Examining Human Capital Capacity's Influence on Human Development and Poverty Reduction in Sub-Saharan Africa

Theodore Davis, University of Delaware

Abstract

The aim of this paper is to examine and expand our focus on human capital capacity building as a foundation for poverty reduction in Sub-Saharan Africa. The data showed significant differences in the human capital capacity building characteristics as measured by demographic, education and gender equality characteristics. In analyzing select human capital capacity building markers, the findings suggest that the educational indicators were among the strongest in explaining the variation in human development in Sub-Saharan Africa. The findings showed that gender inequality was a serious inhibitor of human development in Sub-Saharan Africa. Overall, the Sub-Saharan nations with the lowest level of poverty had some combination of a population with higher median years of school completed, a higher literacy rate, a lower population growth rate, a larger percent of the population that lived in an urban area, and it had a higher rate of students progressing to secondary education. The findings of this paper lends support to the belief that poverty reduction cannot be confined to enhancing and understanding capacity building as an institutional level activity or only as an economic phenomenon. Finally, the findings lend support to the adoption of an integrated policy approach that takes into consideration social development as well as economic development as a means of poverty reduction in Sub-Saharan Africa. The social component of the strategy would emphasize the collective human capital development of the population, while the economic component would employ an inclusive growth strategy.

Key words: *Human capital capacity building, poverty reduction, human development, Sub-Saharan Africa*

Despite its abundance of natural resources and the potential for economic growth and development on the continent, the countries in Sub-Saharan Africa continue to have the highest levels of extreme poverty, the highest annual population growth rate, a life expectancy that is among the lowest in the world, a very low youth literacy rate, high infant mortality rate, and the highest prevalence of HIV for adults than any other region in the world (World Bank, April 2009).[1] In July 2001, the African Union adopted a new "framework for action" called The New Partnership for African Development (NEPAD). NEPAD was a mandate to develop an integrated socio-economic development framework to address escalating poverty, to achieve sustainable growth, to halt the marginalization of Africa, and to accelerate the empowerment of women. Supporters of NEPAD embraced the call for an "African Renaissance" based on a long-term vision to address poverty alleviation in all African counties, with Africans taking the lead in the creation and

development of programs to address the social, political and economic development on the continent (Venter and Neuland, 2005).

The aim of this paper was to examine capacity building as a catalyst for human development and poverty reduction in Sub-Saharan Africa. The objectives of this paper are: 1) focus on capacity building as a group level socio-political phenomenon, thus based on the collective human resources and skills of a community, a nation, a region, or a continent); 2) to analyze select human capital capacity building markers that are necessary for achieving poverty reduction priorities in Sub-Saharan Africa; 3) to examine the influence of select human capital capacity building measures on the nation's overall level of human development and thus poverty reduction; and 4) to discuss the implications for the creation of a policy approaches that results in sustainable human development and poverty reduction in Sub-Saharan Africa.

Challenges of Human Development and Poverty Reduction

In 2000, world leaders came together at United Nations Headquarters and adopted the United Nations Millennium Declaration in which the countries of the world formed a global partnership to reduce extreme poverty by 2015. The declaration set as part of its goals cutting in half the proportion of people whose income was less than a dollar a day and the proportion that suffers from hunger. According to the UN, the world is on track to meet the Millennium Development goals of halving the proportion of the people living on less than a dollar a day (United Nations Summit, 2010). However, the UN acknowledges that these achievements are largely the result of extraordinary success in East Asia. It was noted that little progress had been made in Sub-Saharan Africa, where the poverty rate had declined by only a little more than 5 percent between 1990 and 2005.

Prior to the UN Millennium Development initiative, in 1999, the World Bank (WB) and the International Monetary Fund (IMF) had introduced a new framework to reduce poverty. This framework was introduced in the Poverty Reduction Strategy Papers (PRSPs). This new framework called for country-led strategy designed to enhance domestic accountability among the most impoverished countries. The key elements of the enhanced framework were: 1) a comprehensive understanding of poverty and its determinants; 2) choosing public actions that have the highest poverty impact; and 3) choosing outcome indicators which are set and monitored using participatory processes (International Monetary Fund/World Bank. 1999a). Ultimately, IMF and the WB identified five principles in Poverty Reduction Strategy Papers that underlie the approach: 1) country-ownership of a poverty reduction strategy is paramount (country driven); 2) an understanding of the nature and determinants of poverty (results-oriented); 3) a poverty reduction strategy should integrate institutional, structural and sectorial interventions (comprehensive); 4) government development strategies that facilitate coordination with other institutions (partnership); and 5) an understanding that poverty reduction will require institutional changes and capacity building that will result in a long-term process/perspective (International Monetary Fund/World Bank. 1999b).

