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Effect of Corruption on Social Welfare Issues in the Kenyan Economy

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DECLARATION


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ABSTRACT

Corruption has become widespread especially in developing countries and has affected their economies and growth. Due to high corruption rates in Kenya, it has put off foreign investors as well as foreign aid. Corruption in Kenya has become an epidemic that is slowly killing the country's economy and its biggest consequence is the cost. This article tries to address an important question whether there is a relationship between corruption and social welfare issues. After running diagnostic checks like test for autocorrelation and test for heteroskedasticity then a regression analysis it was concluded that life expectancy, education, and income per capita have a negative relationship with corruption but education variable substantially affected by corruption and there is no significant effect of Corruption Perception Index (CPI) on Human Development Index.

Keywords: Kenya, Corruption, Human development index, Social welfare issues/problems.

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LIST OF ABBREVIATIONS

GDP-Gross Domestic Product

CPI-Corruption Perception Index

TI-Transparency International

HDI-Human Development Index

SDG-Sustainable Development Goals

IMF – International Monetary Fund

KACC – Kenya Anti-Corruption Commission

KNBS – Kenya National Bureau of Statistics

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

In the recent years, cases of corruption have proliferated over the time. Having millions of shillings embezzled, got me asking the question, 'Does this ultimately affect social welfare?' Corruption is dishonest or fraudulent conduct by a person or organization entrusted with authority to acquire illicit benefit or abuse power for one's private gain (Transparency International, 2020). It is a criminal offense and includes bribery, embezzlement, extortion, graft, influence peddling and nepotism. These offenses happen at the expense of taxpayers and hinders economic growth.

Political corruption, a subset of corruption, is defined as the use of power by an officeholder or government official for personal gain, and this is country's greatest ailment (Morris, 1991), (Kaufmann & Vincente, 2005). A report by Cytonn Investments titled, 'The Fight Against Corruption in Kenya...Yet Another Chapter' defines political corruption as manipulation of policies, institutions, and procedure rules in resource allocation and financing by political decision-makers, who abuse their position to sustain their power, wealth, and status (Cytonn Investments, 2018). Corruption is a vice since it erodes trust, debilitates democracy, hinders economic development, and aggravates poverty, inequality, social division, and the environmental crisis (Transparency International, 2020).

Corruption has been classified into three scales or types which include: petty corruption, grand corruption, and systemic corruption (Elliott, 1950). Petty corruption, also known as trifling corruption, takes place at the implementation end of public services when public officials meet the public and occur at a smaller scale, for example, bribery in registration offices or police stations (Mishler v. State Bd. of Med. Examiners, 1993). Petty Corruption in Kenya has been defined by a report done by Cytonn Investments as an everyday abuse of entrusted power by low and middle-level public officials during their interactions with ordinary citizens (Cytonn Investments, 2018). Grand corruption is corruption occurring at the highest levels of government in a way that requires significant subversion of political, legal, and economic systems (United Nations, 2020). Finally, systemic corruption is corruption due to the weaknesses of an organization or process. It is encouraged by conflicting incentives like discretionary powers, lack of transparency, a culture of impunity, amongst others (Di Tella & Savedoff, 2001). Some of the factors attributed to causes of corruption are greed of wealth/money, lack of commitment to society, political instability, poverty, low economic

freedom, low levels of education, higher levels of bureaucracy, amongst other factors (Transparency International, 2020).

The Corruption Perceptions Index (CPI) by Transparency International is a widely used, worldwide corruption indicator. Kenya has a score of 28 out of 100 and is ranked at 137 out of 180, indicating it is highly corrupt (Transparency International, 2020). According to Afrobarometer Round 8 survey in Kenya, 2019 majority of the people thinking the current government is handling very badly the fight against corruption in government and have the opinion that the level of corruption has increased a lot over the past years. Majority of the Kenyans also think that corruption is the first most important problems facing this country that government should address. The 10th edition of the Global Corruption Barometer (GCB) – Africa, reveals that while most people in Kenya have paid a bribe especially after contact, and experience of bribe payments for public schools, public clinics or hospitals, utility services, ID services, and the police. According to Transparency International, Global Corruption Barometer has surveyed the experiences of everyday people confronting corruption around the world by asking them about their views and experiences, making it the only worldwide public opinion survey on corruption.

Corruption, one of the most significant problems, has afflicted the Kenyan economy since independence. Petty corruption in Kenya, commonly referred to as "chai" or "kitu kidogo" (paying something small to speed up the process), is the most common form of corruption practiced in Kenya. This often happens in government offices, schools, hospitals, police departments, and other agencies when citizens are trying to access essential goods and services, getting a document stamped or infraction overlooked, since complying with the administrative requirements is time-consuming. Acquiring of most services is often plagued by red tape. Some common instances where bribes are given include getting out of trouble with the police when found at fault, fast-tracking the process of acquiring one's official documents like passports, National Identification cards or driving licenses, as well as, when trying to acquire or renew business permits.

Grand corruption entails the abuse of high-end power that benefits the few at the expense of the many (Transparency International, 2020). It causes severe widespread harm to individuals and society. It consists of acts that distort policies or the country's central functioning, committed at a high level of government, enabling those in power to benefit at the expense of the public good (Cytonn Investments, 2018). Examples of grand Corruption in Kenya include

the Goldenberg scandal and the Anglo-Leasing scandals. The Goldenberg scandal, the longest-running scandal between 1990 to 1999, allegedly implicated the former president Daniel Arap Moi and the government. It claimed that Kenya's government subsidized exports of gold that were smuggled from Congo, paying the exporters, Goldenberg International, over 35% in Kenyan currency over their foreign currency earnings. According to the BBC news article on Goldenberg scandal highlight, it cost Kenya Shs.158.3 billion, which was then equivalent to more than 10% of its annual Gross Domestic Product (BBC News, 2006).

The Anglo-leasing scandal was a government procurement alleged to have begun when the Kenyan Government wanted to replace its passport printing systems, which was initially quoted at 6 million Euros by François Charles Oberthur of Paris, a supplier of Visa and Master Cards. The tender was not publicly advertised but was awarded at 30 million euros to a British firm, the Anglo-Leasing, and Finance Company Limited (Bachelard, 2010). This scandal was the primary and longest-running corruption scandal in Kenya and is alleged to have caused the country the equivalent of more than 10% of the country's annual Gross Domestic Product (GDP) (Cytonn Investments, 2018).

