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Thesis Title: **The Effect of the Human Development Index on Wellbeing of Nations: Time for the Global South to set priorities right**

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Title

The Effect of the Human Development Index on Wellbeing of Nations: Time for the Global South to set priorities right

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Summary

Globally, studies concerning the Wellbeing of nations have gained much importance, because of the new approach they bring to the social science realm. They introduce the use of non-financial factors as a means of citizens evaluating their Wellbeing in view of governments' service delivery. In developing countries however, Wellbeing continues to be a challenge because issues of human development have been given little attention than required. This can be solved by having a prosperous, healthy and skilled population that is able to handle the continent's future challenges. It is based on the above background that this study aimed at explaining the relationship between human development index and Wellbeing of citizens in developing countries.

The major objective of this study was to contribute to the existing body of knowledge on Wellbeing and HDI globally but most importantly highlight its plight in developing economies. This was because despite there being many studies on Wellbeing, they have either concentrated on developed countries or dealt with how income, education and health separately or in a combination with other factors affect Wellbeing but literature on HDI and Wellbeing is very minimal.

The study employed a survey strategy by reviewing secondary data collected by the World Bank, Gallup-Healthways, World Happiness Report 2015, UNESCO, WHO and UNDP; in addition to other several sources. Indicators for 8 years (2006-2013) were used. A total of 39 developing countries in the region were studied among three continents of Africa, Asia, and Latin America. This was based on the World Bank categorisation of these countries as developing economies, under low and lower income economies.

Data was analysed using Excel, and STATA tools that modelled indicators using a linear random effects- regression to determine the significant relationship between HDI and Wellbeing. Both descriptive and explanatory methods were used to analyse, interpret and report results. This model was chosen because the data used was of panel in nature and included both time variant and invariant indicators.

From the findings, it came out clearly and strongly that the relationship between HDI is strong and evident in developing countries. The findings revealed that there is a positive significant relationship between HDI and Wellbeing irrespective of the country size, income and population. Furthermore, the findings revealed that among the variables that make HDI, health and income contribute greatly towards influencing Wellbeing. However, other factors such as demography, location and governance also play an important role towards improving citizen's Wellbeing.

In view of the findings therefore, income, health, education, accessibility, governance, demography, and location are important factors countries should consider to transform society and attain a healthier, productive, and knowledgeable society. Although given peculiar differences between continents, this may not be generalised across the entire region but specific continental responsiveness to the model may be applied as explained in chapter four and five. Though this model can be generalised for the entire developing world, given the number of country observations per continent, it best suits Sub Saharan Africa.

Keywords

Wellbeing, Human Development Index, Developing Countries, Global South, Sub-Saharan Africa, Development Priorities.

Acknowledgements

Abbreviations

AfDB	African Development Bank
CPI	Corruption Performance Index
DI	Democracy Index
DV	Dependent Variable
GDP	Growth Domestic Product
GNI	Growth National Income
GNIS	Geographical Names Information Systems
GWP	Gallup World Pool
HCR	Head Count Ratio (Poverty)
HD	Human Development
HDI	Human Development Index
HIV/AIDS	Human Immune Virus
IHS	Institute for Housing and Urban Development
IMF	International Monitory Fund
IV	Independent Variable
LPI	Logistics performance index
NFP	Netherlands Fellowship Program
PPP	Purchasing Power Parity
SOL	Standards of living
SPSS	Statistical Package for Social Sciences
SSA	Sub Saharan Africa
TI	Transparency International
UIS	UNESCO Institute of Statistics
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational Scientific and Cultural Organisation
UNFPA	The United Nations Population Fund
vif	Variance Inflation Factors
WB	World Bank
WHO	World Health Organisation

Definition of terms

Term	Meaning
Brandt Line	This is an imaginary line that divides the world into rich north and poor south.
Developing Countries	These are poor countries of the world with less than GNI of US$ 11,905 (World Bank 2013), characterised by under developed industrial base and low HDI
Global South	Refers to the developing countries which are mainly located in the southern hemisphere [1]
Health	Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity[2].
Life Ladder	The level at which a person evaluates his/her life satisfaction (Wellbeing).
Logistics performance Index (LPI)	This is a measure that indicates how efficiently and effectively goods and services are able to move to and from the country. It takes into account internal transport systems, border controls, competency and quality of logistics industry.
Poverty head Count Ratio	Measures the proportion of the population that is below the poverty line which is currently 1.25 US$ per day.
Standards of Living	The level of wealth, comfort, goods and services available to people in the country.
Wellbeing	Is the state of being comfortable, healthy, happy, prosperous, feeling good or satisfied generally with ones quality of life.
Linguistic Diversity Index[3]	It is the probability that in a given country any two people selected at random would have different languages.

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Chapter 1: Introduction

1.1 Introduction

This study aimed at explaining the relationship between human development index and Wellbeing in developing countries and which indicators could be given priority in a situation where governments should pursue the Wellbeing of the majority of citizens amidst scarce resources. It looked at divergences that exist between regions and countries given the locational and demographic differences.

1.1.2 Background

Globally, studies concerning the Wellbeing of nations have gained much importance in the recent past, because of the new approach they bring to the social science realm. This arises out of emphasising that non-financial variables give citizens a chance to evaluate and predict their future. In addition, this approach introduces a completely new methodology of evaluating governments' performance on service delivery (Frey and Stutzer, 2002).

This is because for quite a long time, much emphasis of measuring the Wellbeing of nations as well as individuals worldwide, had been placed on wealth. This is understandable because it would be rare to expect improved Wellbeing in a poverty stricken nation; but research has revealed that income or wealth is not an end in itself but rather there are other measures of equal importance. What is interesting though is that most studies agree on the importance of measuring society progress of countries, beyond conventional economic measures such as GDP per capita to using subjective measures (Stiglitz and et al, 2009). Therefore, governments need not only to look at economic outcomes but also to focus on the community welfare of their citizens (Diener, E. and Eunkook, M., S, 2000), (Diener and Martin, E, P, S, 2004).

Despite the above arguments, Wellbeing studies have focused more on the developed than developing world which should have been the opposite because it is in the latter that we find a considerable number of Wellbeing issues that need attention. On the other hand, the few studies that have been conducted in the developing countries, have attempted to compare them with the rest of the world under the argument that because life-satisfaction is measured with direct questioning, it can be compared across persons and nations using surveys (Veenhoven, 2010). This approach may not give us a clear picture because there is likely to be a challenge of encountering cultural differences if societies have different sets of values; people are likely to consider different criteria of evaluating themselves (Diener, E. and Eunkook, M., S, 2000)

Though the developing world ranks low on the Wellbeing score globally, to Sub-Saharan Africa the situation is worse with more than half of the region's population (56%) not doing well in financial, purpose, social and physical Wellbeing. This is attributed to poverty, economic inequality, bad governance (Leedle and Clifton, 2014). However, there is hope that with natural resources, an increasing youthful population, the growth of information and communications technology sector, and the fast growing middle class will cause the region's economic potential to exceed the current average of about 5 percent a year (World Bank, 2014), and continue to see poverty declining, and people living on less than $1.25 a day decreasing.

The question, however, is as to whether all this potential will translate into the Wellbeing of citizens given the levels of uneducated, less educated, and ill health population of the entire developing world that makes it less feasible and undermines the possibilities for the future generations to meet their needs (Erika, 2013).

Given the above situation, it is high time for developing countries to prioritise human development. This is in line with the world sustainable development agenda and would be beneficial to solving issues of poverty, inequality and consequently improve citizens' Wellbeing.

1.1.3 Problem Statement

Many scholars and policy makers agree that factors such as insecurity, low levels of income, poor infrastructure, lack of domestic market for goods, high increasing dependent population, cultural and language diversity, country size and location, citizens' participation in governance, corruption, religious diversity et cetera; have contributed to the low levels of Wellbeing (AfDB and et al, 2012), (Diener, E. and Eunkook, M., S, 2000).

Despite the position referred to above, there seems to be consensus that these and many other Wellbeing challenges can be corrected when human development issues are solved. Human development is examined in terms of having a healthy and skilled society that is able to handle the country's future challenges. The developing world must resolve its current human development crisis if it is to compete successfully in the 21st century and this entirely lies in the hands of its people. (Prados, 2013), (Boyce and et al, 2010), (Augus, 2008), (Ndulu and O'Connell, 2005), (Diener and Martin, E, P, S, 2004), (Diener, E. and Eunkook, M., S, 2000), (Sagar and Najam, 1998).

The claim that the least developing countries' growth continues to strengthen (United Nations, 2014), (World Bank, 2014) will take ages. If at all is achieved, it will not be sustainable when the developing world continues to have the lowest human development indicators compared to the rest of the world., For example when in Sub Saharan Africa, one out of 16 children die before their fifth birthday, life expectancy at birth standing at 57 years, and the average adult literacy rate is 65 %. (World Bank, 2014). This puts the Wellbeing of the region, at a risk since Wellbeing is concerned with peoples' love for what they experience on a daily basis, the quality of their relationships, the security of their finances, the vibrancy of their physical health, and the pride they take in what they contribute to their communities (Rath, Harter, et al., 2010).

In addition, despite there being many studies on Wellbeing, they have either concentrated on developed countries or dealt with how income, education and health separately or in a combination with other factors affect Wellbeing. This leaves no or very few literature on HDI and Wellbeing especially in developing economies.

It was based on the above background that this study aimed at explaining the relationship between human development index (HDI) and Wellbeing in developing countries because their improvement would have a far reaching effect on enhancing social transformation (Ndulu and O'Connell, 2005). However, due to lack of supporting theories providing scientific guidance on prioritisation given limited financial, human, and physical resources, this study also aimed at developing a guide to governments and development agencies on where to direct investments that would achieve higher Wellbeing results.

1.1.4   Research Objectives

The general objective of the study was to contribute to the body of knowledge regarding Wellbeing and HDI in the developing countries. The study aimed at explaining the relationship between HDI and Wellbeing in developing countries and find out other factors that can complement HDI to achieve a greater impact on the Wellbeing of society and develop a priority list of indicators.

Specific objectives include:

To discover if there is a significant relationship between HDI and Wellbeing in the developing countries.

To determine what other factors affect Wellbeing.

To identify which development indicators could be prioritised due to scarce resources to make a greater impact to the majority of citizens in developing countries.

1.1.5   Provisional Research Question

General Research Question.

- What is the relationship between Human Development Index and Wellbeing in the developing world?

Sub-Questions.

- How does HDI affect Wellbeing in the developing world?
- What other factors explain the Wellbeing differences across the global South?
- Which indicators could be prioritised in the region?

1.1.6   Significance of the Study

The developing world has overwhelming human, financial, and infrastructural challenges. In such a situation, there is need to identify what the regional and nations' priorities are and concentrate on those critical areas that have a higher multiplier effect on the transformation of society. For such a transformation to translate into improved Wellbeing, it should begin addressing individual human capacity concerns that will propel other factors in the production cycle, spur personal growth and society development. It is for this reason that this study emphasizes the role of human development as a driver of social transformation.

This study contribute to the existing body of knowledge in the following ways:

- Advocated for use of alternative methods to evaluating public expenditure in terms governments concerns for the welfare of its citizens.
- The findings will assist governments to prioritise which development indicators can be invested in amidst scarce resources to produce a greater effect to the majority in society.
- Given greater insight into Wellbeing issues of the developing world since most studies have been conducted in the developed world and on independent HDI constituents.
- It showcases the important role of human development as a major trigger of society transformation and Wellbeing at all levels that policy makers can adopt and use.

- The findings will equip policy makers, implementers and development partners at various levels with vital information to use for development interventions such as investments and government spending prioritisation.

1.1.7 Scope and Limitations

The study covered the developing countries of the global south owing to their similar development characteristics and close human development index. These are countries with low Gross National Income (GNI) per capita per year less than GNI of US$ 11,905 and categorised as low and medium lower income by the (World Bank, 2015). Development indicators of health, education and income were considered, in addition to demographic, locational, and governance.

Limitations

The databases used had a lot of missing data on some countries to cover proposed years of study. This resulted in the reduction of the number of countries studied than earlier expected. Also some indicators that could have been used were replaced by their equivalents due to their insufficient observations in the database.

Also, the initial idea was to conduct this study at city or urban level but due to lack of data at city level, this was not possible. However, since cities are part of countries to which they belong, the existing country data is deemed even more representative and suitable for the study.

This research could not cover all critical and deserving human development indicators across income, health and education sectors. In addition, other factors that affect Wellbeing are several that could not be studied given the time limitation.

Lastly, comparing the countries that are within the geographical scope of three continents was difficult since they greatly differ in many aspects. However, to avoid distorted results, the World Bank categorization of countries as a unit of classification based on the strength of individual national economy was used. Also findings were controlled for land area, income and population.

Chapter 2: Literature review

2.1 Introduction

In this chapter, the theories that analyse how human development affects Wellbeing are examined. This was done by reviewing the available literature on three HDI indicators namely: health, education and income but also other issues such as governance, demography, culture and location were discussed. The relationship between HDI and Wellbeing was discussed from the global, regional, continental and even country levels. It was the aim of the researcher that by the end of the chapter, major concepts are defined and critical issues raised in an attempt to answer the questions and objectives of the study.

2.2 Wellbeing contextualized

Wellbeing as an alternative means of evaluating a government's performance has of late gained much support not only from citizens and academia but also from governments, regional bodies and development partners as a means of seeking to identify improved policies and measuring a government's performance towards its citizens (Aslam and Corrado, 2011). It is based on the idea that there is a need to shift from the use of traditional economic indicators which assumed that income can better explain the welfare of citizens; but rather combine income with non- economic indicators to further social, economic, environmental and political progress of citizens and nations (Leedle and Clifton, 2014), (Carmen and et, 2012), (Forgeard, M. J. C.,et al, 2011), (Aslam and Corrado, 2011), (Stiglitz and et al., 2009).

2.1.1 What is Wellbeing?

It was interesting to discover that not only does the concept Wellbeing differ in definitions but also in the way it is written. Some authors prefer it as 'Wellbeing' (Ereaut and Whiting, 2008), (Diener and Martin, E, P, S, 2004), others its 'well-being' Veenhoven (2012), (Stiglitz and et al., 2009). As to whether this is a linguistic choice or the authors' choice is beyond the scope of this study. However, this could be related to the way the concept has evolved over time taking on different names that range from adjustment and morale in the 1950s, then life satisfaction in 1960s and subjective Wellbeing coined by Diener (1985) since 1984 as cited in (Veenhoven, 2012), confirmed by (Ereaut and Whiting, 2008) who noticed that: "*The meaning and function of a term such as 'Wellbeing' not only changes through time, but is open to both overt and subtle dispute and contest*".