Key to any poverty reduction strategy and development is the ability of the nation to engage in capacity building. Capacity building has been defined as the "process of developing and strengthening the skills, instincts, abilities, processes and resources that organizations and communities need to survive, adapt, and thrive in the fast-changing world."(Philbin, 1996) Capacity building is said to encompass all the human, scientific, technological, organizational, and institutional resource capabilities in a country with the goal of enhancing policy choices and modes of implementation (United Nations, 1992). Capacity building occurs on many levels and successful capacity building depends heavily upon human capacity (the individuals), organizational capacity (groups of individuals), and institutional capacity (the formal rules and informal norms) (The World Bank, 2005). There is no development without the ability of a nation, a people or a community to enhance its potential to build its capacity. After all, development and poverty reduction are about the community (the nation) empowering itself to bring about positive changes and personal growth by transforming lives and society (Eade and Williams, 1995).

In the early 2000s, most African nations embraced the Poverty Reduction Strategy Papers as the primary course of action to escape the strangle hold of poverty. The outcomes of the PRSP were geared more toward structural development or building institutional capacity. In many ways, the PRSP in Africa has focused largely on state or other non-government institutions to produce poverty reduction strategies. Since its inception, the PRSP, especially as implemented in Africa, has met with criticism and praise. Craig and Porter commended the PRSP for being a new convergence of public policy around global integration and social inclusion on one hand, yet on the other hand they raised concerns about structural tendency to favor the technical and juridical over the political and economic (Craig and Porter, 2003). Ikhide and Obadan (2011) noted that the capacity of most African governments to draw up sound economic policies and implementation of them varied from country to country, but the real concern was that most Sub-Saharan nations did not have the human resources and institutional capacity to undertake the type of analysis, design programs and monitor their impacts. PRSP has been criticized in Africa for relying on externally conceived interventions at the local scale, for not considering the social context and processes through which problems are identified and solutions shaped, and for failing to address the compromises to work out between different sectors of the community (Carr, 2008). Cheru (2006) concluded that in Africa, much needs to be done if the PRSPs approach is to become more participatory and result-oriented, and deal with the multi-dimensional nature of poverty.

Alternatively, successful poverty reduction requires consideration being given to human capital development as well as increasing institutional capacity as suggested in the PRSPs. The human capital capacity building strategy supports reform in those institutions that promotes capacity building in areas such as human geography, education, health, housing, equality, personal satisfaction, etc. There is a direct connection between capacity building in a structural context and human capital development. The relationship is best described as one where the individual is unable to achieve human capital development within the context of their personal abilities and resources; however they are able to experience human capital development within the context of the services delivered by the institutions in society. According to Nyong'o, the principal indicators

of poverty reduction are those variables that measure improvements in the standards of living such as education, health, housing, security and social solidarity or human dignity (Nyong'o, 2001).

Krishna (2007) suggested that the fastest way to reduce poverty is not to focus on whom to target, but what to target. From this perspective, focusing on the reasons related to escaping poverty are just as important as focusing on the reasons for falling into poverty. A study examining the adoption of human strategies as a tool in the reduction of poverty in Africa found that inter-country differences in poverty levels can be accounted for by factors such as public expenditure on education, primary school enrollment, female educational enrollment, expenditure on health, and good governance (Arimah, 2004). Harber examined the political relationship between education and poverty in Africa and concluded that education helps poverty reduction efforts by fostering democracy and greater citizen participation in the political decision-making process (Harber, 2002). A study of the effects of different types of government expenditures on services in rural areas in Sub-Saharan Africa showed that education's effect on poverty reduction ranks after agricultural research and extension, and road improvements (Fan and Zhang, 2008).

