REPUBLIC OF UGANDA

COMPREHENSIVE EVALUATION OF THE UNIVERSAL PRIMARY EDUCATION (UPE) POLICY

Thematic Report 5:

FINANCING AND COSTING OF UPE

November, 2018

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FOREWORD

This independent comprehensive evaluation of the Universal Primary Education (UPE) policy is one of the many evaluations of Government policies and programmes to be produced by the National Planning Authority (NPA) in fulfilment to the National Planning Act (2002) and the National Development Plan (NDPII). Two decades since the UPE policy was introduced, it is important to look back and take stock of the remarkable gains attained, identify the challenges faced, and lessons learnt during the implementation of the UPE policy.

The objectives of the UPE Policy were:

1) To provide facilities and resources to enable every child to enter school;
2) To ensure the completion of the primary cycle of education;
3) To make education equitable in order to eliminate disparities and inequalities;
4) To ensure that education is affordable by the majority of Ugandans; and
5) To reduce poverty by equipping every individual with basic skills.

This comprehensive evaluation set out to assess the extent to which the above objectives have been achieved. In an effort to provide guided policy direction, the evaluation was undertaken along six (6) thematic areas that include:

(i) Policy, Legal, Regulatory and Institutional frameworks;
(ii) Efficacy of the Primary School Curriculum in Supporting the Realization of UPE;
(iii) Primary Teacher Training for Producing Competent Teachers to deliver UPE;
(iv) Efficacy of School inspection in Supporting the delivery of UPE;
(v) Financing and Costing of UPE; and
(vi) Education Modelling and Forecasting.

These Reports provide over-arching findings and recommendations necessary for improving the quality of primary education in Uganda. In particular, the reports are useful in: informing the finalization of the review of the Education White Paper; improving teacher training mechanisms and policies; improving adequacy of the curriculum; strengthening policies and guidelines regarding community participation; inspection; providing status for the 2030 Agenda on Sustainable Development Goal 4 on Education for All; and informing policy planning and the Uganda Vision 2040.

The comprehensive evaluation used both quantitative (secondary and primary) and qualitative evidence using data from; the UNHS, EMIS, UNEB, NAPE, MTEF, World Bank, UNESCO, and NPA Survey among others. The quantitative analysis was based on rigorous econometric and non-econometric models that include the: Standard Mincerian Regression; Stochastic Frontier production function; Benefit Incidence analysis, cohort analysis, ordinary least squares analysis, logit analyses, UNESCO's Education Policy and strategy simulation (EPSSim). With respect to the qualitative analysis, we undertook a rigorous desk review of the relevant literature with bench marked good country policy practices, various formative and summative evaluations on the UPE policy before, interviews and field work.

This comprehensive evaluation was based on the standard OECD-DAC evaluation principles which includes; relevance, effectiveness, efficiency, impact and sustainability. The rating criteria is categorized into 3 decision rules namely; Substantially Achieved, Partially Achieved, and Not Achieved. Overall the UPE Policy has been **partially achieved** based on the OECD criteria rating.

The UPE policy substantially meets the relevance principle. The policy is aligned to national priorities and policies such as the Poverty Eradication Action Plan (PEAP), Millennium Development Goal (MDG) 2 of achieving Universal Primary education, Education Act 2008, Sustainable Development Goal (SDG) 4, NDPs and Uganda Vision 2040. Empirical evidence indicates that: 88 percent of the school going age children are in school; and equity in terms of gender parity and Special Needs Education have greatly improved.

On the other hand, **the UPE policy partially meets the effectiveness principle.** Overall, 60 percent of the UPE objectives have been substantially achieved under objective 1, 3 and 5, but with partial achievement registered on 2 and 4. This rating is as a result of performance on the following indicators; access of 88 percent, PLE completion of 65 percent, remarkable improvement in literacy and numeracy, cohort completion rate of 38 percent, dropout rate of 38.5, repetition rate of 1.5 percent.

This policy partially meets the efficiency principle in producing the maximum possible outcome given the available inputs. This is explained by the government-aided schools being away from the maximum possible outcome by only 0.38 percent when compared to their private schools counterparts at 11.8 percent. This implies that, for Government to improve learning outcomes, it should increase financing to the primary school sector. However, the evaluation notes that there are still leakages in the system among which include; poor completion, absentiseem, less time on task by teachers and low pass rates.

The UPE policy partially meets the policy impact principle. Notably, the policy has significantly impacted on the years of schooling especially on the average years of education for the household head that have increased to 10 years from 4.2 years in 1997. Empirical evidence shows that completing 7 years of primary increases household incomes by about 10.2 percent as compared to their counterparts who don't complete the cycle. Similarly, the analysis showed that an additional year of schooling improves Primary Health Care (PHC) outcomes of these households, as well as equipping individuals with basic skills and knowledge to exploit the environment for self-development and national development.

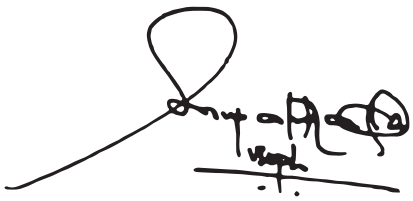
The UPE policy partially meets the sustainability principle. The comprehensive evaluation notes that while donor financing has gone down over the years, government financing and household education expenditure have increased. Over the same period, the per capita expenditure has consistently reduced occasioned by increase in enrolment out-pacing growth in the education budget, indicating a financial sustainability constraint. Beyond that, a review of the institutions that support UPE indicates that albeit their challenges, they are technically capable of spear heading a successful UPE Programme. Moreover, Government continues to greatly support primary education amidst other education sub-sectors like BTVET and USE which compete for the available fixed resource envelope. Notwithstanding, there are other factors which hinder the

sustainability of the policy, that include; high population growth rate, high dropout, negligence by parents and poverty among others.

Overall, empirical evidence indicates that the UPE policy remains relevant, pro-poor and has largely fulfilled its primary objective of increasing equitable access. However, challenges that include leakages within the system affect learning outcomes. Similarly, to attain the desired quality Universal Primary Education, the per pupil expenditure should increase to UGX 63,546 for Urban schools and UGX 59,503 for rural schools from the current UGX 10,000 that government is contributing. In fact, the demand constraints have reduced over the UPE span, with Uganda pursuing an inclusive economic growth and rapid reduction in poverty which has significantly increased the financial resources at the disposal of households. This also illustrates the increasing priority that Ugandans have accorded to these areas and the impact of the UPE policy in raising awareness and addressing cultural constraints even among the poorest households.

Indeed, Government was right on its decision to implement the policy and is therefore advised to continue pursuing this programme with improved financing and institution strengthening as indicated in the respective thematic reports.

In conclusion, I extend my gratitude to the; First Lady/Minister of Education and Sports for the overwhelming support, Parliament of Uganda and the Ministry of Finance Planning and Economic Development for appropriating funds for the first comprehensive evaluation. Also, we acknowledge the support from; the Inter-Agency Committee, Ministry of Education and Sports, Local Governments, Schools visited, the NPA Fraternity especially the M&E Department and the Research Assistants that collected the data that informed part of the analysis.



Joseph Muvawala (PhD)
EXECUTIVE DIRECTOR

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ACRONYMS

ACODE	Advocates Coalition for Development and Environment
BTVET	Business Technology, Vocational Education and Training
CAO	Chief Administrative Officer
CSOs	Civil Society Organisations
DEO	District Education Officer
DMTBF	Decentralized Medium-Term Budget Framework
DTB	District Tender Board
EFA	Education for All
EMIS	Education Management Information System
EPRC	Education Policy Review Commission
EPSSim	Education Policy and Strategy Simulation
ESC	Education Service Commission
ESSAPR	Education and Sports Sector Annual Performance Reports
ESSP	Education and Sports Sector Strategic Plan
FGDs	Focus Group Discussions
GDP	Gross Domestic Product
GER	Gross Enrollment Ratio
GKMA	Greater Kampala Metropolitan Areas
GPI	Gender Parity index
LGBFP	Local Governments Budget Framework Paper
MDGs	Millennium Development Goals
MoES	Ministry of Education and Sports
MoFPED	Ministry of Finance, Planning and Economic Development
MTEF	Medium Term Expenditure Framework
NAPE	National Assessment of Progress in Education
NAPE	National Assessment of Progress in Education
NCDC	National Curriculum Development Centre
NDP	National Development Plan
NEA	National Education Accounts
NGOs	Non-Government Organisations
NPA	National Planning Authority
PAF	Poverty Action Fund
PTA	Parents and Teachers Association
SACMEQ	Southern and Eastern Consortium for Monitoring Education Quality
SDG	Sustainable Development Goal
SFG	School Facilities Grant
SMC	School Management Committee
SNE	Special Needs Education
SWAp	Sector Wide Approach
UBOS	Uganda Bureau of Statistics
UDHS	Uganda Demographic Health Survey
UN	United Nations
UNEB	Uganda National Examination Board
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNHS	Uganda National Household Survey
UPE	Universal Primary Education
WFP	World Food Programme

EXECUTIVE SUMMARY

Education is a fundamental Human Right. Indeed, the Constitution of the Republic of Uganda[1] enshrines the right to education as follows; "all persons have a right to quality education". Education is required to advance a country's socio-economic transformation and eradication of poverty. As such, in 1997 Uganda became one of the first Sub-Saharan African countries to introduce and implement the Universal Primary Education policy (UPE). The initial UPE policy supported four children per family but evolved into supporting all children to receive free primary schooling. In particular, the UPE objectives were five-fold:

1. To provide facilities and resources to enable every child to enter school;
2. To ensure the completion of the primary cycle of education;
3. To make education equitable in order to eliminate disparities and inequalities;
4. To ensure that education is affordable by the majority of Ugandans; and,
5. To reduce poverty by equipping every individual with basic skills.

20 years down the road of UPE implementation, government remains committed to the policy. Government has invested a great share of its budget to primary education. This evaluation accesses whether the resources have translated into realization of the UPE objectives.

Towards this end, a critical analysis on the progress of UPE since its inception to date is done by reviewing extensive literature, data analysis and field survey analysis carried out by NPA. Further, this study assesses the effectiveness of the Planning, Budgeting, Monitoring and Financing Frameworks towards realization of UPE objectives. Also, the Education economics of Cost Accounting and Financing analysis is carried out to estimate the ideal UPE costs and financing requirements up to 2030. This is done by employing the Education economics of Modelling and Forecasting education learning outcomes. In particular, UNESCO's, demographic Computer Simulation Model for strategic education development planning and resource projections, Education Policy and Strategy Simulation (EPSSim) model is used.

The following are the main findings emerging from this evaluation:

A. Key Findings

1) **Government's investment in free primary education has led to improvement in access outcomes and doubled the average years of schooling.** Enrolment figures doubled from 2.6 million in 1995 before UPE to 5.3 million in 1997 after the introduction of UPE. This enrolment further increased to 7.6 million pupils in 2003 and 8.7 million in 2017. Average years of schooling also more than doubled from 3.4 years in 1995 to 7.6 years in 2017. Indeed, the substantial financing of UPE is important to increase access to primary education. However, it is important to note that Uganda's performance in literacy and numeracy is still low compared to the East African countries particularly in rural government owned schools.

2) **The UPE policy has been pro-poor, making education affordable to the poorer households.** The policy was a major redistribution of government educational resources making the poorer households benefit to a larger extent than the wealthier

[1] Chapter 4: Protection & Promotion of fundamental and other human rights and freedom, Sub-section 30.

households. For example, analysis from NPA's education modelling shows that, on average Government spending on primary education for the poorest quantile increased from 24 percent in 2002/03 to 30 percent in 2016/17 compared to a decline for the rich from 13 percent to 9 percent.

3) **The Growing School-age Population is a challenge for Financing of the Primary Education Sub-sector.** Uganda's rapid population growth, young age structure and consequent high child dependency burden among others are threats to the achievement of socioeconomic development. In particular, the rapid growing school-age population poses a financing challenge to the primary sector. Public spending on education has grown significantly over the last 15 years, albeit at a slower rate than GDP; public education spending was 2.1 percent of GDP in 2013/14, compared to 4.0 percent of GDP a decade earlier. In general, public education spending has barely kept pace with the school-age population and this may have increased the burden on households to use their own resources. The per-unit cost for each child has either remained constant or declined due to increased population. Moreover, the per-unit cost per primary school child is expected to even decrease further due to other introduction of other Government policies such as USE and BTVET. Between 2002/03 and 2012/13, government spent on average between UGX 60,129.80-108,321.34 for primary compared to UGX 78,916.78-262,826.11 for secondary. While the higher per-unit cost at the secondary level may be attributed to the introduction of USE in 2007, it also raises concerns as to whether given a fixed resource envelope for the education sector, the USE spending is not crowding out its UPE counterpart.

4) **Uganda's public expenditure on education has grown in nominal terms but decreased in real terms since the inception of UPE.** Additionally, the share of public expenditure allocated to education has significantly declined since 2001/02 in line with changing Government priorities and the high population growth rate. Indeed, in comparison to East African countries, Uganda has the lowest government education spending as a proportion of GDP.

5) **In line with UPE policy, primary education takes the majority of public expenditure on education; however, this share has declined significantly in recent years.** Over 80 percent of the public expenditure on primary education is for operational expenses and these expenses are steadily growing. Teacher wages costs account for the largest operational expenses. However, this increase in teacher wage costs has been at the expense of significant under facilitation for other operational expenses that aid effective teaching. Indeed, unlike wage costs, non-wage costs of operational expenses have not kept pace with the growth of pupil enrolment. This constrains attainment of UPE objectives as non-wage expenses are critical enablers for teachers to effectively teach and deliver quality UPE.

6) **UPE has been a great success in ensuring inclusiveness of all pupils into the education systems, regardless of gender, income and other capabilities.** Indeed, the gender gap in accessing education has been closed. Since 1997, the gap between the number of girls and boys enrolled in primary schools has been closed. Further, there has been increased access to primary education for all, irrespective of capabilities[2].

[2] Capabilities could be due to income gaps, gender, physical ability and otherwise

Government has continued with affirmative action to address special needs of children with disabilities.

7) **Nonetheless, despite achievement in ensuring inclusiveness, UPE has an inbuilt inequality that leads to disparities across income groups**. This inbuilt inequality arises because due to the low quality of learning, a government aided UPE pupil is more likely destined to be in a low-income group compared to his/her peer in a non-government aided UPE school. Several factors lead to this:

   a) **First, the automatic promotion policy that promotes progress across levels at the expense of learning creates inequality in learning outcomes.** This problem is compounded as it affects mostly poor children whose parents cannot afford coaching fees on top of standard classes. In this regard, UPE has ignored the factors concerning quality education, an issue that makes the survival rate in school for poor children very low as they avoid wasting their time and money in school without acquiring appropriate skills.

   b) **Second, schools in urban areas (private and Government) perform much better in national examinations compared to UPE schools in rural areas.** Therefore, the location of the school greatly determines outcomes later in life, even with in the UPE system. Those in rural schools start at a disadvantaged level which creates inequalities later in life.

   c) **Third, several disparities inbuilt in the UPE system across districts and within districts also create inequalities in the system.** These disparities include: teacher allocation between districts and within districts, as similar districts and schools with in a district can have different number of teachers; infrastructure investments varying across districts and schools; significant expenditure disparities between the urban and rural areas.

   d) **Fourth, increasing costs and declining per pupil expenditure in government schools over years are making the education system unaffordable to majority of poor households**.

