Kakamega, Nakuru, Machakos, Homabay, Nyeri, Embu, Meru, Uasin Gishu, Kilifi, Bungoma, Nyandarua, Trans Nzoia, Laikipia, Isiolo, Lamu, Kajiado, Tharaka-Nithi, Kwale, Taita-Taveta, and Kiambu (Muraguri, 2011).

In line with the partnership priority, a broad-based partnership of the main stakeholders has been formed with an effective project structure bringing together multiple stakeholders. Both KENSUP and KISIP were built on collaboration. KENSUP was established with collaboration between the government and UN-HABITAT, while KISIP was based on a partnership between the government and the World Bank (Andersen and Mwelu, 2013).

Photo 6. New residential buildings, apartments in Kibera were erected in the frame of the KENSUP project. Own photo.

The slum upgrading programme in Kenya has also facilitated the formation of Housing Cooperatives Societies, SECs, community groups, and capacity building in slums (Muraguri, 2011). This is in the priority area for building community capacity. Although not strongly adopted in practice, community participation was also integrated into the project policy. Andersen and Mwelu (2013) argue that KENSUP envisioned the use of housing cooperatives as a means to mobilize communities, define ownership, and create tenure contracts. The formation of cooperatives in both Mavoko and Kibera by the Ministry of Cooperative Development and Management has been in progress with five housing cooperatives registered in Mavoko and four in Soweto, Kibera.

Housing cooperative societies have been identified as the best mechanism for participation and transfer of ownership of KENSUP projects to the settlement community. Over twenty housing cooperatives were formed and registered in Nairobi, Kisumu, Kakamega and Mombasa (Muraguri, 2011). Muraguri argues that SEC is one of the key institutions in the implementation process formed in towns where KENSUP has projects. Through SEC, the programme assists in capacity building of the communities in order to prepare them to be part of the project implementation. Furthermore, the communities are involved at all stages of the programme, from identifying the projects to commissioning.

Challenges facing the slum upgrading programmes and lessons learned

Beneficiaries expressed fears about their lack of security of tenure and absence of official guarantees against forcible evictions during the project's implementation. This compromised community participatory processes and ownership of the initiative (Amnesty International, 2009). Secondly, although the entire process was intended to be participatory during the implementation phase, residents in the Kibra decanting site claimed that the government did not involve them in setting up the rental rates (Anderson and Mwelu, 2013). Both programmes were designed with community participation as a key element. However, the process of community participation was flawed in that communities targeted by the project did not seem to have been fully engaged. Obare (2020) asserted that the Government of Kenya (2006) and KENSUP identified a communication gap as a serious drawback to their operation and a cause of key stakeholders delaying the implementation of programmes. This posed risks to the initiative volatility of the programme sites and resulted in misleading information by residents. For instance, previous attempts to upgrade slums by other partners created fear and mistrust of KENSUP initiatives, landlords and tenants. One of the lessons emerging from community indifference due to a top-down decision-making strategy employed by the government in the beginning is that community-led planning and development was essential for addressing the basic need for infrastructure, housing, and livelihoods in order to avoid takeover of programs meant for the urban poor (UoN, 2012). Sufficient involvement of local residents in slum upgrades can boost ownership and maintenance of infrastructural facilities.

It is critical that the government invests more in the slum upgrading fund through sufficient budgetary allocation. Arimah (2011) affirms this by stating that infrastructure spending has the effect of reducing the incidence of slums: the higher the spending on infrastructure, the lower the incidence of slums. The programmes' funding was donor-sourced with little direct investment by the Kenyan government, resulting in a lack of sustainability (KISIP 2011, Andersen &Mwelu, 2013). This weakness could be averted if the government increases budgetary allocations towards slum upgrade initiatives.

Anderson and Mwelu (2013) cite irregularities in the implementation process by discussing specific faulty bidding and contracting processes. In effect, this could have caused delays in implementation, especially when parties in the bidding process felt compromised, or when court cases arose and created more expenses for the project.

Analysis from Muchira (2017) shows that although KISIP may have achieved project developmental targets as reported by Kamunyori (2019), there are still many houses lacking access to clean water. The majority of residents have to obtain the commodity from vendors who overcharge at Ksh 25 per 20-liters. This amount is too high for an informal settlement dweller given that most of them have no jobs and survive from hand to mouth (Muchira, 2017). Furthermore, houses with connections do not have a reliable supply. The project did not consider other amenities needed to support residents in the upgraded settlements. Luiz (2012) outlines the lack of a sufficient supply of piped water and inaccessibility for residents to many essential services in Kibera, such as nursing homes, schools, health clinics, pharmacies, water, and transportation. In fact, it has been argued that it is more likely that KISIP may created the water infrastructure plan without proper coordination with Nairobi Water and Sewerage Company (Muchira 2017). In addition to water-related challenges after the project ended, there are possibilities that residents are not fully aware of alternatives to piped water such as boreholes and wells. Although KISIP managed to establish 35,000 shared sanitation facilities, most of them require constant supply of water, which is already limited (Muchira, 2017). In some locations, storm waterways were not covered, posing the risk of accidents as well as exposure to diseases when water stagnates.