Gender equalities also remain an issue impacting poverty reduction efforts in Africa. Mainly because of social expectations, young women's enrollment in education and access to employment continues to be a problem in poverty reduction (Jones and Chant, 2009). A recent World Bank report that examined the link between inequality and poverty in Sub-Saharan Africa concluded that reducing gender based asset inequality increased growth, efficiency, and the welfare of the household (Blackden and Bhanu, 1999). Similarly, it has been suggested that migration factors into poverty reduction strategies. Poverty can and does cause migration and it can also be caused by migration. On the whole, migration tends to serve as a factor alleviating poverty [primarily because one of the benefits of migration is remittance] (Skeldon, 2002). The intent here is not to determine cause, per se, or to test a theoretical explanation; rather it is to explore how select indicators of human capital capacity building can influence poverty reduction in Sub-Saharan Africa.

Methods

The database used in this analysis were derived from a variety of sources including World Bank's Africa Database[1], the United Nation Development Programme's Human Development Report's Statistical Data[1], and African Development Bank Indicators on African Countries.[1] Although the nations of Sub-Saharan Africa are often thought of as one unit, we should not ignore the fact that Sub-Saharan Africa is made up of forty-nine diverse nations with diverse populations that are culturally and socially different. Given the relative newness of the country of Southern Sudan, it was eliminated from database. Thus, the units of analysis are the 48 nations in Sub-Saharan Africa prior to 2011.

Capacity building often concerns a number of interdependent factors such as human capital, socio-cultural capital, physical capital, financial capital and natural resources that constrains people, governments and non-governmental organizations from improving the population's quality of life and overall well-being. Capacity building also involves the collective ability of the people to respond to its collective needs. The collective human capital resources of the nation will be the focus of capacity building in this paper. This study groups human capital

capacity building resources into three categories: population/migration (or demographic characteristics), education, and gender equality. The demographic factors allows us to paint a picture of a nation's most important aspects, it people. Information about the size of a nation's population, the growth characteristics, living conditions and spatial distribution are vital to the policy formulation and implementation necessary for poverty reduction. Among the variables examined about population and its movement were: the population size, growth, percent urban, urban population growth, net migration, international migration median age, and life expectancy.

The collective educational attainment of the nation is a major criterion for human development serving as a key component of individual well-being. The focus on the variables used here are the educational characteristics of the nation's younger population. Among the indicators of net primary school enrollment, primary school completion rate, cohort moving to grade 5, tertiary education gross enrollment. We also considered the adult literacy rate and the education index. Empowering women is another major cornerstone of development. Not only does gender equality contribute to the strength of the family and community, but it also increases the nation's overall human capital development. The measures of gender equality were the percentage of the members parliament that were female, the ratio for girls to boys in primary school, the ratio for girls to boys in secondary school, the male to female youth literacy ratio, female to male school life ratio, the female to male labor force participation ratio and the gender inequality index.

The dependent variables was the country's human development score. For purposes of this study, two human development indicators were considered and the results compared. The United Nations Development Programme has created a Human Development Index (HDI) that considers the capabilities of the nation's people as as a measure of development in the country.[1] The HDI is a composite index measuring average achievement of the nations' population on several key dimensions of human development, including: a long and health life, being knowledgeable and having a decent standard of living. The closer the index is to 1.0 the greater the level of human development in the nation. In 2013, there were no Sub-Saharan African nations in the very high development group (above .890), only two in the high human development group, five in the medium human development group and the remainder in the low human development group. The average score for Sub-Saharan nations was 49.3.[1]

The second human development index used in this study was created by the Mo Ibrahim Foundation. The Ibrahim Foundation focuses on issues of critical importance to leadership and governance in Africa. The Ibrahim Foundation annually releases its Index of African governance. The governance index is a comprehensive collection of data that covers four areas (pillars) including: safety and rule of law, participation and human rights, sustainable economic opportunity and human development. Ibrahim's human development score reflects the success of a nation in securing the well-being of the population, and it measures the extent the government provides social protection, comprehensive education provisions and a health life (Ibrahim Foundation, 2014). Like the UNDP Human Development Index, the Ibrahim Human Development Scores range from 0 to 100 with 100 being a perfect human development. The Sub-Saharan African nation had an Ibrahim 2013 Human Development Score of 57.7 and the scores ranged from 14.1 to 85.6 with a standard deviation of 13.7.