8) **The automatic promotion policy was key to ensure a smooth flow in the UPE system and enabled a reduction in repetition rates; however, this policy needs to be revisited because it has created an inbuilt inequality in the UPE system which is contrary to the UPE objectives.** The policy aimed at improving the flow of students through the education system by freeing up more places in different grades to accommodate the increases in enrolment in early grades. However, this policy has greatly undermined the quality and skills acquired by children as well as encouraging both pupils and parents to wrongly assume that what matters in order to gain promotion is to do exams and not necessary to pass. This problem affects mostly poor children whose parents cannot afford coaching fees on top of standard classes. In this regard, UPE has ignored the factors concerning quality education, an issue that makes the rate of survival in school for poor children very low as they avoid wasting their time and money in school without acquiring appropriate skills.

9) **The capitation grant formula is biased towards high enrolments and not to providing the minimum requirements to enable equitable access to quality**

education. While the capitation grant allocation is more transparent (based on a formula), it is too little to deliver meaningful equitable education results. Further, the allocation formula is tilted towards reducing the variable grant component, other factors constant. In addition, the formula encourages more enrolment at the expense of quality learning. Also, the formula does not take into account inflation, changes in the purchasing power and special needs.

10) **Additionally, the current capitation formula doesn't account for the disparities between rural and urban schools.** Education costs significantly differ between rural and urban areas; for example, UNHS 2016/17 reports that the average household expenditure for a rural primary school is UGX 190,000 as compared to UGX 478,000 of an urban primary school. However, the current capitation grant formula doesn't consider this, at the disadvantage of the urban poor and at the expense of quality education. The proposed UPE capitation formula reveals that, at the current inflation rates, the current per unit capitation should be revised upwards from the current UGX 10,000 to UGX 63,546 for urban primary schools and UGX 59,503 for rural/SNE primary schools.

11) **The Straight through Payment System of paying capitation direct to the schools' accounts is more effective.** This is because it: shortens the flow of funds; eliminates bureaucracy; increases accountability; and reduces leakages as compared to the traditional payment system that involved the payment of capitation through the District Education Officers' (DEO) accounts. However, the speed of grant disbursement should be increased for better efficiency. This is because from 39.7 percent of the headteachers responded that they take one to two weeks to receive these funds; 23.7 percent receive them in the third-fourth, while 36.6 percent receive these funds beyond a month.

12) **The SFG allocation method is highly discretional and inefficient, leading to disparities in education indicator targets across districts and schools**. The current SFG is too little to achieve the minimum required education facilitation targets. Thus, in government schools, most of the targeted education indicators are worse than the required minimum compared to private schools. SFG should be evaluated so as to prioritize addressing the current pressing needs gaps in school facilitation.

13) **Access to education remains unaffordable to most Ugandans despite abolition of fees.** A number of children still fail to access school while others dropout because of the direct costs borne by parents (UNHS, 2016/17). About 14 percent of the children did not attend school because it was considered too expensive with parents paying an average of UGX 278,000 on school fees; this is further classified into an average expenditure of UGX 190,000 for a rural primary school and UGX 478,000 for an urban primary school. Additionally, six percent of the children did not attend school because they had to help out either at home or on the farm.

14) **The Government policy of construction of a primary school per parish is key to better education outcomes; however, it should be implemented cautiously based on the need analysis per parish**. Further, due to the limited budget resources and high costs of building a school per parish, the decision to build a specific school should be based on prioritization parameters. For instance, the total estimated cost of construction of schools to meet the standard pupil classroom ratio would take up to UGX. 3.7

trillion. The total annual cost of satisfying the infrastructural needs for the 556 parishes is UGX. 376.3 billion. Therefore, without prioritization on a needs basis, it would be impossible to deliver the policy successfully.

15) **Uganda's UPE should not be understood as free education for all but rather as subsidized education because the amount paid by Government is below the required amount for quality education**. Despite, Government being the main funder of the education system around the world, this is not the case in Uganda. In Uganda, households are the main funders of the education system. Contrary to the UPE policy of free education at primary level, school fees take the largest share of household expenditure on primary education. Further, government expenditure is largely on teacher's wages at the expense of other expenses that aid learning, thus improving learning outcomes. Against this, Government cannot and should not provide an illusion that it can pay the required UPE costs for the desired outcomes. Failure to collect this illusion that UPE is free education for all has made some parents, particularly from poor households to assume that UPE policy is a relegation of all education responsibilities to Government. Yet, the responsibilities of stakeholders in education and training are defined in the Education Act (2008), with shared responsibilities between Government, Households and the Community.

16) **School feeding is good because it; increases access, reduces abseentism and dropout rates; however, it hasn't been effectively supported by parents, yet Government financing of school feeding is unaffordable and unsustainable.** Parents, particularly those of poor households do not fully contribute to the school feeding of their children as stipulated in the Education Act (2008), relegating all the roles and responsibilities to Government. Even within the household expenditure of primary education, school feeding contributes only 19.5 percent of the total behind school fees (40.8%) and scholastic materials (27.7%). As already alluded to, Government financing is already below the required amounts for quality education and therefore Government cannot afford and sustain school feeding.

17) **Relatedly, non-affordability of school meals remains a key factor constraining attainment of quality schooling in Uganda.** The average school feeding to cover school feeding costs per term is UGX 10,000 (approx. USD 3). Feeding of pupils is mainly paid for by parents in private schools compared to those of government schools. The major reasons why some children are not fed at school include: non-affordability of lunch fees, having many school-age going children and having no food at home.

18) **There exists both allocative and technical inefficiencies in the UPE Policy.** In terms of allocation, up to 83 percent of UPE expenditures are taken up by operational costs at the expense of critical scholastic materials and inspection. Teachers' wages account for the largest share of these UPE operational costs increasing from 62 percent of recurrent budget in 1998/99 to 88 percent in 2016/17. There also exist disparities in teacher allocation among and within districts, below the standard PTR of 53:1. Additionally, the education modelling reveals that Government schools are technically inefficient as compared to private schools, meaning that even the current UPE inputs aren't utilized to the best possible extent so as to maximumly influence the primary education outputs. Increasing efficiency alone can provide up to a maximum of 10 percent of the extra financing required for quality primary education.

19) **Early Childhood Development (ECD) education is critical because it increases efficiency in the primary education system, however, Government financing of ECD education is not sustainable.** ECD education helps to nurture children's physical, mental and psychosocial development, and allows children to be healthy, alert, secure and able to learn. Therefore, whereas ECD education is not part of the official Government education system, it influences the quality of products entering the primary one level. However, available evidence shows that at pre-primary education level, both access and quality are low with enrolment currently standing at 9.5 percent implying a 90.5 percent gap (EMIS 2014). Pre-primary education is also mainly provided by the Private sector. Whereas Government cannot sustainably finance ECD education, it can help in addressing the weak ECD policy framework, and providing ECD centers' inspection and supervision among others.

20) **Given the benefits of UPE, Uganda should continue with the UPE policy; however, for quality education, massive resources have to be channeled to primary education even with a business as usual approach.** Indeed, the UPE Policy has been assessed to confirm that it is pro – poor and pro - development. However, the envisioned increase in enrolment partly explained by the increased population growth rate will lead to increased inputs necessitating an equal increase in education inputs like teachers and scholastic materials. This will ultimately lead to a higher per pupil expenditure and high overall primary education expenditure. Therefore, to achieve sustained quality UPE by 2030 will require an increase in primary education spending by over 450 percent compared to current spending. This is equivalent to a spending increase from UGX 2.9 trillion (3 percent of GDP) currently to UGX 11.6 trillion (8 percent of GDP) by 2030.

B. Recommendations

1) **Investment in family planning is critical for sustainable primary education financing.** Given that Uganda's rapid population growth, young age structure and high child dependency pose long-term financing challenges to education financing, Government should tailor and emphasize deliberate family planning policies to reduce on this rapid population growth. Otherwise, it should increase the resources at the same pace as the population growth rate, something which is likely unsustainable.

2) **Inequalities in the UPE system should be eliminated by addressing factors that lead to disparities between districts and schools**. Towards this: teacher allocation should be based on a formula that eliminates disparities and; SFG and Capitation grants disparities should be also eliminated, among others.

3) **The automatic promotion needs to be revisited to ensure the smooth flow within the UPE system is not achieved at the expense of learning**.

4) **The capitation grant allocation formula should be revised to ensure that it provides for minimum requirements to enable equitable access to quality education**. The formula should mainly be based towards ensuring cost coverage so as to lead to quality learning across schools. Also, the formula should take into account inflation, changes in the purchasing power, special needs education aspects and location. Towards this end, the proposed formula is provided in Box 3.1 in the main text.

5) **The per unit costs should also be differentiated based on the different costs of running a primary school in different locations.** For example, the proposed per unit cost between rural and urban primary schools is UGX 59,503 and UGX 63,546 respectively at the current inflation rate.

6) **The Government should maintain the straight through payment system of capitation grants where capitation is paid directly on school accounts in a timely manner.** This is because this system helps to; shorten the flow of funds, eliminates bureaucracy, increases accountability and reduces leakages as compared to the traditional system where resources are paid through the District Education Officer's (DEO's) account.

7) **Further, Government should adopt a Pupil Identification Number (PIN) system where a pupil is tracked throughout the education cycle.** The system will also be able to identify and track pupils whenever they change/switch schools; or even drop out such that aspects of low funds and inaccurate statistics are dealt away with. Alternatively, the system can be integrated within the current National Identification Number (NIN) system.

8) **The allocation formula for SFG should be transparent, based on ensuring that minimum education indicators targets are met and are uniform across districts and schools**.

9) **In line with the Education Act (2008) of shared responsibilities among Government, Households and the Community, Government should correct the illusion that UPE is free education with no contribution from households**. Government communication should be clear and not conflicting on these responsibilities. And as such, this not only requires increased a comprehensive sensitization including the roles and responsibilities of various stakeholders in implementation of the UPE policy, but also rolling out and popularizing the UPE implementation guiding documents as a way of increasing household understanding of the programme. Further, parents should start financing education collaboratively as partners in the education; this will help to reduce the current education financing deficit and improve education quality as well. Other, poverty reducing social security support schemes should be designed and adequately targeted to support poor families to support UPE.

10) **Government should particularly make it clear that school feeding is a parents' role because Government cannot independently and sustainably finance school feeding.** The Education Act (2008) stipulates that it is the parents' role and responsibility to feed their children while at school. Innovative school feeding activities like those carried out by NGOs should also be promoted. However, providing feeding programs for free to children in selected schools within selected districts can be generally targeted on the basis of poverty, drought and food insecurity, for instance in Karamoja and Acholi region.

11) **Government should oversee to the critical functions of ECD education so as to achieve quality primary education.** Government should take over critical functions like: teacher training by integrating the training of pre-primary teachers into the Primary Teacher Colleges (PTCs) curriculum development and policy formulation; Formulate and enforce national service delivery standards for pre-primary education; and in areas

that are least served by the private sector, government should attach a pre-school class for children aged 4-5. This will be budget neutral since they are already enrolled into the primary education system which is free and compulsory.

12) **For the achievement of quality education, Government policy of construction of a primary school should be implemented cautiously based on the need analysis per parish and transparently defined (by formula) prioritization parameters**.

13) **There is need to increase both allocative and technical efficiency specifically in Government and rural schools.** This should be done by increasing the share of other critical inputs beyond teachers' costs; like scholastic materials, inspection, and school facilitation grants. Government should therefore increase the monitoring of government inputs, outputs and outcomes in order to improve the effectiveness and efficiency of primary schools. It should however be noted that increasing efficiency alone will only provide up to a maximum of only 10 percent of the extra financing required for quality primary education.

14) **A more balanced approach to spending on social sectors and infrastructure development needs to be adopted.** While there is indication that public spending on education grew at an average rate of 0.7 percent per year for the entire schooling age group (ages 6-24 years), this has grown at a much lower pace owing to the significant increase in the level of the school-age young population. This therefore calls for further allocation of resources to this age group. While much emphasis has been put on the primary age group (resources increasing by 1.2 percent per capita), this is still not sufficient to meet the increasing population under this age group.

15) **A total financial commitment is needed from Government to channel massive resources to primary education so as to sustain UPE and deliver quality education.** To achieve this, it is estimated that Government will have to increase capitation grant per pupil from UGX 10,000 to at least UGX 59,000. This necessitates at least 60 percent of education budget to be earmarked for UPE. This also requires primary education spending to increase from UGX 2.9 trillion (3 percent of GDP) currently to UGX 11.6 trillion (8 percent of GDP) by 2030.

SECTION ONE:

1.0. INTRODUCTION

1.1 Background

Education is a fundamental Human Right. It is critical to advancing a country's socio-economic transformation and eradication of poverty. The Constitution of the Republic of Uganda[3] states that "all persons have a right to quality education". This is also in line with Article 13 of the United Nations (UN) International Covenant on Economic, Social and Cultural Rights (1966) which states, "Primary education shall be compulsory and available, free to all." And as such, reaffirms the human rights obligation to fee-free provision of primary education. More recently, the Sustainable Development Goal (SDG) 4.1 incorporates primary education, stating: "By 2030, ensure that all girls and boys complete free, equitable and quality primary education leading to relevant and effective learning outcomes."

It is not surprising thus that, twenty years ago, Uganda became one of the first Sub-Saharan African countries to introduce and implement the Universal Primary Education (UPE) policy. The Government of Uganda through the Education Policy Review Commission (EPRC) issued a report in 1989 that called for the universalization of primary education (UPE) by the year 2000. The Commission's recommendation led to the subsequent appointment of a second committee, which in 1992 issued a Government White Paper on education that also recommended the move to UPE albeit to a slightly later date of 2003. UPE abolished school fees in line with the different international initiatives (e.g., Education for All (EFA), Millennium Development Goals (MDGs)) that aimed at improving access and the quality of education. Overall, the aims of education in Uganda, as outlined in the 1992 Government White Paper are:

i) To promote understanding and appreciation of the value of national unity, patriotism, and cultural heritage, with due consideration of international relations and beneficial inter-dependence;
ii) To inculcate moral, ethical, and spiritual values in the individual and to develop self-discipline, integrity, tolerance, and human fellowship;
iii) To inculcate a sense of service, duty, and leadership for participation in civic, social, and national affairs through group activities in educational institutions and the community;
iv) To promote scientific, technical, and cultural knowledge, skills, and attitudes needed to promote development;
v) To eradicate illiteracy and equip the individual with basic skills and knowledge to exploit the environment for self-development as well as national development, for better health, nutrition, and family life, and the capability for continued learning;
vi) To contribute to the building of an integrated, self-sustaining and independent national economy.

The decision to implement UPE, through abolition of primary school fees, was first announced as a manifesto commitment during the presidential election campaign of 1996. The initial UPE policy supported four children per family but eventually evolved into supporting all children to receive free primary schooling. In particular, the UPE objectives were five-fold:

i) To provide facilities and resources to enable every child to enter school;
ii) To ensure the completion of the primary cycle of education;
iii) To make education equitable in order to eliminate disparities and inequalities;
iv) To ensure that education is affordable by the majority of Ugandans;

[3] Chapter 4: Protection & promotion of fundamental and other human rights and freedom, Sub-section 30.

v) To reduce poverty by equipping every individual with basic skills.

The implementation of UPE resulted into increased access, as enrolment doubled between 1995 and 1997 (from 2.6 million to 5.3 million). After 1997, enrolment continued to rise steadily and reached a level of 7.6 million in 2003 and 8.7 million in 2017. As a result, spending on education as a total share of government expenditures rose from an average of 20.2 percent of the budget in the three fiscal years preceding the UPE announcement, to an average of 26.3 percent in the three years following the announcement with, an increasingly large share of the education budget devoted to primary education (averaging 65 percent). However, the dramatic increase in primary school enrolment saw the emergence of a number of challenges including shortage of teachers, instructional materials and classrooms. To counter these challenges, the ten-year Education Sector Strategic Plan (ESSP) 2004 – 2015 was formulated.