Muraguri (2011) said that in counties where leaders strictly followed the KISIP policy framework on resettlement, delays were not reported as most of the issues were predicted in advance. Thus appropriate measures had already been proposed, such as having committees handle grievances to save time and promote dialogue. Slum upgrade projects should invest in capacity building of settlement executive committees beyond project targets in order to efficiently manage and scale-up projects once the implementation cycle by key partners elapses. Obare (2020) notes that there is need for community mobilization to form community-based organizations that manage some of the infrastructure and other environmental issues affecting them, especially solid waste management, cleaning of rivers and streams, and drainage within the settlement. This will help educate residents on the importance of clean and healthy environments. The community will also be responsible for managing the resources in their surroundings.

Another challenge is a coordination problem between partners. For instance, the Ministry of Housing is supposed to implement KENSUP projects in partnership with UN-HABITAT, but the latter is not involved or aware of this initiative (UN-HABITAT staff, January 15, 2013). Similarly, KISIP and KENSUP are poorly linked. Although the two projects are run by the same ministry and target related issues, they rarely seem to feed into each other. There is no clear plan for how the projects should complement each other except for remarks not backed by evidence from ministry officials. An example is the assumption that KENSUP will provide housing after KISIP sorts out land tenure and infrastructure in the 15 municipalities (Andersen and Mwelu, 2013). Moreover, there were conflict resolution and transparency issues in the selection of municipalities and the bidding and contracting processes, as well as problems related to insufficient evaluations and a lack of ownership within the community. In a special response to Kenya's Embassy in Geneva, the Ministry of Foreign Affairs of Kenya noted that planning and survey phases in select project areas took longer than anticipated, delaying infrastructure installations. This led to too much time being spent on assessing how to compensate beneficiaries and provide relocation assistance after delays in finalization of resettlement action plans (Ministry of Foreign Affairs, 2018). It can be inferred from the coordination issues mentioned above that it would have been important to apply a holistic approach in

Photo 7. New residential buildings, apartments in Kibera were erected in the frame of the KEN-SUP project. Own photo.

the slum upgrade process. For instance, had Nairobi County Water and Sewerage Company been involved in the planning process of KISIP from the beginning, some of the challenges experienced by households after project completion would not have resulted.

According to Obare (2020), policy and legal frameworks have been identified as major drawbacsk to the slum upgrading initiatives. The Department of Slum Upgrading admitted that there is no legal framework on slum upgrading, and the draft bill is still awaiting approval by the National Assembly because of the long procedure required for turning a bill into law. Therefore, regulating the activities of various stakeholders has been an uphill battle for the Ministry of Housing. It is important to have all the required policies and frameworks for upgrading slums in place instead of waiting for specific demands to arise. For instance, the government should prioritize situational analysis and mapping of informal settlements if such inventories have not been conducted (UN-HABITAT, 2014)

Another challenge is the appearance of a new slum while upgrading another, which occurs when the public does not realize the true impact of slum upgrading in Kenya (Obare, 2020).This negates the progress of upgrading and could have been addressed through concurrent measures to curb further slum proliferation.

The land tenure systems in Kibera are very complex. The Department of Slum Upgrading admits that many court cases filed by property owners regarding tenure have hindered their activities, especially in the Soweto East village in Kibera. Such cases take a long time to solve and sometimes bring slum upgrading initiatives to a standstill (Obare, 2020).