Systemic corruption exists where corruption becomes entrenched in a society in its different sectors. Examples of systemic corruption include fraud in the police service, within the judicial system, labour unions and healthcare and education systems. Police corruption, a form of police misconduct, is whereby law enforcement officers end up breaking their allegiance to the police service, to serve and protect, by abusing their power for personal gain, career advancement, or for financial benefits. A subsection of systemic corruption exists in the judicial system. Corruption in the judicial system, also known as judicial corruption, is corrupt practices in the judiciary like giving or receiving bribes, bias in the hearing and judgment of cases, and judges' misconduct.

Since time immemorial government officials or their network contacts have been exploiting the system for illegitimate private gain with the first recognized and published corruption incident in the post-colonial government being the Ngei maize scandal of 1965. Corruption under the classification of offences by the National Police Service involve soliciting for bribe, accepting bribe, accept free gifts, demanding by false pretence and other corruption offences including extortion, cronyism, patronage, nepotism, and parochialism.

Some of the major scandals and corruption allegations include; Turkwell Hydroelectric Power Station in 1986 that was estimated to have cost Kshs.6.0 billion, Charterhouse Bank

Ltd in 2007 with an estimated cost of Kshs.150.5 bn (USD 1.5 bn), Grand Regency in 2008 with an estimated cost of Kshs.4.0 billion, KAA Shops Saga in 2013 with an estimated cost of Kshs.11 billion, Eurobond Cash Unaccounted For in 2014 with an estimated cost of Kshs.215 billion, Imperial Bank Collapse in 2015 which was estimated to have cost Kshs.34 billion, Karen Land Saga in 2015 estimated to have cost Kshs.8.0 billion, NSSF Shares Scandal in 2016 with an estimated cost of Kshs.1.6 bn amongst other scandals like the Goldenberg and Anglo leasing scandals (Cytonn Investments, 2018).

Corruption has indeed become one of the greatest barriers to development of the country derailing economic growth and social welfare improvement on issues like health, education, and standards of living. Corruption has adversely affected the Kenyan economy, resulting to diminishing livelihoods, food insecurity, increased poverty, and problematic governance (UNDP Kenya, 2006). These scandals have had a tremendous effect on the livelihoods and welfare of Kenyans. Such large amounts of money embezzled from taxpayers is sure to cause a strain in the common mwananchi's development their attempt to meet and sustain their basic needs. These include but are not limited to healthcare and education.

Within the three sectors of the economy under (Human Development Index) HDI, corruption has become a widespread endemic within the education, healthcare, and income sectors. Some of the major scandals in the health care system include: Health Ministry Kshs.5 billion scandal in 2016 and in 2018 audit uncovers an eleven billion Kenya shillings hole at Health Ministry (Cytonn Investments, 2018) .Due to lack of affordable medications and poor sanitation the healthcare system is unable to meet vast needs in Kenya. Corruption scandals and cases like in 2015 Ministries fail to account for Kshs 40 billion, Nairobi county unable to account for more than Kshs.20 billion in 2016, Kilifi County Graft Scandal in 2016 with an estimated cost of Kshs.2 billion, in 2016 Audit: Nairobi fails to account for Kshs.238 million parking fees have affected the economy more specifically the livelihood of Kenyans/standards of living (Cytonn Investments, 2018).

Corruption has very long-lasting consequences because resources are wasted, young people are denied the education they should receive, and those unable to afford bribes are denied access to schooling. A generation of students come to believe that personal effort and merit do not count, and that success comes through manipulation, favouritism, and bribery (Chapman 1994). Some of major scandals and corruption allegations include affecting the youth and the education system include: First Scandal in 2015 with an estimated cost of

Kshs.791 million, NYS Kshs.9 billion scandals (NYS Second Scandal), Youth Fund Scandal in 2016 with an estimated cost of Kshs.180 million and Egerton University scandal in 2007 with an estimated cost of Kshs.500 million (Cytonn Investments, 2018).Standards of living and income per capita has also been deteriorating.

1.2 Profile of the Economy

1.2.1 The Economy of Kenya

The Republic of Kenya is a country in the continent Africa with a total area of 580,895 square kilometres (224,960 miles) with approximately 5200 square miles being natural lakes like Lake Turkana also known as Lake Rudolf (University of Pennsylvania, 2020). Kenya's total population is approximately 47.6 million, with 23.55 million males, 24.01 million females, and about 1524 intersex (Kenya National Bureau of Statistics, 2020). It was a former British colony but became independent on 12 December 1963 and became a republic on 12 December 1964. Kenya is in East Africa with South Sudan to the northwest, Ethiopia to the north, Somalia to the east, Tanzania to the south, and Uganda to the west as her neighbouring countries. Kenya has 47 counties, with Nairobi being the largest city and her capital city.

There are over seventy distinct ethnic groups in Kenya divided into four broad linguistic groups: Bantus, Cushites, Nilotes, and Semites, with the five dominant ethnic groups being Kikuyu, Luo, Luhya, Kalenjin, and Kamba (University of Pennsylvania, 2020). The national language of Kenya is Kiswahili, and the official languages are Kiswahili and English (The Government of Kenya, 2010). Amongst the renowned cities is Mombasa, the oldest and first capital of the coastal city with the Indian Ocean to Kenya's southeast. Approximately 75% of Kenyans earn part or all their income from Agriculture since it accounts for approximately 33% of the country's GDP, with the primary agricultural produce being tea, corn, wheat, vegetables, sugarcane, fruits, and dairy products (USAID, 2020). The main economic activities attributed to Kenya's growth include agriculture, tourism, forestry, fishing, consumer manufacturing, crop exports, mining, energy, and financial services. Kenya's most exported products include tea, coffee, horticultural products, petroleum products, pineapples, sisal, beans, pyrethrum, soda ash, cement, and fish. The most imported products are machinery and transportation equipment, petroleum products, motor vehicles, pharmaceuticals, iron and steel, resins, and plastics (USAID, 2020).

1.2.2 Income inequality and poverty.

16% of the Kenyan population consists of people living in extreme poverty with most Kenyans living under the basic \$1.90 a day according to the world poverty clock; this is off track for Sustainable Development Goals (SDGs) target (World Data Lab, 2020). The number of Kenyans living in poverty swelled from last year by approximately three hundred and forty-six thousand people per the world poverty clock (World Data Lab, 2020). An earlier study carried out by the Society for International Development suggested a massive difference in income with 10% of the wealthiest households controlling more than 42% of all incomes while the most deficient 0.76% of the same (Society for International Development, 2004). The inequality gap is tremendous as the most affluent families earn fifty-six shillings whereas the poor earn a shilling (Kenya National Bureau of Statistics, 2020).

