

Social and Spill-Over Benefits as Motivating Factors to Investment in Formal Education in Africa: A Reflection around Ghanaian, Kenyan And Rwandan Contexts.

S.Y.Ampofo¹, B. Bizimana², I. Ndayambaje³, V. Karongo⁴, J. K. Lyn Lawrence⁵ and J. A. Orodho^{6*}
Ghana¹, Rwanda^{2,3}, Kenya^{4,5,6} Department of Educational Management, Policy and Curriculum Studies, School of Education, Kenyatta University, Kenya [Corresponding author^{6*} orodhojohn@gmail.com]

Abstract

This study examined the social and spill-over benefits as motivating factors to investment in formal education in selected countries in Africa. The paper had three objectives, namely) to profile the key statistics of formal schooling; ii) examine the formal education and iii) link national goals of education with expectations in Ghana, Kenya and Rwanda. The major contention of the paper is that investment in education is not a matter of random choice but rather an imperative led by the fact that education holds returns and externalities to the largest society. Authors reviewed theory of human capital, local and international publications on social and spill over benefits of education focusing on Ghana, Kenya and Rwanda. The analysis of government policies and other publications from these three African nations have shown that education is considered as a key sector in these developing nations. Nevertheless, the researchers found out that mostly only primary and secondary education are distinctively accorded considerable public financial resources which might be associated with the countries limited financial ability, competitive needs, national and global trends. However, the fact that Ghana, Kenya and Rwanda strive to become democratic, self-reliant and middle income nations by conquering long terms set visions in which caliber manpower, welfare, self-employment, reduced social inequalities, increase in average income, knowledge based society, ICT driven and sustainable economy are key characteristics; it is imperative to invest substantially in TVET and higher education. It is also recommended that Ghana, Kenya and Rwanda put in place strong institutions that objectively, effectively and rationally ensure the efficient use of all available resources towards maximum educational outputs (265 words).

Key words: Social Benefits, Spill-over Benefits, Private Cost, Social Cost, Private Rate of Returns, Education, Cost- Best Analysis in Education, Africa, Ghana, Kenya, Rwanda.

Introduction

Background to the Study

There is an undeniable linkage between education and national economic performance (UNESCO, 2006) hence for any society to develop and prosper education is embraced as key. Education is therefore considered as a social investment since its social and spillover benefits outweigh what individuals gain as private returns (Woodhall, 2004). Therefore, these positive externalities from education (Hall, 2006) are the prime justification as to why societies and governments should continually invest more in education.

Undisputedly, apart from the social benefits, educational investments lead to substantive spill-over benefits or externalities. Spill-over benefits of education implies what the surrounding community copy, learn and gain from an educated person (King, 2007). This may be reflected in wealth, health, and feeding, living conditions among others. Such benefits overflow to other people other than single educated individuals or their families (Burton, 1963). In other words, educational returns diffuse to reach even other members of society (Gieyoung & Chong, 2013).

A deep analysis of the externalities from education can be borrowed from Moretti (2004) who emphasized that human capital externalities are ample to the extent of being a major contributor to the existing differences between poor and rich countries in long-run growth rates. In line with this, Hungerford and Wassmer (2004) certify that educational externalities were among the underlying contributing factors over the increasing rate of employment, mushrooming of businesses, and raising in personal income and housing values. These educational externalities are also valued in working environments. Niehaus (2012) commends spillovers by showing the extent to which educating a worker increases what others are able to borrow or learn from him/her. Research by Kessler and Lulfesmann (2002) shows that investment specifically in employee's training was motivated by the gaining of skills and experiences that would wholly benefit organization. In line with the foregoing, the governments' commitments to invest in education were documented in different contexts. In the United States of America, Karoly and Bigelow (2005) have demonstrated that in California and other states, there was a gradual increase in the level of policymakers' awareness of the need to offer an open access to publicly funded preschools as a result of the anticipated prospective benefits from this level of education to the largest society.

In Australia, a study carried out by Murray (2007) has clearly outlined the significance for educational public funding. This was a reaction to the ongoing current trend of viewing tertiary education as a private entity rather than a public good, which contrasted with the private investors' point of view to work closer with the community which ultimately serves them as stakeholder, manpower and clients. In Europe, a study carried out by Green et al. (2003) has concluded that there is a positive correlation between education and social cohesion. Specifically in Germany as Bauer and Vorell (2010) assert, the positive externalities have always been the striking reason that the government presents as justifications during the allocation of funds to the educational system. In Africa, the social and spill-over benefits are also known and valued. It is in this respect for instance that in Senegal, educational investments are gauged in terms of increase in productivity, spread of knowledge, organizational strength and people's openness to international scene (Seck, 2009). In Ethiopia, the social and spill-over benefits of education are exceptionally valued to the extent that since the early 1990's there are no charges levied on students who enroll for higher education (Chapman, 1999). It is against this background that this study on social and spill-over benefits as motivating factors to investment in formal education in Africa: A Reflection around Ghanaian, Kenyan And Rwandan Contexts was premised.

Literature review

Rationale and key concepts in relation to investment in education

According to Orazem (2012), the driving forces to investment in education are attributed to the World Bank's stand in the meeting held in Tunisia in 1962. At that time, the educational attainments were quite alarming in that 41% of the world's children aged 6-11 were not in school while in Sub-Saharan Africa, only 25% of primary aged children were in school. These were some of the shocking realizations that led the World Bank to invest \$69 billion in various developing countries in order to make education a driving force to health and economy (Orazem, 2012).

The World Bank initiative mentioned above clearly illuminates the concepts of "costs" and "benefits" of education. Hough (1993) defines cost-benefit analysis in education as a convenient approach intending to assess the expected expenses against the predicted profits. Such an approach leads to a tentative educational rate-of-return that in most cases are in favor of additional investment in education. In support of this, it was substantially confirmed that individuals who receive bachelor's degrees achieve higher socioeconomic status compared to those less educated citizens (University of Carolina, 2009).

Educational financing involves the sacrifice of alternative possible investments. For instance, instead of gaining more qualification after bachelor degree, one may decide to use his resources (time, money and physical energy) in business. This brings about the concept of opportunity cost (Sidorkin, 2007) for both individual and to the society or government. However, the rates of return on schooling, the social and spill-over benefits from education still outweigh the educational costs. Hence, the opportunity cost is not much opposing the educational investments because education holds both quantitative and qualitative benefits (Woodhall, 2004).

In fact, besides the quantifiable educational outputs measured, for instance in terms of graduation rates, education reflects qualitative benefits to individuals themselves and to the society at large. In reference to individuals, Hill, Hoffman and Rex (2005) have shown that one's education level is a determinant to the "private rate of returns" translated into social consideration, earnings, salaries, achievements and further life enjoyments. At the society level, Hall (2006) points out civic participation and creation/adoption of new technologies as two major qualitative positive externalities from education. Further societal benefits apart from better educated population include the substantial progressive decrease of unemployment rates, increase in productivity, tax revenue and hence GDP and lowering of crime rates (Becker, 1975).