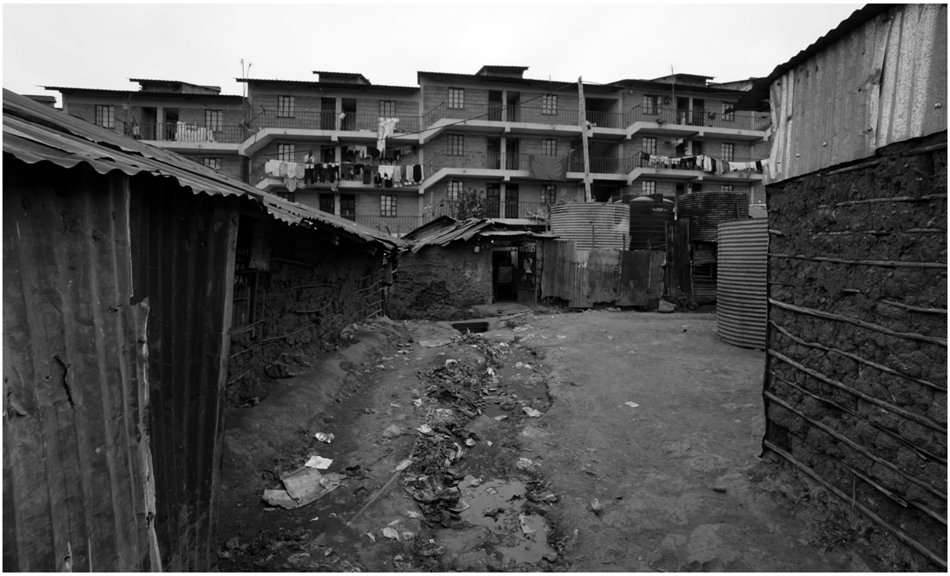

Photo 8. New residential buildings, apartments in Kibera were erected in the frame of the KEN-SUP project and the old ones in the foreground of the picture. Own photo.

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MULTI-DISCIPLINARY APPROACHES TO LEARNING AND TEACHING IN KENYA: USE OF VIDEO GAMES IN EDUCATION

ANNE ACHIENG ASEEY

PHD, DEPARTMENT OF EDUCATIONAL AND DISTANCE STUDIES, FACULTY OF EDUCATION, UNIVERSITY OF NAIROBI, KENYA

AASEEY@UONBI.AC.KE

Abstract

Education is one sector that tries to be consistent despite facing several changes. Various factors and emerging trends have affected the sector both positively and negatively. The scope of the digital divide is more pronounced in the developing countries and the COVID-19 pandemic exacerbated the technological struggles in Africa more than before. Technology is an enabler in education but not in all contexts because it also causes other challenges that increase the vulnerability of learners and educators in diverse circumstances. The proliferation of digital devices, especially mobile and smart devices, has brought in new changes and innovative ideas that have impacted the sectors input, output, and outcome. Leaners have demonstrated various degrees of adoption and absorption of new devices, and simultaneously educators have integrated and adapted to new pedagogies that resonate with the situation. As a continent, Africa has experienced an emerging trend with digital and non-digital devices interconnected for educational purposes on demand whenever needed. In developing countries like Kenya, more innovative ways of learning have been harnessed for learning and teaching purposes .With the penetration of the World Wide Web, the internet of things, availability of electronic devices, and improvement in information communication and technology infrastructure. Video games, which can be played on many platforms and electronic devices, can easily be leveraged for teaching and learning purposes. This study was conducted among learners and educators in an urban setting in Nairobi County, Kenya. The study investigated the potential of video games in education as used by leaners and teachers. The findings indicated that most leaners targeted had personal mobile devices. This gave them easy access to video games, which led to the popularity of these games. The findings also indicated that the leaners were not allowed to use digital devices like mobile phones in the classroom at school but had limited access to video games through desktops and laptops available in their institutions. The findings also showed that the majority of teachers were not keen on using video games for teaching and learning purposes, and this scenario presented a disparity in and a barrier to using multi-disciplinary approaches and integrating technology in teaching and learning. The study recommended that, with more electronic devices available for leaners and other education stakeholders, it is necessary to harness video games for learning and teaching purposes to allow for innovation, discovery, critical thinking, and experiential learning among learners.

Keywords

Africa, access, education, learners, video games

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Introduction

The generation born roughly between 1980 and 1994 is characterized as 'digital natives' (Prensky, 2001a) or the 'Net Generation' (Tapscott, 1998) because of their familiarity with and reliance on 'Information Communication Technology (ICT) for various functionalities. They are described as living lives immersed in technology surrounded by and using computers, video games, digital music players, video cams, cell phones, and all the other toys and tools of the digital age' (Prensky, 2001a: 1). Social researchers Howe and Strauss (2000, 2003), labeled this generation the 'Millennials', ascribing to their distinct characteristics that set them apart from previous generations. Bayne and Ross (n.d) noted that these young individuals have grown up with computers and the internet. The argument is that they are naturally proficient with new digital technologies and spaces, while the older generation will always be a step behind in their digital proficiency. Additionally, young learners' immersion in digital technologies creates in them a radically different approach to learning, one which is concerned with speed of access and instant gratification.