1.2.3 GDP of Kenya

The summary of the key economic and social indicators done by the KNBS Economic Survey 2020 shows GDP growth at constant prices is at 5.4% as of 2019, and GDP at market prices is Kshs.9,740,360 as of 2019. The International Monetary Fund(IMF) summarizes and estimates as at 2019; GDP at current prices in US dollars was at \$99.246 billion, GDP at current prices purchasing power parity in international dollars was at \$190,970 billion, GDP per capita on current prices in US dollars was at \$2,010,508, GDP per capita on current prices of purchasing power parity in the international dollar was at \$3,868,628 and inflation on average consumer prices at 4.404% (International Monetary Fund, 2020).

1.2.3 Human Development

The number of crimes reported in 2019 by the police was 93,411, which was a rise from the previous year by 5.8% (Kenya National Bureau of Statistics, 2020).

As of 2018, Kenya's HDI value was 0.579, which is an increase from the year before placing Kenya in the medium human development category (United Nations Development Program, 2018).

HDI=Education index+Life Expectancy index+Income index

There has been a rise in the Education, life expectancy and income index due to factors such as free primary education for all (site website), reduced maternity costs and upcoming job opportunities in fields that were not exploited. Despite this, the bad has overcome good. This is because, not many get the opportunity to continue with high school education and eventually get to college. Despite the reduced maternity costs, the standards of living are

absurdly high, with bills such as water, electricity, and housing. Even with the upcoming employment opportunities such as jua kali industries and consultancy firms, the said person requires high capital to start and maintain before getting returns to sustain their needs and that of their family.

1.2.4 Literacy

The adult literacy rate is the percentage of people who can read and write and understand a short, simple statement in their everyday life, aged 15 and above. Kenya's literacy as of 2018 was 81.54%, which is an increase from 2014 by 2.8%, (United Nations Development Program, 2018). This is quite high, but it could be lower this year because of the negative effect of the current Coronavirus pandemic.

1.3 Statement of the Problem

The Statement of the problem is to determine the effect of corruption on human development; a social welfare issue in the society and to ascertain which component of the Human Development Index is substantially affected by corruption.

With Kenya's high GDP it begs the question whether despite the increasing corruption scandals is the country's social welfare development affected? Taxes should be channelled to improving social welfare like education, healthcare services and reducing poverty but with increasing rates of bribery and embezzlement the economy and social welfare is deteriorating. GDP is just a measure of monetary value but is limited to measuring distribution of income or life expectancy thus social welfare is a better indicator of delivery of services by the government using taxpayer's money through the Human development index. This study focuses on social welfare being a reasonable indicator to show the effect of corruption in the Kenyan economy and whether there is any relationship or effect of corruption on social welfare issues.

1.4 Research Objectives

The overall objective is to estimate the effects of corruption in the economy specifically on social welfare issues like unemployment, poverty, literacy, income inequality.

Specific Objectives

1. Determine the effect of corruption on human development, a social welfare issue in the society.
2. Determine which component of the Human Development Index is substantially affected by corruption.
3. Investigate the extent to which corruption affects life expectancy, income per capita and education.

1.5 Research Questions

1. How does corruption affect social welfare and the economy of Kenya?
2. How does corruption affect human development in Kenya?
3. Which component of the Human Development Index is substantially affected by corruption?
4. To what extent does corruption affect education in Kenya?

1.6 Significance of the study

Several economic studies have been carried out on the topic of corruption. (Dwiputri, Arsyad, & Pradiptyo, 2018) did a study on Corruption and Capital Growth: Identification of Bribery by the Firm , (Oigo & Jakob, 2019) did a study on Stability Analysis in a Mathematical Model of Corruption in Kenya (Shitero, 2016) studied Corruption, Institutions and Economic Development, (Mwangi, Njuguna, & Achoki, 2019) carried out a study on Relationship between corruption and capital flight in Kenya: 1998-2018. Several papers investigate corruption and the effect it has on the economy but none of the look into how it affects social welfare of the economy.

The study is important because it addresses the effect of corruption on social welfare issues. Social welfare is important because effective social policy protects individuals and their families and helps them lead a fulfilling life. Therefore, if social welfare issues are not dealt with it in turns affects the 'common mwananchi's' standard of living, healthcare services and education making this study crucial. Here I shall study the effect of corruption on human development; a social welfare issue in the society and determine which component of the Human Development Index is substantially affected by corruption. Many studies have been carried out to show the effect of corruption on economic growth, causes and consequences of corruption and the impact of corruption on GDP but none of them focus on the effect or impact that corruption has on social welfare of Kenya.

The beneficiaries of this study are the government, and The Ethics and Anti-Corruption Commission (EACC) was established on 29 August 2011 with the aim of fighting corruption in Kenya. Ministries directly affected by social welfare issues will also benefit from this research to help them fight corruption and most specially to reduce systemic corruption polluting the different sectors and services.

CHAPTER TWO: LITERATURE REVIEW

2.1 Theoretical literature

Corruption is a complex phenomenon, but principal-agent theory, collective action theory, and institutional theory explain why corruption occurs. Corruption is the abuse of entrusted power for one's gain (Shleifer & Vishny, 1993). Abuse of power has been the driving factor of corruption in the public sector.

2.1.1 Principal-Agent Theory

(Klintgaard, 1998) uses the principal-agent model to describe the complicated relationship between the State and its residents. Through this model, the role of the agents who could be public officials or the government is to serve to provide and protect the interest of the principal, in this case, the public or residents, parliament or supervisors, but in the long run the role of the agents diverge from providing the interests of the principal to their own for personal gain. (Groenendijk, 1997) explains that due to differing interests between the principal and the agent in the long run, the principal comes up with a contract to help align their interests, the agent is at an advantage because due to asymmetric information. Due to information asymmetry the agent could use this information for their personal benefit to engage in corruption activities at the expense of the principal.