Therefore, the nature of having both private and social aspects of educational benefits is to be highly appreciated and acknowledged as this heterogeneity character Marginson (2007), optimizes not only the educational returns in general but also determine their interrelationship nature whereby the social benefits eventually raise the private benefits of some other individuals eventually (McMahon, 2006).

Educational returns and impact to the society

Investing in education is one of the best choices that people and societies may ever make. With the fact education empowers its beneficiaries with skills, knowledge and potentials; these ultimately turn into tangible personal and social capitals that accrue health and socio-economic status (Murray, 2007). It is on the basis of such evidences that investigation by Orazem (2012) led to establishing a clear link between schooling in developing countries with economic progress and autonomy. Education is a driving force to economic growth (Cattan & Crawford, 2013) and therefore policy makers ought to acknowledge its benefits. In fact, although education increase the wages, prosperous, wealth and health of its beneficiaries in terms of private returns, education has external returns that reach others in terms of externalities or spill-overs. These educational externalities also known as spill-overs constitute what is coined as public benefits of education because they benefit existing and forthcoming generations in terms of democracy, human rights, better governance, trade,

political stability, longevity (McMahon, 2010) among others. As evidence to externalities, Tengtrakul and Peha (2010)'s study has shown that the availability of computer in primary schools has boosted the availability and use of computers in households.

Furthermore, education acknowledges both monetary and non-monetary returns that together constitute the key contributors to GDP in direct and indirect ways (Owens, 2004). This consideration has incited on one hand scholars to document more about human capital externalities as a prime leading factor to productivity and economic growth and on the other hand governments to raise up investments in education as they strive to build up knowledge-based societies and competitive economies worldwide (Bauer & Vorell, 2010)

The need for gender sensitivity in education supply is a current concern. It is in this respect that a study carried by Rihani, Kays and Psaki (2006) has underlined key major benefits of girls' secondary education including increase of access to education, democratic change, and decline of infant mortality, mitigation of HIV and AIDS and finally poverty alleviation. To a more advanced level, education improves the general quality of life (Gilead, 2012) and substantiates the possibilities for innovation, entrepreneurship and job creation (University of Carolina, 2009). Such assertions are also shared by Orazem (2012) who has established the link between the years of schooling and the school quality with economic growth. McMahon (2006) confirms that the level of education was a determinant of fertility and life expectancy at the individual level while education was a correlate of democratization, human rights, political and economic stability at national or societal levels.

Statement of the problem

In various scholarly texts (Cunningham, 2013; Babalola, 2003; Coleman & James, 1990), everyday communication and in political speeches, education is pointed out as a key sector for development. This reinforces Aristotle's thinking who claimed that education is the best provision for old age (University of Carolina, 2009). It also fulfills: the World Bank recognition of education as a strong baseline towards sustained economic growth (Gilead, 2012), the Education For All (EFA) goals and the Millennium Development Goals (MDGs) goals in which education remains the corner stone (UNDP, 2013). However, in some African developing countries, it is grievous to note that education is not viewed and ranked as a prime sector to be funded despite its expectations and transformative potentials. For instance, in Kenya, with the National Government Budget of Ksh 1.54 trillion in 2014/2015, education was only given 20% (Institute of Economic Affairs, 2014); In Rwanda, during the fiscal year 2013/2014, with a national capital investment of Frw 803 billion, education was ranked third (80.1 billion) (Republic of Rwanda, 2013a).

The above educational funding rates heighten the concern about educational goals' attainments. There is therefore inevitable need for African researchers to reflect upon their contexts, explicit the concepts of social and spillover benefits of education which seem to be in dire need of an academic overhaul and come up with scientific analysis that would inspire future investments in education.

Purpose and objectives of the study

The purpose of this study was to examine the social and spill-over benefits as motivating factors to investment in formal education in Africa: A Reflection around Ghanaian, Kenyan and Rwandan Contexts. This study was guided by the following objectives:

1. Profile the key statistics of the formal education system in Ghana, Kenya and Rwanda.
2. Describe the formal education systems in Ghana, Kenya and Rwanda.
3. Link the national goals with expectations from formal education in Ghana, Kenya and Rwanda.

Theoretical framework

This study was inspired by the theory of human capital of which development is traced back to Adam Smith. His ideas were embraced in the early 1960s by the American economist Theodore W. Schultz who actually invented the term "human capital" to reflect the prolific knowledge and skills of the workers. More theoretical advancements of this theory were made by Gary S. Becker, a former student and disciple of Schultz who argued that investment in human beings was the most valuable of all capitals (Becker, 1975). In other words, the emergence of human capital theory was a kind of revolution intending to draw attention to other resources than the physical ones such as natural resources, infrastructure, buildings and machinery focus which are at the end of the day operated on or simple creations of human power. Also true is the fact that theory intended to provide theoretical and philosophical justifications to the human potentials and skills that ultimately make their difference in earnings (Becker, 1962).

This theory was chosen to be used in this study for four major reasons. The first one is that human capital theory has extensively been used as a guide towards educational policy formulation (Gilead, 2009). The second is that education is considered as one of human capital (Walters, 2004) since human beings' expertise and potentials are

much a result of education, training and development (Walker, 2005). The third one is that human capital theory reflects a production process which requires expenditure and inputs (Erosa, Koreshkova & Restuccia, 2010). The fourth one is that this theory particularly emphasizes on education as being a formal investment whereby more education generally means higher lifetime income or higher future earnings (Sidorkin, 2007).

Research methodology

This study adopted a desk survey design in which primarily documentary-descriptive approaches whereby practices, figures and facts about educational systems in Ghana, Kenya and Rwanda were gathered and analyzed one by one. However, in order to make meaningful conclusions, data in the above named countries were put under broad themes (Amin, 2005) to enable a thematic-comparative kind of analysis to take place. The discussion was guided by a proven academic knowledge of the researchers about the educational systems of concerned countries paired with thoroughly reviewed literature around the issues of educational funding, social and spill-over benefits of education under study (Orodho, 2009).