The above scenario partly explains why there are several definitions and interpretations of Wellbeing which differ according to different subjects, disciplines, scope and intention of the study (Eckermann, 2012). However, there seems to be consensus on key elements that should not be neglected in the definition: life evaluation as a whole (Veenhoven, 2012), hedonism or immediate pleasure, and eudemonia or human desire for overall life fulfilment (Aslam and Corrado, 2011). Accordingly, these key words were used by Shin and Johnson (1978)[3], who defined Wellbeing as an assessment of a people's quality of life according to their own chosen criteria. Also, (Diener and Martin, E, P, S, 2004) defined it as a way how people evaluate their overall lives in terms of positive emotions, engagement, satisfaction and meaning.

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[3] As cited in (Forgeard, M. J. C.,et al, 2011)

In addition, Wellbeing, happiness and quality of life concepts have been interchangeably used or seem to be portrayed as having the same meaning (Forgeard, M. J. C.,et al, 2011), (Augus, 2008). However, the confusion of different interpretations does not mean that the concept has no definite meaning (Veenhoven, 2010). According to (Augus, 2008), life satisfaction, happiness and Wellbeing are not synonymous though closely related as one leads to the other and lack of one may affect the other. It is for that reason that this study prefers to define Wellbeing as the overall quality of life that an individual desires to have, live, exploit, enjoy and harness most of the time. This definition is preferred because it encompasses the aspects of happiness, life satisfaction and Wellbeing, combines the views of (Diener and Tay, 2015), (Veenhoven, 2010), of meeting the basic needs of life and the aim to respect human dignity; though its attainment may differ across cultural and geographical divides, the reason the individual should be left to judge the feeling of one's life as a whole.

2.1.2 How Wellbeing is measured

Measurement in terms of Wellbeing is the way one assesses the overall life and all that goes with it and around it. It is important because it helps one to know and do the right thing (Stiglitz and et al., 2009). People are seen as the best judges of themselves because they know themselves better than anyone else. It is based on this philosophical notion that quantitative methods use surveys, to evaluate people and report on how satisfied they are with their overall life generally (Augus, 2008). Surveys with questions that rank Wellbeing on a scale of 1- 4, 1-7, 1-10, 1-11, 1-12, 1-15 as explained by (Ballas and Trunmer, 2012), (Forgeard, M. J. C.,et al, 2011)[5], Veenhoven, R., (2010), have gained prominence in measuring Wellbeing.

2.1.3: What is the status of Wellbeing in the developing world?
In the recent past, there has been a noticed and perceived improvement in the global economy generally despite the recession where approximately 80% of households can access services such as electricity, computers, television and internet are spreading rapidly (Leedle and Clifton, 2014). Despite the above claim, the number of people that live uncomfortable lives is still considerable. For example, 19% report on themselves as being socially excluded, 49% experienced unfair elections, 29% said they are not free, while 19% reported hunger (Diener and Tay, 2015).

Map 1 that follow, gives the visual impression of the global Wellbeing situation as reported by Gallup-Healthways 2014.

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[5] (Baumeister 1992), one question measuring the purpose of life, (Michaelson 2009), 4 point measure of life satisfaction, (Diener 1985) SWLS & (Lyubmirsky et al 1999) - 7 point measure of life satisfaction and happiness respectively, (Brandburn 1969), PANAS of Watson Clerk & Telegan 10 point measurement of positive emotion, (Fordyce 1998) - 11 point measure of happiness, (Csikszentmihalyi 1975) – 11 point measure of engagement, SPANE 12 point measure of positive emotion by (Diener 2010), a 15 point measure of temporary satisfaction with life (Pavot et al 1998); all the above as cited in (*Forgeard, et al 2011*) on page 81-88.

Map 1: Global Wellbeing Index 2014
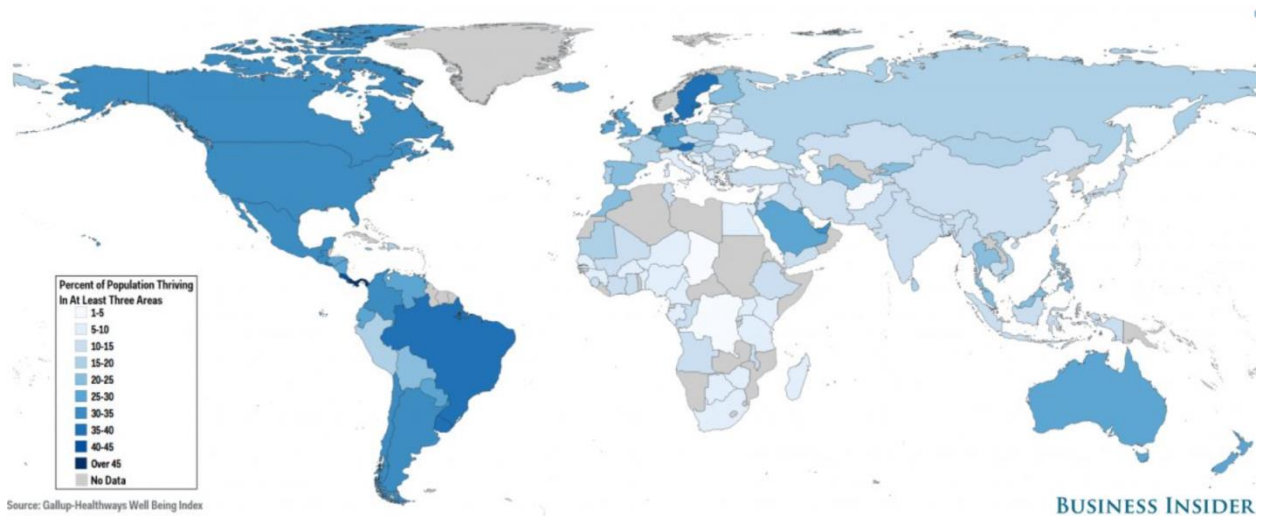
Source: Gallup-Healthways Well Being Index (Business Insider, 2014)

Map 1, of the Global Wellbeing Index 2014 shows the percentage of the population thriving in at least 3 areas among purpose, social, community and physical Wellbeing as described in (Diener and Tay, 2015). From the map, it can be seen that the developed world continue to dominate the world Wellbeing indicators, except for Latin America that has come up to perform even better than most of European countries. Asia seem to be doing slightly better while Africa is at the bottom which is in agreement with the analysis made by (Diener and Tay, 2015).

2.3   What is human development?

Human development (HD) is defined as a process of enlarging people's choices to enable them to lead a long and healthy life, acquire knowledge and access resources needed for a decent standard of living (UNDP, 1990). HDI is a measure for the attainment of human development by looking at indicators such as life expectancy at birth, per capita income and education (Klaus, 2014). It is concerned with ensuring that there are equal life chances for all individuals in a society who should seek and live meaningful, productive and safe lives that are not restricted by anyone and not compromising for others present or to come (Prados, 2013).

2.3.1   Current human development status

There is no doubt that HDI is globally improving and much evidence supports this claim. According to (UNDP, 2013), the majority of countries have made progress in improving the status of their HDI than predicted in 1990. In more than 40 developing countries that accommodate the majority of the world's population excluding China, 63 percent of their *"...life expectancy at birth has increased due to lower infant and child mortality, fewer deaths due to HIV/AIDS* [interventions] *and improved nutrition. Education levels have risen on stronger investments and political commitment. Multidimensional poverty has been considerably reduced, though wide variation across countries and regions remains"* (UNDP, 2014), (Jeffrey, 2014).

The Human Development Report 2014, gives the trend on HD from the 80's to date as shown in table 1 below:

Table 1: HDI global trends 1980-2013

| | Human Development Index (HDI) | | | | | | | | | HDI rank | | Average annual HDI growth | | |
| | Value | | | | | | | | | | Change | (%) | | |
HDI rank	1980	1990	2000	2005	2008	2010	2011	2012	2013	2012	2008–2013ª	1980–1990	1990–2000	2000–2013
Human Development Index groups														
Very high human development	0.757	0.798	0.849	0.870	0.879	0.885	0.887	0.889	0.890	—	—	0.52	0.62	0.37
High human development	0.534	0.593	0.643	0.682	0.710	0.723	0.729	0.733	0.735	—	—	1.04	0.81	1.04
Medium human development	0.420	0.474	0.528	0.565	0.587	0.601	0.609	0.612	0.614	—	—	1.22	1.09	1.17
Low human development	0.345	0.367	0.403	0.444	0.471	0.479	0.486	0.490	0.493	—	—	0.64	0.95	1.56
Regions														
Arab States	0.492	0.551	0.611	0.644	0.664	0.675	0.678	0.681	0.682	—	—	1.14	1.05	0.85
East Asia and the Pacific	0.457	0.517	0.595	0.641	0.671	0.688	0.695	0.699	0.703	—	—	1.23	1.42	1.29
Europe and Central Asia	..	0.651	0.665	0.700	0.716	0.726	0.733	0.735	0.738	—	—	..	0.21	0.80
Latin America and the Caribbean	0.579	0.627	0.683	0.705	0.726	0.734	0.737	0.739	0.740	—	—	0.79	0.87	0.62
South Asia	0.382	0.438	0.491	0.533	0.560	0.573	0.582	0.586	0.588	—	—	1.37	1.16	1.39
Sub-Saharan Africa	0.382	0.399	0.421	0.452	0.477	0.488	0.495	0.499	0.502	—	—	0.44	0.52	1.37
Least developed countries	0.319	0.345	0.391	0.429	0.457	0.472	0.480	0.484	0.487	—	—	0.79	1.26	1.70
Small island developing states	0.545	0.587	0.613	0.637	0.658	0.662	0.663	0.663	0.665	—	—	0.75	0.43	0.62
World	**0.559**	**0.597**	**0.639**	**0.667**	**0.685**	**0.693**	**0.698**	**0.700**	**0.702**	—	—	**0.66**	**0.67**	**0.73**

Source: Human Development Report 2014

Table 1 shows a summary of the global HDI trend from 1980 - 2013. From the table, it is clear that the developing countries' performance trend has been improving, however, SSA continues to register the lowest HDI (0.502) followed by South Asia (0.588); Latin America showed the highest number (0.740), followed by Europe and Central Asia (0.738) as measured on an A value of 0.890. The table further shows that South Asia, which was at the same development level with Africa in the 1980s, at (0.382) has continued to do well while Africa is still struggling; as Latin America and the Caribbean surpassed Europe and Central Asia though during the 1990s, the latter was doing better at (0.651) than the former at (0.627).

According to (UNDP, 2014), the African continent shows major differences between North Africa with countries such as Libya, Tunisia, Algeria competing well at the high HDI category with Egypt. Though the Arab spring could have an effect on the countries in this region. Closely following were Botswana, Gabon, South Africa, Cape Verde, Namibia, Morocco; and Ghana, Congo, Zambia, Equatorial Guinea in the Medium category while the majority fall below 0.555 to be classified in the low category. This is in agreement with what (Prados, 2013) found that though there are differences between continents, nations and within nations, the gap between Africa and indeed SSA and the rest of the world is wide.

All this entirely fits in the description of Table 1 which shows a distinctive HDI divide of the north that is doing well and the south that lags behind except for Australia, New Zealand and the upcoming East Asia economies. Within the south, further sharp differences emerge with the African continent faring poorly with the northern part of the continent catching up with the average countries while SSA is still struggling with the majority of the counties far from the average.

2.3.2: How does HDI affect Wellbeing?

To explain the question how HDI affects Wellbeing, there is a need to explore what HDI is composed of. As explained in 2.3, HDI is measured using 3 indicators of health, education and GDP. The HDI indicators have for long been major drivers of development, and have proven to have a far reaching effect on the subjective Wellbeing of nations and partly explain why there are differences. According to (Prados, 2013), (Cassani, A. and Giovanni. C., 2013), (Carmen and et, 2012) using health, education and income factors, we can observe how governments care about the Wellbeing of their citizens. In this section, the researcher reviews theories that explain how the three human development indicators affect Wellbeing and discusses health first.

2.3.2.1   Health and Wellbeing

Health is a basic need that lengthens and improves people's lives to be more productive and contribute to their quality of life. It is so important that without good health, there is little that people can do and achieve. It equips people with the ability to actively participate in society to do what they want at whatever level (Augus, 2008). (Leedle and Clifton, 2014) describes good health as physical Wellbeing where a person has enough energy to make a choice of doing daily activities that contribute to the individual's Wellbeing in society. Gallup and Healthways' research also shows that people with higher Wellbeing are healthier, more productive and capable of facing day-to-day challenges (Leedle and Clifton, 2014).

According to (Diener and Chan, 2011), the relationship between health and Wellbeing is a mutual one. The study found evidence to support the influence of Wellbeing on health, especially on how Wellbeing influences some diseases' burdens. This is confirmed by (Kim, Park, et al., 2014) whose findings concluded that people with a higher life satisfaction index reduce chances of visiting doctors thus reduce health care costs. However, (Stiglitz and et al, 2009) found a lack of good measures of mortality and morbidity to accurately measure and document such an influence and show the health risks available. Though such data is available in developed countries, it is hard to find in most of the developing world. This makes accurate planning, monitoring and evaluation for health improvement difficult.

According to (Augus, 2008), *"Longer life expectancy* [a result of better health] *surely enables people to do more with their lives and is arguably the best single indicator of population health"*. In a similar view, (Deaton, 2002) implored governments to invest more in health policies that improve wellbeing of the poorest in society to enable them live longer and meaningful lives.

Other studies also show that countries that dedicate financial resources to the health sector, improve the life expectancy of citizens. For example in Africa, increased health expenditure from 1995 - 2011 rhymed with the reduction of under 5 children mortality as shown in graphs 1 and 2 reported by (UNESCO, 2014). Since longer life expectancy improves Wellbeing, then reducing mortality rate by increasing health budgets can be a means of attaining improved wellbeing as shown in graphs 1 and 2 below.