2.1.2 Collective Action Theory

(Olson, 1971) describes the Collective Action Theory as the difficulty of providing a public good efficiently due to the free-rider problem or the challenge to determine due to a group's importance optimally. The Collective Action Theory helps explain why systemic corruption persists despite efforts to fight against corruption through the Kenya Anti-Corruption Commission (KACC). The theory highlights the relevance of trust in the behaviours of other people or groups. (Persson, Rothstein, & Teorell, 2012) explain that according to this theory people justify their own actions based on what others would do if they were in the same situation and thus systemic corruption is regarded as a collective problem in society. In nations where corruption has become a social norm and people normalize it despite knowing the consequences, (Marquette & Peiffer, 2015) explain that people will still engage in corruption activities because of the perception that 'there is no need of being truthful and honest in a corrupt society'. (Appolloni & Nshombo, 2014) notes that the culture of corruption within the organizations and institutions leads to the normalization of corruption activities and violation or ignorance of corruption rules.

2.1.3 Institutional Theory

Institutional theory helps explain reasons for corruption in the public sector as (Scott, 2004) says,

"It considers the processes and mechanisms by which structures, schemes, rules, norms, and routines become established as authoritative guidelines for social behaviour."

Scott (1995) indicates that, organisations must conform to the rules and belief systems prevailing in the environment to survive. Despite the existence of an anti-corruption framework in society, institutionalism helps understand corruption by explaining how corruption might be rooted in society, organizations, and institutions in a social context (Luo, 2004). (Stensota, Wangnerud, & Svensson, 2014) acknowledge the complicated relationship between corruption, organizations, cultures, and political system and considers corruption as influenced by character, design, and transparency on these factors.

2.1.4 Game theory

Game theory is a theoretical framework for conceiving social situations among competing players or parties involved. Game theory explains the prevalence of corruption, especially in the public sector, by providing grounds for public officials' corrupt decisions. Corruption is part of mathematical models because it is deeply rooted in rational decision-makers (Macrae, 1982). (Kuhn, 2012) explains corruption in the context of a prisoner's dilemma. Despite being the best option or in their best interest, there is a conflict between individual and group rationality because they might not cooperate. According to (United Nations, 2020), game theory explains why society practices corruption. For example, if individuals refuse to engage in corrupt activities, they fear a disadvantage while others do not refuse to do so in a similar circumstance and situation. Thus, both parties obtain some benefit, though less than the interest each party would have obtained if they refused to engage in corruption.

2.2 Empirical Literature

The scholar (Onyango, 2015) was able to identify from the probit model analysis that gender, race, ethnicity, religiosity, employment status, and education are some of the factors that majorly influence corruption in Kenya. The findings concluded that each of the variables influenced corruption in different magnitude or aspects. Gender for example influences corruption and men are more likely to pay a bribe than women. From the study the results indicated that corruption is influenced by race and Black or African race was more likely to

pay a bribe compared to respondents from other races which is consistent with mostly less educated Black or Africans (Onyango, 2015).

Individuals with some education but no degree were more likely to pay a bribe thus proving that education has an influence on corruption since the less educated respondents are more likely to pay a bribe. As for ethnicity, individuals not from the big 5 tribes are more likely to bribe because they do not have loopholes to access government services since these offices are mostly dominated by members from the big 5 tribes in Kenya. An interesting result from this study by (Onyango, 2015) was that being in a specific religious group did not influence corruption but religiosity; importance of religion to an individual, had an influence on corruption because of the perception of religion to an individual makes them less likely to bribe.

Employment status also proved to be influential to corruption as per the study since the unemployed are less likely to pay a bribe compared to the employed (Shehu, 2005). From the study age and urban or rural location proved to have a non-significant corruption that is consistent with (Pazmandy, 2011) whose findings showed that people living in various areas had no significant differences and age did not influence corruption perception. Thus, the results proved that individual-level factors majorly influence corruption in Kenya since individuals likely to pay a bribe are mostly men of African/Black descent, with employment and low levels of education/lack a degree. Chances of bribery decreases for individuals who feel religion is important to them and individuals from the Big 5 tribes in Kenya (Onyango, 2015). Taking account of these determinants of corruption in Kenya, my aim is to study how this affects the social welfare of Kenyans.

According to (Kimuyu, 2007) corruption is ailing the business industry with the notion that it helps fast track public services but instead firms for example end up paying more on bribery so that they are able to report a small percentage of their revenue for tax returns and later end up paying more from so that they can keep under-reporting tax obligation. According to (Kimuyu, 2007) corruption diminishes the growth of a firm and in turn reducing returns on investment, employment, and ability to penetrate external markets especially in terms of exports. Firms involved in corruption fear participating in foreign markets due to all the red tape, thus significantly reducing export participation and limiting the Kenyan economy's growth.

(Azfar & Gurgur, 2005) found that communities with higher levels of perceived corruption experienced worse health and education indicators in the Philippines. (Shitero, 2016) proves that there is indeed an effect of corruption on the economy through his study of showing the direction and magnitude that corruption and institutional quality affects economic development. As per Transparency International's score Kenya is one of the most corrupt countries and fight against corruption have become almost ineffective in many developing countries. Corruption in firms especially in the form of bribery which is accounted for as 7.5% of a firm's annual sales is in fact an expense the firm. Corruption already depicts a negative impact in the economy for firms like manufacturing firms pay an average of 14.2% of the total contract after receiving a government contract to account for kickbacks to public servants (Kimuyu, 2007).

He was able to obtain his conclusion by investigating the impact of exposure to corruption on the performance of a firm. They achieved this by measuring firm growth by regressing four simple models of firm growth against variables: firm age, firm size, exporter dummy, the proportion of skilled workers, percentage annual revenue paid out in bribery, bribery on utilities, bribery in license acquiring, percentage contract value given as kickback, KISRANI (to control for perception biases). From that it was concluded that corruption has a detrimental effect on firm growth since firms make more of unofficial payments as per the findings either as a proportion of total annual sales, for utilities, licenses, and a proportion of the value of government contracts grow less thus hindering future growth of firms.

Protus Shigoli Shitero's work was to try study how corruption and institutional quality affects Kenya's economic development. From his findings he established that the level of institution has an 89% effect on economic development which is measures by contract intensive money while corruption has a 56% effect on economic development which was realized through a correlation matrix. Institutions positively impact the corruption perception index to some extent, and (Mwangi, Njuguna, & Achoki, 2019) concluded that corruption is not significantly related to capital flight. Thus, the energy directed towards the fight against corruption will, in the long run, improve our country's ranking on the CPI. This will, in turn, cause more capital inflows instead of capital flight (Shitero, 2016).