Findings and Discussion

Levels and key statistics of formal education

Ghana

The 2007 education reforms of Ghana categorized education into three major levels. These are the universal basic education, secondary and tertiary levels of education. The universal basic education spanned over 11 years, made up of 2 years of Kindergarten, 6 years of Primary School and 3 years of Junior High School (JHS). After JHS, students may choose to go into different streams at Senior High School (SHS), these include, General Education and Technical, Vocational and Agricultural Education and Training (TVET) or enter into an apprenticeship scheme with some support from the government (Government of Ghana, 2007). A new four year SHS system was introduced in the 2007 education reforms which offered programs in General Education with electives in General, Business, Technical, Vocational and Agriculture options for entry into a tertiary institution or the job market (Government of Ghana, 2007). The duration of four years became a subject of national debate from the year 2009 when the National Democratic Congress (NDC) took over the reins of government. The government organized a stakeholders meeting for further deliberations on the issue. The consensus was a reversal of the secondary school duration from four to three years. The tertiary education level encompasses all post-secondary education institutions that is, universities, polytechnics and colleges of teacher education. The number of years for university education remained 4 and that of the polytechnics and colleges of education, 3 years.

According to Government of Ghana (2010), the education sector anticipates increase in enrolments at the various levels of the education system. This is clearly shown in Table 1 as depicted in the sector projections in the Ghana's Education Strategic Plan (2010-2020). It depicts an increase in the enrolment for all the levels of the education sector over the 11 years period of the Education Strategic Plan. The Kindergarten section is expected to increase by 14.70%, Primary (26.49%), Junior High School (38.24%), SHS (35.33%), TVET (85.72%) and Tertiary (45.14%).

Table 1: Ghana Education Sector Projections (Year 2010-2020)

| | 2009 (Baseline) | 2011 | 2013 | 2015 | 2020 |
|---|--------------------|-----------|-----------|-----------|-----------|
| Enrolment (Public) | | | | | |
| KG | 1,159,789 | 1,194,262 | 1,229,559 | 1,265,688 | 1,359,691 |
| Primary | 3,099,234 | 3,280,517 | 3,470,971 | 3,671,025 | 4,216,140 |
| Junior High | 1,075,036 | 1,179,930 | 1,291,544 | 1,410,251 | 1,740,663 |
| Senior High | 479,296 | 520,752 | 564,776 | 611,506 | 741,159 |
| TVET | 39,068 | 103,422 | 172,912 | 247,848 | 273,644 |
| Tertiary | 141,000 | 157,482 | 175,801 | 196,121 | 257,002 |
| CoE (# is required output of new teachers) | | 16,633 | 18,358 | 19,592 | 8,524 |
| Pupil Teachers Ratio (PTR) based on teachers on payroll | | | | | |
| KG | 34 | 34.3 | 34.7 | 35 | 35 |
| Primary | 30.6 | 33 | 36 | 38 | 45 |
| Junior High | 15 | 18 | 21 | 25 | 35 |
| Senior High | 21 | 24 | 25 | 26 | 30 |
| Percent(%) of teaching force defined as trained teachers | | | | | |
| KG | 32 | 53 | 74 | 95 | 95 |
| Primary | 58 | 70 | 83 | 95 | 95 |
| Junior High | 73 | 80 | 88 | 95 | 95 |
| Senior High | 86 | 89 | 92 | 95 | 95 |

Source: Government of Ghana (Education Sector Strategic Plan, 2010)

In terms of expenditure, the various levels of education are expected to accrue an increase in cost on yearly basis throughout the strategic plan period as shown in Table 2.

Table 2: Total Costs (GH ¢million) and Percentages by Sub-Sector-ESP (2010-2020)

| | Recurrent and Capital Expenditure | | | | % of Total (in 2015) |
|-------------------------------|-----------------------------------|--------------|--------------|--------------|-------------------------|
| | 2011 | 2013 | 2015 | 2020 | |
| Basic Education | 1,550 | 1,794 | 2,072 | 2,017 | 62.4 |
| Kindergarten | 207 | 253 | 300 | 406 | 9.0 |
| Primary | 819 | 943 | 1,069 | 1,031 | 32.2 |
| Junior High | 524 | 599 | 702 | 580 | 21.1 |
| Second Cycle Education | 444 | 536 | 629 | 777 | 18.9 |
| Senior High | 358 | 392 | 415 | 503 | 12.5 |
| TVET | 80 | 138 | 205 | 264 | 6.2 |
| Apprenticeship | 6 | 7 | 8 | 10 | 0.3 |
| Colleges of Education | 51 | 46 | 38 | 34 | 1.2 |
| Study Leave | 42 | 27 | 12 | 13 | 0.4 |
| Non-Formal Education | 6 | 10 | 13 | 23 | 0.4 |
| Special Education | 19 | 27 | 37 | 67 | 1.1 |
| Tertiary Education | 391 | 382 | 363 | 434 | 10.9 |
| Management | 157 | 158 | 158 | 156 | 4.8 |
| Total | 2,658 | 2,981 | 3,322 | 3,524 | 100 |

Source: Government of Ghana (Education Sector Strategic Plan, 2010)

It is clear from Table 2 that though various sectors of Ghana's education system will experience increase in expenditure over the period under consideration, the greatest beneficiary is the Basic Education sector. This is due to the fact that the government of Ghana places much emphasis on the quality of education in the early years of schooling. Thus, the primary schooling sector remains a spending priority for the Ministry of Education (Government of Ghana, 2010). In view of this, the Education Strategic Plan (2010) projects an increase in the expenditure pattern on the various levels of education by 62.4% for Basic Education, 18.9% for Secondary Education and 10.9% for Tertiary by the year 2015.

Kenya

The national education system has evolved over time. From independence to date formal education has changed from the initial 7-4-2-3 cycle to the present 8-4-4 system which is geared towards making education more relevant to the labour market and thus produce skilled and high-level manpower to meet the demands of the economy. The initial 7-4-2-3 system was primarily meant to produce highly intellectual human resource to replace the white experts who left the country after she attained her freedom from the colonialists (Muricho & Chang'ch, 2013; MoE, 2012).

In line with the new Kenyan constitution inaugurated in 2010 and the Kenya Vision 2030, great emphasis is placed on the link between education and the labour market, the need to create entrepreneurial skills and competences, and the need to strengthen public and private sector partnerships. This has considerable importance for the structure and focus of the education system and curriculum. It also has considerable relevance to teacher development at all levels starting from early childhood to university and trainers for high technology and technical skills. Consequently the government gives serious consideration to changes to the 8-4-4 structure, the introduction of technical and academic curriculum pathways, and the centrality of ICT to teaching and learning. Kenya Vision 2030 also recognizes the need for a literate citizenry and has set targets for eliminating adult illiteracy whilst increasing learning achievements (Republic of Kenya, 2012). Budgetary allocations to the education sector have also changed over time. The table 3 below shows various budgetary allocations to key sectors of the economy in the 2013/2014 national budget.