Findings

This analysis begins with a descriptive look at some of the markers of human capital capacity building from a sub-continual perspective. The aim is to paint a picture of the human

capacity building indicators such as demographic characteristics, educational attainment, and gender equality in Sub-Saharan Africa. Table 1, presents a portrait of the migration and population capacity building characteristics for the average Sub-Saharan African nation. The median population size was 11.3 million Sub-Saharan African nations in 2013 and this number is estimated to rise to 16 million by 2030. The annual population growth rate for the average Sub-Saharan nation was around 2.5 percent in 2013. Roughly 40 percent of the average nation's population lives in an urban area, and this number is changing by approximately 3.6 percent a year. Roughly 2.4 percent of the average nation's population migrated out of the country in 2000 and the average nation had a net migration of -1.5 in 2011. The median age in 2013 was 19.7 years. The life expectancy for populations in the average Sub-Saharan nation was 56.6 years, and it ranged from 48.1 to 74.8 years.

Table 1

Descriptive Analysis of Select Indicators of Human Resources and Drivers of Capacity Building across Sub-Sahara Africa

	Minimum	Maximum	Mean	Median	Standard Deviation	N
Migration and Population						
Population 2013 (in millions)	.1	173.5	19.5	11.3	29.7	48
Population Growth 2013	.35	3.8	2.5	2.3	.766	48
Percent urban 2012	11.7	86.8	40.6	39.3	16.8	47
Urban population growth 2012	.50	7.2	3.6	3.8	1.3	48
Net Migration 2011	-24.8	5.3	-1.5	0.0	4.6	48
International migration 2000	.25	19.8	3.4	2.4	4.1	48
Median age 2013	15.1	33.9	19.7	19.0	3.7	47
Life expectancy 2013	48.1	74.3	56.6	55.8	6.6	48
Education						
Adult Literacy 2009/2012	25.3	94.2	63.5	66.8	19.3	48
Net primary school enrollment	26.7	98.8	75.0	78.9	17.8	43
Primary school completion rate 2009/2010	27.8	98.9	65.7	60.8	17.6	42
Cohort moving to grade 5 2008/2009	34.6	98.0	70.3	70.3	16.0	40
Tertiary education gross enrollment, 2003-2013	1.0	40	7.1	6.0	6.3	46
School life expectancy 2012	2.4	14.3	9.4	9.5	2.5	48

Gender Equality						
% parliament seats held by women 2013	3.0	51.9	20.3	16.7	11.5	47
Primary school completion girls to boys ratio (2010/2012)	55.0	104	91.4	92.5	9.4	48
Secondary school girls to boys ratio (2004/2010)	41	138.0	80.5	79.9	20.2	42
Youth female to male literacy ratio	44	114.9	89.4	93.8	14.9	44
Female to male labor force participation ratio	26.3	88.1	62.3	65.7	17.9	47
School life expectancy ratio 2012	62.1	109.4	88.5	90.1	12.6	41
Gender Index 2013	37.5	70.70	57.6	59.1	8.0	35

Note. The ambition here was to provide information that has implications for the development of local, national, and regional policies that will result in poverty reduction and sustainable growth on the sub-continent. More attention is needed to sort out the impact of various good governance measures on improving human development and poverty reduction.

Educationally, the average Sub-Saharan African nation has an adult literacy rate around 66.8 percent. Approximately 75 percent of the age appropriate primary school age children were enrolled, and the average nation had a primarily school completion rate in 2009/2010 of around 65.7 percent. Roughly 70 percent of that group age cohort moves on to the 5th grade. Between 2003 and 2013, seven percent of the population were enrolled in tertiary education in the average Sub-Saharan nation. The average nation had an education index score of 43.3. The education index scores ranged from 17.7 to 68.3 (the higher the score the better the level of educational attainment). Disparities between males and females participation in government, education and the labor are all great indicators of development. Woman held approximately 20 percent of the average country's parliament seats in 2013. The gender inequality index score was around 57.8 percent. The lower the index score the greater the gender equality. The scores for Sub-Saharan African nations ranged from 27.7 to 70.7. Despite to considerably high level of gender inequality, there appears to be some positive movement in the area of gender equality in education among the youth. The female to male ratio for boys and girls attending primary school averaged 91.4 (or.914), but the girl-to-boy ratio (averaging 79.9 or .079) still lagged behind. The youth literacy female to male ratio averaged 89.4 (or .894) percent. Nevertheless, the expected girl-to-boy school life ratio was 88.5 (or .885) in 2012 in the average nation. The ratio of female-to-males participation in the labor force was 62.3 (or .623).