Over the 20 years of UPE implementation, the government has invested a greater share of its budget to primary education. Therefore, this evaluation seeks to find out whether the resources have translated into realization of the UPE objectives.

1.2 Scope of this Evaluation Report

This report addresses the education financing and costing thematic area and depended on various methodologies, including report analysis on the performance of UPE in Uganda by different stakeholders since its inception to date. Specifically, this study assesses the effectiveness of the Planning, budgeting, monitoring and Financing Frameworks towards realization of UPE objectives. The analysis focused on Education economics of Cost Accounting and Financing. The Education economics of Modelling and Forecasting education learning outcomes was also done.

1.3 Methodology

During the main evaluation, a survey was conducted to assess effectiveness of education financing, existing financing mechanisms, parent and community contribution. The principal method for the evaluation was a nationwide quantitative and primary school survey complemented by direct consultations with community members using diverse multi-group durbars. For the quantitative survey, a sample of six (6) schools from each of the ten (10) districts (classified as old, new and hard to reach) were selected from each of the (10) regions of the country. The study using multi-stage stratified sampling stratified the country into ten (10) regions comprising of 10 groups each composed of seven (7) members. These regions included: Greater Kampala Metropolitan Areas (GKMA), Central I, Central II, Western, South Western, Eastern I (Bukedi & Teso), Eastern II (Busoga), Acholi, West Nile and Karamoja. The survey also included 20 community focus group discussions (FGDs).

The complementary quantitative and qualitative approaches provide opportunities for open and inclusive dialogue that captures the views of the diverse members of society, particularly the poor and vulnerable. The qualitative approach is a way of including open consultations at all levels of society and allowing individuals to openly express viewpoints. The qualitative approach also compensates the potential non-inclusion of specific population groups such as people living in deprived communities whose visibility and probability for random sample inclusion is limited due to their small population size.

The study administered a number of structured questionnaires that included: 3 District questionnaires for the CAO, LCV/Mayor, and DEO: a Sub county questionnaire for the sub county chiefs; a Head teacher questionnaire for the heads of primary schools; a School Management Committee (SMC) questionnaire for members of SMC specifically parents; and

Teacher questionnaires for four (4) teachers, two (2) at both the lower and upper primary level. The exercise was manned by a group supervisor from National Planning Authority (NPA) who administered the district questionnaire, undertook quality assurance and supervised the data collection in the various districts. On the other hand, the Data collectors administered the Sub County, Head teacher, School Management Committee (SMC), and teacher questionnaires.

1.4. Study Design

1.4.1 Quantitative–School Survey

The principal research method used for the study was a national survey of public and private schools. The national survey involved an extensive survey of a representative sample of schools across the country. Using the Yamane (1967) formula for calculating the sample size, 605 schools in total were selected from a total of 18,887 schools in the country. Of this, 64 percent were government and 36 percent were private.

n = N/(1+N 〖(e)〗 ^2); Where n is the required sample size, N is the population size of the study and e is the level of significance (1- level of confidence).

Therefore, e=0.04;

Sample size for;

n=18,887/ (1+18,887 〖 (0.04) 〗 ^2) ≃605 Schools.

Specifically, 385 governments schools and 219 private schools were sampled across Uganda.

1.4.2 Sampling Design

A multi stage sampling criteria which involves dividing the population into groups was used in identifying the sampling unit. In the first stage, the country was stratified into 10 regions. These regions have been traditionally used by UBOS in the major surveys like UDHS, 2011. The regions included; West Nile, North, Karamoja, Eastern, East Central, Central 1, Central 2, Kampala, Western and South West.

The second stage involved selecting districts from the strata identified above. A sampling frame was used to generate the districts. The selected districts based on the following characteristics: districts that existed in the periods 1997, 2008 (NDPI baseline), and 2014 to capture old and new districts; hard to reach and stay districts; and municipality. In addition, the sub district classification was considered for example Eastern category takes care of; Teso, Bukedi, Sebei, and Bugisu.

Stage three involved selecting administrative units (sub-counties/divisions) within a district. In this particular stage, a list of administrative units (rural and urban) were generated, from which 3 sub-counties and 1 division/town council selected using systematic sampling technique and simple random sampling respectively. For Kampala District, all the divisions were considered. However, unlike for the divisions/town councils elsewhere, sampling frames were developed and selection of sampling units was similar to that of sub-counties.

Stage four involved selecting the sampling units using a systematic sampling technique. Firstly, the sub-county/ division schools were listed as private and public schools to provide two independent sampling frames detailing their residences, i.e. rural or urban and the total enrolments. The schools were then ranked by enrolments before selecting the sampling units. Secondly, using the sampling frame, the sampling units (schools) were selected at a sampling interval of n/(n1=3) = k; where n is the number of schools in the sampling frame and n1 is the sampling size (number of sampling units required from a sub-county sampling frame); and k in the sampling interval. The first unit was identified through simple random sampling and the

other remaining units selected at intervals (k). Simple random sampling was used in selecting 1 private school for the study.

1.4.3 EPSSIM model

The costing exercise employs UNESCO's Education Policy and Strategy Simulation (EPSSim) model. EPSSim is a demographic Computer Simulation Model for strategic education development planning and resource projections. The model is in the form of an Excel file using baseline population and enrollment data as well as information on staffing levels, student-teacher ratios, infrastructure and instructional materials to project financial, infrastructure and human resources requirements.

The simulation model is divided into three components: projections for pupils; education inputs; and expenditure sub model (see Figure 1 in the Technical notes). The model uses a set of user inputted targets to project key education parameters from a baseline year[4] to the target year. Once the baseline data and policy options are entered, the generic model can be used to approximate the pedagogical, physical, and financial consequences of policy orientations. The first of the model's components projects enrolment for primary education between the base year (2014) and target year (2030). The enrolments are projected on the basis of school intake, repetition, promotion and drop-out rates. Targets for these parameters are entered into the model and projections are based on achieving these targets.

The second component of the simulation model calculates the human and physical resources required to attain the targets. These resources include the number of teachers and classrooms required to accommodate projected levels of enrolment[5]. Projected need is primarily based on targets for pupil-teacher and pupil-classroom ratios. Teacher and classroom needs are combined with targets for salaries and other recurrent expenditures like UPE capitation grants and PLE examination fees. In addition, construction costs also projected in the third component. The final component of the simulation model allows domestic resources for the education and primary education sector in particular to be projected. And the differences between projected costs and resources are reported as financing gaps/surpluses in the model.

1.4.4 Data Sources

The Report addressed the education financing and costing thematic area and depended various methodologies to analyse the performance of UPE in Uganda since its inception to date. The study also drew from existing databases and interviews of key stakeholders over the period of the implementation of the UPE programme. The major databases included; budget and administrative MTEF data provided by MoFPED and MoES; The Education Management Information System (EMIS); Uganda National Population and Housing Census (2002 & 2014); UBOS Statistical abstracts (2002-2015), the Uganda National Household Surveys (UNHS) ranging from 2005/6-2013/14 and the National Education Accounts (NEA). These data sources were complimented by NPA field survey data collections across the country as already discussed. The study heavily relied on a mix of different research designs to realize the objective of providing inroads to the main evaluation. Desk review of available literature from Ministry of Education and Sports, and other relevant sources was a major tool for the study. The documents reviewed include; previous UPE evaluations, the costing and funding frameworks adopted, various UPE related policy documents, academic and research Publications on UPE, Non-

[4] The baseline year refers to the starting year of data that will be used in the simulation process.
[5] The simulation model does not project the number of graduates from teacher training colleges or include the costs of training new teachers.

Government Organisations (NGOs) and Civil Society Organisations (CSOs) reports, Government reports and many other relevant documents.

1.5 Structure of the Report

The report is structured into six sections. After Section 1, Section 2 provides an overview of progress of UPE after 20 years of implementing, presenting the achievements and challenges. Section 3 evaluates the planning and budgeting process of the UPE Government financing frameworks: Capitation grants and SFG. Section 4 analyses actual performance in public and household sector financing of education with a particular focus on primary education. Section 5 estimates the ideal costs and financing requirements needed to sustain UPE policy, based on the EPSSIM model. And lastly, Section 6 concludes and makes recommendations.

SECTION TWO

2.0. OVERVIEW OF 20 YEARS OF IMPLEMENTING UPE

2.1. Introduction

Universal Primary Education (UPE) has now been implemented for two decades now, since 1997. Over this period, it coincided with the concluded MDG 2 and now is being implemented under the Agenda 2030 through SDG 4. This section provides an overview on progress of implementation of UPE against its objectives since its inception in 1997.

2.2 Progress on UPE Objectives

2.2.1 Provision of Facilities and Resources to enable every Child to Enter School

With the introduction of UPE in 1997, Government committed to providing the basic facilities and resources (Box 2.1) to enable every child enter and complete primary school. The subsequent sub sections present the achievements on each of the commitments.

Box 2.1***: Government commitments on UPE***

(i) Payment of Tuition fees was initially for four children per family at the rate of UGX. 5,000 per pupil per annum for classes P1 to P3, and UGX. 8,100 per pupil per annum for classes P4 to P7, and later for all school age going children. The class level grants were later disbanded and a uniform capitation grant of UGX. 7,000 per pupil per annum was adopted. Over time, the grant has been revised to the current unit cost of UGX. 10,000 per child per annum.

(ii) Instructional materials in the form of text books.

(iii) Construction of basic physical facilities in form of classrooms, laboratories, libraries and teachers' houses. This was to be by providing iron sheets, cement, timber and nails while local authorities and communities would make additional input especially in the form of labour for construction.

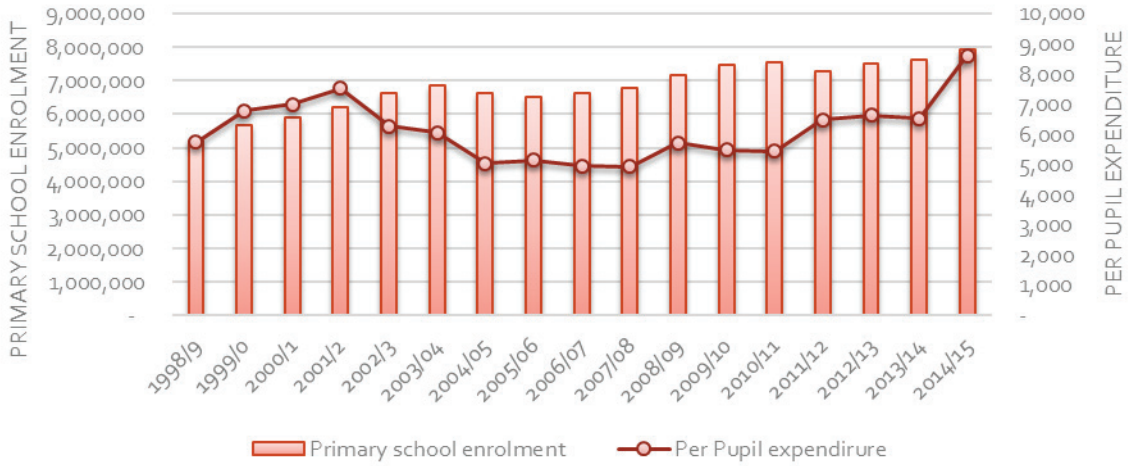
(iv) Pay teachers' salaries and;

(v) Train teachers

2.2.1.1 Progress on Government Payment of Tuition Fees

Since the introduction of UPE, the government has continued to pay tuition for all school age going children in government aided primary schools. After the introduction of UPE in 1997, government reviewed the program a year after and rolled it out to all children. With this program, all tuition fees were eliminated under the program including the Parents and Teachers Association (PTA) charges for primary education. In its initial stage, government pledged to pay a capitation grant of UGX. 5,000 for grades 1–3, and UGX. 8,100 for grades 4–7 per annum. The class level grants were later disbanded and a uniform capitation grant of UGX. 7,000 per pupil per annum was adopted. Over time, the grant has been revised to the current unit cost of UGX. 10,000 per child per annum (see Figure 2.1). The commitment to UPE can be seen in the budget increments to education. Since 1997, Government has disbursed capitation grant to a cumulative total of about 135 million beneficiaries.

Figure 2.1: Government per pupil expenditure and primary school expansion



Source: MoES

As a result of Government Payment of Tuition Fees under UPE, there has been tremendous progress towards achieving the target of universalizing Basic Education over its twenty years of implementation. To this end, the introduction of UPE led to increase in access and narrowed the gender gap in primary school access. Enrolment increased by 63 per cent from 5,303,564 pupils (2,832,472 boys and 2,471,092 girls) in 1997 to 8,655,924 (4,294,473 boys; 4,361,451 girls) in 2016. The program continued to provide equal opportunities to girls and boys, disadvantaged children and youth; those in poor communities, dispersed and remote communities, conflict areas, orphans, as well as Special Needs Education (SNE).

2.2.1.2 Progress on Government Provision of Instructional Materials

Government has provided textbooks and achieved the target of 1:3 as provided in the SFG guidelines, however, this target is still high. From the onset of UPE implementation, the government committed to provide instructional materials like textbooks and teacher guides among others. Cumulatively, 9,359,358 textbooks and teacher guides have been procured and delivered to over 1,074,527 government aided schools. As a result, the pupil-textbook ratio for the major subjects (English and Mathematics) is about 2:1 from about 3:1 in 2003, which was about the same as the pre-UPE ratio. Similarly, evidence from a national level study reported that high enrolment leads textbook inadequacy (Juuko and Kabonesa 2007:36). Since lack of instructional materials affects both children and teachers, many teachers get discouraged by this situation and de-motivated to teach which affects quality of education.

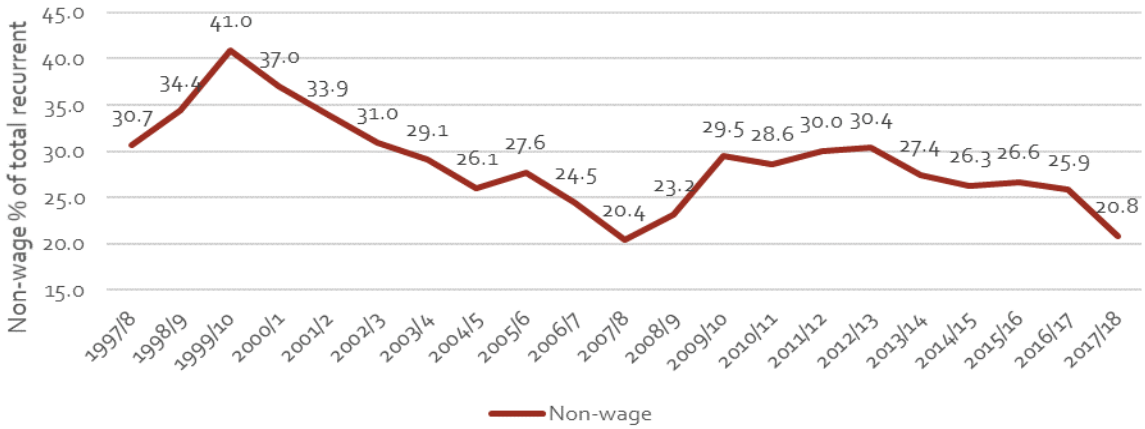
However, the provision of teachers' guides has been inadequate. Teachers' guides slightly increased by 0.5 percent from 1,288,607 in 2014 to 1,371,736 in 2016 (Education Abstract). This marginal increase is not in line with increasing teacher numbers. Indeed, teachers' guides are virtually non-existent and teachers are not trained in how to use textbooks to enhance learning (NPA Survey Report, 2017). Therefore, teaching methods differ from school to school due to the lack of guides.