Graph 1: Trend in health expenditure of African Countries 1995 - 2011

Source : WHO, May 2013
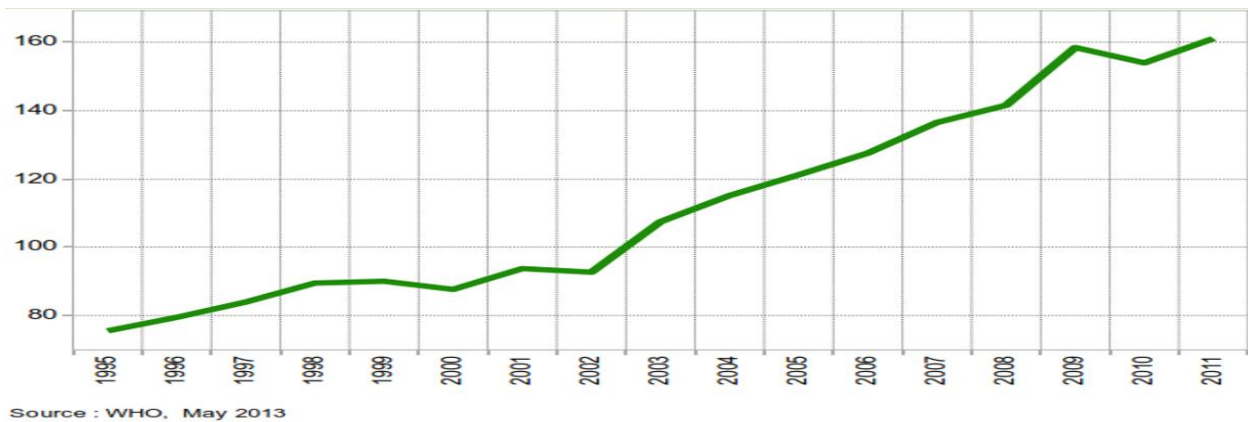
Graph 2: Under 5 children mortality in selected developing countries 2000 - 2015
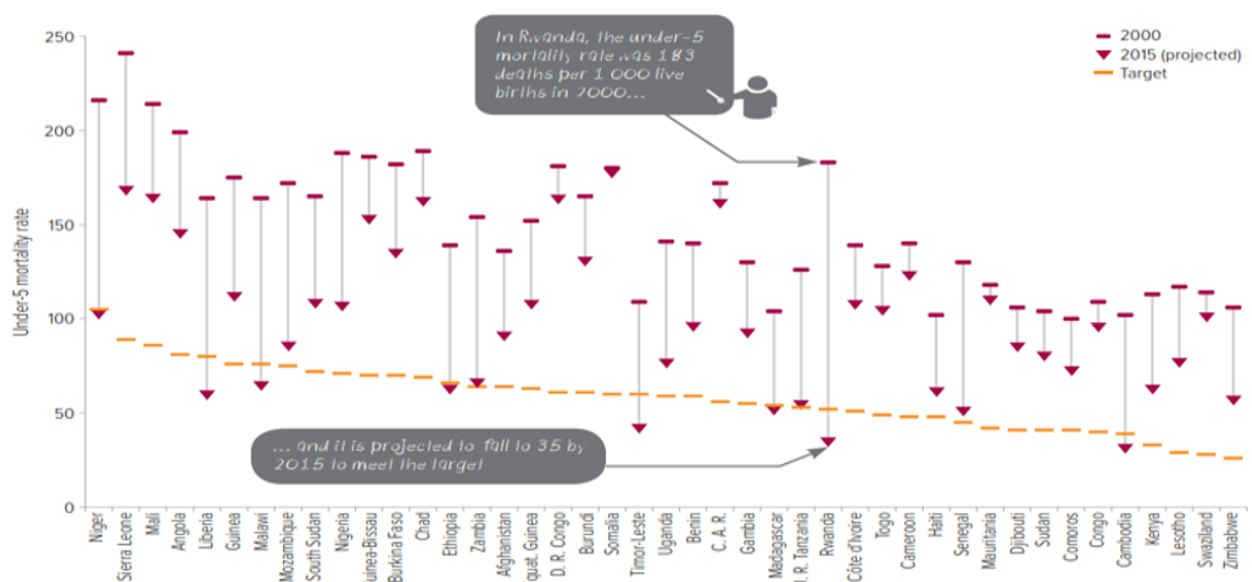
Source: EFA Global Monitoring Report (UNESCO, 2014)

Graph 1 shows the trend in average health expenditure per capita (PPP int. $) of selected countries from 1995 to 2011. From the figure, a slight increase is observed from 1995 to 2002, after which there was a steady increase up to 2009 and then a slow reduction is seen in 2010/2011. On the other hand, graph 2 explains the trend in child mortality rates of selected countries between 2000 and 2015 projected.

In addition, (Augus, 2008) in a study about health and wellbeing found out that "*Without health, there is very little that people can do, and without income, health alone does little to enable people to lead a good life*". The study concludes that individuals whose health standards are high, have the ability to do and achieve what they want in life because of being active at work, which contributes to their Wellbeing compared to their counterparts.

2.3.2.2   Education and Wellbeing

Education plays an important role in providing the required knowledge, skills and right attitudes to individuals which translates to increased and improved productivity with the benefits that come along with it. (Stiglitz and et al, 2009), (Cassani, A. and Giovanni. C., 2013), (Orviska and et al, 2014), find a strong relationship between education and lower unemployment, improved social connections and greater engagement in civic and political activities. Therefore, not only do educated individuals reap monetary and non- monetary benefits but also Wellbeing benefits as individuals, families, communities and the entire nation.

According to the Gallup – Healthways, Global Wellbeing Index 2014, the percentages that responded to be doing well globally were influenced by education at 23% after reporting that they had at least continued in school four more years after high school. Otherwise, respondents that had completed elementary education or less and those working in the fishing and agricultural sectors - the largest employers of the less educated and illiterates in developed countries that account for 10-11%; were living on less than 1.25 international dollars per day (Leedle and Clifton, 2014).

On addressing the question of what particular role education plays in influencing Wellbeing and of what significance it has on policy, (Michalos, 2008) defined it to include formal, informal and skills training that do not only emphasize certificates but also involve practical skills such as art and culture, social interaction and useful day to day life experiences.

At a global scale, statistics show a strong relationship between education, health, income and Wellbeing for example in rural Indonesia, completing lower secondary education, doubles one's chances of living out of poverty. In Pakistan, an educated person to a literate level, earns 23% more than an illiterate. In Jordan, 7% of women that complete secondary education work for no pay compared to 25% that have completed primary education; in Mexico, an improvement from primary to secondary education leads to an increase of women in gainful employment from 39% - 48% (UNESCO, 2014). From such examples it is concluded that an average increase in the educational level of a country citizens, leads an annual per capita GDP growth of a country by 2 - 2.5% (UNESCO, 2014).

Though the above arguments seem to emphasize education as a means to employment, (Badasi Elena) the study done to explore the relationship between wellbeing and unemployment found that though unemployment does not have adverse health consequences on workers, it is important that policies that aim at improving the working conditions be given special attention. However, in another study, (Cole, Daly, et al., 2009) found that unemployment negatively affects a person's wellbeing, which in turn can impair their ability to regain employment and also has an influence on their productivity.

In addition, education was found to equip individuals with the ability to participate and influence society, being socially connected, having virtues of wisdom and pleasure in one self and most importantly gaining requisite skills to enable one to get employment or even employ oneself (John, 2011). Generally, education has unrivalled and clearly identifiable positive effects on the Wellbeing of an individual, (Michalos, 2008).

It can therefore be said that the benefits that accrue from education are many. It does not only lead to creation of a highly skilled innovative workforce but also leaves to the majority of the population satisfied with their overall lives (John, 2011), (Boyce and et al, 2010), (Diener, E. and Eunkook, M., S, 2000), (Augus, 2008, Augus, 2008), (Sagar and Najam, 1998);

2.3.2.3 Standards Of Living (SOL)

In this section, the variable SOL is used as having a synonymic meaning as income, wealth or GDP per capita. Such meaning is discussed at individual, society, national and continental levels as the situation warrants.

For quite long, income has been a measure of Wellbeing of individuals and nations. This is true because as discussed in 2.3.2.1 and 2.3.2.2, one would argue that to have good health and education that influence Wellbeing, they come at a cost; this puts income at a strategic position of influencing Wellbeing although study findings show that income is of greater influence in poor countries than in rich countries and within different income categories of a country (Pittau and et al, 2010). This is conventional economics, where money or income is exchanged for goods and services that increase an individual's utility, therefore the more money you have, the more utility you are likely to obtain. In line with this assumption, wealth income increases Wellbeing (Boyce and et al, 2010)

However, the disagreement that income and economic growth are not adequate enough to measure individual and society progress has continued to gain momentum among citizens, academia and even policy makers (Diener and Martin, E, P, S, 2004), because the compilation of a country's GDP takes into consideration the transactions that create wealth irrespective of whether they increase or reduce Wellbeing. Examples can include irresponsible mining regardless of its effects on the environment, purchase of military equipment and hardware irrespective of war effects, building of prisons due to increased criminal activities etcetera. (Forgeard, M. J. C.,et al, 2011) GDP raises this concern of over production regardless of whether it depletes resources and degrades the environment or not. Therefore, as society strives to increase incomes, it should not be done at the expense of the future generation *"robbing the future"* and lowering society Wellbeing (Stiglitz and et al, 2009).

Also GDP is not a holistic measure of economic wellbeing because it does not take care of the informal sector services such as unpaid work, voluntary services, and even foreign nationals' incomes. For this reason therefore (Erwin and Boris, 2010), (Kenny, 2005); argue that income is not an appropriate measure of Wellbeing especially in developing countries where the informal sector accounts for a larger share of the economy.

Studies suggest that at national level, income increases happiness to the level of meeting basic needs and thereafter there is no or little relationship between a nation's income and life satisfaction in the long run. This explains why the relationship is stronger in developing countries, where basic needs are not met by the majority, than in the developed world though (Boyce and et al, 2010) find no evidence in the assertion that there is a point beyond which income ceases to relate to Wellbeing. While at an individual level, (Augus, 2008), found that it is the ranked position that explains the significance but not reference and absolute incomes.

Though in the computation of the human development index 2012, per capita GDP was substituted with per capita gross national income to capture remittances from abroad for both firms and individuals working and living in other countries (Carmen and et, 2012), (Erwin and Boris, 2010) to make it more robust, it is still falling short of including issues such as environment destruction, informal productions, social capital, longevity, personal security and safety which are all important for determining Wellbeing (Erwin and Boris, 2010). This argument is not to say that GDP is not important, but rather to show its limitations and indicate the importance of incorporating other indicators in the measurement of social progress.

2.4   Other factors that influence Wellbeing

Although there are other several factors that affect Wellbeing other than the ones already discussed, the issues raised by (AfDB and et al, 2012), (Diener, E. and Eunkook, M., S, 2000), (Ndulu and O'Connell, 2005) as discussed in 1.1.3 can be categorised under demography, accessibility or location and governance. Section 2.4 explores how theory links such factors to Wellbeing.

2.4.1   Location

Location of a country either along the coastal line or landlocked that eases accessibility or not is one among other causes of differences in human development globally. (Prados, 2013) discovered that since the mid-twentieth century high HDI has been associated with coastal located countries rather than the landlocked. Also (Diener and Tay, 2015), (Ballas and Trunmer, 2012), find geographical reasons to explain differences in Wellbeing between and within nations, because various people choose to stay in different places due to personal characteristics that distinguish them from others.

In addition, it is important to think of location because it plays an important role in linking the production centres and markets because easy communication and access eases trade and social ties and isolation between countries, regions and within a country may hinder wealth creation (Ndulu and O'Connell, 2005). In the majority of cases where countries are disconnected and isolated due to poor roads, vast natural resources such as forests cover, water bodies, mountains etcetera, nationals find it hard to create wealth and it is for this reason that land lockedness has been associated with having negative effect on trade between countries and across continents thus reducing growth. Therefore, since national growth has a positive effect on wellbeing, then connectivity and accessibility facilitate wellbeing.

In Africa, (Ndulu and O'Connell, 2005) find that reasons such as geographical location also explain Africa's under growth such as being located in the tropics which favours diseases, exhausted soils that have low productivity, presence of a large forest cover together with lakes and rivers that make transport difficult partly explains why for example Uganda, which was comparable to Malaysia, Nigeria to Indonesia in the 1960s according to Collier & Gunning (1999) cited in (Ndulu and O'Connell, 2005) are currently not at the same level of development. This argument holds since the few African countries that have a high HDI are located on the costal line which solves transport issues but it is watered down by similar land locked countries such as Switzerland that has utilized its tourist potential irrespective of its land locked location and terrain.

In addition, (Diamond, 1997), (Sachs and Warner, 1997), (Ndulu and O'Connell, 2005) found that geographical location especially in the tropics and land lockedness of a country is associated with poor crop yields, more debilitating diseases, and endowments that cannot employ better mechanical production as it is in the temperate location in found that this therefore limits the country's ability to access economic markets, its ability to exploit economies of scale, and lower its production potential.

However, (Easterly and Levine, 2003) found no evidence that location in the tropics than temperate affects a country's economic development because of ecological conditions that favour diseases, or an environment good for grains or certain cash crops and other endowments. Instead, the study found that the effect was through institutions failure to have better policies.

2.4.2 Demographic Issues

In this sub section, issues of population, language and culture are explained in relation to wellbeing. Demography is defined as the study of human populations; it is concerned with the size, composition, distribution, structure and change across time and space (Thomson, 2007). In this study, demography is used to include how population is distributed in space at a given period of time in terms of social, cultural, language, marital status, race, age and gender (Shryock, 2013).

2.4.2.1   Population

Population increase is one of the major challenges facing the developing world; it comes with adverse environmental, social, economic and political challenges (Bongaarts, Ezeh, et al., 2012, Bongaarts J and and Sinding S, 2011). Therefore, considering the adoption of reducing the population growth mechanisms would not only stimulate economic development, enhance human potential and improve wellbeing but would also achieve many other demographic dividends[6] according to Bloom, D. E. et al 2014 as cited in (UNFPA, 2014).

(Bongaarts, Ezeh, et al., 2012) find that global population increase trends pose a threat to Wellbeing as it continues to challenge not only social but also economic and environmental spheres in developing countries. The study add that while the developed countries suffer from a negative population growth, the middle income economies are challenged by the growing population with a growth rate of 0 – 1% per year but the situation is worse in poor economies with higher than 2% per year (Bongaarts, Ezeh, et al., 2012).