According to the KNBS economic survey 2020:

“The number of corruption reports referred for investigation by the Ethics and Anti-Corruption Commission (EACC) increased by 20.2 percent from 2,898 in 2017/18 to 3,482 in

2018/19. In 2018/19, 32.9 per cent of the number of ethics and corruption reports forwarded to the Office of Director of Public Prosecution (ODPP) were accepted compared to 61.7 per cent accepted in 2017/18. As a result, the value of public assets recovered by EACC was KSh 4.5 billion while value of loss averted was KSh 14.5 billion in 2019.” (Kenya National Bureau of Statistics, 2020).

2.3 Summary Literature.

Several economic studies have been carried out on the causes and consequences of corruption, impact of corruption scandals on the Kenyan economy, the effect of corruption on GDP amongst others but none of them have been carried out on social welfare. The HDI was created to emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth alone. Thus, from the literature reviewed the variables used for this research will include the components of Human Development index which are the income index, education index and life expectancy.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter represents the methodology which aim at showing the Effect of Corruption on Social Welfare Issues in Kenya.

3.2 Research Design

The research design which will best answer the research questions is the experimental research design since the study is focused on constructing research that is high in causal (internal) validity or a causal relationship. This study will employ secondary time series data from UNITED NATIONS DEVELOPMENT PROGRAMME Human Development Reports and Transparency International. Time series data research design for yearly data from 2000-2019 is beneficial for this study.

3.3 Theoretical Framework

From the study of various literature, we can see that corruption has a negative impact on the economy through firms or industries by displaying negative firm growth and affecting export propensity, therefore, how else does corruption impact the economy?

(Ubi, 2014) study on corruption and institutional quality prove that corruption affects the level of technological progress determined by the following equation:

$$A=f(\text{Cor}, \text{CIM})$$

Where:

Cor=Corruption

CIM=Contract Intensive Money

A=Total factor productivity (TFP), which is derived from the Cobb-Douglas production function; $Y=AK^\alpha L^{(1-\alpha)}$. Where: A being the total factor productivity, K is capital employed and α and $1-\alpha$ is the share of capital employed and labour employed.

The welfare costs of Corruption, (Welsch, 2008) study measures welfare as the average happiness prevailing in a nation by computing the marginal welfare effect of corruption from his happiness equation $v = f(g(k, h, c), c, z)$ to attain:

$$\text{MWE} = \frac{dv}{dc} = \frac{\partial f}{\partial y} * \frac{\partial g}{\partial c} + \frac{\partial f}{\partial c}$$

Where:

MWE is Marginal Welfare Effect.

$\frac{dv}{dc}$ is the total welfare measurement?

$\left(\frac{\partial f}{\partial y}\right)\left(\frac{\partial g}{\partial c}\right)$ the indirect marginal welfare effect of corruption

$\frac{\partial f}{\partial c}$ the direct marginal welfare effect of corruption.

Data from Afro barometer Round 5 Survey with a sample size of 2399 correspondents across all 4 counties was used to carry out the study with the help of the statistical package with the following parameters:

$$\text{BRIBE} = \alpha + \beta 1 \text{EDU} + \beta 2 \text{AGE} + \beta 3 \text{LOC} + \beta 4 \text{EMPL} + \beta 5 \text{GEND} + \beta 6 \text{REL} + \beta 7 \text{RELSITY} + \beta 8 \text{RACE} + \beta 9 \text{ETH} + \varepsilon$$

Where:

BRIBE=bribery

EDU=education level of respondents

LOC=urban/rural location

EMPL=status of employment

GEND=gender

REL=religion of the respondents

RELSITY=religiosity of individuals

RACE=race of the respondents

ETH=the ethnicity or tribe of respondent.

3.4 Empirical Model Specification

The general objectives are:

1. Determine the effect of corruption on human development, a social welfare issue in the society.
2. Determine which component of the Human Development Index is substantially affected by corruption.
3. Determinants of the effect of corruption on HDI.
4. Effect of corruption on poverty levels in Kenya.
5. Investigate the extent to which corruption affects life expectancy, income per capita and education.

To address the objectives above the following model can be used in this study:

$$HDI = \beta_0 + \beta_1 Cor + \beta_2 Lexp + \beta_3 IncCap + \beta_4 edu + \varepsilon_t$$

Where:

Cor=corruption

Lexp=life expectancy

IncCap=Income per capita

Edu=Education

To address these objectives a regression analysis is carried out to determine the effect of corruption on human development, a social welfare issue in the society, component of the Human Development Index is substantially affected by corruption and the extent to which corruption affects life expectancy, income per capita and education with HDI being our dependent variable and corruption, life expectancy and Income per capita being the independent variables. Interpreting the coefficients from the regression analysis will help address the research objectives.

3.5 Data analysis

Data analysis will be carried out using Excel and Stata. Descriptive analysis will provide descriptions on my data through calculations like correlation analysis; summary statistics which provides the number of observations, mean, standard deviations, median, mode,

maximum, minimum, range, skewness, and kurtosis of all the variables I will be working with; graphs and tables like line graphs.

First would be to carry out a descriptive statistic of the variables on Excel which will give us their mean, standard error, median, standard deviation, sample variance, kurtosis, skewness, range, minimum, maximum, sum and count. For accuracy in results and to help build models that forecast better, it is important to ensure the time series is stationary to get rid of unit root in the data. The Augmented-Dickey Fuller test is carried out to ensure the time series is stationary. In case it is not stationary one can detrend or difference to make the variables stationary.

A regression analysis is carried out in the analysis to determine the effect of corruption on human development, a social welfare issue in the society. From the regression analysis a variable is statistically significant if the p-value is less than the level of significance whereas the coefficient estimated are statistically insignificant if the p-value is greater than the level of significance.

A test for heteroskedasticity is conducted using the Breusch-Pagan test to ensure the model does not have heteroskedastic error terms. Using the Breusch-Godfrey LM test for autocorrelation we fail to reject the null hypothesis of no serial correlation when the p-value is greater than the level of significance whereas if the p-value is less than the level of significance we reject the null hypothesis of no serial correlation. To Investigate the extent to which corruption affects life expectancy, income per capita and education an individualistic corruption is carried out with corruption being the dependent variable and education, income per capita and life expectancy as dependant variables.

The data being time series data, certain tests are required to be carried out like:

- Test for Stationarity and non-Stationarity; the autocorrelation function through the joint significance test using Q statistic developed by Box and Pierce and a variant called the Ljung Box test. The Q statistic and the Ljung box follow the Chi-square distribution and if the results are greater than the critical value, we reject the null hypothesis and thus autocorrelation coefficients are jointly significance.
- The Unit Root Test which can be computed using the Dickey Fuller Test, tau statistic (if the tau statistic is greater than the critical value, we reject the null hypothesis thus our series is stationary) and Augmented Dickey Fuller test.