Despite the provision of materials, many remain unutilised by both the pupils and teachers. In a significant number of schools, the head teachers for fear of poor handling of the textbooks, often keep them in stores (NPA survey Report, 2017). This makes textbooks out of reach to pupils in order to aid their learning. Further, the survey revealed that government supply of textbooks is not based on school demand for specific textbooks. Indeed, textbooks are

supplied without consultation of the schools. However, best practices elsewhere; Ghana, Tanzania and Kenya, shows autonomy of schools to procure the textbooks according to their needs. In these countries, funds are provided to procure based on guidelines and the Ministry and respective Local government only monitor the process.

Generally, provision of other teaching facilitating requirements has been inadequate. These requirements include: operating and maintenance expenses and expenditure on textbooks and other teaching and learning materials. When fees were abolished in 1997, a slight increase in the proportion of primary expenditure was spent on non-wage items. This was primarily owing to the increased spending by the government on teaching and learning materials, increase in capitation grants and expenditure for the rehabilitation of schools. While non-wage expenditure continued to increase, it was outstripped by increases in wage expenditure owing primarily to the recruitment of teachers to teach the influx of new pupils.

Figure 2.2: Non-wage primary recurrent expenditure as a percentage of total recurrent budget

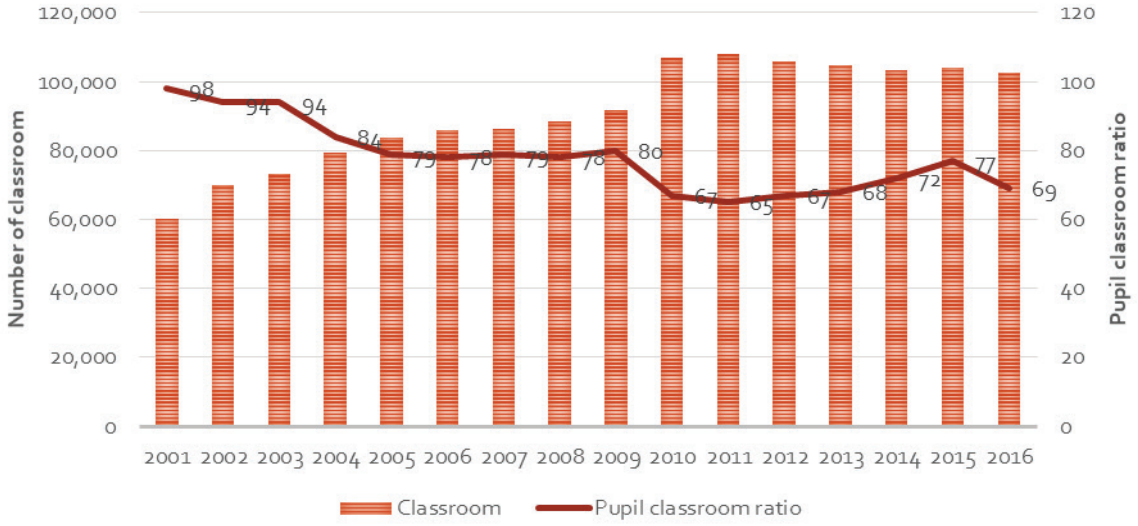


Source: MoES

2.2.1.3 Progress on Government Construction of Basic Physical Facilities

There has been an increase in classroom construction, leading to gradual improvement in the Pupil Classroom Ratio (PCR), however, classrooms construction has not kept pace with the overwhelming increase in enrolment. The stock of classroom has tremendously increased since introduction of UPE as shown in figure 4.2. Similarly, the PCR improved since 1997 from about 106 pupils per classroom to 69 pupils per classroom in 2016. Nonetheless, classrooms constructions could not keep pace with the dramatic increase in enrolment due to a decline in the SFG (Figure 2.3). In response to UPE classroom gap, double-shifting of the first two grades of primary schooling was expanded. This implies that one classroom is effectively used for two classes and allows pupils to be taught in smaller groups. According to the Annual School Census (ASC 2016), 60 percent of the existing classrooms are temporal and learning takes place in open space.

Figure 2.3: Classroom stock and PCR in government aided primary schools



Source: MOES

The inadequate latrine coverage, in particular, for girls has kept them away from school especially during their monthly periods. In 2000, only 8% of all UPE primary schools had sufficient latrines for the pupils, and only one third of these schools had separate latrines for girls. This implies that 92% of all schools suffered from lack of latrines and two thirds had no separate toilets for boys and girls (MoES, 2004). Although the stock of latrine stances increased from 38,112 in 2006 to 159,122 in 2015, this is still inadequate given that pupils continue to share with their teachers (Table 2.1). More so, it has been reported that girls keep away from school especially during their monthly periods and for some ultimately never returning to school due to lack of separate latrines and changing room. This has a negative effect on the children's survival in schools as many of them drop out of schools due to sanitation related sickness. Evidence from the Ministry of Health indicates that about 2.7% of all pupils' time is lost to sickness from sanitation related illnesses and most of them never return to schools.

Table 2.1: School Infrastructure by Type

Year	Classrooms	Computer Lab	Latrine Blocks	Libraries	Office	Staff Rooms	Store Rooms	Teachers Houses	Workshops	Total
2000	68523	0	23553	1188	8480	4008	4783	20349	312	131196
2001	56923	0	23129	931	7394	3511	4105	16394	336	112723
2002	63383	121	29580	1349	8336	3592	4910	19854	311	131436
2003	67977	239	27202	1362	9338	4055	5583	20374	288	136418
2004	73748	204	28949	1612	10373	4184	6302	20265	270	145907
2005	77259	200	29618	1897	11176	4444	6656	20863	306	152419
2006	121154	463	38112	2371	14992	6162	8989	27958	454	220655
2007	124173	377	37451	2563	15483	6236	9131	29474	488	225376
2008	134742	602	41507	3376	17078	6957	9985	33682	582	248511
2009	142519	618	45223	3603	18842	7445	10927	36427	629	266233
2010	144869	983	47223	3854	19754	7905	11186	37719	671	274164
2011	142725	1265	42971	3902	18125	7713	10347	36374	892	264314
2012	145379	1559	118461	4581	18834	8940	10760	40953	1124	350591

2013	148677	1616	133353	4906	19683	9616	11278	42111	1164	372404
2014	137110	1362	165777	4470	18749	7875	10443	36579	1008	383373
2015	131310	1679	159122	4357	18887	7943	10241	36798	1306	371643

Source: MoES (Various)

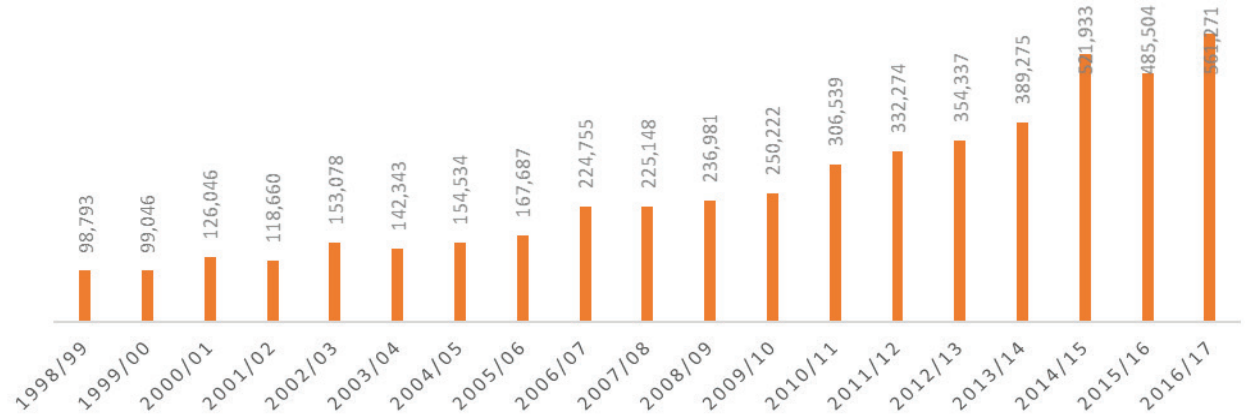
Also, teachers' houses have not increased to match the pace of teacher recruitment, thereby affecting teacher morale. Therefore, teachers have been recruited without adequate provisions of housing facilities by government. This has demotivated some teachers and others have resisted transfers to schools without / with inadequate teacher accommodation. The teachers' houses add up to 30,210 (permanent) and together with temporary, the teacher house stock raises to 44,470 (MoES, 2016). The stock of teachers on the payroll increased by 115% from 89,247 (1997) to 192,566 in 2015 and subsequently to a total of 202,617 teachers (116,109 males and 86,508 females) in 2016 with PTR of 43:1. The SFG guidelines require that ideally, the target is for every primary school to achieve permanent accommodation for at least four (4) teachers.

2.2.1.4 Progress on Government Provision of Teachers' salaries

Government has provided Teachers' salaries and enhanced them in a phased manner over the UPE period. Since in FY2013/14, Government has enhanced teachers' salaries in a phased manner. However, this is at the expense of declining expenditure on non-salary items. This implies that a bigger percentage of the primary education recurrent budget has been spent on salaries and in particular teachers' salaries. Teachers have experienced rising wages over the 20 years. However, most teachers with the current salary say they cannot make ends meet for themselves and their families.

Nevertheless, disparities exist between the lowest and highest-grade teachers' salaries. Comparison between lowest to highest grade salaries for primary school teachers shows that the primary school teacher salary scale was more compressed in the early 1990s. However, after 1997, the salary range widened considerably and by 2000 head teachers were being paid 12 times the wage of untrained (lowest grade) teachers (MoES, 2014). Figure 2.4 reveals that the percentage of lower grade (untrained) teachers at the primary level increased implying that a large proportion of newly employed teachers during that period started at the lower levels of the teacher salary pay scale. Therefore, as these teachers moved up the pay scale, the wage bill at the primary school level also increased based on the extent of dispersion of the teacher pay scale. Comparing lowest to highest grade salaries for primary school teachers, the primary school teacher salary scale was more compressed than this in the early 1990s. However, in the 2000s, salary range widened considerably and by 2000 head teachers were being paid 12 times the wage of lowest grade teachers. This trend has continued despite government intervention of phased primary teacher salary enhancement.

Figure 2.4: Average monthly starting salary for lowest qualified teachers (UGX)



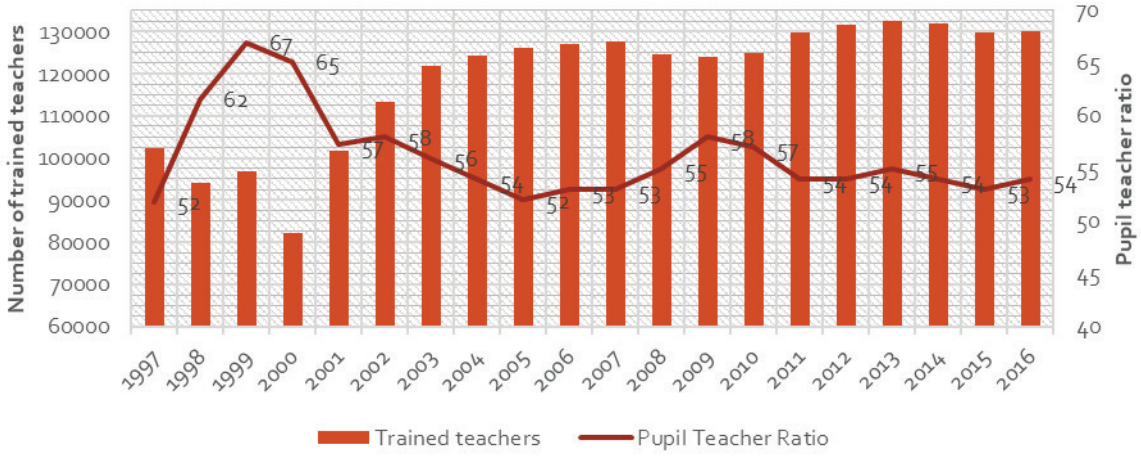
Source: Ministry of Education and Sports, MTBF & EMIS

Some teachers receive salaries from different schools to that of their posting, an indication of a faulty Teachers' Human Resource System. The evaluation also found out that teachers were receiving their salaries from schools different from their posting. For example, teachers in Kiryandongo district were being paid on a Wakiso district payroll. This requires rectifying.

2.2.1.5 Progress on Government Provision of Teacher Training

The pupil-teacher ratio (PTR) and the number of teachers that have undergone teacher training have been improving over the last 20 years but shortage of primary school teachers persists (see Figure 2.4). The number of teachers with required training declined slightly in 1997 but has since seen dramatic improvements. The Education Sector Investment Plan (ESIPI&II), (1998-2003) and (2004-2009) objectives in particular, on increasing the number of trained teachers in primary schools has had some success in improving the quality of the teaching force. However, with the ever-increasing enrolment, shortage of primary school teachers still exists.

Figure 2.5: Number of Trained Teachers and Pupil-Teacher Ratio for Government Schools



Source: MOES

From Figure 2.4, some drop-in teacher can be seen. This is can be explained by government effort to remove ghost teachers from the payroll and failure to pay their salaries above a certain ceiling.

Government reforms have enhanced the share of quality teachers among teachers in UPE.

Overtime, government has provided reforms in primary education like, phasing out of grade II teachers and increasing the qualification of head teachers to graduates. By 2015, 65 percent of teachers were grade III teachers and 16 percent were diploma teachers, while 2 percent of the teachers were grade II, IV and those with other training (see Table 2.3).

Table 2.2: Teachers by Qualification (2015)

Teachers by qualification	Number	Percent
DPE (Diploma in Primary Education)	27,392	16%
Grade II Teacher	4,097	2%
Grade III Teacher	110,810	65%
Grade IV Teacher	3,102	2%
Grade V Teacher including DSNE, DSE, DTE	9,828	6%
Graduate Teacher	6,129	4%
Licensed Teacher	7,782	5%
Other Training	2,621	2%
Total	171,761	100%

Source: MoES, 2015

2.2.1.6. Teacher Allocation Efficiency

In both government and private owned schools, the majority of teachers are allocated to rural schools compared to urban ones. 78 per cent of the teachers in government primary schools are posted in rural areas while 14 and 8 per cent of teachers are allocated in peri-urban and urban areas, respectively. Private schools also have a similar pattern (see Table 2.3). This is probably because there is a high PTR rural compared to the urban areas.

***Table 2.3*: Teacher Allocation by Location**

Location	Peri-Urban	Rural	Urban	Total
Teachers-Gov't	17,773	99,298	10,210	127,281
Per cent	14%	78%	8%	100%
Teachers-Private	16,004	33,920	12,880	62,804
Percent	25%	54%	21%	100%
Total	33,777	133,218	23,090	190,085
Percent	18%	70%	12%	

Source: MoES, 2015

Further, there are teacher allocation disparities among districts, similar[6] districts can have different number of teachers allocated. Districts are at different levels with respect to the number of teachers, enrolment and pupil-teacher ratios (Table 2.2). Indeed, while the national PTR average is 53:1 several districts PTRs vary/deviate from the national average. The districts with the least number of teachers include; Arua, Amudat, Kotido, Napak, Bulisa, Buvuma and Moroto. On the other hand, Wakiso, Kampala, Kasese, Arua, Kabale, Iganga and Luwero have the highest number of teachers.