In developing countries, these generations are leaders in thinking through issues dealing with technology because their lives revolve around technological devices. For them, education and technology are one and the same as they get all the information and guidance they need online. This study will look at the aspect of leveraging various learning models using technology. The study will specifically investigate the use of video games for learning purposes. In essence, video games are digitally-based games typically played on personal computers or dedicated gaming devices, such as game consoles (Xbox, PlayStation) or handheld game devices (3DS, Vita). Gee (2004) posited that video games offer players ample opportunity to practice and even automatize their skills at various levels, and they integrate opportunities for learners to learn new concepts outside of their context thereby Aseey (2020) noted that remote learning is capable of fostering private and meaningful learning experiences connected to leaners' home environments, interests and local identities while using available devices at their homes.

The digital native generation is often defined in relation to technology. Stoerger (2009) posits that digital natives are individuals born and raised with technology. Yet these young people do not tend to view what adults consider new technologies as high–tech; rather, they see them as tools and devices for making their lives more efficient (Herring, 2008; Howe and Strauss, 2003). These are indications that young people are enthusiastic technology users. Recently, however, questions about the actual technological savviness of this generation of students have surfaced. According to Herring (2008), our images of youth, new media, and their experiences are described through an adult lens, which may not reflect the reality of the situation.

Video games and learning

Videos games are quite engaging, and they are designed mainly for entertainment purposes and to fulfil some education principles. Gee (2004: 67) stated that video games can fulfil the following education principles:

- Psychosocial moratorium principle where learners can take risks in a space where real-world consequences are lowered
- Committed learning principle where learners participate in an external engagement as an extension of their real-world identifies in relation to a virtual identity to which they feel some commitment, and a virtual world that they find compelling
- Amplification of the input principle, which notes that for a little input, learners get a lot of output
- Achievement principle for leaners of all skill levels with intrinsic rewards from the beginning, customized to each learner's level, effort and growing mastery, and signaling the learner's ongoing achievements with other principles.

There are indications that some video games, if used effectively, can aid the education systems in developing countries on issues of self-study and access to resources where the learners are exposed, video games can be accessed in any location.

Christopher et al. (2019) noted that circumstances in which students live affect their academic engagement, academic progress, and educational attainment in important ways. This scenario was noted in the Continental Education Strategy for Africa, CESA 16-25 2016–2025 Report, which stated that many African children go to primary school unprepared, resulting in prevalent discontinuities between the home and classroom environments. Africa is one of the continents where the language of instruction mostly in lower levels is mother tongue or a specific country's national language. From upper primary school to university, Researchers have noted that, more often than not, a foreign language makes it difficult for children to cope with a new language and structured approaches to teaching and learning. Early Childhood Care and Education (ECCE) is therefore the next frontier if Africa is to realize sustained quality education and training (CESA 16-25 2016–2025 Report). Learner's readiness to learn in school and the school's readiness to accept and accommodate learners with different abilities and capabilities are essential ingredients for a successful educational outcome. The Kenya Institute of Education (KIE, 2012: 147) report indicated that pupils' ideas and thoughts are in their mother tongue and will continue to be so, long after they have learned to speak in English.

There are indications that some video games, if used effectively, can aid the education systems in developing countries on issues of self-study and access to resources.

Canhoto and Murphy (2016) stated that any serious games offer an experience-based learning environment focused on exploration, discovery, or problem solving that is devoid of instructional guidance. Motivation in game and is also driven by reward systems, which may include scores, permissions, property, Vlachopoulos and Agoritsa (2017) noted that rapidly evolving technological applications, games, and simulations are already widely integrated in the traditional educational process. Ostenson (2013: 77) posited the following:

> May games that the students were familiar with (others falling into the first-person shooter category) were examples of games on rails, games they perceived fairly linearly regardless of a player's action. Students compete in games like this to master books they have read and they noted that the attraction of these games was being able to solve puzzles requiring good timing and hand-eye coordination.

Literature Review

Learning models and devices in the digital age

Sustainable Development Goal (SDG) 4 is on quality education. One of its indicators is to build and upgrade education facilities that are child-, disability-, and gender-sensitive, providing safe, non-violent, inclusive and effective learning environments for everyone (SDGs). Digital games are quite common among younger generations with a small percentage of adults playing games. According to G4LI research, they are recognized for their potential as environments for supporting learning. With their vast popularity and singular ability to engage young people, digital games have been hailed as tools that may enable a new paradigm for education in the world (G4LI).

Figure 1 revises Bloom's Taxonomy relating to the domains of learning that can use used to understand video games.