Table 2 provides an examination of the relationship and the amount of variation explained between select demographic indicators and human development indexes. As shown in the table, the size of the nation's population was not significantly related with its level of human development. Similarly, there was no significant association between the nation's net migration and human development or the percentage of the nation's population migrating internationally and human development. Of the population/migration variables examined, one of the stronger

relationships was between the median age of the nation's population and human development. An increase in the nation's median age was associated with an increase in human development. The median age of the nation's population explained .485 of the variation in the UNDP HDI and .290 in the IHDS. Similarly, life expectancy in 2013 explained more than one-third of the variation in the nation's human development score. An increase in the nation's life expectancy was associated with an increase in the nation's HDI and IHDS human development index scores. Population and urbanization population growth were also significantly associated with human development. The relationship between population growth and human development was weak and it accounted for only .10 of the variation across nations. Nevertheless, the data did show than an increase in population growth was associated with a decrease in both the HDI and IHDS index scores. An increase in the percent of the nation's population living in an urban area was strongly associated with the nation's HDI score but was not significantly related with IDS index score. The percentage of the population urban explained .222 of the variation in the HDI. However, urban growth was negatively associated with human development according to both the HDI and IHDS. Urban population growth explained .372 of the variation in the HDI, but only .097 of the variation in the IHDS.

Table 2

Relationship between Select Migration and Population Capacity Indicators and Human Development

Migration and Population	**UNDP Human 2013 Development Index**		**Ibrahim Foundation 2013 Human Development Score**	
	Standardized Beta Coefficient	Adjusted r^2	Standardized Beta Coefficient	Adjusted r^2
Population 2013 (in millions)	-.116	-.008	-.264	.049
Population Growth 2013	-345*	.100	-.369**	.117
Percent urban 2012	.489***	.222	.276	.055
Urban population growth 2012	-.621***	.372	-.341*	.097
Net Migration 2011	.025	-.022	.213	.025
International migration 2000	.176	.009	.142	-.001
Median age 2013	.704***	.485	.553***	.290
Life expectancy 2013	.633***	.388	.602***	.349

P *<.05 **<.01 ***<.001

The collective educational attributes of the nation's population is a key capacity building indicator in any country, whether developing or developed. The data in Table 3 shows a positive relationship between level education and human development. Primary school completion rate had the strongest relationship with human development. Primary school completion explained more than .400 of the variation in the nation's HDI and IHDS scores. There was also a strong relationship between the adult literacy rate and HDI and IHDS. The adult literacy explained upwards to .434 of the variation in the HDI and .283 in the IHDS. An increase in the adult literacy rate corresponded with an increase in the nation's human development. Although the data showed that an increase in percent of the cohort moving to grade 5 and the percent of the population in enrolled in tertiary education were positively related to an increase in the human development, the amount of the variation explained in the nation's human development scores was not as great as the adult literacy or school life expectancy. The percent of the cohort moving to grade 5 was positively associated with human development and explained .273 and .265 of the variation in the HDI and IHDS respectively. While the gross enrollment in tertiary education between 2003 and 2013 explained between .194 and .226 of the variation in the HDI and IHDS scores respectively. School life expectancy explained the greatest amount of variation in both dependent measures. In both cases, it explained greater than .500 of the variation. Of the education capacity indicators examined, the weakest relationship was between net primary school enrollment rate and human development. Nevertheless, net primary school enrollment rate explained between .194 and .226 in the HDI and IHDS scores.

Table 3

Relationship between Select Education Capacity Indicators and Human Development Indicators

Education	UNDP Human 2013 Development Index		Ibrahim Foundation Human 2013 Development Score	
	Standardized Beta Coefficient	Adjusted r^2	Standardized Beta Coefficient	Adjusted r^2
Adult Literacy 2009/2012	.703***	.483	.546***	.283
Net primary school enrollment 2010	.392**	.133	.473***	.205
Primary school completion rate 2009/2010	.699***	.434	.646***	.403
Cohort moving to grade 5 2008/2009	.540***	.273	.533***	.265
Tertiary education gross enrollment, 2003-2013	.461***	.194	.493***	.226
School life expectancy 2012	.727	.518	.741	.540