[6] In terms of location, type and school numbers, enrolment numbers etc

Table 2.4: Teacher Allocation by District

Districts	Enrolment	Teachers	Pupil-Teacher Ratio	Deviation from National Average of PTR of 53
Districts with Lowest number of teachers				
Amudat	5,901	105	56	-3
Kalangala	4,338	146	30	23
Kotido	14,067	189	74	-21
Napak	14,827	224	66	-13
Ntoroko	11,056	303	36	17
Bulisa	21,606	369	59	-6
Buvuma	9,258	152	61	-8
Moroto	8,908	385	23	30
Districts with highest number of teachers				
Luwero	110,832	2,371	47	6
Iganga	110,423	2,469	45	8
Kabale	134,650	3,592	37	16
Arua	249,803	3,626	69	-16
Kibaale	123,828	2,105	59	-6
Kasese	150,348	3,315	45	8
Kampala	61,422	1,289	48	5
Wakiso	109,724	2,932	37	16

Source: MoES, 2015 Note: G-Government, P-Private and T-total, Negative (-) sign on deviation from national average implies worse district.

There also Teacher allocation disparities within districts, similar schools can have different number of teachers allocated. As such, within a district the PTR can significantly vary. For instance, Kotido district (Table 2.5) provides a case of significant disparities in teacher allocation within a district. Some schools such as Nakongunubtu are in dire need of teachers while Lookorot has a better PTR than the national average.

***Table 2.5*: Pupil-teacher ratio within government aided schools in Kotido**

S/N	School	Teachers	Enrolment	PTR	Deviation from National PTR of 53:1
1	Nakongunubtu Comm P.S	1	392	392	-339
2	Lotome Comm P.S	1	190	190	-137
3	Kakuloi P.S	2	319	160	-107
4	Kanamwar Comm P.S	1	142	142	-89
5	Napumpum P.S	10	1214	121	-68
6	Rengen P.S	8	666	83	-30
7	Kotido Mixed P.S	14	1093	78	-25
8	Lokiding P.S	8	624	78	-25
9	Mary Mother of God P.S	16	1234	77	-24
10	Kacheri P.S	8	616	77	-24
11	Kalosarich P.S	7	534	76	-23
12	Kadokini P.S	2	150	75	-22
13	Lopuyo P.S	8	580	73	-20

14	Lokitelaebu P.S	10	722	72	-19
15	Kotido Army P.S	13	903	69	-16
16	Nakoreto P.S	8	530	66	-13
17	Losakuca P.S	8	502	63	-10
18	Panyangara P.S	10	620	62	-9
19	Caicaon Comm P.S	3	184	61	-8
20	Nakwakwa P.S	7	415	59	-6
21	Maaru P.S	8	449	56	-3
22	Nakapelimoru P.S	10	529	53	0
23	Kanawat P.S	7	353	50	3
24	Lookorok P.S	7	210	30	23

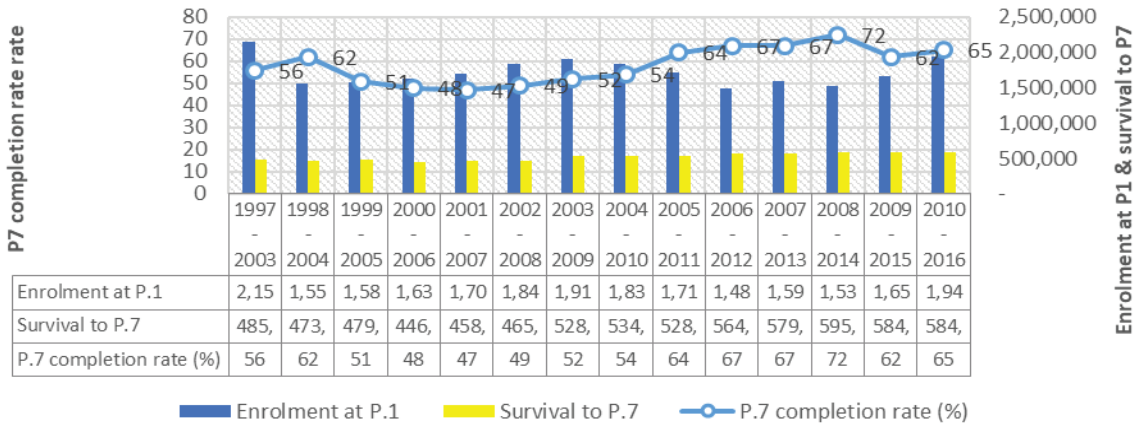
Source: MoES, 2015

These teacher allocation disparities between and within districts signal an inefficient teacher allocation system. Over 98 percent of government aided schools have a high pupil-teacher ratio (see Table 2.5) as a result of fewer qualified teachers deployed in the district and schools, respectively. However, according to the evaluation results, most of the schools visited had a big percentage of unqualified teachers that do not appear on the payroll. There is need for specific school ceilings to be first met by transferring teachers from schools with a lower PTR to those with a higher PTR in order to address first district teacher allocation inefficiency before addressing the national teacher allocation efficiency.

2.2.2 Ensuring the Completion of the Primary Cycle of Education

Primary school completion is an area that requires further improvements. By 2015, 72 percent completion rate was achieved which was less than the 100 percent target. This reflects persistently high drop outs and repetitions which can be attributed to factors both on the supply side (quality of schools) and the demand side (economic obligation, parental attitudes towards education and early marriages).

Figure 2.6: Enrolment, Grade 7 survival and completion rates



	1997-2003	1998-2004	1999-2005	2000-2006	2001-2007	2002-2008	2003-2009	2004-2010	2005-2011	2006-2012	2007-2013	2008-2014	2009-2015	2010-2016
Enrolment at P.1	2,15	1,55	1,58	1,63	1,70	1,84	1,91	1,83	1,71	1,48	1,59	1,53	1,65	1,94
Survival to P.7	485,	473,	479,	446,	458,	465,	528,	534,	528,	564,	579,	595,	584,	584,
P.7 completion rate (%)	56	62	51	48	47	49	52	54	64	67	67	72	62	65

Source: MoES

Primary School Completion is weakened by both Low Survival and High Repetition Rates. There has been a slow improvement in primary education survival and completion rates besides the dramatic increase in access to primary education. UPE beneficiaries alluded to loss of parents, early marriages and non-affordability of education as key barriers to primary education

completion. Survival rates have improved after the initial UPE cohort (1997-2003). 22 percent of Grade 1 pupils of the 1997 cohort reached Grade 7, with only 56 percent these completing Grade 7. This has since improved but is still below the required targets. Out of 51,994 (25,991 boys, 26,003 girls) pupils enrolled in grade 1 in 2011, 32,029 (15,892 boys, 16,137 girls) were enrolled in grade 7 in 2017 (table 2.6), representing an improvement to 62 percent in of 2011 cohort. The completion rates are worse in government schools (58 percent), compared to the private schools (91 percent).

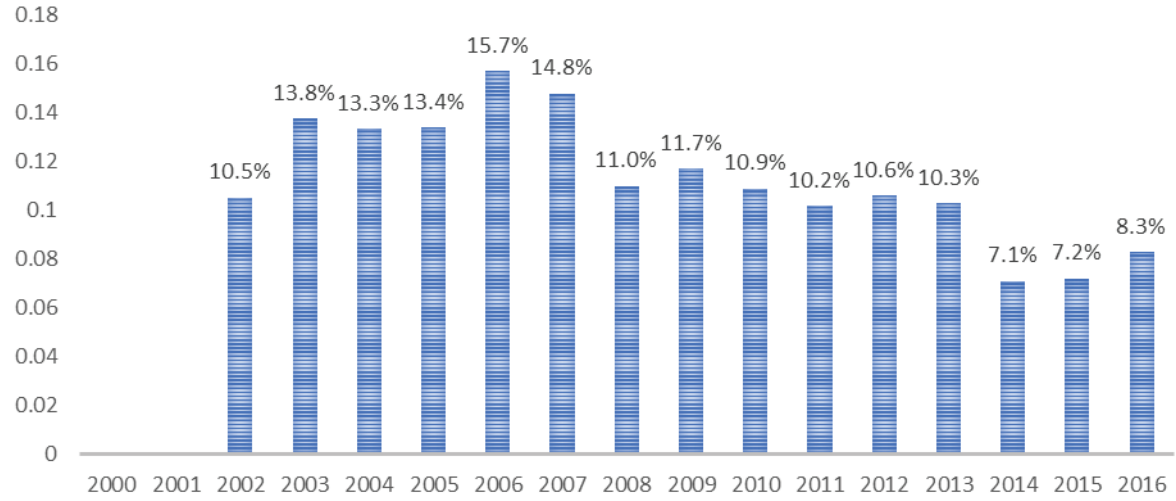
Table 2. 6: Survival at P.7 between 2011 and 2017

Enrolment	Boys	Girls	Total
P.1(2011)	25,991	26,003	51,994
Government	23,226	23,111	46,337
Private	2,765	2,892	5,657
P.7(2017)	15,892	16,137	32,029
Government	13,364	13,509	26,873
Private	2,528	2,628	5,156

Source: NPA survey 2017

Nevertheless, progress has been made in reducing repetition rates but they remain high. Automatic promotion policy was introduced and contributed to reducing repetition rates. By 2016, repetition was 8.3 percent from 10.5 percent in 2002. This progress notwithstanding, repetition rates are still high (figure 2.6).

Figure 2.7: Repetition rates (2000-2016)



Source: EMIS, 2016

While the automatic promotion policy was key to ensure a smooth flow in the UPE system and enabled a reduction in repetition rates, this policy needs to be revisited. This policy has created an inbuilt inequality in the UPE system which is contrary to UPE objectives. The policy aimed at improving the flow of students through the education system by freeing up more places in different grades to accommodate the increases in enrolment in early grades. However, this policy has greatly undermined the quality and skills acquired by children as well as encouraging both pupils and parents to wrongly assume that what matters in order to gain promotion is to do exams and not necessary to pass. This problem affects mostly poor children whose parents cannot afford coaching fees in addition to standard classes. In this regard, UPE has ignored the factor concerning quality education, an issue that makes the rate of survival in school for poor

children very low as they avoid wasting their time and money in school without acquiring appropriate skills.

Drop-out rates have increased dramatically since the introduction of UPE (MoES Statistical Abstracts). Approximately one in five primary school students drop out of school. Evidence from the survey noted that transfer to other schools, loss of parents and parental decision are the major causes of drop out in the lower and upper primary levels. It further noted that loss of parents, pregnancies and marriages as well deter pupils from completing grade 7 (see Table 4.7). In addition, UNHS, 2016/17 noted that the main reason on why they left school reasons relate to income which constitute over 65 percent i.e. costs associated with education for both boys (35%) and girls (34%) was the main reason for leaving school followed by lack of funding (boys - 33% and girls - 31%). About 5 percent of girls aged 6 to 24 years had left school because of pregnancy.

Table 2.7: UPE beneficiary perceptions on reasons for pupil dropout for lower & upper primary and not completing

Reasons	Lower Primary (%)	Upper Primary (%)	Not completing P7(%)
Harassment at home	5%	4%	4%
Harassment at school	2%	1%	1%
Traditions/ cultures	3%	3%	3%
Religion	2%	2%	2%
Pregnancies	0%	6%	7%**
Marriages	1%	6%	7%**
Search for jobs	2%	5%	6%**
Loss of parent(s)	10%***	7%*	7%**
Transfer to another school	12%	8%*	7%**
Lack of interest by pupil	6%	6%	6%**
Indiscipline and expulsion	2%	3%	2%
Parental decision	11%***	8%*	7%**
Insecurity	2%	1%	1%
Other fees/ charges	6%	4%	4%
Illness	8%***	5%	6%
Caring for family members	4%	5%	5%
No school meals	8%***	5%	5%
No scholastic materials	7%***	5%	5%
Distance to school	7%	4%	4%
Poor performance in class	4%	5%	5%
Poor sanitary facilities	2%	3%	3%
Disability	3%	2%	2%
Total	100%	100%	100%

Source: NPA survey 2017

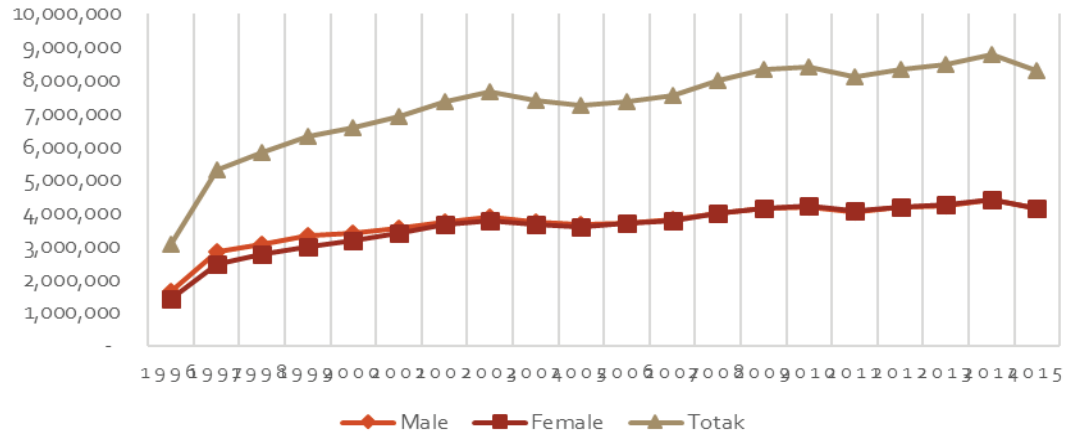
Note: *** highest for Lower primary, **highest for not completing P.7, *highest for upper primary

2.2.3 Making education equitable in order to eliminate disparities and inequalities

UPE has been a great success in ensuring inclusiveness of all pupils into the education systems, regardless of gender and other capabilities. Indeed, the gender gap in accessing education has been closed. Since 1997, the gap between the number of girls and boys enrolled in primary schools has been closed. The percentage of girls to total enrolment was 50.3 percent in 2016 compared to 46 in 1997 (see Figure 9). The Gender Parity index (GPI) in primary schools

improved by 6.7% from 0.956 in 2001 to 1.02 in 2016. Further, there has been increased access to primary education across irrespective of capabilities[7]. By 2016, the proportion of SNE Children to total enrolment in primary schools was 2.06% from 3.0% in 2002. The proportion of orphans to total enrolment increased from 6.2% in 2000, to 12.4% in 2016. Government has continued with affirmative action to address special needs of children with disabilities.

Figure 2.8: Primary School Enrolment by Gender



Source: MoES (various)

Nonetheless, despite UPE achievement in ensuring inclusiveness, it has an inbuilt inequality that leads to disparities across income groups. First, as already discussed, the automatic promotion policy is one of the inbuilt inequalities in UPE system since it promotes progress across levels at the expense of learning. This problem affects mostly poor children whose parents cannot afford coaching fees in addition to standard classes. In this regard, UPE has ignored the factor concerning quality education, an issue that makes the rate of survival in school for poor children very low as they avoid wasting their time and money in school without acquiring appropriate skills. Second, schools in urban areas (private and also UPE) perform much better in national examinations compared to UPE schools in rural areas. Therefore, the location of the school greatly determines outcomes later in life. Those in rural schools start at a disadvantaged level which creates inequalities later in life. The differences between rural and urban schools arise partly from public expenditure per pupil, which is much higher in urban areas than in rural areas. For example, in 2000 expenditure per pupil in the capital city Kampala was US$63, compared to only US$10 in the remote and poorest northern district of Kotido. The differences also reflect parental contributions, in rural areas where the majority of the poor reside, the contribution of parents is almost zero, introducing further inequity in terms of total resources per pupil.