Table 3: Budgetary allocations to different sectors in the 2013/2014 budget

| Sector | Allocations (Ksh) | Allocations (Ksh) |
|--|----------------------|----------------------|
| | 2013/2014 FY | 2014/2015 FY |
| Education: free primary and secondary education, school feeding program | Kshs. 273.7bn | Ksh 294.55 bn |
| Health services | Kshs. 34.7bn | Ksh 28.7 bn |
| Social protection, culture and recreation | Kshs. 57.2bn | |
| Energy, ICT and infrastructure, geothermal development | Kshs. 220.8bn | Ksh 183.3 bn |
| Agriculture and rural development | Kshs. 38.1bn | Ksh 53.3 bn |
| Environment, water and irrigation and housing | Kshs. 55.4bn | |
| Judicial reforms | Kshs. 16.1bn | |
| Parliamentary reforms | Kshs. 19.0bn | |
| National Security | Kshs. 74.4bn | Ksh 220.9 bn |
| Public administration and international relations | Kshs 134.1 | |
| Governance, justice, law and order | Kshs. 105.1bn | |
| Contingency Fund to cater for unforeseen expenditures | Kshs. 5.0bn | |
| Regional integration | Kshs. 22.7bn | |

Sources: Adili newsletter issue 142; www.pwc.com/ke; www.ieakenya; www.kpmg.com

Table 3 above shows budgetary allocations in two consecutive financial years, 2013/2014 and 2014/2015. The inclusion of only a few sectors in the second financial year portrays the critical roles these sectors play in the

development of the national economy. Having suffered several security breaches in 2013, it easily explains the massive increase in budgetary allocation to national security.

The marked increase in education allocation by 7.6% from Ksh 273.5 to 294.55 billion may be good indicator of the importance of education in human resource development and economic growth. The allocation again constitutes 27.3 % of the total national budget of Ksh. 1.77 trillion, up from 20% the previous year with a budget of Ksh 1.64 trillion. It is worth noting that the Education Sector comprises of the State Department of Education, the State Department of Science and Technology, the Teachers Service Commission (TSC) and their affiliated institutions. The largest expenditure growth rate of 10.7% was posted by the Teachers Service Commission (TSC). Equally TSC takes the bulk of the sector's budget, 53.7% followed by the State Department of Education and the State Department of Science and Technology at 24.8% and 21.5% respectively. The State Department for Education whose mission is to promote and co-ordinate quality education, training and research for empowerment of individuals is categorized into four sections namely: Primary Education, Secondary Education, Quality Assurance and Standards and General Administration and Support Services. About 87% of the Department's budget of Ksh 76.5 billion is targeted towards enhancing access to primary education through increased enrolment rates as well as increase transition rate to secondary education. It is worth noting that there is a new sub-programme called ICT capacity Development, with a proposed allocation of Ksh 17.6 billion under the Primary Education Programme, with a higher allocation than FPE. This sub-programme is intended to train teachers in ICT, development of digital content and rolling out computer laboratories for class 4 to class 8 in all schools throughout the country. University education at 84.4% is the largest component of the Department for Science and Technology budget of Ksh 66.5 billion and the balance is intended for the other tertiary institutions including Technical, Vocation Education and Training, Youth Training and Development and Research management and innovation (www.ikenya ; www.pwc.com/ke).

Table 4 below shows the students' enrolments in different levels of education. It shows a continuous increase in enrolments across the years from 2008 to 2013. This may explain the increase in allocations to education explained above even as the government pursues the goals of Education For All (EFA) and Universal Primary Education (UPE) among others

Table 4: Student enrollment, 2008 – 2013 (in thousands)

| Years | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---------------------------------------|--------|--------|--------|--------|--------|---------|
| Primary school | 8563.8 | 8831.4 | 9381.2 | 9863.9 | 9995.2 | 10182.5 |
| Secondary school | 1375.9 | 1472.6 | 1653.3 | 1767.7 | 1914.8 | 1104.3 |
| Universities¹ | 122.8 | 177.7 | 177.6 | 198.3 | 240.5 | 324.6 |
| Other institutions² | 109.6 | 107.3 | 111.1 | 133.8 | 158.5 | 185.1 |

Source: Kenya National Bureau of Statistics (2012&2014)

Table 5 shows percentage of budgetary allocations to education over the same years, 2008 to 2013. Except for the year 2013, increases in enrolments in table 2 appear to coincide with increase in percentage of budgetary allocations along the years.

Table 5: Ministry of Education budget as a percentage of total government's budget

| Years | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|--|------|------|------|------|------|------|
| Percentage of total government budget | 16.5 | 16.0 | 18.7 | 20.4 | 21.0 | 19.0 |

Source: Kenya National Bureau of statistics (2012 & 2014)

¹ Public and accredited private universities

² Teacher Training Colleges, Polytechnics, Technical Schools & Institutions of Science & Technology

Below is a breakdown of the allocations of the 294 billion allocated to education to different sub-sections of education in the 2014/2015 budget. A total of of Ksh. 139 billion is split as follows:

- Ksh. 28.2 bn for free day secondary education,
- Ksh 13.5 bn for free primary education.
- Ksh 17.4 bn for Laptop project to schools, development of digital content, building capacity of teachers and rolling out computer laboratories.
- Ksh 6.4 bn for technical training institutes
- Ksh 5.7 bn for higher education loans and
- KSh 55.0 bn for university education.
- KSh 0.4 for sanitary towels for girls in school

Rwanda

In Rwanda, the formal education is organized in four major categories (Republic of Rwanda, 2008a). These include: pre-primary education which enrolls 3 years' kids and last three years, twelve years basic education (12YBE) encompassing primary (6 years) and secondary education (lower level 3 years and upper level 3years), technical and vocational education and training- TVET (1 to 3 years) and lastly higher education (2 to minimum 4 years). With such a structure, most 12YBE leavers on completion tend to be 18 years old on average (Paxton, 2012). In terms of costing of formal education, the tables 6 and 7 below portray statistics about teacher, classroom projections and costing from the year 2006 to 2015.

Table 6: Teacher Projections

| Teacher projections | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|-------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Primary | | | | | | | | | | |
| Teacher stock required | 32,785 | 34,668 | 36,467 | 38,242 | 39,949 | 40,978 | 41,764 | 42,524 | 43,381 | 42,590 |
| Projected new teacher demand | 2,866 | 2,839 | 2,869 | 2,854 | 2,228 | 2,015 | 2,013 | 2,133 | 510 | 942 |
| Cost of teacher salaries (Mils) | 18,253 | 20,634 | 23,155 | 25,859 | 27,601 | 18,933 | 30,143 | 31,383 | 32,750 | 32,906 |
| Tronc Commun/lower secondary | | | | | | | | | | |
| Teacher stock required (Pub+Priv) | 5,637 | 6,186 | 6,899 | 7,883 | 9,063 | 10,383 | 11,698 | 12,911 | 13,932 | 14,717 |
| Projected new teacher demand | 831 | 1,022 | 1,329 | 1,574 | 1,773 | 1,834 | 1,798 | 1,666 | 1,482 | 1,466 |
| Cost of teacher salary (Public) | 1,891 | 2,315 | 2,898 | 3,733 | 4,813 | 5,836 | 6,894 | 7,912 | 8,813 | 9,556 |
| Upper Secondary | | | | | | | | | | |
| Teacher stock required (Pub+Priv) | 3,278 | 3,343 | 3,415 | 3,487 | 3,615 | 3,760 | 3,920 | 4,099 | 4,299 | 4,516 |
| Projected new teacher demand | 224 | 234 | 243 | 302 | 326 | 348 | 375 | 405 | 432 | 464 |
| Cost of teacher salaries (Mils) | 1,010 | 1,171 | 1,361 | 1,539 | 1,843 | 2,034 | 2,243 | 2,458 | 2,698 | 2,951 |
| Total teacher salary costs | 21,154 | 24,120 | 27,414 | 31,130 | 34,256 | 36,503 | 39,279 | 41,753 | 44,255 | 45,412 |