- Basic regression analysis with the help of sample properties of the OLS estimators, Gauss-Markov assumptions, and the classical linear model assumptions for time series regression analysis and finally cointegration analysis using the Johansen method tests.

3.6 Definition of terms

- Corruption Perception Index, it ranks and scores countries and/or territories according to how corrupt a country's public sector is deemed to be by experts and business executives and the rank indicates its position relative to other countries and territories in the index.
- Gross domestic product (GDP) is a monetary measure of the market value of all the final services and goods generated over a specific period (Callen, 2020).
- Human Development Index is defined as a statistic composite index of life expectancy, education, and per capita income indicators, which are used measure average achievement in key dimensions of human development and rank countries into four tiers. The health dimension is assessed by life expectancy at birth, the education dimension is measured by mean of years of schooling for adults aged 25 years and more and expected years of schooling for children of school entering age. The standard of living dimension is measured by gross national income per capita. The HDI uses the logarithm of income, to reflect the diminishing importance of income with increasing Gross National Income (GNI) according to the United Nations Development Programme, Human Development Report (UNDP Kenya, 2006) .
- Social problems are issues within a society that hinder people from attaining their full potential, for example, unemployment, poverty, literacy, income inequality, human development, crime, and unequal opportunity.
- Life expectancy is a statistical measure of the average (see below) time an organism is expected to live, based on the year of its birth, its current age, and other demographic factors including gender. Life expectancy refers to the number of years a person is

expected to live based on the statistical average. The current life expectancy for Kenya in 2020 is 66.70 years, a 0.39% increase from 2019 (Kenya National Bureau of Statistics, 2020).

- Income per capita; Per capita income also known as average income is a measure of the amount of income earned per person in a given area (nation, city, region, or geographic region) in a specified year. Data is retrieved from the KNBS Economic Survey.
- Education is the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs, and habits. Education Index has been measured by combining average adult years of schooling with expected years of schooling for children, each receiving 50% weighting. It helps account for education attainment in a nation.

3.6 Data collection

3.6.1 Types of Data

I intend to use quantitative discrete interval data used when trying to quantify a problem and address “what” or “how many” aspects, measured along a scale. The data is time series data type based on collection, since it is data collected over a period with an associated frequency. I will use annual data to study collected over several years to carry out my study.

3.6.2 Sources of data

From the two commonly known sources of data; primary sources and secondary sources my data source will be majorly from secondary sources which generally include: data institutions, research organizations, multinational agencies, firm specific data and government and regulator sources. I have specifically acquired statistical data from KNBS (a government and regulator source), the World Bank and Transparency International (which are both multinational agencies). I retrieved valid and reliable data for corruption, Corruption Perception Index (1996-2019) from Transparency International, data on income per capita and education is from KNBS and data on life expectancy and HDI is from World bank.

3.6.3 Definition and measurement of variables

Type	Variables	Dimension	Measure	Definition	Source
Dependent variables	Human Development Index	Composite indices	Percentage	A composite index measuring average achievement in three basic dimensions of human development—a long and healthy life, knowledge, and a decent standard of living.	DRO calculations based on data from UNDESA (2019a), UNESCO Institute for Statistics (2020), United Nations Statistics Division (2020b), World Bank (2020a), Barro and Lee (2018) and IMF (2020).
Independent variables	Life expectancy index	Health	Percentage	Life expectancy at birth expressed as an index using a minimum value of 20 years and a maximum	HDRO calculations based on life expectancy

Type	Variables	Dimension	Measure	Definition	Source
				value of 85 years.	values from UNDESA (2019a). World Population Prospects database. Accessed 30 April 2020.
	Education index	Education	Percentage	Education index is an average of mean years of schooling (of adults) and expected years of schooling (of children), both expressed as an index obtained by scaling with the corresponding maxima.	HDRO calculations based on expected years of schooling and mean years of schooling from UNESCO Institute for Statistics (2020) and other sources. Accessed on 21 July 2020.
	Income index	Income/composition of resources	Percentage	GNI per capita (2017 PPP International \$, using natural logarithm) expressed as an index using a minimum value of \$100 and a maximum	HDRO calculations based on GNI per capita (2017 PPP International

Type	Variables	Dimens ion	Measure	Definition	Source
				value \$75,000.	\$) from World Bank (2020a), World Development Indicators database. Accessed on 22 July 2020.
	Corrup tion Percept ions Index	Corrupt ion	Rank	ranks and scores countries and/or territories according to how corrupt a country's public sector is deemed to be by experts and business executives and the rank indicates its position relative to other countries and territories in the index.	Transparency International

Table 3. 2 Definition and measurement of variables

CHAPTER FOUR: EMPIRICAL FINDINGS.

4.1 Introduction

This chapter entails empirical findings of the study. It entails the following sections: descriptive statistics, stationarity, test for autocorrelation, test for heteroskedasticity and regression analysis.

4.2 Descriptive Analysis and Stationarity test.

4.2 .1 Descriptive Statistics.

Descriptive statistics encompasses a summary of statistics of each variable of the model used in the study.

	<i>HDI Index</i>	<i>Education Index</i>	<i>Life Expectancy</i>	<i>Income Index</i>	<i>CPI</i>
Mean	0.5386	0.48755	0.6065	0.5297	23.15
Standard Error	0.010913391	0.010085288	0.019146045	0.004546311	0.693105
Median	0.546	0.4975	0.622	0.5265	22
Standard Deviation	0.048806169	0.045102777	0.085623718	0.020331723	3.09966
Sample Variance	0.002382042	0.002034261	0.007331421	0.000413379	9.607895
Kurtosis	-1.332624422	-1.001417326	-1.441818591	-1.15804185	-1.44174
Skewness	-0.318967049	-0.58537941	-0.274035817	0.314578143	0.386415
Range	0.14	0.129	0.242	0.062	9
Minimum	0.461	0.407	0.476	0.504	19
Maximum	0.601	0.536	0.718	0.566	28
Sum	10.772	9.751	12.13	10.594	463
Count	20	20	20	20	20

Table 4.1 Descriptive Statistics

Our study involves an average count of 20 years for the variables: HDI, CPI, Life expectancy, Income index and Education index. Over the 20 years HDI is averaged at 0.5386. HDI, life expectancy, income index and CPI all have skewness ranging between -0.5 and 0.5 meaning the data is fairly symmetrical. Data on education index is moderately skewed since its skewness is between -1 and -0.5 (-0.58537941). CPI, HDI and its components have a low

standard deviation which means the data is clustered around the mean making it more reliable. For all the variables the dataset has lighter tails than a normal distribution since their kurtosis is less than 3. HDI at its lowest was 0.461 while at its highest was at 0.601. CPI at its highest over the last 20 years was a score of 28 while at its lowest was a score of 19.