2.2.4 Ensuring that education is affordable by the majority of Ugandans

Access to education remains unaffordable to most Ugandans despite abolition of fees. Although the expansion resulting from the abolition of fees initially improved poorer households' access to primary education by a much larger degree than wealthier households' access, this has since reversed. This improved access was due to a major redistribution of government education resources towards the poor. At least in terms of access the abolition of fees has been seen to be an extremely pro-poor policy. Nonetheless, a number of children still

[7] Capabilities could be due to income gaps, gender, physical ability and otherwise

fail to access school while others dropout because of the direct costs borne by parents (UNHS, 2016/17). On average, households spend about UGX 500,000 on boarding fees, UGX 278,000 on school fees and 118,000 on transport to and from school for primary school pupils. In the rural areas, on average, households with pupils in primary schools spend less on school fees (UGX 190,000) compared to those in the urban areas (UGX 478,000). In addition, in every ten children aged 6-12 years (43%) who had never attended school was because their parents considered them too young. About one out of every five (19%) children did not attend because their parents did not want. About 14 percent of the children did not attend school because it was considered too expensive; while six percent of the children had to help either at home or on the farm.

Furthermore, a number of households hardly had a meal a day due to poverty. This causes some children to drop out of school. This scenario is also found in the provision of lunch as children from very poor families who cannot afford lunch, go without lunch thereby forced to study on an empty stomach. This retards their physical and mental development.

2.2.5. Reduction of Poverty by Equipping every Individual with Basic Skills

Government's investment in free primary education has led to improvement in literacy and numeracy outcomes. This has seen improvement in learning outcomes of the UPE beneficiaries. National Assessment of Progress in Education (NAPE) studies on achievement of learners at grade 3 and 6 pupil in literacy and numeracy over the 20 years of UPE implementation (Figure 2.8), shows that learning outcomes have increased since 1997 for primary school students. The proportions of grade 3 and 6 pupils who attained the desired proficiency levels in Literacy increased from 34.3% and 20% in 2003 to 60.2% and 51.9% in 2015 respectively. The proportions of grade 3 and 6 pupils who attained the desired proficiency levels in Numeracy increased from 42.9% and 20.5% in 2003 to 71.7% and 52.6% in 2015 respectively.

Even with the increasing UPE dropout rates, some basic skills are learned (NPA survey, 2017). UPE beneficiaries acknowledge having acquired a number of skills and applied them in their daily survival (Table 2.8).

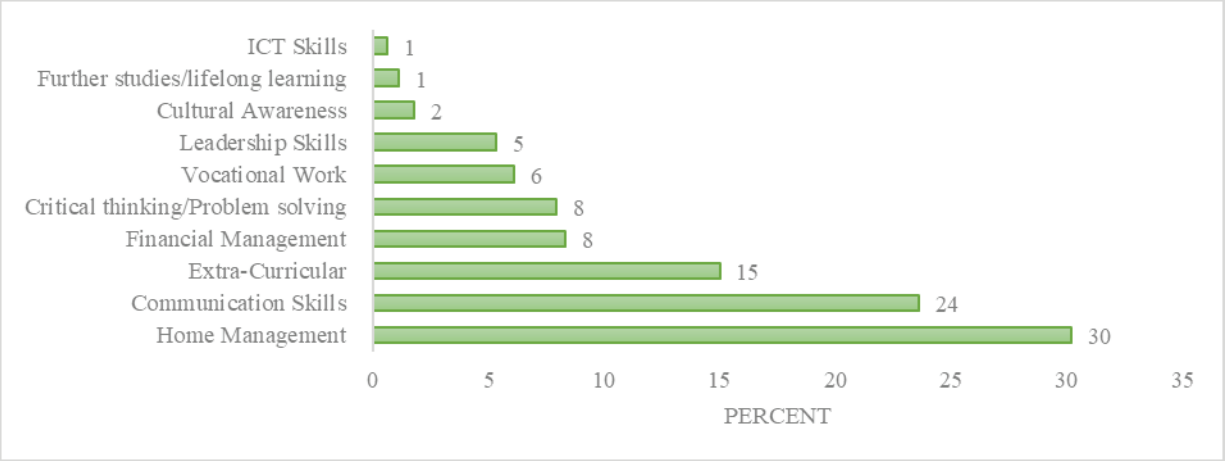
Table 2.8: UPE Beneficiary Perceptions on Skills they acquired by Gender, Location and Type of School

Skills acquired	Sex (%)		Location (%)		Type of School (%)	
	Female	Male	Urban	Rural	Government	Private
Communication skills	47.9	52.1	52.2	47.8	82.4	17.6
Numeracy	48.2	51.8	52.8	47.2	81.2	18.8
Reading and writing skills	48.3	51.7	53.2	46.8	82.1	17.9
Social skills	47.8	52.2	52.6	47.4	81.8	18.2
Work ethics	46.5	53.5	52.2	47.8	82.7	17.3
Personal health	49.3	50.7	52.9	47.1	81.7	18.3
Business/ entrepreneurial skills	46.9	53.1	53.9	46.1	83.9	16.1
Farming	46.8	53.2	48.5	51.5	84.9	15.1
Music, Dance and Drama	51.1	48.9	52.7	47.3	82.6	17.4
Games and sports	47.0	53.0	51.5	48.5	82.6	17.4
Problem solving/ critical thinking	46.7	53.3	53.8	46.2	79.7	20.3
Citizenship	46.9	53.1	50.8	49.2	81.7	18.3
Basic vocational skills	48.3	51.7	54.8	45.2	84.8	15.2

Source: NPA Survey 2017

The beneficiaries further give real life examples where they have applied the acquired skills: Home management (30%) and communication (24%) were the most situation where the acquired skill was widely used. Other areas where the skills have been applied include; extra-curricular, financial management, critical thinking/problem solving, vocational work, leadership skills, cultural awareness, further studies/lifelong learning and ICT skills (see Figure 2.8).

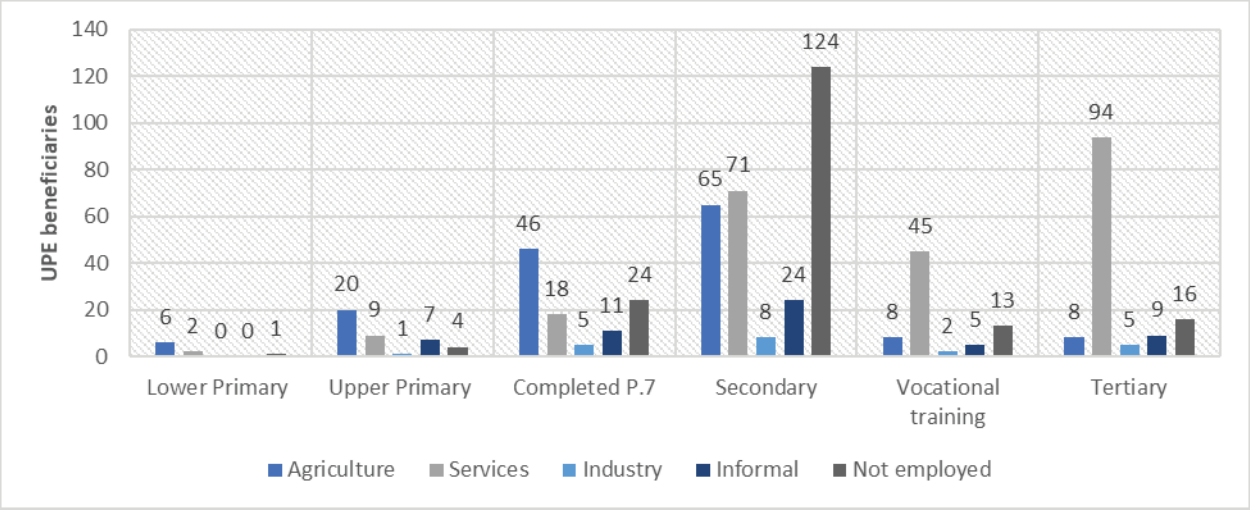
Figure 2.9: UPE beneficiaries' perceptions on scenarios where they applied what they learnt at primary level



Source: NPA survey 2017.

Figure 2.9 presents the occupations of the UPE beneficiaries from the skills they acquired in the primary school cycle. Majority of the beneficiaries completed grade 7 noted that they were employed within the agricultural sector (47%) but the numbers employed by the agricultural sector increased as class levels increased within the primary level of education. Completion of P.7 increased employment in the services sector (17%) although this is still relatively low compared to the generated employment within the agriculture sector (44%). This indicates that the beneficiaries acquired the necessary basic skills that can help them survive as farmers at primary education level. Figure 2.9 further depicts that most UPE beneficiaries are employed in agriculture sector despite the levels at which they left the primary education cycle.

Figure 2.10: UPE Beneficiaries' Perceptions on Their Occupation by Highest Level of Education Attended

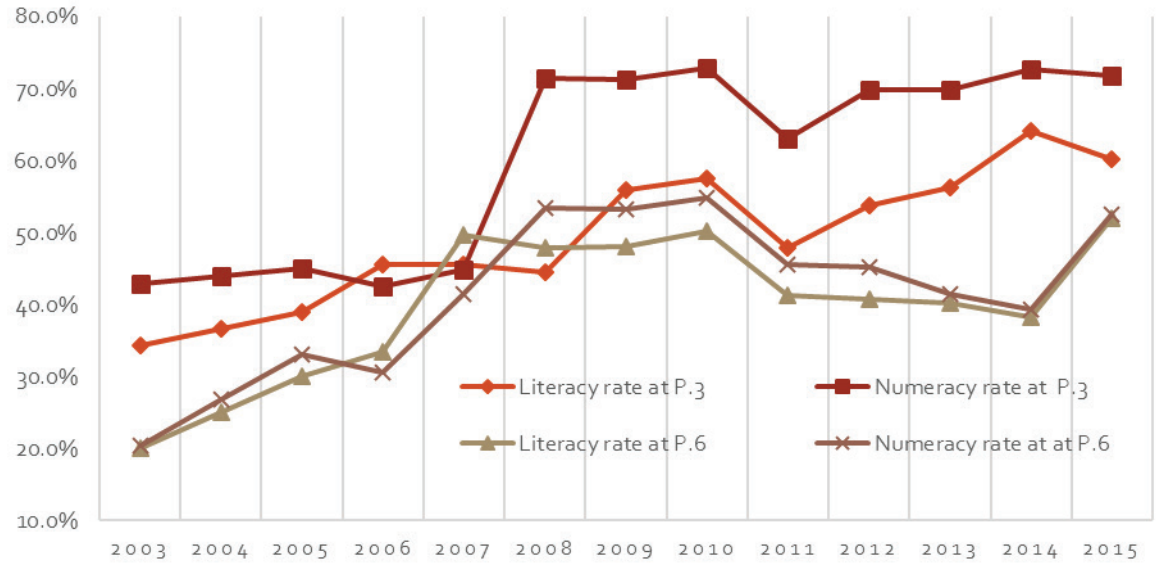


NPA, UPE Survey 2017

However, the performance in literacy and numeracy is low compared to the East African countries, particularly in rural government owned schools. A Uwezo (2013) report shows that only 38% of children aged 10–16 in Uganda have grade two level literacy and numeracy

competencies in 2012, which is much lower than the proportion in Kenya (63%) and Tanzania (50%). The other consistent findings from standardized tests is the high performance of children in urban areas compared with their counterparts in rural areas, as well as the high performance of children in private schools compared with their counterparts in public schools. Uwezo (2014) study shows that just 1 out of 10 children assessed in grade 3 was able to read and comprehend a grade 2 level story and correctly solve Primary 2 level division. Even by the time they completed grade 7, 1 out of 4 of children had not yet attained these basic competencies. In addition, 1 out of 10 pupils in grade 3 and only 3 out of 10 children assessed in grade 7 were able to read and comprehend a grade 2 local language story despite introduction of thematic curriculum since 2007. Furthermore, major differences persist between government and private schools, particularly in the early formative years of primary education. The findings revealed that grade 3 pupils in private schools were almost three times more likely to read a grade 2 level story than their counterparts in government schools.

Figure 2.11: Trend in Literacy and Numeracy at grade 3 and 6



Source: MoES (various)

To sum up, despite improvements in education access for all, Uganda's education system is largely inequitable. Pupils in urban areas get better services than rural areas due to significant expenditure disparities between the urban and rural areas as already alluded to. Further, increasing costs are making the education system unaffordable to majority of poor households. This is worsened by declining per pupil expenditure over years which largely affects the poor. Also, the automatic promotion policy while helps smoothen the flow of pupils within the UPE system, it is at the cost of improving learning outcomes. This affects mainly the poor and thus leading to inequality in the UPE system.

SECTION THREE:

3.0. PLANNING AND BUDGETARY PROCESS FOR UPE FUNDS

3.1 Introduction

UPE policy was initially implemented under the Education Sector Investment Plan (ESIP) 1998–2003 within the framework of the Poverty Eradication Action Plan (PEAP). In addition to the increase in public financing, Uganda's Government used the Poverty Action Fund (PAF) which had been supported by debt relief granted under the Highly Indebted Poor Countries (HIPC) initiative to meet the required spending.

Several budgetary reforms were undertaken around the time when Government started implementing PEAP and receiving PAF. In 1997, the full implementation of the Medium-Term Expenditure Framework (MTEF) was started. A sector-wide approach (SWAP) was also introduced through the launch of ESIP. In addition, the funding modality was shifted from a project-based approach to a budget support approach. Uganda succeeded in attracting considerable donor support and was selected as one of the eligible countries for the EFA Fast Track Initiative (FTI) in 2004 albeit to support the ESIP. Education Statistics suggest that the program resulted in a shift of the burden of education finance away from households towards the public sector, partly financed through resources earmarked under the HIPC initiative. Since the early 1990s, the overall education budget increased from 1.6 percent to 3.8 percent of GDP. 70 percent of the education budget was allocated to basic education in FY 1997/1998 as compared to less than 40 percent in the early 1990s.

Government funds the UPE program through two major grants: 1) **The capitation grant** - goes to improving equitable access to basic education and to providing schools with funds for running schools; and (2) **The school facilities grant** (SFG)- assists the neediest school communities to provide basic infrastructure. In 2007, Ministry of Education and Sports issued two sets of guidelines to guide local governments in managing UPE funding: (i) UPE Capitation Grant Planning and implementation guidelines for district and urban councils; and (ii) School Facilities Grants for Primary Schools: Planning and implementation guidelines for district and urban councils. The performance of the respective grants is detailed in the sections that follow.

3.2 Analysis of UPE Capitation Grant

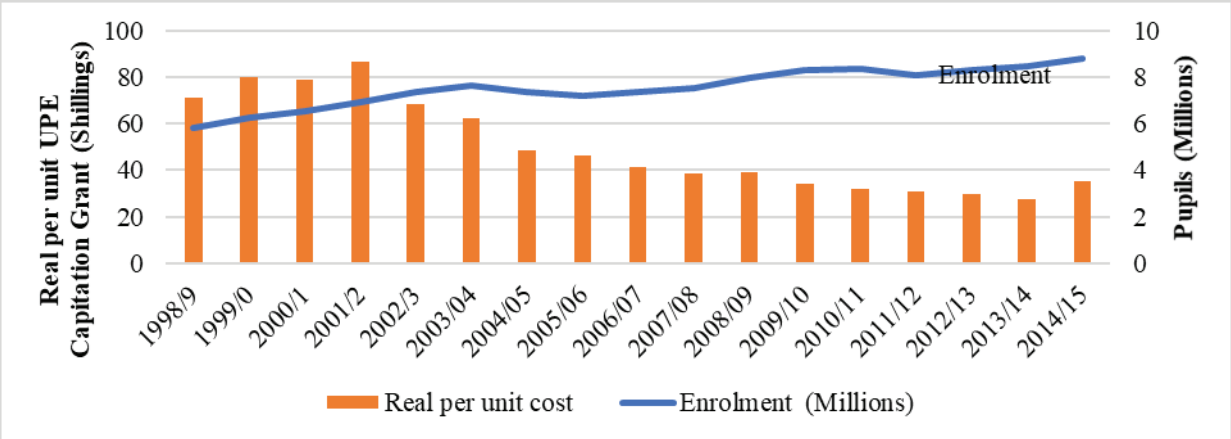
The main goal of the UPE capitation Grant[8] is to "provide the minimum necessary facilities and resources to enable Ugandan children of school-going age to enter and remain in school and successfully complete the primary cycle of education". Specifically, the Grant has two objectives, that is: improving equitable access to basic education by removing the burden of school fees from the parents; and enhancing the quality of primary education by providing schools with the basic operational resources necessary to run the school. Through the grant, government pays annual tuition fees for all pupils in government aided schools. The following are findings on the capitation grant implementation.