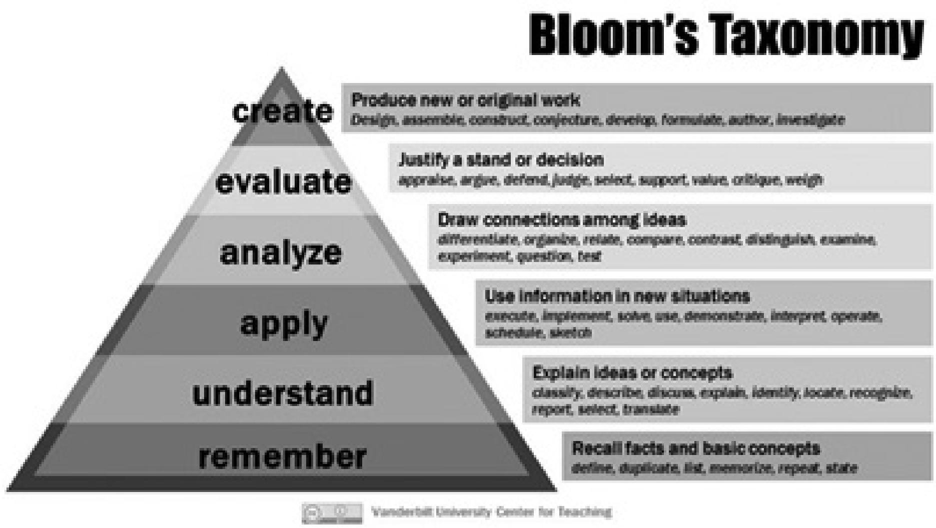

Figure 1. Bloom's taxonomy (Vanderbilt University Centre for Teaching) and Anderson and Krathwohl's 2001 revised of Bloom's Taxonomy

Video games are capable of enabling learners to achieve all stages of Bloom's taxonomy if well utilized. Bloom's six stages are in line with the Technology Integration Matrix (TIM), provides a framework for describing and targeting the use of technology to enhance learning in various settings. TIM incorporates five interdependent characteristics of meaningful learning environments: active, collaborative, constructive, authentic, and goal-directed. These characteristics are associated with five levels of technology integration: entry, adoption, adaptation, infusion, and transformation. In total, there are the five characteristics of meaningful learning environments and five levels of technology integration (Instructional Technology (FCIT) 2005, third edition (2019). Ostenson (2013: 71) suggested that there is a unique reason for bringing video games into the English classroom because they represent some of the most important storytelling in the 21st century. This new medium is not only connected to our students' lives and interests but also represents our society's efforts to push the boundaries of storytelling in meaning ways.

Recent research into how young people in tertiary higher education access and use technology however, the research offers a more diverse view of the role of technology in the lives of young people. For example, a survey of 4,374 students across 13 institutions in the United States (Kvavik, Caruso & Morgan, 2004) found that the majority of respondents owned personal computers (93.4%) and mobile phones (82%), but a much smaller proportion owned mobile devices (11.9%). The most common technology uses were word processing (99.5%), emailing (99.5%), and surfing the internet for pleasure (99.5%). In Africa, the penetration of digital devices has been rapid but those could be related to adults acquiring the gadgets at a higher percentage compared to youth. This study also found that about 80% of the respondents owned mobile phones.

Hideg (2020a) conducted research among primary school students in Hungary, in which she examined sports habits and the role of modern telecommunication devices. The survey asked respondents how important their phone was to them and 71% of respondents thought it was important or very important. Nevertheless, in her hypothesis, she argued that despite technology, family and social life still play an important role in the respondents' lives. Summarizing the results of the research, the author argued that using cell phones has become one of the most obvious means of relaxation and communication. This study and other related studies are in line with Bloom's taxonomy and its six main categories. The six categories resonate well with video games in a school context as all the domains (create, evaluate, analyse, apply, understand, and remember) can apply to both leaners and educators.

Digital games like video games are an innovative way of learning just like other games allows learners independent time to practice and collaborate with others. Online sites such Quiz Shows and Big allow students to compete individually or in groups on a national level with other students in a weekly "amehow" format similar to how the pub trivia game Buzz Time is currently played. Having access to computers with internet access is all that is required to play. A variety of game show quiz formats could be used including, Jeopardy, Who Wants to Be a Millionaire, and

Wheel of Fortune. Questions can be easily obtained from standards-based tests like the New York State Regents Exams in multiple subjects. This can help the learners practice asking and answering questions in real-time classrooms.

In addition to allowing learners to cut across space and time, video games also help leaners to be exposed to different subjects in games like Dungeons and Discourse. The game's goal is to defeat the Aesiphron who have invaded the regions of Sophos, with each region representing a major branch of philosophy. To do this, students travel throughout Sophos, completing quests, participating in the market place of ideas, pursuing membership in various guilds, and building their skills of consistency, rigor, research, rhetoric, precision, and skepticism. In the game Learn to Earn, students earn points in order to advance and receive rewards. Points can be earned by getting a good grade on a test, completing a computer math game, or participating in using the classroom's SMART Board.