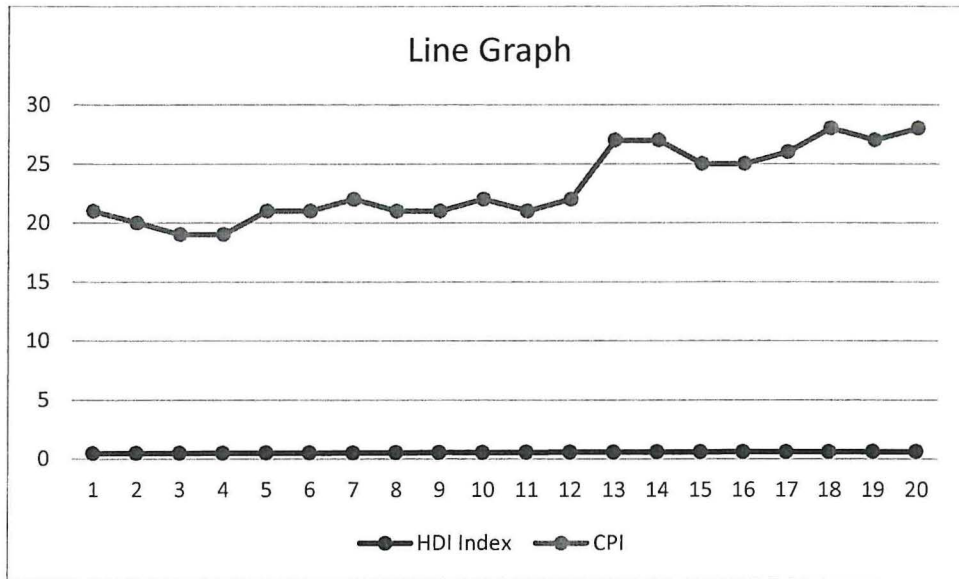


Figure 4.1 Line Graph with markers for HDI and CPI

A line graph is used to show trend overtime. Over the twenty-year period the HDI been constant fluctuating from 0.45 to 0.50. CPI has bn fluctuating then later increasing at a decreasing rate with a score of 19 being the lowest and 28 being the highest score within the twenty years.

4.2.2 Test for stationarity

First was to set my data in time series, then did test for stationarity using the Augmented Dickey-Fuller test for unit root. According to the table below from the results of test for stationarity HDI Index ,Education Index, Income Index and Corruption Perception Index (CPI) are not stationary because the MacKinnon approximate p-value for Z(t) greater than the level of significance(0.05) causing then to be statistically insignificant .If the p-value is less than the level of significance we reject the null hypothesis thus the coefficients estimated are statistically significant like life expectancy index from our study .If the p-value is greater than the level of significance we fail to reject the null hypothesis thus the coefficients being estimated are statistically insignificant .

For better results and to help build models that forecast better, changed data of non-stationary variables to stationary (or to remove unit root from the data). Non-stationarity implies that the mean changes over time or is dependent on time, variance changes over time and covariance does not only depend on the time distance but varies overtime which will not be best while forecasting. Through differencing was able to make HDI Index, Education Index, Income Index and Corruption Perception Index (CPI) stationary. To remove unit root from data through differencing one can either introduce natural logs or by integration. HDI Index and Education Index was difference twice or integrated order two, I (2) while Income Index and Corruption Perception Index (CPI) was difference once or integrated by order one, I (1).

Variables	P-Value	Order of Integration	Value
HDI Index	0.2617	2	0.0000
Education Index	0.0920	2	0.0000
Income Index	0.9923	1	0.0001
CPI	0.8307	1	0.0001
Life Expectancy	0.0000	0	0.0000

Table 4.2 Augmented Dickey-Fuller test results

4.3 Diagnostic Test

4.3.1 Regression Analysis

Step two was to carry out a regression with the stationary variable to help determine whether our independent variables explain the dependent variable.

$$HDI = \beta_0 + \beta_1 Cor + \beta_2 Lexp + \beta_3 IncCap + \beta_4 edu + \beta_5 dv + \varepsilon_t$$

Where:

Cor=corruption

Lexp=life expectancy

IncCap=Income per capita

Edu=Education

A regression of the HDI Index I (2) against Education Index I (2), Income Index I (1) and Corruption Perception Index (CPI) I (1) and Life Expectancy was then carried out. From the

results R-squared = 0.8951, meaning our model is a good fit since R-squared is 89%. The independent variables are significant in explaining HDI index since our F-statistic is less than our level of significance, Prob > F = 0.0000.

Variables	Coefficients	t-stat	P-value
Education Index D2.	0.388368	10.11	0.000
Life Expectancy	-0.01189	-2.28	0.040
Income Index D1.	0.273322	1.94	0.074
CPI D1.	-0.00022	-0.92	0.377
_cons	0.006664	2.15	0.051

Table 4.3 Regression analysis results

$$\begin{aligned}
 HDI = & 0.006664 + -0.00022Cor + -0.01189Lexp + 0.273322IncCap \\
 & + 0.388368edu + \beta_5dv + \varepsilon_t
 \end{aligned}$$

Life expectancy has a negative effect on HDI, and it is statistically significant since the p-value of 0.040 is less than the level of significance of 5%. Education and Income index have a positive effect on HDI because of the positive coefficients. Education is statistically significant since the p-value of 0 is less than the level of significance of 0.05. Income Index variable is statistically insignificant since the p-value of 0.074 is greater than the level of significance of 5% Corruption has a negative effect on HDI, but it is not statistically significant since the p-value (0.377) is greater than the level of significance (0.05).

4.3.2 Test for heteroskedasticity

Step three was to carry out a test for heteroskedasticity using the Breusch-Pagan / Cook-Weisberg test for heteroskedasticity.

Ho: Constant variance

Variables: fitted values of D2. HDIIndex

chi2(1) = 15.88

Prob > chi2 = 0.0001

We reject the null hypothesis of constant variance since the p-value (0.0001) is less than the level of significance (0.05), hence the model has heteroskedastic error terms.