8 UPE Capitation Grant, Planning and Implementation Guidelines for Districts and Urban Councils, May 2007.

The 2007 UPE capitation grant guidelines formulated in the PEAP period have been overtaken by events but continue to be the reference for guiding the grant planning and implementation. The Ministry of Education and Sports has continued to issue circulars to amend capitation grant guidelines, however, these have not been documented and remain piece meal. The 2007 capitation guidelines continue to refer Primary Education as one of the key sectors identified in the Government's Poverty Eradication Action Plan (1997) yet government is being guided by the National Development Plans (NDPs) and the Uganda Vision 2040.

The Capitation grant provided to schools is too low and has not kept pace with enrollment pupil numbers. Despite the increase in the nominal UPE capitation grants, the evaluation established that it has not been responding to the increase in enrollment rates. Further, in real terms UPE capitation grants per pupil have reduced significantly. For example, focusing on FY 2014/15, the real per pupil[9] capitation grant decreased from UGX85.5 in 2001/2 to UGX35.3 in 2014/15 (Figure 3.1). These amounts are extremely too low for meaningful delivery of education services.

Figure 3. 1: Relationships between enrolment and the per unit UPE Capitation Grant



Source: EMIS and UBOS

Although in FY2016/17 the nominal grant allocation per pupil was raised, in real terms the allocation remained the same. At the inception of UPE unit cost was disaggregated by class levels, where pupils in lower classes of Primary one, to Primary three, were given UGX5, 000 and UGX8,000 for pupils in upper classes of Primary four to Primary seven. The figure was however, later revised and consolidated to a uniform per unit cost of UGX7, 000 per pupil, from Primary one to Primary seven. During the FY2016/2017, the nominal value was raised to UGX10, 000, but the real value remained at UGX7,429.

While the overall the capitation grants per child is uniform the actual amount received by schools varies (Table 3.1). 31 percent of schools receive the required UGX10,000 per pupil, while 29 percent receive below UGX7000, with 21 percent of the schools receiving at least UGX7,000 per pupil. As is explained later, these disparities received per school arise due to the capitation grant formula used and the discretion in allocation at local government authorities. This creates disparities in level of investment in service delivery.

[9] The capitation funds' analysis takes cognizance of the cost of living index and should be considered when capitation grants are being computed. Ignoring it results into provision of very meagre funds without significant impact in terms of effective education service delivery.

Table 3. 1: Capitation Grant Received by Schools, per child per term

S/No.	Category	Percent
1	Below 7,000	28.6
2	7,000	21.4
3	7,100 – 9,900	19.0
4	10,000	31.0
Total		100

Source: NPA survey, 2017

Generally, schools receive their defined capitation grant entitlement, nonetheless those that receive only part of their grants need action to be taken to address their plight. Majority (93.3%) of the 559 schools visited reported to have fully received their capitation grants, with only 6.7 percent receiving part of the grants. The schools received less of their capitation entitlement find it difficult to run the school as planned. However, despite reporting the shortfall to the district leadership (DEO, CAO, SMC, MEO and Town Clerk), there is always no action taken to rectify the anomaly. Of the 85 respondents, 45.9% reported the shortfall to the DEO, 23.5% to the SMC, 17.6% to CAO, 1.2% to MEO, 2.4 to Town Clerk while 9.4% never reported the case. The evaluation found that no action is always taken in case a school is given less resources.

Table 3.2: Follow up/ action taken following the short fall in capitation grant received

S/No	Action taken	Percent
1	No action taken	75.0
2	Informed MOFPED and MOES	9.4
3	School Improvises (PTA, borrowing)	9.4
4	Schools inspected and visited	6.3
Total		100.0

Source: NPA survey, 2017

However, capitation grants are not received on time thereby affecting the efficient operation of schools. Even with the Ministries of Education and Sports and Finance, Planning and Economic Development pledge to remit capitation funds at the beginning of every term, in reality, this is not the case. Only 39 percent of the head teachers interviewed confirmed receipt of funds within the first two weeks, 36.6 percent receive money beyond one month. The delay in release of capitation funds makes schools operate in debts and affects school operations and projects.

Table 3.3: Time taken to receive funds by head teachers

S/N	Period	Frequency	Percent
1	One to two weeks	238	39.7
2	Three to four weeks	142	23.7
3	Other	219	36.6
Total		**599**	**100**

Source: NPA survey, 2017

While capitation expenditures should be conditional[10], in reality they are not. The 2007 guidelines required the districts (DEOs/MEOs) to agree with schools on the expenditure of UPE Grant Budget on the following components: (a) Extra Instructional/Scholastic materials; Co-

[10] limited to eligible expenses defined in the guidelines

curricular activities; School Management and Administration. However, 53 percent of schools allocate funds to the non-eligible expenditures of UPE. Of these, 73.3 percent of the schools allocated between 10 percent to 20 percent of UPE funds to teacher welfare. The guidelines emphasized that other expenditures must focus on the teaching and learning process and under no circumstances will these other expenditures cover uncalled for and/or irrelevant concerns such as payment for teacher's welfare costs such as housing and lunches, payment for burials and funeral rites.

Table 3.4: Percentage of Capitation Grants spent on non-eligible teacher welfare

S/N	Percent of expenditure on teacher welfare	Frequency	Percent
1	0 - 9%	30	9.9
2	10 – 20%	222	73.3
3	21 – 50%	25	8.3
4	Over 50%	26	8.6
Total		**303**	**100**

Source: NPA survey, 2017

3.2.1 The UPE Capitation Grant Allocation Formula

The distribution of the UPE capitation grants among government aided primary schools is based on a stipulated allocation formula developed by the Ministry of Education and Sports. Initially, the capitation grant allocation criteria followed a fixed per pupil formula. However, after the MoES (2007) Capitation Guidelines, the formula was revised to include two components; the Threshold component and the Variable component, as follows:

$$UPE\ Capitation\ Grant = Threshold\ Component + Variable\ Component \quad (1)$$

The Threshold Grant is provided to every government-aided school regardless of its enrollment. The Threshold component was slightly increased from UGX. 100,000 per month per school for 9 months (UGX. 900,000 per school per annum) in 2007, to UGX. 150,000 per month (UGX. 1,350,000 per annum) currently. It was increased so as to take into consideration inflation effects. However, since the change was a one off and annual inflation changes are not accommodated. Therefore, the real value of this grant is eroded over time as inflation increases.

The Variable component is school specific depending on the enrollment in each Government-aided school. The pupil enrollment figures are either obtained by considering the projected enrollment computed by applying a given annual growth rate or annual school census (EMIS) data. The variable grant (VG) is calculated as:

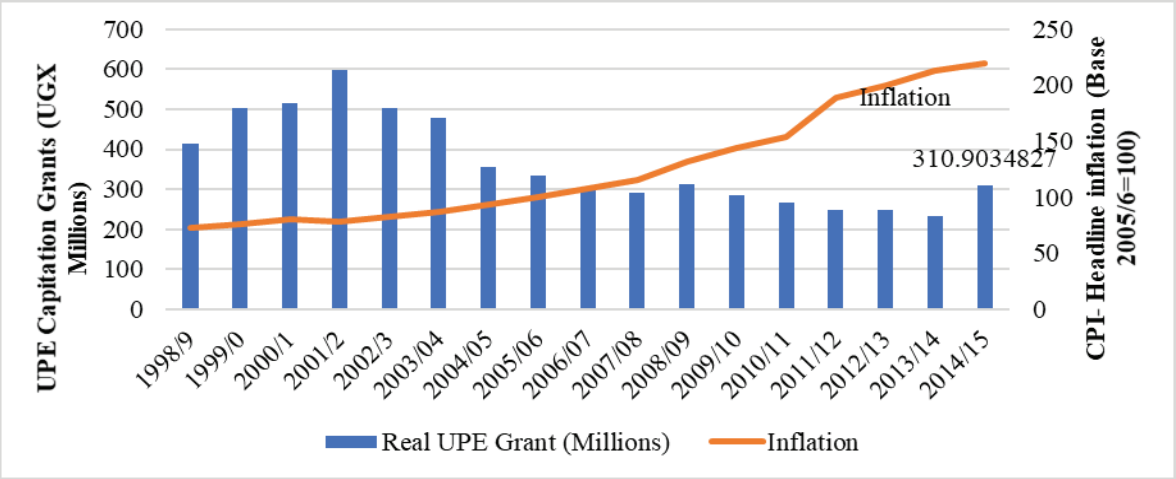
$$VG = \frac{Total\ ceiling - Total\ Threshold\ Grant}{Total\ Enrollment} \quad (2)$$

That is, the annual variable grant per pupil (VG) is the difference between the total annual budget for UPE capitation grant and the total annual threshold component divided by total enrollment. MoES calculates the amount MoFPED releases twice per quarter to respective Local Governments. Local Governments, on a quarterly basis, then transfer the appropriate amount of grant to respective schools' UPE bank account.

The formula for capitation allocation does not take into account inflation and changes in the purchasing power. The Second National Development Plan (NDPII) recommended adoption of an inflation adjusted formula for allocating capitation grants. However, this is yet to

be implemented. In nominal terms, the grant has increased from UGX 30 billion in FY 1998/9 to UGX 68 billion in FY 2014/15. However, in real terms the grant decreased (Figure 3.1).

Figure 3. 2: Real UPE capitation grant *(Base: 2005/06 =100)* **and CPI-Headline inflation**



Source: EMIS and BOU

Further, the formula is tilted towards reducing the variable grant component whenever more schools become government aided. The variable component is the remainder of the allocated budget less the threshold component. To the extent that the total threshold component increases due to increasing number of schools, particularly in line with government policy of a school per parish, regardless of overall budget increase of capitation grant, the variable component will be eroded. As such, the per unit capitation grant provided to schools will reduce whenever more schools are built, other factors constant. Therefore, unless government increases the capitation grant in line with increases in school numbers, the actual capitation grant to a school will reduce regardless of enrolment numbers.

Table 3. 5: Trends in Total UPE Capitation Grants per Pupil

Financial Year	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
UPE Capitation Budget (Ug. Shs bn)	41.01	43.51	52.18	52.78	63.081	68.452
Enrolment	7,171,690	7,036,529	7,080,185	7,090,338	7,061,349	6,848,058
Unit Cost	5718	6183	7000	7000	7,000	10,000

Source: MoES

In addition, the Capitation grant formula doesn't treat special needs pupils uniquely. The capitation grant allocation formula does not give focus on pupils with disabilities. It simply considers a given threshold and a variable cost that considers equality amongst all pupils.

Box 3.1: Proposed UPE Capitation Formula

The UPE Capitation formula should be cognizant of other factors which are currently not accounted for on a year to year basis. Typically, the factors that affect the allocation formula include: cost of living index; equity considerations; education costs; enrolment; and sometimes revenue. The current Threshold Grants should equate to the fixed costs of running a school irrespective of the enrolment and not just the administrative costs as is the case now.

$$Capitation\ Grant = f(Costs; Enrolment; cost\ of\ living\ index; Equity\ \&\ SNE\ Factors)$$

$$\boldsymbol{Capitation\ Grant = Threshold\ Grant\ (TTG) + Variable\ Grant(TVG)}$$

$$TTG = (CPI\ adjusted\ Monthly\ Fixed\ Costs\ of\ running\ a\ school) * 9\ months$$

$$TVG = CPI\ adjusted\ Unit\ cost\ per\ pupil * Total\ enrolment$$

The variable grant should not only be dependent on cash limits but should also consider actual costs to the maximum extent possible.

Additionally, Government should adopt a Pupil Identification Number (PIN) system in line with the NIN to track a pupil throughout the Education cycle. The system will also be able to identify and track pupils whenever they change/switch schools; or even drop out such that aspects of low funds and inaccurate statistics are dealt with.

Source: NPA

Using the proposed allocation formula, the current capitation grant is too low to deliver meaningful results. Table 3.2 provides a detailed unit cost per pupil for the urban, rural and Special Needs schools based some key assumptions[11]. At current CPI rates, the capitation grant should be revised upwards from UGX 10,000 to UGX 63,546 and UGX 59,503 for Urban and Rural/SNE schools per pupil per respectively in order to ensure equitable access of quality primary education.

***Table 3. 6*: Proposed UPE Capitation Grant Disaggregated by Urban, Rural and SNE Schools**

		Urban schools			Rural schools			Special needs schools		
	Primary Variable cost per pupil per year:	**Unit**	**Unit cost**	**Total Cost**	**Unit**	**Unit cost**	**Total Cost**	**Unit**	**Unit cost**	**Total Cost**
1	**Duplicating paper for examination and photocopying paper for daily use**									
a	Purchase of 50 pieces of duplicating paper per pupil per term for 400 (reams)	76.8	9,000	691,200	76.8	9,000	691,200	76.8	9,000	691,200
b	Purchase of photocopying paper (i.e circulars etc.)	3	20,000	60,000	3	20,000	60,000	3	20,000	60,000
	Sub-total			**751,200**			**751,200**			**751,200**
	Unit cost per pupil (School size 400 pupils)			**1,878**			**1,878**			**1,878**
2	**Chalk, pens, manila paper & markers**									
a	Purchase of 2 cartons of chalk per term	6	65,000	390,000	6	65,000	390,000	6	65,000	390,000
b	Purchase of 3 pens per teacher for 7 teachers per term	126	500	63,000	126	500	63,000	126	500	63,000
c	Purchase of Manila Paper for illustration (4 reams @ 250 sheets per term for 7 classess)	12	90,000	1,080,000	12	90,000	1,080,000	12	90,000	1,080,000
d	Purchase of markers (3 pks per class per term	63	5,000	315,000	63	5,000	315,000	63	5,000	315,000
	Sub-total			**1,848,000**			**1,848,000**			**1,848,000**
	Unit cost per pupil (School size 400 pupils)			**4,620**			**4,620**			**4,620**
3	**Teachers lesson plan books and preparatory books**									

[11] (i) Enrolment per school is assumed to be 400 pupils. 2percent are SNE pupils; (ii) The unit costs are based on current market prices (2018); (iii) Capitation cost is uniform for all pupils by schools and location in public schools; (iv) Urban schools receive additional budget for extra charges equivalent to 70 percent of the UPE per capita unit cost; (v) SNE pupils are accommodated within the inclusive capitation unit cost. Additionally, a lump sum unit cost of 300,000 for SNE pupils will be added for procurement of special needs pedagogy materials and items like brail machine, brail papers, walking sticks, hearing aids, wheel chairs, sunglasses, among others; (vi) The additional unit cost for special needs takes care of SNE pupils in both private and public schools