The analysis of the tables 6 and 7 shows that right from the year 2006 to 2015 there has been a progressive increase in primary and secondary education funding. These funds were dedicated to teachers' salaries and

general school operations expressed as capitation grants. However, the figures in table 8 below show discrepancies in funding between different levels of formal education in Rwanda.

Source: Republic of Rwanda (2008c)

Table 7: Capitation grant costings

| Capitation Grant Projections | | | | | | | | | | |
|---|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Primary School students | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| Projected total enrolment | 1,941,738 | 2,000,921 | 2,051,151 | 2,096,183 | 2,076,706 | 2,020,084 | 1,952,781 | 1,885,719 | 1,824,442 | 1,791,163 |
| Capitation Grant | 2,500 | 3,226 | 4,122 | 5,232 | 5,525 | 7,031 | 7,578 | 8,170 | 8,812 | 9,019 |
| Total costs of Capitation Grant (Millions) | 4,854 | 6,454 | 8,458 | 10,988 | 13,549 | 14,204 | 14,797 | 15,406 | 18,077 | 18,154 |
| Tronc Common/lower secondary students | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| Projected Total Students | 170,029 | 187,142 | 209,385 | 240,103 | 278,107 | 321,120 | 364,896 | 405,759 | 441,288 | 471,785 |
| % Private | 38% | 36% | 31% | 28% | 25% | 23% | 21% | 21% | 21% | 20% |
| % Public | 62% | 64% | 69% | 72% | 75% | 77% | 79% | 79% | 79% | 80% |
| Number of Private Students | 64,581 | 57,758 | 70,672 | 73,722 | 76,838 | 90,068 | 83,488 | 87,162 | 91,082 | 95,209 |
| Number of Public Students | 105,447 | 119,384 | 138,713 | 166,381 | 201,269 | 241,052 | 181,209 | 318,607 | 350,206 | 376,576 |
| % Public Boarding | 41% | 35% | 30% | 25% | 21% | 17% | 14% | 12% | 10% | 8% |
| Number of Public Boarding | 43,541 | 41,703 | 40,992 | 41,695 | 41,892 | 41,771 | 40,570 | 38,269 | 35,001 | 31,352 |
| Number of Public Non-boarding | 61,905 | 77,681 | 97,721 | 124,786 | 159,378 | 199,281 | 240,639 | 280,338 | 315,185 | 345,224 |
| % Private Boarding | 41% | 35% | 30% | 25% | 21% | 17% | 14% | 12% | 10% | 8% |
| Number of Private Boarding | 26,667 | 23,669 | 20,885 | 18,431 | 15,993 | 13,875 | 12,045 | 10,468 | 9,108 | 7,927 |
| Number of Private Non-boarding | 37,915 | 44,089 | 49,788 | 56,292 | 60,845 | 65,193 | 71,443 | 76,684 | 81,974 | 87,282 |
| Boarding Capitation Grant | 21,000 | 21,391 | 21,676 | 21,823 | 21,530 | 22,729 | 23,899 | 25,044 | 26,165 | 27,262 |
| Non-boarding Capitation Grant | 11,000 | 11,205 | 11,354 | 11,431 | 11,277 | 11,905 | 12,518 | 13,118 | 13,705 | 1,429 |
| Average Capitation Grant | 15,129 | 14,763 | 14,404 | 14,029 | 13,411 | 13,781 | 14,150 | 14,550 | 14,951 | 15,361 |
| Cost of Public only (Mils) | 1,595 | 1,762 | 1,998 | 2,334 | 2,699 | 3,322 | 3,982 | 4,636 | 5,236 | 5,784 |
| Cost for Private only (Mils) | 977 | 1,000 | 1,018 | 1,034 | 1,031 | 1,103 | 1,182 | 1,268 | 1,362 | 1,462 |
| Cost for Public and Private | 2,572 | 2,763 | 3,016 | 3,368 | 3,730 | 4,425 | 5,164 | 5,904 | 6,598 | 7,247 |

Source: Republic of Rwanda (2008c)

In fact, a scrutinized view of the table 8 above shows that lower and upper secondary education which fit in the new 12YBE national prior targets have been substantially funded respectively up to 367.9% and 372.2 % in just

a period of nine years while technical and vocational education-TVET (179.6497%) and higher education (145.5889%) are the levels to which little funding were projected as depicted in Table 8.

Table 8: Actual and projected expenditure 2009/10-2014/15 (RWF millions)

| Actual and projected recurrent expenditure | 2009/201 (Actual) | 2010/2011 (Projected) | 2011/2012 (Projected) | 2012/2013 (Projected) | 2013/2014 (Projected) | 2014/2015 (Projected) | Total (2009/10-2014/15) |
|--|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------|
| Pre-primary | 299 | 215 | 511 | 646 | 826 | 1,050 | 3,548 |
| Primary | 55,809 | 64,438 | 85,166 | 100,119 | 122,848 | 150,035 | 578,415 |
| Lower Secondary | 24,478 | 41,658 | 62,434 | 72,054 | 81,443 | 90,058 | 372,125 |
| Upper Secondary | 9,718 | 10,150 | 12,146 | 17,776 | 26,108 | 36,173 | 112,071 |
| Pre-service teacher training | 1,480 | 2,641 | 3,040 | 3,474 | 3,963 | 4,870 | 19,468 |
| TVET (Technical and Vocational Education and Training) | 7,366 | 7,731 | 9,022 | 10,293 | 11,696 | 13,233 | 59,340 |
| Higher Education | 33,438 | 32,493 | 35,668 | 39,419 | 43,724 | 48,682 | 233,425 |
| Non-formal | 435 | 458 | 495 | 536 | 580 | 627 | 3,130 |
| STR (Science, Technology and Research) | 1,648 | 3,513 | 3,618 | 3,727 | 3,838 | 3,954 | 20,297 |
| Institutional Support | 1,411 | 1,507 | 1,710 | 2,000 | 2,379 | 2,812 | 11,820 |
| TOTAL | 136,083 | 164,804 | 213,811 | 250,044 | 297,405 | 351,493 | 1,413,640 |

Source: Republic of Rwanda (2010).