This is in agreement with (Ndulu and O'Connell, 2005) who attributed Africa's underdevelopment to the population explosion since the 1960s. To Ndulu that partly explains the collapse currently seen in the public health sector that cannot handle the pressure exerted upon it leading to high mortality rates, high life expectancy; the increasing numbers in schools than available infrastructural and human resources to accommodate them. Also, the prevalent environmental degradation in a bid to expand the available land resources etcetera. All these factors lead to economic decline and stagnation that saw Asia take off while Africa

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[6] Demographic dividends are benefits enjoyed when an economy has a more productive population than a dependent one.

watched (Ndulu and O'Connell, 2005), and consequently posing a great impact on the people's wellbeing.

On the other hand, (Tamiya and et al, 2011) while studying the Japan's long-term care insurance policy, found that the Japanese aging population due to long life expectancy and a low birth rate, increased the use of formal care at households level, and not only did it risk the wellbeing of care givers but also care takers. The study further found that the policy had challenges that included dissatisfaction with home based care, provision of necessary support for the family care givers, and financial sustainability that was likely to jeopardize society wellbeing in the long run.

2.4.2.2   Language

(Orviska and et al, 2014) and (Biddle and Hannah S, 2012), find language a significant factor to people's wellbeing because to people, a language goes beyond a tool of communication but extends to being a social, economic and political means of survival. It also holds people's knowledge about their history, culture and how they view the world around them. According to Hallett et al. (2007, p. 393) cited in (Biddle and Hannah S, 2012), losing a language is equated to losing a sense of interpreting the world around man and explaining the unknown in life.

In addition, (Biddle and Hannah S, 2012), found a strong relationship between language and participation in an economy and society and language was also associated with unemployment in Australia especially by the less educated who were thought to be socially and economically excluded from the main stream participation in economic, social and cultural values.

(Werngren, Dehlin, et al., 2003) when studying the deaf population that use sign language, reported the existence of higher rates of depression and tension than their counterparts and the former perceived themselves as being on the lower quality of life side. The study findings confirmed the assumption that symptoms of depression and insomnia are more frequent among the elderly deaf people using sign language than among similar hearing populations.

The above is supported by study findings of (Orviska and et al, 2014) and (Biddle and Hannah S, 2012), which concluded that exclusion from hearing and communicating puts an individual at a disadvantage especially among the elderly, disabled, youth and disadvantaged in society because it is associated with difficulties in accessing services due to poor communication with service providers that results into tension and distress.

2.4.3 Governance issues

Governments, and at best democratic ones, aim at fostering the wellbeing and economic development of their citizens. It is in the interest of evaluating how this can be achieved, that it is important to evaluate interventions of various policies, programs and projects that call on governments to make wellbeing a policy goal as pointed out by (Veenhoven, 2009) who found a strong relationship between the wellbeing of citizens and well-functioning public institutions within nations and (Cassani, A. and Giovanni. C., 2013) also observed that

citizens in competitive regimes, live longer than those in dictatorships. It is through institutions such as civil societies, free media, open political debates and individual citizens freely participating in the affairs concerning their governance, that the destiny of a nation which everyone enjoys can be shaped because people's voices integrates to their quality of life (Stiglitz and et al, 2009), (Erwin and Boris, 2010).

Governments globally are responsible for improving their citizens' wellbeing by providing the best services that they aspire. These services range from social, to economic, environmental, and even political that can transform society and lead to increased Wellbeing. It is for that reason that all governments should aim at happiness for a greater number (Veenhoven, 2012)

Key aspects of governance that should be observed include rule of law, functional institutions such as police and the judiciary, respect for human rights, corruption, political interference and social prejudice, and a presence of governments that are accountable to their citizens (Stiglitz and et al, 2009). However, (Porta and et al., 1999) found historical reasons that include legal regime origin, religion and language to be more influencers of good governance.

(Alvarez-Diaz and et al., 2010) state that governance has an effect on income and unemployment of individuals and therefore has an impact on their wellbeing and (Orviska and et al, 2014) concluded that in the US, Wellbeing differs depending on state differences in policy and governance.

(Orviska and et al, 2014) maintain that governance issues have a higher negative effect on women in poor countries while the effect is less significant for women in rich countries. This contradicts Veenhoven (2000) cited in (Orviska and et al, 2014) who found out that in developing countries, economics influence happiness more than political freedom while the reverse is true for developed countries. However, it confirms the assertion that democracy varies within and between nations (Pittau and et al, 2010), (Orviska and et al, 2014) and to (Veenhoven, 2010) governments should aim at fostering ideals such as freedom, rule of law, civil participation that Increase happiness for a greater number of citizens which is possible, practical and morally sound.

In addition, a study by (Porta and et al., 1999), concluded that higher income countries with larger tax bases have improved performance in governance issues. This could partly explain why the US, Canada, Australia and some European countries are at the top of many well-being indicators although certainly not all, and many African nations continue to be near or at the bottom. (Diener and Tay, 2015). Though the coming up of Latin America seem to water this argument down.

(Cassani, A. and Giovanni. C., 2013) concluded that it is in regimes with limited political competition that new opportunities to citizens are generated because it gives a chance for autocrats incentives to invest in citizens' wellbeing whereas competitive autocracies continuously reduce the threats coming from opposition parties and the competitive authoritarian leaders face weaker incentives to invest in public goods. This contradicts the view shared by the majority including the (The Economist., 2015), who agree that undemocratic governments are associated with civil unrest, lack of freedom and disrespect of individual rights which leads to low self-esteem of citizens thus lowering their wellbeing.

Despite the above arguments, to (Blunt, 1995), the notions as sustainable human development and good governance, which are in many ways prescribed for poor countries by rich ones are nothing but *"new forms of cultural and ideological imperialism conceived largely in the West"*. The study suggests that there is no one best way of good governance or SHD and that, while universal best practice may be found, countries should be left with considerable room to allow local and cultural adjustments.

2.5   Conclusion

The purpose of this chapter was to lay the theoretical background by relating existing knowledge to the subject of wellbeing and its relationship with not only HD but also other factors. From theory, ideas such as the need to shift from the use of traditional economic indicators such as income to explain Wellbeing of citizens but rather combine them with non-economic indicators to further social, economic, environmental and political progress of citizens and nations came out profoundly.

The arguments above are not to say that GDP is not important because it is still needed to provide such services. However, it is to show that it has its limitations and also indicate the importance of incorporating other indicators in the measurement of social progress. Therefore, to provide a stronger link between economic growth and human development, there is a need to have considerable investments in infrastructures, in health, education, and public transport, power, and communication sectors. This will create a productive class and improve the movement of goods and services from the production centres to markets and lessen production costs thus competing freely to have a fair share in the international market. This is the reason why location factors may determine the wellbeing of a country or its people.

In addition, the need to have the languages that facilitate individuals' interaction in society be it in civic participation, demand and utilization of services such as health, education and even employment should not be underestimated for it greatly contributes to the wellbeing of an individual as well as a society. Also, the need for governments to provide the basic environment that aims at the respect of human dignity across different cultural, economic and geographical divides, it is essential and could be achieved through good governance.

Most theories claimed that there is a significantly strong relationship between HD & Wellbeing although other factors such as location, culture, demography, governance equally play an important role towards the attainment of high wellbeing results in society. However, being aware that the developing world falls short of the required resources such as financial, human, and physical or otherwise to deal with all wellbeing determinants at once, there is a need to critically look at adopting a systematically phased approach to achieving wellbeing. It is based on the above that wellbeing and HDI concepts were discussed, and the current situation tabled in this chapter set a good foundation on which this study firmly rests.

2.7   Conceptual Framework

Theory has shown that there is a relationships between HDI and Wellbeing. To assess this relationship, a conceptual framework is drawn based on three categorical factors: HDI, HDI constituents and other factors and how they determine Wellbeing. The framework therefore shows the dynamics that draw a logical path that link the three. A conceptual framework for this study is summarized in figure 1 below.

Figure 1: Conceptual framework
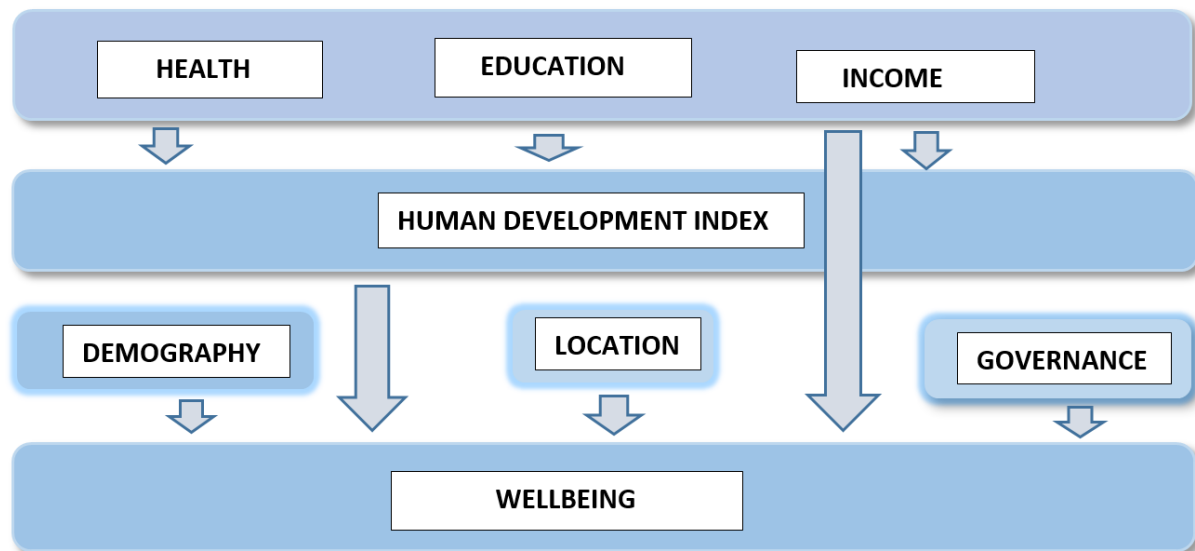
Source: Author, 2015

Figure 1, conceptualizes the relationship between HDI and Wellbeing. It shows how health, education and Income variables influence HDI that in turn, also influences Wellbeing. The framework, further shows that independently, health, education and Income can influence Wellbeing not necessarily as part HDI. Also the relationship between demography, location, governance and Wellbeing is illustrated as theory revealed.

Chapter 3: Research Design and Methods

3.1   Introduction

This chapter describes in detail the step by step research methodology that was used to address the research question. It starts by highlighting the revised research questions in accordance with the literature review, defining major concepts and variables, the strategies used, data collection methodologies and analysis tools, sample size of the study and how it was approached. Also issues of validity and reliability and how data analysis was done.

3.1.1   Revised Research Question(s)
General Research Question.

- What is the relationship between Human Development and Wellbeing in the developing world?

3.1.1.2   Revised Sub-Questions.

- How does HDI affect wellbeing in the developing world?
- What other factors explain the wellbeing differences across the global South?
- Which indicators could be prioritised in the region?

3.1.2   Operationalization of Concepts and Variables

From literature, a conceptual framework was developed (figure 1). The variables are categorized as dependent (Y- variable) and independent (X- Variable). The Y- variable level of Wellbeing is defined as a way people evaluate their overall lives in terms of positive emotions, engagement, satisfaction and meaning (Diener and Martin, E, P, S, 2004), For this study, wellbeing was defined and used as the overall evaluation of quality of life that an individual desires to have, live, exploit, enjoy and harness most of the time generally. The Happiness Report 2015 was used with the indicator Life Ladder to measure Wellbeing (Y1).

The X- variables include Human Development (X1). HD is defined as a process of enlarging people's choices to enable them lead a long and healthy life, acquire knowledge and access resources needed for a decent standard of living (Klaus, 2014), (UNDP, 1990). The variables SOL, Education and Health that are used in measuring HDI were examined in detail with operational definitions as below:

SOL (X1.1). GDP per capita or income which is the value of all goods and services within a country's economy in relation to its population (Bauer, 2012), (Greenaway-McGrevy, 2013), was used as a measure of SOL. GDP per capita in this study is used to indicate a decent standard of living of citizens measured by the ability to have basic necessities of life. The WB database was used as a source to get GDP per capita and poverty head count ratio indicators.

Health (X1.2). WHO defines health as "*a state of complete physical, mental and social wellbeing and not merely absence of disease or infirmity*" (WHO, The Constitution of World Health Organisation, 2006). In a real life situation, this definition is not attainable and therefore for this study a more accommodative meaning of health as the state where a person is able to actively participate in productive activities that contribute to the individual's wellbeing in society (Leedle and Clifton, 2014) and (Machteld and et al., 2011); WB database was used to get data on life expectancy at birth and access to

improved sanitation facilities indicators because these are said to have devastating effects especially on developing countries (WHO, 2002).

Education (X1.3). This study viewed education as an instrument that equips an individual with the sense of being able to participate and influence society, being socially connected, having virtues of wisdom and pleasure in one self and having requisite skills to enable one get employment or even employ oneself. It is from this perspective that the (UNESCO, 2007) education definition "*actions designed to meet basic learning needs for lifelong learning[8] and human development*" is adopted with modifications. The database of WB was used to get education indicators on literacy rates, mean schooling years and secondary enrolment rate.

Governance X2 was identified in literature as another important indicator that affects wellbeing. It is defined as the ability of a government to make and enforce fair laws, rules, and regulations that enhance improved delivery of services to citizens. This definition was adopted with modifications from (Fukuyama, 2013). Governance was measured by the DI from the Economist database using indicators such as: electoral process and pluralism, functioning of government structures, political participation, political culture, and civil liberties. In addition, the corruption performance index (CPI) from Transparency International was also used to measure how responsive governments are in efficiently and effectively offering the desired services.

Location X3. The study looked at the location of a country in terms of how the efficiency of the logistics sector to facilitate accessibility. This is because (Prados, 2013), (Jean- Francois and et al., 2010), (Ndulu and O'Connell, 2005) found landlocked and countries located in tropics to have problems with their overall socio-economic development due to lack of access to the sea which greatly contributes to remoteness and isolation from world markets because of high transportation costs. They had also associated tropical location with diseases because of a large forest cover. The assessment indicators included logistics performance index[9] from WB database. In addition, tropical location was also used where the distance of the country from the equator was calculated using GNIS.

Demography (X4). As discussed in 2.4, demography was defined as the study of human populations that is concerned with the size, composition, distribution, structure and change across time and space (Thomson, 2007). However, in this study, the concept demography is used from the perspective of how a population is distributed in space at a given period of time in terms of social, cultural, language, marital status, race, age, gender et cetera (Shryock, 2013). The database of WB was used with the following indicators: total population, percentage of population aged 0-14, 15-64, and over 65 years. This intended to know of the older, middle aged or young population, contribute more to the wellbeing. In addition, linguistic diversity index[10] from UNESCO was used to measure the contribution of language to Wellbeing.