Video games and critical thinking among leaners

According to Gee (2004), video games encourage players to explore and reflect on their identities in clear and powerful ways. This concept is very applicable to school classrooms where learning is based on individual learner identities with students working in different ways and using different strategies and approaches to perform academically. Prensky (2001) noted that the digital world itself is split between natives and incoming immigrants. The migrants are further illustrated by Gee (2009b) who stated that a new generation of video-gamers emerged as being more sophisticated and better prepared for capitalistic societies than individuals going through traditional schools. Immersion in this technology-rich culture is said to influence the skills and interests of digital natives in ways significant for education. The digital migrant's narrative is further illustrated by the net generation, which has defined the setting in relation to technology. This generation does not tend to view what adults consider new technologies as high–tech; rather, they see them as tools and devices for making their lives more efficient (Herring, 2008; Howe & Strauss, 2003).

Gee (2004a, b) elaborates that those with access to new technology are separated from an emerging underclass of those who do not have access (Tapscott, 1998); the digital world itself is split between natives and migrants (Prensky, 2001). Games bring up the issue of identities, virtual reality and virtual characters in a virtual world (Jan L. Plass et al., 2012). The other identity in a game is real world identity the gamer's identity, which is the actual person in real life (RL). And, identity also stresses the interface of interactions between the real world and the virtual character, which in a classroom environment may not be well understood by the learners because they are in real in world situations.

In a video game, forming, modifying and playing the assigned character and developing one throughout the game allows the video game maker a certain degree of freedom and choice in forming one's personality traits. Ones character in the virtual world of the video game and the real world is likely to be different because in the real world a person can fail to use the game controls in an effective way, thereby causing the actor to fail in one way or the other in the game. A person's values in the real world can also inhibit his or her character in the virtual world from performing tasks or visiting places in the game, which the real self may not allow. For example, in the game Arcunum, Gee (2004) says that his real self – especially his Catholic virtues – will not permit the female character in the game to visit the brothel, but game instincts can also lead one to go one's way. These limitations in the real world have to be overcome so that one becomes a good player. Gee (2004) also notes that one limitation of video games is that they do not reward but punish some of the most cherished ways of thinking.

According to Gee, video games encourage players to explore and reflect on their identities in clear and powerful ways. This concept is very applicable to school classrooms where learning is based on individual learner identities with students working in different ways and using different strategies and approaches to perform academically.

The tripartite interaction of identities – a virtual identity, a real world identity, and a projected identity in the relationship of "player as a virtual character" – is quite powerful (Gee, 2004). The player transcends identification with characters in novels or movies, actively does things, and is reflective while making choices about the virtual character. Tapscott (1998) posited the following, arguing that for the first time in history the young youth are way again of their elders in shaping the use of a new technology.

Research has consistently shown that playing computer games produces quicker reaction times and improved hand-eye co-ordination and self-esteem. Driven by an embodied view of human cognition, educational technologists and learning scientists are striving to design learning experiences that promote multisensory processing, using technology as well as tangibles and manipulatives. A large spectrum of technologies based on novel interaction modalities ranging from multi-touch to virtual reality have been developed to enrich these learning experiences. These technologies aim to promote sensory engagement by offering new opportunities for physically interacting with objects and digital representations, highlighting the role of the body in interaction and learning (Marianna Ioannou and Andri Ioannou, 2020).

At this point we should mention the work of Hideg (2015; 2017, 2018, 2019a, 2019b, 2020b), who, with the spread of modern telecommunication devices and the increase in physical inactivity. The interesting thing about the study is that the opinions of young European, Kenyan, and Malaysian individuals on fair play are compared, and we also get a clearer picture of their interest in sports. The results from Kenya are highlighted in the study. She measured the behaviour of Kenyan youth in a variety of competitive situations. Based on her results, we can see that primary school students are more prone to fraud, and they behave more selfishly than students in higher education. This also indicates that video games could be good for students, but they must be handled with caution to reduce the negative side effects.