P *<.05 **<.01 ***<.001

Gender equality is also crucial to a community's ability to augment its capacity. Participation of women as decision-makers and equality in education is very important to human development. An important gauge of gender equality is the percentage of seats held in the national

parliament by women. The findings presented in Table 4 showed no significant relationship between percentage of parliament seats held by women and human development. However, there was a strong relationship between the gender inequality and human development. An increase in the gender inequality index (meaning less equality) was associated with a strong decrease in the nation's human development score. Gender inequality explained more .500 of the variation in the HDI and IHDS indexes. The ratio of girls-to-boys in secondary schools was also strongly associated with human development. The ratio of girls-to-boys in secondary schools explained around one-third of the variation in human development scores. An increase in the secondary school ratio was associated with an increase in both the HDI and the IHDS indexes. While the amount of variation explained by the girls-to-boys secondary school ratio was more consistent, the variation in the two index explained by the girls-to-boys primary school ratio wasn't consistent. The primary school enrollment ratio explained more of the variation in the IHDS index than it did in the HDI. The amount of variation explained ranged from .207 to .454 respectively. In both cases, an increase in the girls-to-boys primary school enrollment ratio was positively associated with an increase in human development. Finally, the female-to-male youth literacy ratio was also shown to be significantly associated with human development. The female-to-male youth literacy ratio by itself explained between .179 and .277 of the variance in the HIDS and the HDI indexes respectively. An increase in the youth literacy ratio corresponded with an increase in the nation's level human development. The school life expectancy ratio nor the female-to-male ratio labor force participation were not statistically related to human development

Table 4

Relationship between Select Gender Inequality Capacity Indicators and Human Development Indicators

Gender Equality	UNDP Human Development Index		Ibrahim Foundation Human Development Score	
	Standardized Beta Coefficient	Adjusted r^2	Standardized Beta Coefficient	Adjusted r^2
% parliament seats held by women 2013	.195	.016	.269	.052
Primary school girls to boys ratio (2010/2012)	.474***	.207	.682***	.454
Secondary school girls to boys enrollment ratio (2004/2010)	.629***	.381	.627***	.378
Youth female to male literacy ratio	.542***	.277	.445**	.179
School life expectancy ratio 2012	.596	.338	.584	.325
Female to male labor force participation ratio	-.063	-.019	-.090	-.014
Gender inequality Index 2013	-.743***	.538	-748***	.547

P *<.05 **<.01 ***<.001

Multiple regression models examined the influence of the selected human capacity indicators in each group on human development. Table 5 shows which combination of the select population/migration variables explained the most variation in the human development indexes. The model showed that the influence of total population, population growth, net migration, and the percentage of population migrating internationally contributed to explaining the amount of variation in the model was minimal. According to the HDI index, the nations with the highest human development would have a larger percent of the population living in an urban area, however the urban growth rate would be lower. The median age of the nation's population would get older and the life expectancy of the population would be higher. These four variables combined explained .654 percent of the variation in the HDI index. The standardized regression coefficient indicated that life expectancy was the strongest correlate (at .355) and the percent of the population urban was the weakest (at .230).

Table 5

Modeling Population/Immigration Capacity Indicators Influence on Human Development

	UNDP Human Development Index Score	Ibrahim Foundation Human Development Score
Population 2013 (in millions)		
Population Growth 2013		-5.491* (2.093)
Percent of population urban 2012	.132* (.059)	
Urban population growth 2012	-2.139* (.025)	
Net Migration 2011		
International migration 2000		
Median age 2013	.821* (.384)	
Life expectancy 2013	.562*** (.165)	1.203*** (.252)
Constant	2.544	.319
Adjusted R^2	.654	.384

Beta Coefficient (error) *P<.05 **P < .01 ***P < .001

The best combination of population/migration variables only explained .384 of the variation in the Ibrahim Foundation Human Development Score. The size of the total population in 2013, the percentage of the population urban, the urban growth rate, net migration, international migration or median age of the population were significant contributions to explaining the variation in the IHDS index. However, the data indicated that population growth and life expectancy combined to explain the variation. The model suggested that human development in Sub-Saharan nations was predicated on a smaller population growth and greater life expectancy in the population. The life expectancy of the population was the strongest correlate with human development.

Among the education human capacity building indicators, the select variables explained more of the variation in the HDI than the IHDS index score. As shown in Table 6, the best combination of variables of education capacity building indicators explained .679 of the variation.