In the following table, the above concepts, variables and indicators are tabulated in relation to the questions they try to address.

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[8] Lifelong learning means general education that includes vocational education and training, non-formal education and informal learning undertaken throughout life that results into improved knowledge, skills and competences within a personal, civic, social and/or employment-related perspective (UNESCO 2007).

[9] Data source: Logistics performance index 2014 by World Bank. Available at: http://lpi.worldbank.org/international/global/2014?sort=asc&order=Infrastructure

[10] Linguistic diversity index of UNESCO available at: http://unesdoc.unesco.org/images/0018/001852/185202E.pdf

Table 2: Operationalisation of concepts, variables and indicators

Research Question	Concept	Variable	Description	Indicator	Data Source	Analysis
What is the relationship between HDI & Wellbeing?	HDI	Standards of living	Income	GDP per capita Poverty HCR	WB	Explanatory
		Health	Mortality rate	Life expectancy	WB	
How does HDI affect wellbeing?			General health	Access to improved sanitation	WB	Explanatory
		Education	Secondary education	Enrolment rate	WB	
			Years spent in school	Mean years of schooling	UIS	
			Literacy	Literacy rate	WB	
	Wellbeing	Life evaluation as a whole	Life Ladder	Satisfaction with quality of life	Happiness Report 2015	
What other factors explain wellbeing differences across the Global South?	Governance issues	Democracy	Level of Democracy	DI	The Economist	Explanatory
			Functional government structures	CPI Score	TI	
	Accessibility	Location	Tropics	Distance from Equator (Latitude)	GNIS/ Distance calculator [11]	
			Infrastructure status	Logistics performance index	WB	
	Demography	Population	structure	% of 0-14	WB	
				% 65+years	WB	
				Total population	WB	
		Language	Language diversity	Linguistic diversity index	UNESCO	

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[11] Distance from the equator was calculated using distance calculator of Geographical Names Information Systems (GNIS). Available at: http://www.infoplease.com/atlas/latitude-longitude.html

Which indicators could be prioritised in the region?				Data Analysis & interpretation		Indicators' significance

Table 2 above gives a summary of concepts, variables and indicators that were considered in addressing the research questions. These concepts, variables and indicators were identified during literature review as summarised in the conceptual framework (Figure 1).

3.1.2 Research Strategy

The study used a survey strategy since it largely used secondary data collected from large surveys done by the World Bank, Happiness Report 2014, Gallup-Healthways, UNESCO, WHO, and UNDP. The required indicators for 8 years (2006-2013) were taken from the database.

In addition, both descriptive and explanatory approaches were deployed to put the background of wellbeing and HDI into perspective. This was done especially to address the question "*Which indicators could be prioritised in the region?*

The choice of such a strategy was in line with the research questions that sought to establish the relationship between human development indicators and wellbeing in developing countries. To achieve this, there was a need to explain and measure people's behaviours and perceptions. According to (Fowler Jr, 2008), a survey is the best research strategy that should be used to measure public opinion, political perception and understanding peoples' preferences.

Also, since the scope of the study covered the developing countries of the global south, with a total number of 39 countries in 3 continents and 8 variables and many indicators (refer to table 1) were to be analysed within the limited time available. This necessitated a robust strategy that would capture all the required information within the allocated time frame. This is supported by (Ross, 2005) who states that "*In fact, survey research is often the only means available for developing a representative picture of the attitudes and characteristics of a large population that will be generalized".* Also according to (Kelly and et al., 2003), surveys capture standardized information from many people in many countries, where privacy is guaranteed and independent opinions generated.

However, in surveys that cover large studies such as this one, results generated may be biased, with errors and much variability according to (Fowler Jr, 2008) because of involving large numbers of the study population. In addition, important information may be missed due to the use of predetermined questions and a substantial number of would be respondents especially those that cannot read and write may be left out, given the presence of a large number of illiterates in the global south region. This may affect the number of respondents or even returned responses.

However, the databases used had been tested before; for example the Gallup database from which the World Happiness report 2015 derives its data, covers 98% of the world's Population (Diener and Tay, 2015). Gallup samples countries and ensures that in each nation there is a representative sample drawn from 164 nations with total sample size of 1,229,431, which is one of the largest in the world with a 95% confidence interval (Diener and Tay,

2015) and (Leedle and Clifton, 2014). In addition, the variables as well as indicators used have been used before by other researchers as identified in literature review and their significance tested. This counteracts the critique that surveys lack details or in-depth investigation on the topic they investigate (Kelly and et al., 2003).

Also, other data bases are from established international organizations such as the World Bank, UNDP, UNESCO and others with well-established statistics departments that can be relied on. These databases provide worldwide cross border information of various countries compiled not only by multinational governmental bodies and development agencies but also offices of home governments.

3.1.3 Data Collection Methods

The study mainly used secondary data from existing databases that have been collected through surveys by the World Bank, World Happiness Report 2015, UNESCO, and UNDP only to mention; in addition, maps, websites and reports were also used. (For details please refer to table 2 column 6). In the database, the required indicators for the study were identified. A new Excel data base was created where data from various sources was merged, sorted and prepared for analysis.

Quantitative secondary data collection and analysis were the preferred methods that could adequately cover a representative sample on whose results generalizations could be made. This was because given the geographical scope of the study and time limitations, this method was better in such circumstances.

The anticipation of large quantitative database challenges such as information overload on which relevant indicators to select for the study in addition to incompleteness or missing data was overcome by focused research questions that related to existing data to solve such problems. Also were critical indicators were missing, their nearly equivalents were used as replacements.

3.1.4   Sample Size and Selection

Non- random purposive sampling method as defined by (Kelly and et al., 2003) was used. This was based on the World Bank classification of the world economies 2015 as low and lower income economies (World Bank, 2015). In addition, the geographical scope of the study was the Global South as propounded by the Brandt report (Brandt, 1980) and (Sharachchandra L. M, 1991),

To Brandt, the world is divided into the North and South geographical regions separated by an imaginary line. Except for countries such as Japan, South Korea, Australia, New Zealand, and other upcoming countries such as China, ASEAN, MENA and Latin America; the North is more developed while the South is less developed with socio-economic and political challenges including a low human development index.

The following map shows the Brandt line. Though imaginably, most countries were picked from the less dark shaded depicting developing countries.

Map 2: The North - South divide (Brandt Line)

Source: The Global North-South Divide (Brandt, W., 2012)

Map 2 above shows the North-South Brandt Line which is the geographical scope of the Global South. However, for purposes of improved comparison, since Global South refers to the developing countries that are located in the southern hemisphere; a total of 39 countries in the region were studied.

Continental categories of Asia (10), Latin America (06) and Africa (23) were used. However, Europe was not included due to having insufficient number of countries (02). The Panel data on the above countries for 8 years 2006 – 2013 was obtained and analysed. The analysis was done at a continental level with Africa, Asia, and Latin America. The detailed country list is attached in appendix 1.

3.1.5   Validity and Reliability

According to Joppe (2000) reliability is defined as: "…*The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable.…"* Therefore, reliability is doing research that is confident enough to produce the same results over time when the same methodology is applied under similar circumstances.

Validity is referred to as using data collection instruments that measure exactly what the research is intended to measure. This is in line with Joppe (2000) who defines validity in quantitative research as "… *the research (that) truly measures that which it was intended to measure or how truthful the research results are".* As cited in (Golafshani, 2003).

To ensure validity, this study used data collected by credible institutions such as the World Bank, World Happiness report 2015, UNESCO, and UNDP whose data validity, data collection tools and methods have stood a test of time, while for reliability, a thorough and

detailed description of the research methodology and strategy was described to give clear guidance to future researchers that may want to duplicate this or related studies. In addition, since data was from various sources, statistical analysis (vif) was carried out to ensure no duplication of indicators that measure the same effects.

3.1.6 Data Analysis Methods

Before analysis, data was cleaned by looking for missing values, noisy data and outliers. This was done manually to resolve inconsistencies that existed. The cleaned data was integrated in one Excel database to include all sources for improved processing.

Data was analysed using Excel and STATA. Excel was used as the main database, while STATA was used to manipulate indicators through regressions performance to determine the significance of indicators in order to address the research questions. Both descriptive and explanatory notes were given for analysis and interpretation of results. Indicators were subjected to a variance inflation factors (vif) test to ensure that there was no multicollinearity, and were modelled in a linear random effects- regression to determine their relationships with both HDI and wellbeing. This model was chosen because the data used was of panel in nature and included both time variant and invariant indicators. The model equation used was as presented below:

$$y_{it} = \beta_1 x_{it} + \alpha_i + u_{it} + \varepsilon_{it}$$

Where:

α_i (i =1....n) is the unknown intercept for each entity (n entity-specific intercepts).

y_{it} = Is the dependent variable (DV) where i= entity and t= time.

x_{it} =Represents one independent variable (IV)

β_1 =is the coefficient for that IV

u_{it} =Is the error term (residual) between entities.

ε_{it} = Is the error term (residual) within entities.

Source: (Torres, 2013)

Conclusion
In this chapter, the research process undertaken has been described in detail. This included discussing the research concepts, variables and indicators as derived from the literature and given operational meanings (table 2). The concepts were linked to specific research questions and the indicators used to measure them. Also, the scope of the study and sample size were explained in view of the data used. In addition, various sources of data, challenges and their solutions have been discussed. The steps taken during data analysis including techniques and tools that enabled the researcher to address the questions have been tabled. This is expected to guide future studies and strengthen the reliability of the study.

Chapter 4: Research Findings

4.1   Introduction:

In this chapter, the research findings are presented. This is done in line with the study purpose that aimed at explaining the relationship between HDI and wellbeing in developing countries with a critical focus on health, education and income. Also findings on other factors that affect wellbeing to compliment HDI are presented.

The indicators that were identified from theory were put in various models together with HDI and Wellbeing (life ladder). These indicators were categorised under SOL. health, education, demography, location and governance. The variables GDP per capita international US$, land area, and total population were transformed by dividing them by eight decimal points to come up with new variables that were symmetrically rhyming with the rest of the indicators. The transformed indicators were recorded as log GDP per capita, total population and land area in skm respectively. The same transformed indicators were used as controls.

At various levels, indicators were subjected to a variance inflation factors (vif) test to ensure that a combination used had no multicollinearity relationship. A linear random effects-regression model was used to determine their relationships with HDI and life ladder. This model was chosen because the data used was of panel in nature and included both time variant and invariant indicators. Table 3 below, gives a descriptive summary of used indicators.

4.2   Descriptions of used Indicators

Table 3: Summary of used indicators

Indicator	Observations	Mean	Variance	SD	Minimum	Maximum
Wellbeing	304	4.611627	.4765927	.6903569	2.997251	6.839087
HDI	336	.5394226	.0130875	.1144007	.297	.75
GDP per capita	336	.0001682	2.53e-08	.0001591	.0000234	.0008081
Land area	336	.053712	.0030868	.0555586	.002072	.2376
Total population	336	3.208144	22.38718	4.731509	.1895944	24.98656
Mean years of schooling	321	5.959502	6.73023	2.594269	1.3	12.1
Corruption	330	10.06879	184.3135	13.57621	1.3	65
Improved sanitation	294	46.51769	761.2017	27.58988	7.7	100
Life expectancy	336	64.21799	93.38857	9.663776	43.154	80.461
Population 0-14 years	336	37.54372	69.60698	8.34308	16.5195	50.09346
Population 65+ years	336	4.229431	4.209724	2.051761	2.048165	11.55579
Life expectancy	336	62.40405	72.97117	8.542316	42.88254	75.75649
Literacy rate	336	71.46399	466.0217	21.58754	28.1	99.7
Language diversity	336	.4850982	.1112131	.3334863	0	.965
location	335	10.22388	363.1324	19.05603	-30	47

Logistics	117	2.24	.1492035	.3862686	1.1	3.79
Poverty	102	35.66186	223.0501	14.93486	8.9	75.3
Secondary enrolment	227	55.35019	719.8904	26.83077	11.14075	110.7636
Malaria	302	2553.073	3.34e+07	5778.406	0	41787
Democracy	252	4.840913	2.526642	1.589541	1.5	7.98

Table 3, gives a descriptive summary of indicators used in the model. Total observations ranged between 102 for poverty head count ratio with the least observations to 336 for most of the indicators. In addition, the mean, standard deviation (SD), minimum and maximum values of each indicator are shown in the table.

4.3 The Human Development Index and Wellbeing relationship

To investigate the relationship between HDI and Wellbeing in developing countries, three sub questions guided this study. The questions were how HDI affect wellbeing, what other factors explain the wellbeing differences across the global South and which indicators could be prioritised in the region? In the following sections, the researcher tried to find out answers to such questions using statistical regressions.

4.4   How does HDI affect wellbeing?

To answer the question whether HDI influences Wellbeing or not, a regression analysis was carried out between HDI, Wellbeing and control variables as shown in Table 4 below:

Table 4: Comparing HDI & Wellbeing

	(1) Wellbeing	(2) Wellbeing	(3) Wellbeing
HDI	3.40***	2.82***	3.35***
	(0.55)	(0.76)	(0.56)
Total Population (log)		0.02	0.02
		(0.01)	(0.01)
Land area skm (log)		0.35	0.81
		(1.36)	(1.26)
GDP per capita (log)		472.74	
		(460.80)	
Constant	2.75***	2.91***	2.68***
	(0.30)	(0.39)	(0.32)
Observations	304	304	304

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In the first column of table 4 above, HDI was regressed with Wellbeing and the results indicate that there is a very strong positive relationship at a standard error of less than 0.001.

In the second column, control indicators population, land area and GDP are included to test whether these differences across countries could affect the relationship. This relationship still remained very strong despite minor changes in the coefficient which can be attributed to the use of GDP as one of the control variables because of its collinearity effect with HDI. This was verified in column 3 when GDP was removed from the model and the relationship maintained its very strong significance and the coefficient strength improved. This means that an increase in HDI leads to improved Wellbeing as had been predicted by (UNDP, 1990), (Klaus, 2014).