Digital games and the penetration of electronic mobile devices

Citizens of Sub-Saharan Africa have access to mobile services, accounting for 45% of the population (Sub Saharan Africa 2020 GSMA Report). The 2020 GSMA report further noted that the mobile market in the region will reach several important milestones over the next five years: half a billion mobile subscribers in 2021 and 1 billion by 2024, with 50% of the population having access to mobile services by 2025. This is an indication that videos games are still viable in the region and can be used for learning purposes

The Mobile Economy: Sub Saharan Africa 2020 GSMA Report (2019) indicated that 44% of the population has access to the internet in Africa. The report further noted that, the media and entertainment (M&E) industry in Sub-Saharan Africa is showing signs of digital disruption, prompted by rising mobile internet and smartphone adoption, a youthful population, and the increasing availability of local entertainment content. Over the last two years, a number of mobile operators have launched M&E services or partnered with third-party content providers to deliver online streaming content. Airtel Kenya launched a free video and music streaming app called Airtel TV in August 2020, while in July 2020 the video-on-demand (VoD) streaming service CineMagic partnered with Vodacom and MTN to deliver content on the operators' mobile content platforms (Vodacom Video Play and MTN Play). Meanwhile, MTN is expanding its instant messaging service Ayoba to include gaming and media channels, and its streaming app MusicTime is now live in seven MTN markets across the region.

Young More Likely to Use Cell Phones for Texting, Taking Pictures or Video

Adult cell phone owners who used a cell phone in the past 12 months to ...

	Send text messages			Take pictures or video		
	18-34	35+	*Diff*	18-34	35+	*Diff*
	%	%		%	%	
Ghana	65	34	+31	62	33	+29
Senegal	84	56	+28	61	39	+22
Nigeria	89	67	+22	68	42	+26
Uganda	66	52	+14	51	20	+31
Tanzania	97	84	+13	62	41	+21
Kenya	93	83	+10	62	44	+18
South Africa	98	92	+6	69	51	+18

Note: All age differences are statistically significant.

Source: Spring 2014 Global Attitudes survey. Q74a-b.

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Table 1. Use of mobile phone in Africa

Study Methods

Using a descriptive survey, the study targeted 30 primary school pupils, 40 high school students between 11-18 years old, and 20 trained teachers teaching in government schools in Nairobi County, Kenya. The primary school pupils attended school in Westlands Sub-County, Nairobi. The high schools students attended high school during the research and they were residents of Westlands Sub County for at least a period of three years before the study.

The study took place in July 2018 to August 2020. The teachers were trained teachers working in primary schools in Westlands Sub-County, Nairobi Kenya during the study period. The secondary school teachers were omitted from the study because of the diversity of their students.

The other condition for participating in the study was that each participant had to own a mobile phone or have access to a parent's or guardian's phone, iPad, laptop, or desktop to enable access to video games. The other electronic device which was acceptable for this study was a gaming console such as PlayStation. The other condition was that students had to still be in school to participate in the study, as dropouts were not allowed to participate. Data was collected using structured questionnaires for high school learners, focus group for primary students, interviews for teachers, and observations of both students and teachers. The various data collection methods ensured that necessary data was collected accurately and consistently.

The study also used content analysis of materials written in various times supporting the research, and researchers used descriptive statistics to analyze the collected data.

Study Findings

There was a response rate of 100% from the respondents. 95% of the respondents for both primary and high school leaners met the requirement of having to own or have access to a family electronic device to participate in the study.

The study realized 80% respondents in both primary schools and high schools owned mobile phones for which are in their respective households. The primary school students indicated that they had access to their parents' or guardians' phones and other electronic devices available at home. The secondary school students indicated that they had access to their parents' or guardians' phones. The teachers indicated that they owned mobile phones and 20% had access to laptops and computers.

This is an indication that most leaners and the teachers targeted were able to access video games on phones or other devices available to them. This was in line with the Pew Research Center a nonpartisan American think tank based in Washington report in (PEW, 2014), that posited that most of the young population in Kenya own mobile phones. The GSMA Report 2020 indicated that there are many partnerships between mobile phone providers and customers to provide the necessary resources for use of technology in education. Another noticeable partnership with mobile supplier and education was noted in July 2020 that involved the video-on-demand (VoD) streaming service CineMagic partnered with Vodacom and MTN to deliver content on the operators' mobile content platforms (Vodacom, Video Play and MTN Play). All these partnerships have proved beneficial to the education sector.

Learning relies on three domains of education according to Bloom's taxonomy, including cognitive, affective and psychomotor domains. Teacher respondents realized that video games enable students to achieve all the three domains of learning. Video games, according this study and teachers' responses, are capable of fitting in all the three domains and as other researches have indicated, video games assist young leaners in developing social skills by providing a continuous interest in the games, which can be compared to sustained learning in school classrooms. This is in line with the findings of Gee (2004) on learning principles built into video games and Blooms taxonomy.