The net primary school completion rate, cohort moving to grade 5 and the expected years of schooling were not significant explanatory contributors. The tertiary education gross enrollment was most strongly correlated with the HDI and a one unit increase in the gross enrollment resulted in a .581 increase in the HDI score. Although the standardized coefficient between adult literacy and the primary school completion rate and the HDI was similar than that of tertiary education gross enrollment, the amount of change in the HDI produced by adult literacy and primary school completion was not as great (.188 and .164 respectively). Nevertheless, the data suggested that a nation with a high rate of human development would have a population with a higher level of adult literacy, a higher primary school completion rate, and higher tertiary education gross enrollment. The best combination of variables explaining the variation in the IHDS were the percent of the cohort moving up to grade 5 and the expected years of schooling. These two variables explained .558 of the variation in the IHDS. The expected years of school was most highly correlated with IHDS. The model suggested that a nation with a high IHDS would have a higher percent of the cohort moving to grade 5 and expected years of schooling would also be higher.

Table 6

*Modeling Education Capacity Indicators Influence on Human Develo*pment

	UNDP Human Development Index Score	Ibrahim Foundation Human Development Score
Education Indicators		
Adult Literacy 2009/2012	.188** (.062)	
Net primary school enrollment 2010		
Primary school completion rate 2009/2010	.164** (.062)	
Cohort moving to grade 5 2008/2009		.292** (626)
Tertiary education gross enrollment, 2003-2013	.581*** (.056)	
Expected years of schooling 2012		3.253** (.626)
Constant	21.420	7.037
Adjusted R^2	.679	.558

Beta Coefficient (error) *P<.05 **P < .01 ***P < .001

Unlike the relationship between the population/migration and education indicators, the gender equality variables that explained most of the variation in human development were consistent across indexes. For both human development indicators, the gender inequality index was the major factor associated with human development. The data in Table 7 shows that an increase in gender equality was associated with an increase in human development. Ironically, an increase in the percent of parliament seats held by women was not positively associated with the human development index scores. Similarly, it was ironic that there was a negative association between the labor force participation female-to-male ratio and the IHDS score. Overall, the data indicates that a nation with more gender equality, a smaller percentage of the parliament seats held by women, and fewer women in the work force than men would have a higher level of human

development. These measures of gender equality explained .705 of the variation in the HDI and .692 in the IHDS.

Table 7

Modeling Gender Inequality Capacity Indicators Influence on Human Development

	UNDP Human Development Index Score	Ibrahim Foundation Human Development Score
Gender Equality		
% parliament seats held by women 2013	-.287** (.104)	-.344* (131)
Primary school girls to boys ratio (2010/2012)		
Secondary school girls to boys ratio (2004/2010)		
Youth male to female literacy ration		
Labor force participation female to male ratio 2010		-.134* (.049)
Women share of the labor force		
Gender inequality Index 2013	-1.215*** (.151)	-1.468*** (.190)
Constant	123.834	-12.375
Adjusted R^2	.705	.692

Beta Coefficient (error) *P<.05 **P < .01 ***P < .001

A composite model of the select human capacity building indicators influence on human development was created by entering all of the indicators in the equation and using the forward elimination process.[1] The combination of the variables explaining a significant amount of the variation in both the HDI and IHDS should give some indication of the characteristics of a nation that is developed in Sub-Saharan Africa. As shown in Table 8, the variables that significantly influenced the variation in HDI included the percent of the population urban, the urban population growth, and the percent of the primary school's cohort moving to grade 5 and gender equality. Combined, these variables explained .886 of the variation in the HDI. On the other hand, the variables that are significantly influenced the IHDS were similar to those influencing the HDI. These variables included the percent of the population urban, the female-to-male labor force ratio, and the gender equality index. These three variables combined to explain .812 of the variation in the IHDS. What the findings suggests is that a Sub-Saharan African nation with a higher human development score would have a larger percentage of it population urban, yet the urban population growth would be smaller. The percentage of the primary school population moving with their cohort to grade 5 would be larger. A smaller percentage of the female population would be part of the labor market. Finally, the level of gender equality would be considered higher.

http://scholarworks.wmich.edu/ijad/

Table 8

Models Showing the Best Combination of the Select Human Capacity Building Indicators Influencing Human Capital Development

	UNDP Human Development Index Score		Ibrahim Foundation Human Development Score
Percent of population urban 2012	.241*** (.061)		.425*** (.080)
Urban population growth 2012	-1.393* (.636)		---
Cohort moving to grade 5 2008/2009	.135* (.055)		---
Female-to-Male labor force ratio	---		-.122** (.038)
Gender inequality Index 2013	-.810*** (.106)		-1.250*** (.132)
Constant	81.332.		125.099
Adjusted R^2	.866		.812

Table 8 about here (See appendices).