Table 5: Comparing Wellbeing and HDI

	(1) HDI
Wellbeing	0.01^{**}
	(0.00)
Constant	0.51^{***}
	(0.02)
Observations	304

Standard errors in parentheses
$^{*}\ p < 0.05$, $^{**}\ p < 0.01$, $^{***}\ p < 0.001$

To ascertain the type of the relationship between HDI and Wellbeing, a regression was carried out between Wellbeing and HDI and a significant relationship was still found though weaker. This means that the relationship between the two is not causal but correlational as explained by (Trochim W. M. K, 2015). Meaning that there are could be other factors that influence this relationship as later explored in table 14.

After finding the relationship and its type, it was important to know how this relationship fared in different regions. This was done by comparing HDI and Wellbeing in the 3 continents as shown in table 6.

Table 6: HDI and Wellbeing performance across continents

	(Africa) Wellbeing	(Asia) Wellbeing	(Latin America) Wellbeing
HDI	2.53^{***}	2.33	6.41^{***}
	(0.68)	(1.44)	(1.52)
Constant	3.11^{***}	3.31^{***}	1.31
	(0.33)	(0.89)	(0.95)
Observations	159	83	46

Standard errors in parentheses
$^{*}\ p < 0.05$, $^{**}\ p < 0.01$, $^{***}\ p < 0.001$

Table 6 shows the relationship between HDI and Wellbeing across continents. From the table, HDI is significantly stronger in Latin America and Africa than in Asia. Therefore, an increase in HDI in Africa and Latin America would lead to an increase in Wellbeing.

While differences in the influence of HDI between Africa and Asia could be explained by (Appleton and Teal, 1998) in terms health and education disparities "*Access to health services is lower in Africa: only 61% can reach a health facility by foot or local means within one hour, compared to 82% in South Asia... there are estimated to be 16,957 people per doctor in Africa compared to 3,704 in South Asia. Another factor may be lack of access to "safe water": only 56% of Africans have access to safe water, compared to 76% of people in South Asia* [and]*... Africa has higher adult literacy rates than South Asia. This largely reflects the higher rates of literacy among women in Africa compared to South Asia (43% compared to 34%; for men, literacy rates are 64% and 62% respectively.... Combined primary, secondary and tertiary enrolment ratios average 46% in Africa, compared to 53% in South Asia*". The explanation for Latin America is an area for further investigation.

Table 7: HDI components and Wellbeing

	(HDI Components) Wellbeing
GDP per capita (log)	1253.99***
	(348.02)
Mean years schooling	-0.04
	(0.03)
Life expectancy at birth (Total population)	0.03***
	(0.01)
Constant	2.67***
	(0.49)
Observations	291

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7, shows the results of testing the model on the relationship between HDI components and Wellbeing. After finding the relationship between HDI and Wellbeing, further investigation was done to find if components that make HDI on their own can individually influence Wellbeing. The components derived from (UNDP, 2015) included GDP per capita which replaced GNI per capita due to lack of sufficient data, mean years of schooling and life expectancy at birth as shown in figure 2. The findings show GDP per capita and life expectancy strongly significant. Mean years of schooling would only increase if the standard error was increased to 10% (0.093). Nevertheless, a combination of them as HDI proved significant as shown in Table 4 and 6.

Whether the outcome of mean years of schooling was because of exchanging GNI per capita for GDP per capita due to lack of sufficient data or has to do with errors involved in HDI computation as identified by (Carmen and et, 2012), is a grey area open for further research.

Table 8: The performance of HDI across continents

	(Africa) Wellbeing	(Asia) Wellbeing	(Latin America) Wellbeing
GDP per capita (log)	874.84*	1397.56*	1629.74*
	(393.61)	(662.75)	(772.65)
Life expectancy at birth (total years)	0.01	-0.01	0.09**
	(0.01)	(0.04)	(0.03)
Mean years of schooling	-0.04	-0.09	0.09
	(0.03)	(0.06)	(0.06)
Constant	3.62***	5.67*	-1.81
	(0.66)	(2.45)	(2.21)
Observations	155	76	45

Table 8 above shows the performance of HDI components across continents in the study area. The findings show that GDP per capita has a positive significant relationship across the region. Meaning that an increase in GDP would lead to an improved Wellbeing in all continents while life expectancy would have more effect on Latin America than Africa and Asia.

Figure 2: Showing the computation of HDI

Source: UNDP (2010). p.215
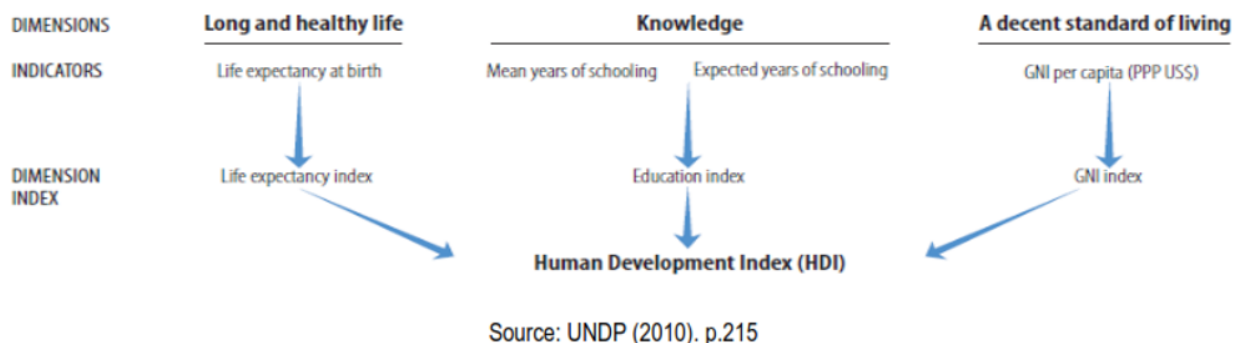
Figure 3 above shows the composition of HDI and how it is computed according to UNDP. GNI per capita was substituted with GDP per capita due to lack of data in my countries as shown in table 3.

4.4.1 Contribution of HDI variables to Wellbeing

From tables 4 - 7, the contribution of HDI to Wellbeing was illustrated and its significance across regions was confirmed. In the subsequent paragraphs, the discussion on how HDI variables influence Wellbeing independently is discussed. HDI was left out in the regression to do away with any possible multicollinearity suspicion that there could be.

Standards of living

According to theory, the contribution of standards of living was evident and clear as described in chapter 2. To test this, SOL indicators especially those that deal with how

income is shared and distributed among individuals, society and countries were modelled in table 8 below.

Table 9: Standards of living indicators

	(1) Wellbeing
GDP per capita (log)	2015.10***
	(463.00)
Poverty head count ratio	-0.01
	(0.00)
Constant	4.64***
	(0.23)
Observations	94

Standard errors in parentheses
$^{*} p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$

The findings in table 8 reveal the contribution of SOL to Wellbeing as described in table 3. It shows that GDP per capita has a very strong positive relationship with Wellbeing. Though not significant, Poverty head count ratio has a negative sign meaning that if it were significant, the increase in poverty would reduce Wellbeing.

Health

The health indicators as had been reported in theory were identified. These included government expenditure on health, access to improved sanitation facilities, female life expectancy, prevalence of HIV/AIDS and malaria. Though others were eliminated at vif level to avoid multicollinearity, others did not prove significant. Table 10 presents the significant indicators.

Table 10: Health Indicators

	(1) Wellbeing
Life expectancy at birth	0.03**
	(0.01)
Access to improved sanitation facilities	0.01*
	(0.00)
Constant	2.59***
	(0.45)
Observations	262

Standard errors in parentheses
$^{*} p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$

The findings in table 10 show the importance of health in explaining Wellbeing, where life expectancy for females and access to improved sanitation facilities were significant indicators. This means that their improvement would result into improved Wellbeing of society. This had been predicted by theory by (Kim, Park, et al., 2014), (UNESCO, 2014), (Diener and Chan, 2011), (Augus, 2008), among others.

Education

As earlier found in table 3, the contribution of education was at a minimal level compared to health and standards of living. Table 11 is to test education indicators and how they contribute to Wellbeing

Table 11: Education indicators and Wellbeing

	(Education Indicators) Wellbeing
Literacy rate	0.01^{**}
	(0.00)
School enrolment secondary	0.00
	(0.00)
Constant	3.57^{***}
	(0.24)
Observations	205

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 11, shows the relationship between education indicators and Wellbeing. The findings show only literacy rate to be significant while secondary enrolment was not. Meaning that an increase in literacy rate results into increased Wellbeing. (UNESCO, 2014), had predicted this relationship, though it proved much stronger in Latin America and Africa than Asia. While it would have been important to include an indicator on practical education, the researcher could not find reliable data covering the study area.

Table 12: Significant education indicator in continents

	(Africa) Wellbeing	(Asia) Wellbeing	(Latin America) Wellbeing
Literacy rate	0.01^{**}	0.01	0.03^{***}
	(0.00)	(0.01)	(0.01)
Constant	3.65^{***}	4.04^{***}	2.87^{***}
	(0.26)	(0.44)	(0.70)
Observations	159	83	46

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In table 13, all indicators that became significant from tables 8-11 were modelled and compared across continents to examine their performance. The results are shown in the table 13 below.

Table 13: Significant SOL, health & education indicators with Wellbeing across continents

	(Africa) Wellbeing	(Asia) Wellbeing	(Latin America) Wellbeing
GDP per capita (log)	969.00[*]	1243.99[*]	1494.61
	(393.48)	(579.38)	(773.69)
Literacy rate		0.01	
		(0.01)	
Life expectancy at birth (female)			0.08[**]
			(0.03)
Constant	4.17[***]	4.04[***]	-1.03
	(0.10)	(0.46)	(1.99)
Observations	159	83	46

Standard errors in parentheses
[*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

Table 13 above shows the relationship between SOL, Health, Education and Wellbeing across continents. This was done by modelling all indicators that became significant from tables 8-11. According to the findings, GDP per capita is significantly relevant for Africa and Asia, while life expectancy at birth (female years) is significant for Latin America. This could partly be explained by the recent performance of Latin America in Wellbeing (Gallup-Healthways, 2014) Country Well-Being Rankings report. The region may have reached a level where money is no longer a motivator to Wellbeing as theorised by (Kenny, 2005). While for life expectance, (Augus, 2008) had found that living longer enables people to live meaningful lives.

4.5 What Other Factors Influence Wellbeing?

To answer the above question, several regressions were conducted between Wellbeing, HDI, and other indicators as identified in theory. However, all indicators that relate to SOL, health and education variables were not included to avoid collinearity effects. This was meant to discover which other factors can complement HDI to influence Wellbeing in developing countries. The findings are stated in table 14:

Table 14: Other factors and Wellbeing

	(3) Wellbeing
HDI	2.75***
	(0.68)
Total population (log)	0.04**
	(0.01)
Corruption	0.01*
	(0.00)
Democracy	0.04
	(0.05)
Logistics performance	0.38
	(0.19)
Location	0.01***
	(0.00)
Language diversity	0.17***
	(0.04)
Constant	1.17*
	(0.46)
Observations	72

Standard errors in parentheses
$^*\ p < 0.05,\ ^{**}\ p < 0.01,\ ^{***}\ p < 0.001$

Table 14 above illustrates how apart from HDI, other factors affect Wellbeing. These indicators were identified in theory as discussed in chapter 2. From the table, results show that a combination of HDI, population, corruption, language and location further away from tropics have a significant relationship with Wellbeing as theory had predicted. While democracy and improved logistics performance were not significant as theory had earlier predicted by (The Economist, 2015), (Orviska and et al, 2014) and (Ndulu and O'Connell, 2005). Though on governance, findings tended to agree with (Cassani, A. and Giovanni. C., 2013) and (Blunt, 1995). This means that an increase in HDI and total population increases Wellbeing while increase in corruption reduces it. The positive coefficient of corruption is interpreted the opposite way because its data is arranged on a scale of 1-10, 1 being the best while 10 is the worst. Results further indicate that the further you move away from the tropics increases Wellbeing while countries with one or fewer languages have better Wellbeing index than those with very many languages. Like for corruption, language diversity coefficient sign is interpreted the opposite way.

Comparing 'other significant indicators' between continents.

In table 13, HDI was found to significantly influence Wellbeing with population, corruption, location in tropics and language. In table 15 (below), a comparison is made between how such indicators perform in situations of different locations in the region.

Table 15: HDI and other significant factors with Wellbeing across continents

	(Africa) Wellbeing	(Asia) Wellbeing	(Latin America) Wellbeing
HDI	2.13[**]	2.82[**]	11.97[**]
	(0.73)	(0.99)	(3.75)
Total population (log)	0.04[*]	0.06[***]	-0.38[**]
	(0.02)	(0.01)	(0.14)
Corruption	0.00	0.00	0.01
	(0.00)	(0.00)	(0.01)
Location	0.01	0.02[**]	0.01
	(0.01)	(0.01)	(0.01)
Language	-0.07	0.05	-0.16
	(0.07)	(0.31)	(0.13)
Constant	3.34[***]	2.06[**]	-1.07
	(0.46)	(0.75)	(1.62)
Observations	155	81	45

Standard errors in parentheses
$^{*} p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$

Table 15 shows the complementary relationship between HDI, total population and corruption, location and language across continents to influence Wellbeing. The findings indicate that population is positively significant across all continents except Latin America where the coefficient is negative. The above findings contradicted theory (Bongaarts, Ezeh, et al., 2012, Bongaarts J and and Sinding S, 2011). (UNFPA, 2014), and (Ndulu and O'Connell, 2005) that population increase reduces Wellbeing. However, analysis of table 16 confirms their claims. Also the claim that the further away the country is located from the tropics compliment HDI to contribute towards the Wellbeing of citizens in developing countries (Ndulu and O'Connell, 2005) was also confirmed. On the other hand, corruption and language show no significance in any of the three continents.

However, given such an influence from total population and its negative coefficient in Latin America, it was important to discover how population independently performs. This was done by analysing the population categories represented by age groups. Table 16 illustrates the findings:

Table 16: The influence of population structure on Wellbeing

	(Africa) Wellbeing	(Asia) Wellbeing	(Latin America) Wellbeing
Population aged 0-14 years	-0.03**	-0.06*	-0.14**
	(0.01)	(0.02)	(0.05)
Population aged 65+ years		-0.17	
		(0.11)	
Constant	5.76***	7.40***	10.14***
	(0.54)	(1.14)	(1.63)
Observations	159	83	46

Standard errors in parentheses
$^{*} p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$

Table 16 above illustrates the influence of population structure on Wellbeing. From the table, it can be seen that the population aged 0-14 years has a strongly significant and negative relationship with Wellbeing across all continents. Generally, a younger population has a strongly negative significance with Wellbeing in all continents while the older though not significant (p-value of 0.06) may have some influence in Latin America. So the combination of very young and very old could explain the differences between the negative coefficients in Latin America and positive coefficients in Africa and Asia. After all Latin America has the highest life expectance at 75, followed by Asia at 72 while Africa is at 60 years (Statistica, 2014)

4.6   Which indicators could be prioritised in the region?

To answer the question '*which indicators could be prioritised in the region?*' an analysis of all indicators as they performed in tables 4-16 was made. The findings show that HDI plays an important role as illustrated in table 4-7. In addition, better standards of living, improved health services and quality education contribute independently to improving Wellbeing as shown in tables 8-12. Also, issues of dependent population, corruption and location affect Wellbeing in the region.