4.3.3 To correct for heteroskedasticity.

To correct for the problem of heteroskedasticity a Regression with Newey-West standard errors was run and got the results below. After running diagnostics checks, there was correction for heteroskedasticity, and the data was converted to stationary time series making the model fit for analysis.

	Newey-West			
Variables	Coef.	Std. Err.	t	P> t
Education Index D2.	0.388368	0.065099	5.97	0.000
Life Expectancy	-0.0118856	0.005813	2.04	0.062
Income Index	0.2733215	0.1643586	1.66	0.120
CPI	-0.0002186	0.0001486	1.47	0.165
_cons	0.006664	0.0035591	1.87	0.084

Table 4.4 Regression with Newey-West standard errors result.

The independent variables are significant in explaining HDI index since our F-statistic is less than our level of significance, Prob > F = 0.0001 in this Regression with Newey-West standard errors. Only education index I (2) is statistically significant since its p-value is less than the level of significance of 0.05. Life expectancy is statistically significant at a significance level of 10% since its p-value of 0.062 is less than the level of significance of 0.1. Income index and CPI are statistically insignificant since their p-value are greater than the level of significance of both 5% and 10%.

4.3.4 Test for autocorrelation

Finally, was a test for autocorrelation using the Breusch-Godfrey LM test for autocorrelation.

$$\text{Prob} > \chi^2 = 0.1249$$

H0: no serial correlation

Since the p-value (0.1249) is greater than the level of significance (0.05) we fail to reject the null hypothesis of no serial correlation, thus there is no autocorrelation in the model.

4.4 Results and Interpretation

4.4.1 The effect of corruption on human development, a social welfare issue in the society. From our findings we can conclude that there is no effect of Corruption Perception Index (CPI) on Human Development Index.

4.4.2 Investigating the extent to which corruption affects life expectancy, income per capita and education.

Variables	coefficients
Life expectancy	-0.012371131
Education	-0.024308
Income	-0.005981

Table 4.5 Regression results

A regression is run of corruption against life expectancy and resulted to a negative relationship. When corruption increases by one unit life expectancy reduces by 0.012371131. Another regression is run of corruption against education and resulted to a negative relationship. When corruption increases by one unit education reduces by 0.024308. Finally a regression is run of corruption against income and resulted to a negative relationship. When corruption increases by one unit income reduces by 0.005981. In summary corruption has a negative relationship when regressed against life expectancy, income per capita and education.

To determine which component of the Human Development Index is substantially affected by corruption.

From the results above education is substantially affected by corruption because it has a greater coefficient of -0.024308

CHAPTER 5: SUMMARY, CONCLUSION AND RECOMMENDATIONS.

5.1 Summary

The specific objective of this study was to determine the effect of corruption on human development, a social welfare issue in the society. Human Development Index with its components being life expectancy, education, and income per capita is one of the best measures of social welfare issues but there seems to be no effect of corruption on this index. This study was achieved by conducting the necessary diagnostic tests like test for heteroskedasticity, test for autocorrelation and a regression analysis of HDI against CPI, life expectancy, income index and education index. From our finding's corruption was estimated using the corruption perception index and was regressed against the HDI. Corruption has a negative effect on HDI, but it is not statistically significant in our model. This means that if the level of corruption increases, the Human Development index will deteriorate. According to the Ethics and Anti-Corruption Commission, Kenya is losing an estimated Kshs 608.0 bn (7.8% of Kenya's GDP) to corruption annually. Reduced corruption is therefore crucial for the country's development.

5.2 Conclusion

From the empirical findings all the components of HDI: life expectancy, education, and income per capita have a negative relationship with corruption but education variable substantially affected by corruption. Corruption leads to a decrease in the quality of education. Rampant cheating in the national examinations e.g. obtaining papers before-hand, bribing markers, may have led to such results. Also the obtaining of degrees through bribes, rather than ability, has distorted the real value of human capital that can be seen in the country. The real talent is denied entry to higher education since scholarships are taken up by those who bribe their way in and locks out the poor or drowns them in school fees loans and this is bad for society.

A lower level of corruption can lead to longer life expectancy from the study's results. Corruption may take the form of stealing public funds meant for goods and services that are to be used to contribute to the health and longevity of individuals. Like witnessed in the misappropriation of funds at the Kenya Medical Supplies Authority during the COVID-19 pandemic in 2020, it can have detrimental effects on the health sector because funds were

being wasted on very expensive material. This can lead to lack of future funds and put lives at risk especially in the public health sector that treats majority of Kenyans.

Corruption erodes income per capita according to the results. Corruption drives away investment due to doubts about the legitimacy of individuals and institutions. All these lead to a negative effect on HDI.

From our findings of trying to determine the effect of corruption on human development, a social welfare issue in the society, we can conclude that there is no significant effect of Corruption Perception Index (CPI) on Human Development Index but a negative relationship is featured.

Corruption undermines the fairness of institutions and processes and distorts policies and priorities. As a result, corruption damages the legitimacy of regimes leading to a loss of public support and trust for state and government institutions. There needs to be a step to change the corruption both at an individual level and at a country wide level.

5.3 Recommendations

Corruption has a negative effect on the components of HDI individually. The beneficiaries of this study are the government, and The Ethics and Anti-Corruption Commission (EACC) was established on 29 August 2011 with the aim of fighting corruption in Kenya. Ministries directly affected by social welfare issues will also benefit from this research. The ministries related to the components of HDI are Ministry of Health for the life expectancy variable, Ministry of Education for the education index variable, Ministry of Social protection, and Department of Social Development for the HDI variable and Ministry of Finance for the Income index variable. Based on the results the government should keep up the fight against corruption so that it may not significantly affects these ministries related to the HDI components.

The forces opposing corruption in the country are currently too weak. It takes years to prosecute and obtain justice for crimes of corruption due to the slow judicial process. There needs to be a way to speed up the judicial process and ensure punishment for corruption is handed out. If not there will be no deterrence on corrupt behavior, the laws exist but the punishment is almost non-existent which defeats purpose. Civic education is also needed so the mindset of corruption is done away with and a fair society is created.

5.4 Areas of further research

Areas that can be considered for further research are investigating the effect of political regime changes on corruption or a study of how the major corruption incidences has affected and social welfare issues in Kenya. Since corruption is still on the rise a study on the measures taken to reduce corruption and their effectiveness should be conducted.

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