Discussion

In analyzing the select human capital capacity building markers, the findings suggest that the educational indicators were among the strongest in explaining the variation in human development. In particular, they suggested that among the strongest indicators of human development in the average Sub-Saharan African nation were the adult literacy rate, the school life expectancy, the primary school completion rate and the percent of cohort moving to grade 5. Although individually it appears that educational indicators were among the strongest when it came to human development, there was also strong evidence that gender equality was also a significant factor explaining the variation in human development across the nations of Sub-Saharan nations. The gender equality index showed that gender inequality was a serious inhibitor of human development in Sub-Saharan Africa. The data, in general, suggested that equality in the expected years of school and the enrollment in secondary schools between girls and boys increase the level of human development in the average Sub-Saharan African nation. However, there was no evidence that the percent of legislative seats held by women were a factor. Among the migration/population factors these findings suggest that an over population and a higher overall life expectancy are key to increasing human development in Sub-Saharan nation.

From the findings we also have an indication of what combination of factors within each group have the strongest impact of human development in Sub-Saharan Africa. For example, the findings suggests that the combination of the select population/immigration factors indicates that a country with a high level of development would have a larger percentage of the population living in urban areas, however the urban growth rate would be smaller. In addition, the life expectancy in the country would be higher, the median age of the nation's population would be older, and overall population growth would be smaller. Educationally, the adult literacy rate would be higher, the primary school completion rate would be higher, and a larger percent of the population would

go on to tertiary education as expected. The Ibrahim Foundation Human Development Score indicated that the percent of the cohort moving to grade 5 would be larger and the expected years of schooling would be higher. Finally, a nation with a higher level of human development as expected would also have greater gender equality. Overall, when all of the selected indicators are consider together. The data indicated that the best predictors of human development was a larger percent of the population urban, however urban population growth would be slower and the ratio of female to males in the labor force would smaller. The final aspect of a nation with greater human development would be a higher degree of gender equality.

The findings of this paper lends support to the underlying belief that poverty reduction cannot be confined to enhancing and understanding capacity building as an institutional level activity or only as an economic phenomenon. Capacity building must also be understood in terms of humans as a collective resource. Thus, poverty reduction depends heavily on understanding human populations as a collective of social, political and economic organizations. Consequently, policy development must take into account the collective human characteristics of the community, the nation, and the continent. Based on the findings, several policy suggestions are warranted. If Sub-Saharan Africa is to become economically viable and competitive in an increasingly globalized world, the nations and regions must develop educational policies that will increase literacy, the mean years of formal education, and gender equality. Organizations like the African Union, the United Nations African Development Programs, The World Bank, and the International Monetary Fund should embarked upon a development strategy that encourages and rewards those nations that develop (and meet) a minimum continental educational standard that achieve these goals. Such a policy would stress access to quality public education for all school age children. It would develop programs that help the nations in Sub-Saharan improve the quality of public education. The nations in this area of the world must embrace and vigorously enforce educational policies that ensure gender equality and equity in the public education system. Perhaps most importantly, the policies must be considerate of the cultural and social characteristics of the population.These policies should also be inclusive from a bottom-up strategy as oppose to a top-down strategy.

Hence, the findings lend support to the adoption of an integrated policy approach that takes into consideration communal-wide social development alongside with economic development as a means to reduce poverty in Sub-Saharan Africa. The social component of the strategy would emphasize the collective human capital development while the economic component would employ an inclusive growth strategy. The inclusive growth model was first introduced in India and focused on improving the delivery of core public services, and spreading the benefits of economic growth more widely among the population (The World Bank, 2006). According to the Report, essential to inclusive growth is improving the delivery of core public services such as healthcare, education, power, and clean drinking water. It also stressed investments made in infrastructure, such that they create jobs for low and semi-skilled workers. Rapidinclusive growth and sustained poverty reduction requires inclusive growth that allows all citizens to contribute to the social, political, and economic development of nation (Ianchovichian and Lunstrom, 2009).

Conclusion

More research is needed that explores the social and political dynamics of Sub-Saharan African nations of poverty reduction. Too often poverty reduction is considered as a phenomenon that occurs primarily within an economic context and at the individual or institutional level. The intent here is to broaden the focus by considering how the collective social (or socio-political) characteristics of the population also influence poverty reduction.

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