The student respondents in both primary and secondary schools indicated that video games make talking and playing much easier, and they said using video games for learning purposes is an interesting concept to them that should be applied more in schools and homes because it gives them the opportunity to learn and interact out of the traditional classroom. In special needs education, teachers noted that some special needs leaners enjoy video games just like mainstream students. Researchers have noted that leaners with special needs require a variety of learning models, strategies, and devices to enjoy learning. In other scenarios, video games have been used to train people with multiple handicaps, such as severely limited vocal speech acquisition, by using scanning and selection responses. Other researchers have used video games to help learning disabled children develop their spatial abilities.

The teachers indicated that they have no issue with using video games for pedagogical purposes. This is corroborated with other findings that support the use other devices including Smart devices in learning. Kearney et al. (2018) had this to say about smart learning which relates to learning using electronic devices:

> The promise of smart learning is that it returns control of learning to the student regardless of the context they are learning in. It increases their independence and enables them to feel more empowered which has not been evident in any of the previous technology paradigms (Kearney et al., 2018)

This study report indicated that, 74% of teachers with less than four years of teaching experience reported using videos as part of their classroom lessons and other class activities compared to 65% of teachers with 16 or more years of experience. Other studies have also indicated a greater percentage of use of video games by students in elementary grades. Marín-Díaz et.al. (2019) in a study at the University of Córdoba, Spain carried out among pre-service teachers undertaking a degree in Primary Education noted that a number of factors determine the relationship of children, teenagers and young people with video games, one of them being the time dedicated to the game and participants altos stated that the use of video games in the primary classroom can enhance behavior modification hence creating school coexistence.

The study found that students in kindergarten, first grade and second grade report even higher levels of game play (77). Students in high school are more likely to research and use video games that they find online themselves. Amongst those high school students, girls' search and use of video games (44) outpaces their male counterparts; only about one-third of boys (34 %) say that this is a regular activity they engage in. This data supports Bennet's (2008) findings that game play has no gender differentiation across all grade level, contrary to conventional wisdom.

Majority of respondent who were smart phone owners were in high school. This could be an indication that as school children mature they start owning phones, which they indicated they use for various purposes. Playing video games on their phones was one of the popular uses. About 55% of the high school respondent indicated that videos games in their phones are good for entertaining themselves and sharing learning materials. Primary school students use video games for entertainment, to kill boredom, and to learn new concepts. Teachers would give them a video game assignment to complete and they would write stories or give presentations to class on the game.

This reflects the situation on the ground as mobile phone market penetration in Africa is quite high. According to GSMA (2015), the mobile industry in Sub-Saharan Africa continues to grow rapidly, reaching 367 million subscribers in mid-2015. The study found that 30% of the teacher respondents did not understand the purpose and use of video games on their phones and didn't link the games to learning, but others understood the role of video games and made use of them in their teaching routines.

The findings of this study also indicated that young people spend about 65% of their time on mobile phones chatting, browsing, texting, playing video games, and calling friends

Disadvantages of video games

The respondents in this study indicated that, despite video games being popular among young children and adolescents, there are also some risks associated with them such as addiction, fatigue, fraud, and frustration. Video games can also lead to users wasting time and having conflict with friends if there are imbalances between winners and losers. These findings are supported by Hideg (2015; 2017, 2018, 2019a, 2019b, 2020b). Other studies have also shown that video games cause participants to become excited, which can result in motivation and individual skills. Videogame technology has rapidly changed across time. Therefore, video games are constantly being upgraded, which makes it difficult to evaluate their educational impact across studies.

Video games are also dangerous and 60% of the respondents indicated addiction associated with characters in the games. This is in line with the findings of Gee (2004) who argued that one limitation of video games is that they do not reward positive thinking and behavior but punish such attributes.

Especially among teachers, it was noted that video games could divert students' attention from the curriculum expectations to other spheres of learning. This is what

Prensky (2001) meant by the digital world itself being split between natives and incoming migrants. Video game experiences were entertaining, pushing students to become more innovative. Griffiths (2002) noted that video games may also enhance participant's performance and this can skew up results. Most teachers noted that some of the video games could be dangerous and harmful to the learners, leading to aggression.

See Figure 2 for sample of videos games found to be familiar with the student respondents in this study.

Conclusion

For learning to be affective and community-oriented, face-to-face instruction should be blended with digital tools that are available on mobile phones, such as video games. This allows students to learn independently and at their own pace, and to navigate their learning on their own. This helps in freeing up time for teachers to give students more individualized attention and to focus on more complex tasks. Video game proved to be effective in providing students an opportunity to explore the learning process within their own environment and at their own pace.

Some of video games used in this study could be incorporated into most schools subjects and courses, and they would fit into the student-centered Competency-based Curriculum (CBC) that educational leaders may implement in Kenya's education system in the near future. But first it must be determined which video games are most appropriate for educational purposes, and which games are not suitable.

Figure 2. Sample of popular video games played among respondents during the research

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