Pre-primary education is moderately funded even though is still a level of education that requires a country wide formal set up and immense support. This concurs with the reported current situation on Early Childhood Education (ECE) service provision that clearly pointed out that these schools are still very few especially in rural areas thus inaccessibility; while in towns most of these are run by private investors or parents' unions (Republic of Rwanda, 2011).

National goals and expectations from formal education

Ghana

Ghana as a nation has undertaken major educational reforms since independence. These reforms basically aimed at improving the education system in light of the changing national goals and to align with emerging global trends. In line with this desire to reach middle- income country status by the year 2020, the Government of Ghana launched its strategic development road map (Ghana Vision 2020) in 1996. The basic objectives of this strategic plan were to reduce poverty, increase employment opportunities and average incomes, and reduce inequalities in order to improve the general welfare and material wellbeing of all Ghanaians. The Vision 2020 document contains an education policy with the objective to ensure that all citizens are functionally literate and productive irrespective of the gender and social status.

This vision was further enhanced by the National Education Reform (NERIC, 2007) resulting in 2008 Education Act (Act, 778). This Act states that the educational system intends to produce well balanced individuals with requisite knowledge, skills, values, aptitudes and attitude. This will ultimately lead to functional and productive citizens for the development and the democratic advancement of the nation and for related matters. This Act clearly underscores the fact that the education sector is seen as the major sector around which national development revolves. It also states clearly that Education at the basic level is free and compulsory and further holds parents who do not send their children of school going age to the basic school liable. All these provisions of the Education Act, 2008 (Act 778) aimed to ensure that the nation's citizenry are well equipped with the necessary skills ,knowledge, attitudes and abilities right from infancy to serve as the desired manpower for national development. This is in tandem with the provisions of the Ghana Education Strategic Plan (2010-2020) mission statement which states that, "to provide relevant education with emphasis on science, information, communication and technology to equip individuals for self-actualization, peaceful coexistence as well as skills for the workplace for national development". Again, the thrust of the Technical and Vocational Education and Training (TVET) policy as stated in the Ghana Education Strategic Plan (2010-2020) is to improve the trainability of the workforce, improve training quality and relevance, promote productivity in agriculture through TVET, build a human resource base for increased manufacturing and industrialization and develop a world-class workforce for the various sectors of the Ghanaian economy. The Ghana Education Strategic Plan (2010-2020) also indicates that, the National Council for Tertiary Education (NCTE) was established to promote quality,

relevance and excellence in tertiary education, to facilitate the development of world-class human resources and to support national development. The attainment of national goals and aspirations can therefore be said to be closely tied to the formal education sector.

Kenya

The government acknowledges awareness in that the provision of education and training to all Kenyans is fundamental to the success of its overall development strategy (Republic of Kenya, 2005). It therefore aims at ensuring equitable access to quality education and training for all her children, including disadvantaged and vulnerable groups. The long-term objective of the Government is to provide every Kenyan with compulsory basic quality education and training, including 2 years of pre-primary, 8 years of primary and 4 years of secondary or technical education. The aim of providing this system of education is three-fold. It is meant to enhance the ability of Kenyans to preserve and utilize the environment for productive gain and sustainable livelihoods. The second important goal of education is the development of quality human resource which is central to the attainment of national goals for industrial development. Finally education is necessary for the development and protection of democratic institutions and human rights. These goals reflect the aspirations of the people of Kenya as stated in the constitution of Kenya (2010), and reiterated in Vision 2030 (MOE, 2012). These main goals provide the impetus upon which policy formulation in education in Kenya derives.

Policy development on education is indicative of the evolution of education and its function among the citizenry. Prior to independence, education was modeled according to race including white, Asian and African. Africans received education that would be used for manual activities. They were presumed to be intellectually inferior to the whites and Asians. After independence in 1963, the first policy was drafted in 1965 which abolished racial segregation in education. Its main thrust was the development of human capital and fostering national unity in the country. Funding was thus done primarily by the government. In 1976, another policy statement sought to include communities in putting up infrastructure in their schools. Cost sharing became policy after 1988 as government tried to improve education funding and the quality and relevance of education. In 2000, a more comprehensive policy was drawn which added accelerated industrial and technological development to the goals of education. It also included totally integrated quality education and training (TIQET) which was in line with international Education for All (EFA) and the Universal Primary Education (UPE) goals of education. Vision 2030 and the Constitution of Kenya 2010, both emphasize the role of education in national development (Republic of Kenya, 2005 & 2012).

In all the undertakings, the common denominator of the adopted policies was to enable education to contribute effectively in national development and unity among all Kenyans. In view of these important roles that education is meant to play, it would be logical to assume that financing of education in comparison to other sectors of the economy from the national budgetary allocation reflects this. The forthcoming sections of this paper on Kenya shall attempt to dissect the actual situation thereby exposing the reality that connects the goals and the investments towards education.

Rwanda

Right from the country's Vision 2020 (Republic of Rwanda, 2000), Rwanda aims at ensuring that its citizens are not only capable of reading and writing but also empowered with varied professional and technical skills. Hence, the mission driving the Rwandan education sector is to transform and ensure that this target is reached by substantially addressing the issues of ignorance and illiteracy and supply the required skilled human resources (Republic of Rwanda, 2013b) that will aim at the attainment of a long lasting socio-economic development (Republic of Rwanda, 2011). Therefore, right from early childhood education, the educational provisions and learning outcomes have to ensure that the holistic approach that offers mental, physical, social and emotional development is at the heart of training to produce useful and successful citizen (Republic of Rwanda, 2011).

With reference to the above, between 2013 to 2018, the Rwandan education system is expected to fill the gap of 1,260 bachelors degree holders (35%), 1,809 Masters Degree holders (51%) and 484 PhD holders (14%). On the other hand, a big number of technical and hands on skills are very much need. The projections reach 14,633 graduates from international professional certificates (16%), 102 specialists from short training (0.0001%), 3,0224 artisans (33%) and 47,108 are TVET-technicians (51%) (Republic of Rwanda, 2013b). In the case of higher education, the expectations are very high. In fact, this level of education, is expected to avail skilled, well trained, imaginative, competitive and creative manpower that support the national target to become a transformative nation, united, vibrant and of strong economy (Republic of Rwanda, 2008b).

Conclusion and Recommendations

The overall findings of this study led to the realization that the governments of Ghana, Kenya and Rwanda are very much committed to build their educational systems as one of the key areas for their long term and sustainable socio-economic development. This is clearly observed right from the educational policies and goals in place. In fact, these countries have been attempted to reshape their educational systems so that it can produce human resources equipped with adequate skills, knowledge and abilities; based on which poverty alleviation, welfare, employment and socio-economic progress can be assured. However, early childhood and TVET need more sounding voice and enforcement as formal levels of education.