Therefore, improving HDI, addressing population issues, enhancing good governance and addressing issues associated with tropical climate such as diseases, accessibility and promoting good governance would improve Wellbeing. Table 17 shows the summary of priorities.

Table 17: Variables and Indicators that could be prioritised

Reference Table	Variable	Indicator
Table 4-8	HDI	GDP per capita
		Life expectancy
Table 9-13	**HDI Components**	
	SOL	GDP per capita
	Health	Life expectancy
		Access to improved sanitation
	Education	Literacy rate
Table 14-16	**Other factors**	
	Demography	Total Population
		Population (0-14 years)
		Language diversity
	Accessibility	Location in tropics
	Governance	Corruption

4.7   Conclusion and Major Findings

From the findings as presented in this chapter, it can be said that the relationship between HDI and Wellbeing cannot be disputed in developing countries. The findings further revealed that there is a positive significant relationship between HDI and Wellbeing irrespective of the country size, income and population. Total population, land area and GDP per capita, though used as controlling variables, had no significant relationship and their coefficients were positive. The relationship was found to be correlational than causal as HDI influenced Wellbeing and the reverse was true as found in tables 4 and 5.

The findings further indicated that among the HDI components, SOL and health are more significant. This means that health and SOL contribute greatly towards influencing Wellbeing. This is not to say that Education is of less or no contribution as it later emerged that literacy rate was significant in table 11 and 12. Whether the contribution of education measured by mean years of schooling was affected by the replacement of GDP per capita for GNI per capita, is subject to further investigation.

Despite the contribution of HDI and its constituents as discussed above, other factors also play an important role towards improving citizens' Wellbeing. The study findings acknowledged the contribution of demography, governance, and location in influencing Wellbeing. Interesting to find however, was that population has a positive relationship with Wellbeing in the developing world though the negative coefficient was found with the very young and old populations.

Therefore, in view of the findings presented, SOL, health and education independently or as HDI constituents contribute significantly to Wellbeing in addition to demography, governance, and location. It is these factors that countries should consider to transform society and attain a healthy, productive, and knowledgeable society in the developing world. Although given the peculiar differences between continents this may not be generalised across the entire region but specific continental responsiveness to the model may be applied.

Chapter 5: Conclusions and recommendations

5.1 Introduction

This study was conducted because of the growing need to include Wellbeing of citizens as a new approach of evaluating governments' performance globally. This arises out of the emphasis it puts on the use of non-financial variables and also giving citizens a chance to evaluate themselves and their governments. However, lack of a healthy, knowledgeable and economically empowered society in the developing world poses serious future challenges to the attainment of this dream. The researcher believed that this and other challenges can be fast tracked when human development issues are taken greater care of.

The fact that the developing world continues to have the lowest human development index compared to the rest of the world except for the upcoming Latin America, formed the basis of this study that aimed at explaining the relationship between human development index (HDI) and Wellbeing in developing countries. The critical focus was based on health, education and income; demography, location and governance issues as they relate to the general Wellbeing of society. Recommendations were later made on which indicators should be prioritised in the region. There is no doubt that this study makes a significant contribution to the body of knowledge on Wellbeing especially in developing economies.

5.2 Discussion of Findings

In this section, the study findings as presented in chapter 4 are discussed, research questions answered and linked to study objectives. This was done by showing if there is a significant relationship between HDI and Wellbeing or not, determining what other factors affect Wellbeing and identifying which development indicators could be prioritised in the region.

5.2.1 HDI & Wellbeing

To discover *if there was a significant relationship between HDI and Wellbeing*, the findings indicated that indeed the relationship between HDI and Wellbeing is strongly significant with a positive coefficient. This was earlier predicted based on theory but interesting to find was that the relationship still exists irrespective of the country size, income and population. This confirms what (UNDP, 1990), (Klaus, 2014) had concluded: that human development enlarges people's choices to enable them lead a long and healthy life, acquire knowledge and access to resources needed for a decent standard of living.

In addition, a regional comparison of results showed that HDI has a greater significance in Africa and Latin America than in Asia as shown in table 6. For Africa, this is understandable given that human development gaps between countries have continued to widen rather than narrow and no sufficient progress to address them has been made (Ndulu and O'Connell, 2005). Also human development differences that exist between continents in terms of health and education differences could account for this as found out in (Appleton and Teal, 1998). Also maybe improvements made in East Asia could be spilling over to the South to make it unique in its way from the rest of the continents but this requires further investigation. However, increasing the working capacity and skill of people and involving more of them in the economic activities would assist South Asia to attain more HDI success (Ul Haq, 2000). However, such differences between nations exist and are not only caused by economic, but also environmental, health, equality and social reasons between nations (Diener and Tay, 2015).

The findings further indicate that income and health contribute more to Wellbeing than education. This is contrary to the views of (Klaus Schwab, 2015) who states that talent rather than capital is the key factor that links innovation, competitiveness and growth in the 21st century. As to whether the disparity could also be attributed to inconsistencies in HDI compilation as noted by (Carmen and et, 2012) is a new area for further research. In view of the above, the researcher concludes that there is a strong and significant correlational relationship between HDI and Wellbeing in developing countries.

5.2.2 Income & Wellbeing

In the findings, income was found to have a positive significant relationship with Wellbeing. This was measured by using GDP per capita as an independent indicator as well as part of HDI composition. The significance level of income is in agreement with conventional economics, where income is exchanged for goods and services that increase an individual's utility, implying that the more money you have, the more utility you are likely to obtain. In line with this assumption, income increases Wellbeing (Boyce and et al, 2010).

In addition, (Boyce and et al, 2010) had still found that the relationship between income and Wellbeing is stronger in developing countries, where basic needs are not met by the majority, than in the developed world (Boyce and et al, 2010). However, the above argument contradicts some theories like (Kenny, 2005), (Augus, 2008), whose findings suggest that there is little or no long-run relationship between a nation's income and its average level of life satisfaction but were quick to add that *"Many studies comparing people within countries have found only a small effect of income on life satisfaction relative to other life circumstances such as employment or marital status"*

Although the study found differences across continents (table 8, 9 and 13), this was expected due to differences in income. Also it was earlier observed by (Pittau and et al, 2010) and (UNDP, 2015) who found differences between countries, regions and income though UNDP reported that *"...although there is a definite correlation between income and human well-being, this relationship breaks down in many societies and inter-country comparisons. Some countries, for example, have high levels of income per capita but low levels of other human development indicators (and vice versa), while some countries at similar levels of average income have vastly different levels of human development. Consequently, the manner in which income is distributed and spent within countries is decisive"*.

Based on the above discussion, the researcher concludes that income contributes towards improving Wellbeing though this may vary across continents, regions, countries and within countries.

5.2.3 Health & Wellbeing

The study findings show that life expectancy generally has a positive and significant relationship with wellbeing. This had been found in a study by (Diener and Chan, 2011) who reported that "…*the case that subjective well-being influences health and longevity in healthy populations is compelling".*

However, study results indicated that life expectancy at birth for females offer improved results among other health indicators. This is generally acceptable given the role that women play in society transformation. In patriachical societies such as Africa, women look not only after children but also after husbands and extended family members and contribute considerably to the production sector. As (Erwin and Boris, 2010) put it that though marginalized economically and socially in every society, women and children roles' correlate with both a nation's quality of life and its economic success.

In addition, the study findings show that the relationship between accesses to improved sanitation facilities is significant to wellbeing. Its increase would improve people's Wellbeing. This shows the importance of sanitation to people's lives as reported by (UNICEF, 2008) that *"The importance of sanitation is indisputable. It is a crucial stepping stone to better health: sanitation offers us the opportunity to save the lives of 1.5 million children a year who would otherwise succumb to diarrhoea diseases, and to protect the health of many more. It is fundamental to gender equity as it protects women's dignity. And it is key to economic development: investments in sanitation protect investments made in other sectors, such as education and health, and bring measurable economic returns"*.

To (Montgomery and Elimelech, 2007), improving access to clean drinking water and safe sanitation is one of the most effective means to improve public health and save lives. It is the cheapest way to deal with disease control and reducing treatment especially in developing countries, where funding and resources are scarce and competing needs are immense. Its Wellbeing improvement potential is unrivalled.

Therefore, basing on the above discussion, the researcher finds a significant relationship between health and wellbeing.

5.2.4 Education and Wellbeing

Under education, the literacy rate exhibited positive significance in the model according to findings. This complements other studies that had reported the important role that education plays in human development. (UNESCO, 2014), found that an average increase in the educational level of a country citizens, leads to an increased income of a country. Also (John, 2011) in his study found that the impact of participation in education, and how learning influences health and well-being is overwhelming. John concluded that learning has clear, identifiable positive effects for both health and Wellbeing.

In addition, (Ssewanyana, Okoboi, et al., 2013), (UNESCO, 2014) reported that expanding access to education in developing countries is critical for achieving poverty reduction, sustained economic growth and is a catalyst to improved wellbeing and development. Although two reports added that despite efforts made towards expanding access to primary schooling in the past 15 years, the capacity to absorb primary school graduates into secondary school remained a challenge especially in SSA. They all agree that educating a woman has greater trickle down effects to society. To (UNESCO, 2014), the message is *"Educate mothers, and you empower women and save children's lives. Educate communities, and you transform societies and grow economies"*

In further support, a survey conducted by Gallup - Healthways Global Wellbeing Index 2014 found that, the percentages that responded to be doing well globally were influenced by education at 23% after reporting that they had at least continued in school four more years after high school. Otherwise, respondents that had completed elementary education or less and those working in the fishing and agricultural sectors - the largest employers of the less educated and illiterates in developed countries - accounted for 10-11% and they live on less than 1.25 international dollars per day (Leedle and Clifton, 2014).

At a continental level, the study findings show literacy to be of greater significance in Africa and Latin America (table 12). This is understandable given the low literacy rates in developing countries compared to the developed (refer to appendix 5) but the Asian situation as revealed in table 12 needs further investigation. Though, the same differences had been

reported by (Jeffrey, 2014), that *"education levels have risen on stronger investments and political commitment, multidimensional poverty has been considerably reduced, though wide variation across countries and regions remains".*

This study shows that education creates a highly skilled, innovative and productive workforce where the majority of the population are able to live independent lives. (Cole, Daly, et al., 2009), (John, 2011), (Michalos, 2008) found a relationship between employment and Wellbeing. It is for this reason that all governments should invest in providing quality education to their citizens by equipping them with skills and ability to participate and engage in the civic affairs in society which is a basis of building a knowledgeable and productive citizenry that can determine and improve its wellbeing. It is, therefore, the considered view of the researcher, that that the question as to whether there is a relationship between education and wellbeing has been elaborated.

Therefore, the findings and discussion in this section, indeed confirm that the relationship between income, health, education and indeed HDI with Wellbeing is not only there but has a positive significance. This means that improving these variables, improves Wellbeing as well.

5.3   Other factors that influence Wellbeing

In this section, the researcher addresses the question *"What other factors affect wellbeing in developing countries?"* Theory in chapter 2 had indicated that demography, locational and governance issues do affect wellbeing. The findings as presented in table 14 and 15 confirmed some of such claims while others did not. In the proceeding paragraphs, a discussion is presented and conclusions are drawn.

5.3.1   Demographic Factors

Population

According to findings, total population has a positive relationship with wellbeing in the developing world. At continental level, it still maintained significance to wellbeing across all continents except Latin America. This means that save for Latin America, an increase in population would increase wellbeing. To (Becker and et, 1999) *"The demographic transition and its related effects of population growth, fertility decline and ageing populations are fraught with problems and controversy. When discussed in relation to the global south and the modern project of development, the questions and answers become more problematic….".*

The above argument was supported by (UNFPA, 2014), which underscored the importance of a world with over 1.8 billion youth population in the poorest nations. Though they have specific needs, challenges and aspirations for the future, they pose such potential for economic and social transformation. The report recommends skilling and empowering young people with relevant training that meets the requirements of the current economy and enable them to become innovators, thinkers and problem-solvers.

(Becker and et, 1999) Bloom et al. (2001), found that increases in world population leads to negligible growth in real per capita incomes. Although as population did grow incomes also grew, its rapid expansion since the 19th century was not sufficient to prevent per capita incomes from continuing to rise.

The above views contradict earlier studies that castigated population increase as having devastative effects on wellbeing. (Ndulu and O'Connell, 2005) attributed Africa's underdevelopment to the population explosion since the 1960s, that partly explain the collapse seen in the public health sector that cannot handle the pressure exerted upon it leading to high mortality rates, high life expectancy; the increasing numbers in schools in contrast to the available infrastructural and human resources to accommodate them; the prevalent environmental degradation in a bid to expand the available land resources etcetera.

To (Bongaarts, Ezeh, et al., 2012, Bongaarts J and and Sinding S, 2011), a population increase is one of the major challenges facing the developing world; it comes with adverse environmental, social, economic and political challenges. Therefore, considering the adoption of reducing the population growth mechanisms would not only stimulate economic development, enhance human potential and improve wellbeing but will also achieve demographic dividends. This is in agreement with the findings for Latin America, where an increase in population would reduce Wellbeing.

In addition, the findings further revealed a negative significant relationship with very young and very old age structures as shown in table 16. The increase in the percentage of the population aged 0-14, leads to a reduction in HDI and consequently lowers Wellbeing. This is in agreement with a study conducted by (Brander and Dowrick, 1994), Bloom et al. (2001), which confirmed that a population growth has no effect on economic growth; it only matters once changes in the age structure of the population are considered. Brander also found that high birth rates appear to reduce economic growth through investment effects.