As far as educational funding is concerned, there are differences between the three country attributed to the national priorities, economy, population and country side. Indeed, there are slight differences in duration and aims of different levels of education. Despite these, the similarity is that primary education is the level of education that gets heavier enrollments and more government support. This is justified by the increase in budget allocation year after year; which might be associated to the national and international tendency to make that level of education basic, free and compulsory.

The analysis shows that specifically in Ghana, the government remains with beyond 90% of the educational sector expenses (Republic of Ghana, 2013 & Government of Ghana, 2010). This is an inspiring model however; the sustainability of the governments' continued investment may not be assured since the rate of funds to higher education is decreasing. Therefore there is need for alternative institutes to finance some of their expenditures.

The long lasting funding models as per these countries are in three fold. The first is to use alumni, parents and philanthropists as in the case in Ghana whereby these educational partners now cover 70% of the Academic Facility User Fees; which is a demonstration of the responsibility of social investment. The second is the Kenyan approach to attract potential international agencies to enable the country to set up strong baselines resources on the basis of which gradually the country move on its own. The third one the fixed cost sharing between families and the government as practiced in Rwanda.

The observed decreasing government funding to higher education and the increasing limited chances of access to this level of education especially to poor students should be looked into so as not to carry the wrong message that this level of education has been turned into a private good (Murray, 2009). In relation to this, this study suggests that Ghana, Kenya and Rwanda governments maintain strong partnership with private sectors, largest community, local and international potential stakeholders to maximize higher educational opportunities (Rihani, Kays & Psaki, 2006).

Nevertheless, despite the educational achievement, these three African nations still acknowledge the issues of insufficient funding, inadequate and unequal distribution of resources to the disadvantage of rural areas, teacher shortage and qualification, bureaucracy, increasing number of graduates which higher levels of education hardly accommodate, poor ICT penetration especially in primary schools and lack of curricula orientation to the labor market, which all together may lead to the deterioration of dreamt visions in the education sector (Orazem, 2012).

References

- Amin, M.E. (2005). *Social Science Research: Conception, Methodology and Analysis*. Kampala: Makerere University.
- Andoh, D. (2014). Basic school heads worried over delay in release of capitation grant. Retrieved from <http://www.graphic.com/news>
- Bauer, T.K. & Vorell, M. (2010). External Effects of Education: Human Capital Spillovers in Regions and Firms, Bochum: Ruhr Economic Papers.
- Becker, G.S. (1975). Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education, 2nd Ed., pp 13 – 44, Available on <http://www.nber.org/books/beck75-1>, accessed on 26th August 2014
- Becker, G.S. (1962). Investment in human capital: a theoretical analysis. *The Journal of Political Economy*. 70, (5), 2
- Burton, W. (1963). Spillover of Public Education Costs and Benefits.
- Cattan, S. & Crawford, C. (2013). Assessing the Economic Benefits of Education: Reconciling Microeconomic and Macroeconomic Approaches, CAYT Report No.4, London: Institute for Fiscal Studies and Centre for Analysis of Youth Transitions (CAYT), Available at <http://www.ifs.org.uk/caytpubs/caytreport04.pdf>, accessed on 20th August 2014
- Chapman, B. (1999). Reform of Ethiopian Higher Education Financing: Conceptual and Policy Issues. *Economics of Education Series 2. Economics of Education Thematic Group: The World Bank*.
- Cheruto, J. (2013). The national budget in 2013/2014 at a glance. Adili Newsletter issue 142; at www.tikenya.org
- Coleman, James S. (1990). *Foundations of Social Theory*. Cambridge: Harvard University Press.
- Cunningham, A. (2013). 'The Broader Societal Benefits of Higher Education', in *Solutions for Our Future Project*. Washington: Institute for Higher Education Policy.
- Erosa, A., Koreshkova, T. A. & Restuccia, D. (2010). How important is Human Capital? A Quantitative Theory Assessment of World Income Inequality. *Review of Economic Studies*. 1, pp. 1-32
- Gieyoung, L., & Chong, K. (2013). Who has to pay for their education? Evidence from European Tertiary education. *Educational Researcher*, 42, (4), pp. 250-252

- Gilead, T. (2012). Education and the Logic of Economic Progress. *Journal of Philosophy of Education*, 46 (1)
- Gilead, T. (2009). Human Capital, Education and the Promotion of Social Cooperation: A Philosophical Critique. *Journal of Philosophy of Education*. 28, pp.555–567
- Government of Ghana (2014). The Budget Statement and Economic Policy of the Government of Ghana for the 2014 Financial Year. Ministry of Finance and Economic Planning
- Government of Ghana (2012). Education Sector Performance Report. Ministry of Education
- Government of Ghana (2010). Ghana Education Strategic Plan. Ministry of Education
- Government of Ghana (2008). Education Act, 2008 Act 778. Ministry of Education
- Government of Ghana (2000). Ghana Education Trust Fund Act, 2000 Act 581. Ministry of Finance and Economic Planning
- Government of Ghana (1995). Ghana – Vision 2020 (The First Step: 1996-2000). National Development Planning Commission
- Green, A., Preston, J., Ricardo, S. (2003). Education, Equity and Social Cohesion: A Distributional Model. Wider Benefits of Learning Research Report. London University: Centre for Research on the Wider Benefits of Learning.
- Hall, J.C. (2006). Positive Externalities and Government Involvement in Education. *Journal of Private Enterprise*, 21 (2).
- Hill, K., Hoffman, D. & Rex, T. R. (2005). The value of higher education: individual and societal benefits (With Special Consideration for the State of Arizona). Arizona: Arizona State University
- Hungerford, T.L. & Wassmer, R.W. (2004). K–12 Education in The U.S. Economy: Its Impact on Economic Development, Earnings, and Housing Values. National Education Association (NEA) research working paper, Washington: NEA.
- Hough, J. R. (1993). Educational cost-benefit analysis: Education Research Paper, 2, pp.1-27
- Ibn Chambas, M. (2003). Higher Education in the Twenty-first Century, Vision and Action. Volume V – Plenary. Ghana. World Conference on Higher Education. Paris: UNESCO
- Institute of Economic Affairs (2014a). Budget Guide: Budget Highlights 2014/2015
- Institute of Economic Affairs (2014b). Budget 2014/2015: Balancing financial concerns while responding to spending inefficiencies. At www.ieakenya
- Karoly, L.A. & Bigelow, J.H. (2005). The Economics of Investing in Universal Preschool Education in California. RAND: Labor and Population
- Kenya National Bureau of statistics (2014). Kenya facts and figures, 2014. Nairobi. At www.knbs.or.ke
- Kenya National Bureau of statistics (2012). Kenya facts and figures, 2012. Nairobi. At www.knbs.or.ke
- Kessler, A.S. & Lülfsmann, C. (2002). The Theory of Human Capital Revisited: On the Interaction of General and Specific Investments. University of Bonn
- King, K.A. (2007). Do Spillover Benefits Create a Market Inefficiency in K–12 Public Education? *Cato Journal*, 27, (1).
- Klynveld P. & Marwick, G.(2014). Kenya 2014: Budget brief. At www.kpmg.com
- Marginson, S. (2007). The public/private divide in higher education: A global revision. *Higher Education*. 53, pp. 307–333
- McMahon, W. W. (2010). The External Benefits of Education. University of Illinois
- McMahon, W. W. (2006). Education Finance Policy: Financing the Nonmarket and Social Benefits. *Journal of Education Finance*. pp. 264–284
- Ministeri y'Uburezi (2013). Politiki Igenga Itangwa ry'inguzanyo yo Kwiga mu Mashuri Makuru na Kaminuza. Kigali
- Ministry of Education Science and Sports (MOESS) (2007) Preliminary Education Sector Performance Report, Accra
- Ministry of Education (2006). Rwanda Education Sector: Long-term strategy and financing framework 2006 - 2015 (LTSFF). Kigali
- Moretti, E. (2004). Workers' Education, Spillovers, and Productivity: Evidence from Plant-Level Production Functions, *The American Economic Review*, 94 (3), pp.656-690
- Muliru, S. (2014). Peeling the mask: Facts on secondary education sector in Kenya. Literate Kenya Initiatives. At www.wordpress.com
- Muricho & Chang'ch, (2013). Education reforms in Kenya for innovation. Moi University, At www.ijhssnet.com
- Murray, J. (2009). The wider social benefits of higher education: What do we know about them? *Australian Journal of Education*, 53 (3), pp. 230-244
- Murray, J. (2007). The Wider Social Benefits of Education: A research report. The University of Sydney: Centre for Integrated Sustainability Analysis
- Niehaus, P. (2012). Education and Knowledge Spillovers. UC San Diego
- Orazem, P.F. (2012). The Case for Improving School Quality and Student Health as a Development Strategy: Draft in preparation for the 2012 Copenhagen Consensus, Iowa State University
- Orodho, J.A. (2009). Elements of Education and Social Science Research Methods, 2nd Edition. Maseno: Kenezja Publisher.
- Owens, J. (2004). A Review of the Social and Non-Market Returns to Education
- Paxton, W. (2012). IPAR Observatory Report: The Rwandan Education and Skills System. Kigali: Institute of Policy Analysis and Research (IPAR)-Rwanda.
- Price Water house Coopers, (2014). Understanding Kenya's 2014/2015 national budget. At www.pwc.com/ke
- Republic of Ghana (2013). The Budget Statement and Economic Policy of the Government of Ghana for the 2014 financial year. Available at http://www.mofep.gov.gh/sites/default/files/news/2014_Budget_Statement.pdf, accessed on 27/8/2014
- Republic of Kenya (2005). A policy framework for education, training and research: Meeting the challenges of the 21st century. Nairobi: Ministry of Education,
- Republic of Kenya (2012). A policy framework for education: aligning education and training to the constitution of Kenya and vision 2030. Nairobi: Ministry of Education, www.vision2030.go.ke

- Republic of Rwanda (2013a). The National Budget: a Citizen's Guide 2013-2014, Kigali: MINECOFIN, available on http://www.minecofin.gov.rw/uploads/media/The_National_Budget_-_a_Citizen_s_Guide_2013-2014_01.pdf, accessed 27/8/2014
- Republic of Rwanda (2013b). Skills Area and Numbers of Priority Skills Required Across Rwanda: Five Year Program for Priority Skills Development to Deliver EDPRS II (2013 - 2018). Kigali: Ministry of Public Service and Labour.
- Republic of Rwanda (2011). Integrated Early Childhood Development Strategic Plan 2011/12 – 2015/16, Kigali: Ministry of Education
- Republic of Rwanda (2010). Education Sector Strategic Plan 2010 – 2015. Kigali: Ministry of Education
- Republic of Rwanda (2008a). Education Sector Plan 2008-2012 (Draft).Kigali: Ministry of Education
- Republic of Rwanda (2008b). Higher Education Policy. Kigali: Ministry of Education
- Republic of Rwanda (2008c). Nine Years Basic Education Implementation: Fast Track Strategies. Kigali: Ministry of Education.
- Republic of Rwanda (2008d). Technical and Vocational Education and Training (TVET) Policy in Rwanda. Kigali: Ministry of Education
- Republic of Rwanda (2000). Rwanda Vision 2020. Kigali
- Rihani, M.A., Kays, L. & Psaki, S. (2006). Keeping the promise: Five Benefits of Girls' Secondary Education. AED.
- Seck, A. (2009). International Technology Diffusion: Explaining the Spillover Benefits to African and Other Developing Economies. Dakar: Université Cheikh Anta Diop
- Sidorkin, A.M. (2007). Human Capital and the Labor of Learning: A Case of Mistaken Identity. Educational Theory. 57 (2).
- Soft Kenya (2014). Challenges facing education in Kenya: Questions and answers about Kenya. At www.softkenya.com
- Tengtrakul, P. & Peha, J.M. (2010). Spill-over effects of ICT use in school to Thai communities, 38th Telecommunications Policy Research Conference. Carnegie Mellon University.
- UNDP. (2013). TST Issues Brief: Human rights including the right to Development. Retrieved from: http://www.ohchr.org/Documents/Publications/Human_rights_indicators_en.pdf. On October 3, 2014.
- UNESCO (2006). World data on Education (6th Ed). Retrieved on 17/10/2014 from <http://www.ibe.unesco.org>
- University of Carolina (2009). The Economic Return on Investment in South Carolina's Higher Education. Carolina: The Darla Moore School of Business, http://www.che.sc.gov/CHE_Docs/InfoCntr/HESC_Files/EconReturnHigherEdAugust09.pdf
- Walker, J.S. (2005). Towards a Theory of Human Capital Transformation through Human Resource Development. North Carolina State University
- Walters, D. (2004). The Relationship between Postsecondary Education and Skill: Comparing Credentialism with Human Capital Theory. The Canadian Journal of Higher Education, 34, (2), pp. 97–124
- Woodhall, M. (2004). Cost-benefit analysis in educational planning. 4th Ed. Paris, IIEP.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:

<http://www.iiste.org>

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: <http://www.iiste.org/journals/> All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: <http://www.iiste.org/book/>

Academic conference: <http://www.iiste.org/conference/upcoming-conferences-call-for-paper/>

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