Most significantly, however, Brander noted that a declining birth rate has a strong medium-term positive impact on per capita income growth through labour supply or dependency effects. (Brander and Dowrick, 1994). It is for such a population and benefits that accrue from it that regional blocks are encouraged and emphasized. For example, a study by AU found that regional integration would boost trade "*close to $2 billion worth of new trade will be created, with countries such as Angola and DRC being the main beneficiaries; while around $454 million trade will be diverted, resulting in a positive net trade of $1.5 billion across the 26 countries*". (Makochekanwa A, 2014).

Given above arguments, population is not a curse but a resource. Therefore, the researcher concludes that population increase per se is not the problem given that it increases demand of goods and services that stimulates production. This has been observed in Asian countries such as China where an increasing population has been used as a resource to spur economic development. However, this population should be healthy, skilled and productive. Thus young and very old unproductive and dependent populations are the challenges to developing countries.

Language diversity

The study found a significant relationship between language diversity and wellbeing. This confirms the findings of a study done in Australia, (Biddle and Hannah S, 2012), that found a strong relationship between language and participation in an economy and society. Language was also associated with unemployment especially where those who were not able to communicate were found to be socially and economically excluded from main stream participation in society and cultural values. The study concluded that there was a relationship between the sustainability of language, culture and an indigenous person's subjective emotional wellbeing. In another study, (Orviska and et al, 2014) found that being part of a

linguistic majority or minority grouping was another significant determinant of individuals happiness.

In addition, (Ayyash-Abdo and et al., 2012) while investigating subjective wellbeing components of positive or negative effect, life satisfaction and self-esteem and their association with academic achievement and multilingualism among Lebanese university students found that optimism, self-esteem as SWB components jointly predicted academic achievement while language grouping was a significant predictor of the SWB components, optimism, and self-esteem. Suh and Oishi (2004), cited in (Ayyash-Abdo and et al., 2012) also stated that current research in the field of subjective wellbeing suffers from a limited range of sampled cultures. Specifically, the Arab and sub-Saharan countries remain heavily under-researched.

Ever since the issue of under research was raised by Ayyash, not much has changed especially in addressing the issue of the relationship between language and Wellbeing. Therefore, countries should endeavour to have fewer or unifying languages to enable citizens communicate freely without language barriers and avoid scenarios of people being foreigners in their country when they cannot speak to each other easily. This will improve their social, economic and political participation thus improving Wellbeing.

5.3.2 Geographical location

The findings show that location in the tropics has a significant relationship with Wellbeing. This had been emphasized by (Ndulu and O'Connell, 2005) who associated it with diseases because of a large forest cover, poor accessibility, high transport costs due to lakes and rivers that make transport difficult, remoteness, exhausted soils that have low productivity, multiplicity of national borders among other challenges. Also (Diener and Tay, 2015), (Ballas and Trunmer, 2012), advanced geographical reasons to explain differences in wellbeing between and within nations, because various people choose to stay in different places due to personal characteristics that distinguish them from others.

Across continents, the findings revealed no significant relationship between tropical location and Wellbeing to all continents except Asia with a positive coefficient (Table 15). This implies that living further from tropics improves Wellbeing and the effect should be much felt in Asia. However, a close look at Wellbeing rankings 2014 show that Asian countries in tropics performed fairly better than those outside for example Philippines ranked (43) compared to Afghanistan (145), Sri Lanka (60) compared to Bangladesh (100), Indonesia (73) compared to Nepal (77).

Another argument would be that most of the countries outside tropics are landlocked with accessibility problems as found by (Prados, 2013) and (Ndulu and O'Connell, 2005). However the study did not find logistics performance having a significant relationship with Wellbeing. This supports the idea that Prados argument is a mere generalization and is watered down by examples of land locked that would be hard to reach countries such as Switzerland that has utilized its tourist potential irrespective of its land locked location and terrain. In Africa, Botswana and Rwanda among many others, are making much development progress despite their land lockedness.

In view of the above, though the significant relationship was found between locations of country either in the tropics was found, the researcher found it lacking to support differences in human development or even Wellbeing in developing countries. However, further research should be done to investigate it more.

5.3.3 Governance

Governance was tested using corruption and democracy indicators. The findings did not find a significant relationship between democracy and wellbeing but a positive significant relationship was found with corruption and Wellbeing. Also no significance was found when the continents were compared (table 15). This means that an increase in corruption lowers Wellbeing. This agrees with most existing theories because corruption connotes bribery, lack of freedom, degenerating moral virtues, stifled service delivery and shows lack of public institutions to respond to the citizens' needs as stated by (Saisana M Saltelli A, 2012).

Also (Veenhoven, 2010), states that for an individual to be well off, requires conditions that are generally valued such as freedom, access to goods and services such as health and civil liberties. Veenhoven adds that though happiness conflicts with these values in theory, it appears to match them in practice. In addition, though (Saisana M Saltelli A, 2012), (Veenhoven, 2010), (Orviska and et al, 2014) advanced that good governance impacts Wellbeing.

However, though findings on democracy contradict theories stated above, other studies also never found a significant relationship between democracy and Wellbeing. For example democracy, (Cassani and Carbone, 2013) (Alvarez-Diaz and et al., 2010) had also cast doubt on democracy that "…*it is less clear whether formally democratic institutions may nonetheless have a beneficial effect. Specifically their ability to shape governments' commitment to improve the Wellbeing of all citizens in an environment deeply affected by neo-patrimonial practices, such as African politics*".

(Cassani, A. and Giovanni. C., 2013) concluded that it is in regimes with limited political competition that new opportunities to citizens are generated because it gives a chance for autocrats' incentives to invest in citizens' Wellbeing whereas competitive autocracies continuously reduce the threats coming from opposition parties and the competitive authoritarian leaders face weaker incentives to invest in public goods. This contradicts the view shared by the majority including the (The Economist., 2015, The Economist., 2015), who agree that undemocratic governments are associated with civil unrest, lack of freedom and disrespect of individual rights which leads to low self-esteem of citizens thus lowering their Wellbeing.

In a study conducted in Brazil (Winters and Weitz-Shapiro, 2012) found that a lack of specific, credible, and accessible information will lead to most voters rally behind corrupt official during elections. The study concluded that electoral mechanisms favour some social improvements even in the context of an authoritarian setting. It is through institutions such as civil societies, free media, open political debates and individual citizens freely participating in the affairs concerning their governance that shape their destiny.

Also (Orviska and et al, 2014) maintain that governance issues have a higher negative effect on women in poor countries while the effect is less significant for women in rich countries. This contradicts Veenhoven (2000) cited in (Orviska and et al, 2014) who found out that in developing countries, economics influence happiness more than political freedom while the reverse is true for developed countries.

In view of the findings and theories reviewed, the researcher concurs with (Blunt, 1995) that good governance is relative. While there may be universally best practices generally acceptable globally, developing countries should be left with room to define and customise what good governance is to them but issues of corruption should not be compromised because they stifle service delivery and hinder human development and wellbeing.

5.4   Which factors should be prioritised in the region and why?

From the findings as presented in chapter 4 and later discussed in this chapter, it was found that GDP per capita and HDI have the most significant influence on Wellbeing. HDI would be preferred over GDP per capita, since it is a combination of health, income and education indicators. Therefore, a combination of programs that address the three sectors jointly would have the greatest implication on Wellbeing. Such programs could be, for example, having an education curriculum that integrates health and wealth creation issues from the lowest to top of most levels of education or a health care system that caters for dissemination of income generating and education related messages.

However, being aware of the cost implications of such projects in cash stripped developing economies; health, income and education sectors could be independently prioritised in that order of preference. This is because a healthy person is productive to earn income but also needs training to improve on the production potential. Also, demography, accessibility and governance should be looked at critically. The details of priorities were presented in table 17.

5.5   Conclusion

Drawing from the theories reviewed and the study findings as presented and discussed, income, health, education, demography, location and governance are important factors countries should consider to transform society and attain a healthy, productive, and knowledgeable society in the developing world. Although given peculiar differences between continents this may not be generalised across the entire region but specific continental responsiveness to the model may be applied.

The findings indeed confirm that there is a strong relationship between HDI and Wellbeing contributed by income, health and education. The contribution of individual indicators varies across continents though generally, HDI and its components are very important. In addition, demography, location and governance are other key factors that compliment HDI to improve Wellbeing.

Generally, it is clear from the findings presented that though the model is designed and works across the entire developing world, given the results tabled, observations handled and the number of countries studied, it is sufficient to conclude that this model performs better in Sub Saharan Africa.

This study adds to the existing body of knowledge which recognizes that income is not the only measure that determines the Wellbeing of individuals, societies and countries. Therefore, there is a need for the governments in developing countries to rethink the ways in which they measure the welfare of their citizens and make policies that facilitate HDI to improve. The researcher believes that improving HDI has a far reaching positive effects on enhancing not only social but also economic, and political transformation.

5.6   Recommendations

1. Governments & development partners should consider investments that enhance HDI because of their multiplier effects to society transformation.
2. Leaders should aim at making policies that improve the quality & quantity of education because according to (Deaton, 2002) more & better education improves HDI thus its trickle down effects on Wellbeing can be much and quickly felt.
3. Policies that enable participation and engagement in the civic affairs of society be encouraged. They are a basis of building a knowledgeable and productive citizenry that can determine and improve its Wellbeing.
4. Leaders should endeavour to improve the health of their populations to have improved economic growth. This has a significant effect on improving productivity and lowering healthcare costs as noted by (Choueiri P, 2014).
5. Further research be done in areas such as why South Asia was not as responsive as other continents in the model, why mean years of schooling was not significant and maintained a negative coefficient also governance and its contribution towards Wellbeing among others findings.
6. A combination of both objective and subjective indicators, and especially the use and development of a human development is very important. This approach will assist policy makers and citizens understand which domains of Wellbeing should constitute priorities for public policy as argued by (Forgeard, M. J. C.,et al, 2011) that this study re- emphasizes.

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Appendices

Appendix 1: List of developing countries under the study

S/N	Country	Code	Region	Continent	No
1.	Cambodia	KHM	East Asia & Pacific	Asia	
2.	Indonesia	IDN	East Asia & Pacific		
3.	Philippines	PHL	East Asia & Pacific		
4.	Vietnam	VNM	East Asia & Pacific		
5.	Tajikistan	TJK	Europe & Central Asia		
6.	Uzbekistan	UZB	Europe & Central Asia		
7.	Afghanistan	AFG	South Asia		
8.	Bangladesh	BGD	South Asia		
9.	Nepal	NPL	South Asia		
10.	Sri Lanka	LKA	South Asia		10
11.	El Salvador	SLV	Latin America & Caribbean	Latin America	
12.	Haiti	HTI	Latin America & Caribbean		
13.	Honduras	HND	Latin America & Caribbean		
14.	Nicaragua	NIC	Latin America & Caribbean		
15.	Paraguay	PRY	Latin America & Caribbean		
16.	Peru	PER	Latin America & Caribbean		6
17.	Tunisia	TUN	Middle East & North Africa	Africa	
18.	Benin	BEN	Sub-Saharan Africa		
19.	Botswana	BWA	Sub-Saharan Africa		
20.	Burkina Faso	BFA	Sub-Saharan Africa		
21.	Cameroon	CMR	Sub-Saharan Africa		
22.	Chad	TCD	Sub-Saharan Africa		
23.	Ghana	GHA	Sub-Saharan Africa		
24.	Kenya	KEN	Sub-Saharan Africa		
25.	Madagascar	MDG	Sub-Saharan Africa		
26.	Malawi	MWI	Sub-Saharan Africa		
27.	Mali	MLI	Sub-Saharan Africa		
28.	Mauritania	MRT	Sub-Saharan Africa		
29.	Niger	NER	Sub-Saharan Africa		
30.	Nigeria	NGA	Sub-Saharan Africa		
31.	Rwanda	RWA	Sub-Saharan Africa		
32.	Senegal	SEN	Sub-Saharan Africa		
33.	Sierra Leone	SLE	Sub-Saharan Africa		
34.	South Africa	ZAF	Sub-Saharan Africa		
35.	Sudan	SDN	Sub-Saharan Africa		
36.	Tanzania	TZA	Sub-Saharan Africa		
37.	Uganda	UGA	Sub-Saharan Africa		
38.	Zambia	ZMB	Sub-Saharan Africa		
39.	Zimbabwe	ZWE	Sub-Saharan Africa		23

Adopted with modifications from:
http://siteresources.worldbank.org/DATASTATISTICS/Resources/CLASS.XLS

Appendix 2: Time scheduling

S/N	Activity	Details	Date
1.	Research proposal	Submission	04 - 09 June
2.	Data collection	Secondary data preparation	09 - 14 June
		Database creation	
		Pre data analysis	
3.	Field work	Data collection	16 June - 10 July
		Primary data	
4.	Data analysis	Primary & Secondary	13 -22 July
5.	RMT Workshop 3	Analyse research findings	27-29 July
		Draft report of findings	
6.	Colloquium 4	Presentation of Cap 4 draft findings	03-07 August
7.		Revise Cap 4 & write Cap 5	07 -10 August
8.	Proof reading	Adjustments to Caps 4 & 5	10 – 17 August
7.	Submission (1)	Draft thesis presentation	21 - 28 August
		Write revised draft	05 - 10 September
8.	Submission (2)	Final thesis report presentation	11 September
		Prepare for defence (presentation)	12- 14 September
9.	Thesis defence	Presentation	14-18 September
10.	Graduation		25 September

Source: Adopted with modifications from IHS Thesis Guide

Appendix 3: Indicators used in the study

No	Variable	Indicator Name	Used Name in the Study
1.	Wellbeing	Life ladder	Wellbeing
2.	HDI	Human Development Index	HDI
3.	SOL	GDP per capita	GDP per capita (log)
		Poverty head count ratio at national level	Poverty head count ratio
4.	Health		
		Access to Improved sanitation facilities	Access to Improved sanitation facilities
		Life expectancy at birth females years	Life expectancy at birth (females)
		Life expectancy at birth total years	Life expectancy at birth (total)
5.	Education	Literacy rate	Literacy rate
		School enrolment secondary gross	School enrolment secondary
		Mean years schooling	Mean years of schooling
6.	Demography	Total population	Total population (log)
		Population aged 0-14 years of total	0-14 years
		Population aged 65 and above years	65+ years
7.	Location & accessibility	Tropical location latitude	Tropical location
		Logistics performance quality index	Logistics performance
8.	Governance	CPI Score	Corruption
		Democracy Index	Democracy

Appendix 4: World Adult Literacy Rates (2013)

Source: UNESCO: http://www.uis.unesco.org/literacy/Pages/data-release-map-2013.aspx