		Urban schools			Rural schools			Special needs schools		
	Primary Variable cost per pupil per year:	**Unit**	**Unit cost**	**Total Cost**	**Unit**	**Unit cost**	**Total Cost**	**Unit**	**Unit cost**	**Total Cost**
a	2 lesson plan books per teacher per term for 7 classes	42	6,000	252,000	42	6,000	252,000	42	6,000	252,000
b	1 Teacher's scheme of work book for 7 teachers per term	21	6,000	126,000	21	6,000	126,000	21	6,000	126,000
	Sub-total			**378,000**			**378,000**			**378,000**
	Unit cost per pupil (School size 400 pupils)			**945**			**945**			**945**
4	**Record sheets**									
a	1 lesson book for each class for 7 classes per term	21	8,000	168,000	21	8,000	168,000	21	8,000	168,000
b	Visitors' book 1 per year	1	8,000	8,000	1	8,000	8,000	1	8,000	8,000
c	Arrival books 1 per term	1	8,000	8,000	1	8,000	8,000	1	8,000	8,000
d	Log book 1 per year	1	-	-	1	-	-	1	-	-
	Sub-total			**184,000**			**184,000**			**184,000**
	Unit cost per pupil (School size 400 pupils)			**460**			**460**			**460**
5	**Pupil's termly reports*(fixed)***									
a	1 report in 3 copies per pupil per term for 400 pupils	3600	3,000	10,800,000	3600	3,000	10,800,000	3600	3,000	10,800,000
	Sub-total			**10,800,000**			**10,800,000**			**10,800,000**
	Unit cost per pupil (School size 400 pupils)			**27,000**			**27,000**			**27,000**
6	**School furniture repair and replacement (O&M)**									
a	Replacement of 1 desk per class for 7 classes per year	7	150,000	1,050,000	7	150,000	1,050,000	7	150,000	1,050,000
	Sub-total			**1,050,000**			**1,050,000**			**1,050,000**
	Unit cost per pupil (School size 400 pupils)			**2,625**			**2,625**			**2,625**
7	**Co-curricula activities (games, sports, MDD, clubs & societies, scie. & art exhibitions, etc)**									
a	Football (i.e 3 balls per year)	3	80,000	240,000	3	80,000	240,000	3	80,000	240,000
b	Netball (i.e 3 balls per year)	3	80,000	240,000	3	80,000	240,000	3	80,000	240,000
c	Athletics (lumpsum per term)	3	500,000	1,500,000	3	500,000	1,500,000	3	500,000	1,500,000
d	Music Dance and Drama	3	500,000	1,500,000	3	500,000	1,500,000	3	500,000	1,500,000
e	Club and Societies	3	500,000	1,500,000	3	500,000	1,500,000	3	500,000	1,500,000
f	Scouting and girl guides	1	500,000	500,000	1	500,000	500,000	1	500,000	500,000
	Sub-total			**5,480,000**			**5,480,000**			**5,480,000**
	Unit cost per pupil (School size 400 pupils)			**13,700**			**13,700**			**13,700**
8	**Health and sanitation**									
	Medical services, refuse collection, fumigation, cleaning equipment, etc	1	500,000	500,000	1	500,000	500,000	1	500,000	500,000
	Sub-total			500,000			500,000			500,000
	Unit cost per pupil (School size 400 pupils)			**1,250**			**1,250**			**1,250**
9										**Career guidance and counselling**
	Talks, parents/teachers/pupils interface, etc.	**1**	**500,000**	**500,000**	**1**	**500,000**	**500,000**	**1**	**500,000**	**500,000**
	Sub-total			**500,000**			**500,000**			**500,000**
	Unit cost per pupil (School size 400 pupils)	**400**		**1,250**	**400**		**1,250**	**400**		**1,250**
10	**Administrative costs (Fixed costs)**									
	Bank charges	**3**	**20,000**	60,000	**3**	**20,000**	60,000	**3**	**20,000**	60,000
	Utilities (water, electricity, solar, Telephone etc)	**9**	**200,000**	1,800,000	**9**	**200,000**	1,800,000	**9**	**200,000**	1,800,000
	Accountability expenses	**3**	**150,000**	450,000	**3**	**150,000**	450,000	**3**	**150,000**	450,000
	Extra charges	**70%**		1,617,000			-			-

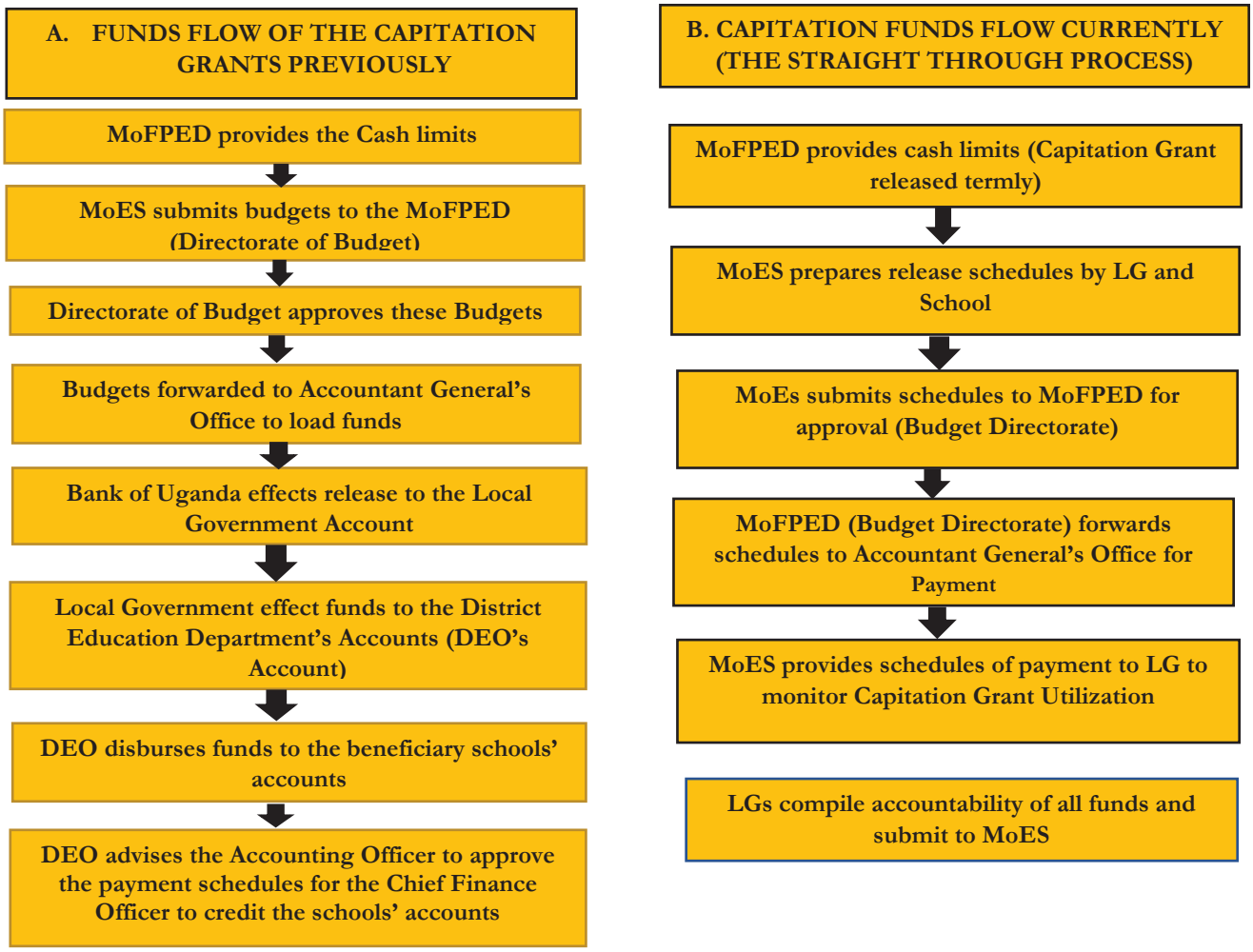
		Urban schools			Rural schools			Special needs schools		
	Primary Variable cost per pupil per year:	**Unit**	**Unit cost**	**Total Cost**	**Unit**	**Unit cost**	**Total Cost**	**Unit**	**Unit cost**	**Total Cost**
	Sub-total			**3,927,000**			**2,310,000**			**2,310,000**
	Unit cost per pupil (School size 400 pupils)	**400**		**9,818**	**400**		**5,775**	**400**		**5,775**
	Unit cost per pupil (School size 400 pupils)	**400**		**-**	**400**		**-**	**400**		**-**
	Variable cost per pupil per year			**63,546**			**59,503**			**59,503**
	Variable cost per pupil per term			**21,182**			**19,834**			**19,834**
11	**Instructional materials for SNE**									
	Additional Instructional materials (Brails, brail machines, brail paper, walking sticks, hearing aids, sunglasses, etc			-			-	**8**	**300,000**	2,400,000
				Without - SNE		Without - SNE	Total Capitation			
	Capitation for Rural schools	**400**	**59,503**	**23,801,200.00**		**2,400,000**	**26,201,200**		**65,503**	
	Capitation for Urban schools	**400**	**63,546**	**25,418,400**		**2,400,000**	**27,818,400**		**69,546**	

Source: NPA Computations

3.2.2 UPE Capitation Flow of Funds

The MoFPED provides Cash limits for a particular quarter in relation to the approved budget for every Financial Year. From FY 2008/09 to 2010/11, MoES used to submit programmed release schedules from Local Government for all the Educational Grants to MoFPED. These schedules were prepared in relation to the cash limits provided by the MoFPED. MoFPED would then approve and send to Accountant General's Office (AGO) to load the funds on the system and start processing the payments. Bank of Uganda would then release funds to the Local Government General Fund Account. The Local Government Accounting Officer would then credit the Education Department Account clearly indicating the releases per Education Grant to District Education Officer (DEO). The DEO ensured payments to the beneficiaries. For example, distributed the UPE capitation grants among the beneficiary schools using the allocation formula, initiated the payments and advised the Accounting Officer to approve the payment schedules for the Chief Finance Officer to credit the schools' accounts (Figure 3.3).

Figure 3. 3: Comparison between the two Capitation funds flow systems



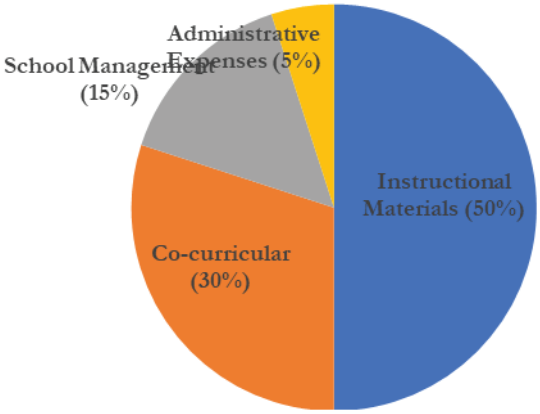
Source: MoES and MoFPED

The system of transfer of grants to schools was initially very bureaucratic and caused a number of problems including: delay in the payment of capitation grants to schools; non-uniformity of payments amongst schools across the country and non-harmonized way of handling unapplied (bounced) payments from Bank of Uganda due to errors in the details of schools' accounts. In order to address the above challenges and improve efficiency in the transfer of funds from the central government to local governments, the Straight Through Payment process (STP) was introduced in FY 2011/12.

The Straight Through Payment process (STP) introduced in FY2011/12 eliminated the bureaucracy and greatly improved the flow of funds to schools. In the Straight Through Process, the capitation grants are paid directly to the school/institution account. The capitation grants are released in three tranches rhyming with the three academic terms while capital development grants are released on quarterly basis. However, the funds are budgeted on the Vote of the Local Government. The MoES prepares release schedules by LG and School/institution in line with the cash limits. The flow of funds shortened when the Straight Through Process was introduced; and there was reduction of leakages and delays in the disbursement of funds. This collaborates the evaluation findings where majority of head teachers (already discussed) noted that funds take between one to two weeks to reach the school accounts.

As already discussed, the capitation grants are conditional, rigid and unresponsiveness to the emerging realities of different districts and thus leads to non-eligible expenditures. Upon receiving the capitation grants, the primary schools are required to utilize them in accordance with the Poverty Action Fund (PAF) General Guidelines for Planning and Operational for conditional grants issued by the MoFPED. There are four expenditure components that are financed by the UPE capitation grant. These are: extra instructional/ scholastic materials; Co-curricular activities; Management of the schools; and Administration (MoES, 2007). The percentage allocation of the UPE capitation grants is as follows: with 50 percent of instructional materials; 30 percent of co-curricular activities; 15 percent of school management; and 5 percent of Administrative expenses. (see Figure 3.4). However, as already analyzed this has created mischarges as 53 percent of headteachers use these funds on non-eligible expenditures.

Figure 3. 4: UPE Capitation Grant Allocation



Source: MoES UPE Capitation Grant Guidelines (2007)

The planning and budgeting process of the capitation grants takes place at both the District and School levels. The SMC Chairperson and the Head teacher of the specific primary school are responsible for accountability at the school level while monitoring at the national level is done by responsible entities like: MoES, MoFPED and MoLG. However, Citizens' awareness of the capitation grant scheme and their understanding of the scheme are critical in assessing the impact of the scheme in attaining the UPE objectives.

3.3 Analysis of UPE School Facilities Grant (SFG)

The main aim SFG is to support the neediest communities to build the basic required school infrastructure. The SFG supports; construction of new classrooms; provision of furniture like pupils' desks, teachers' tables, chairs and cupboards; the construction of latrines and the construction of teachers' accommodation. Ideally, the target is for every primary school to achieve:

- A classroom: pupil ratio of 1:55;
- Desk: pupil ratio of 1:3;
- Latrine: pupil ratio of 1:40; and,
- Permanent accommodation for at least four (4) teachers.

Local governments are responsible for the allocation of the grant that is transferred from the central government. The SFG funding is channeled to the districts/municipalities as a conditional grant and is supposed to be strictly utilized in accordance with the PAF General Guidelines for Planning and Operation for conditional grants issued by the Ministry of Finance, Planning and Economic Development. Following the April 2000, Education Sector Review, the government decentralized the planning and budgeting for the SFG for primary education with

the rationale of enhancing the opportunities for improved management and delivery of services. Against this backdrop, the planning and implementation processes for the SFG have been given to the Local Governments to be implemented under the Decentralized Medium-Term Budget Framework (DMTBF); while the center is left with formulation of policies, setting national standards and monitoring outputs within the context of Minimum Quality Standards.

3.3.1 SFG Allocations and Targets

SFG is determined by the socio-economic status within the District as well as the community's ability and willingness to contribute to school development. Areas where communities have contributed include; providing school land; and items not financed under SFG, such as planting trees and school fences, constructing a playground; providing day to day supervision of the contractor; maintaining existing and new school facilities after completion and ensuring equitable access to all facilities for both boys and girls and also for disabled children. Where the local community contributes locally available building materials and services (e.g. sand, stones, bricks, unskilled labour etc), the local contractor is required to reimburse these items from his/her contract in accordance with the bills of quantity included in the Technical Handbook. It is expected that the proceeds realized by the local community will be invested in other school projects not financed under SFG.

The Planning and Budgeting phase for the SFG programme runs from September to April each year in line with the PFM Act, 2015. It starts with communication of SFG District/Municipality resource ceilings by Central Government; SFG promotional activities; field appraisal; preparation, review and approval of SFG annual work plans/budgets. However, the guidelines have not been revised to accommodate the change in planning and budgeting (Table 3.7).

Table 3. 7: The Planning and Budgeting Phase of SFG (November – June) as per the Capitation Grant Guidelines

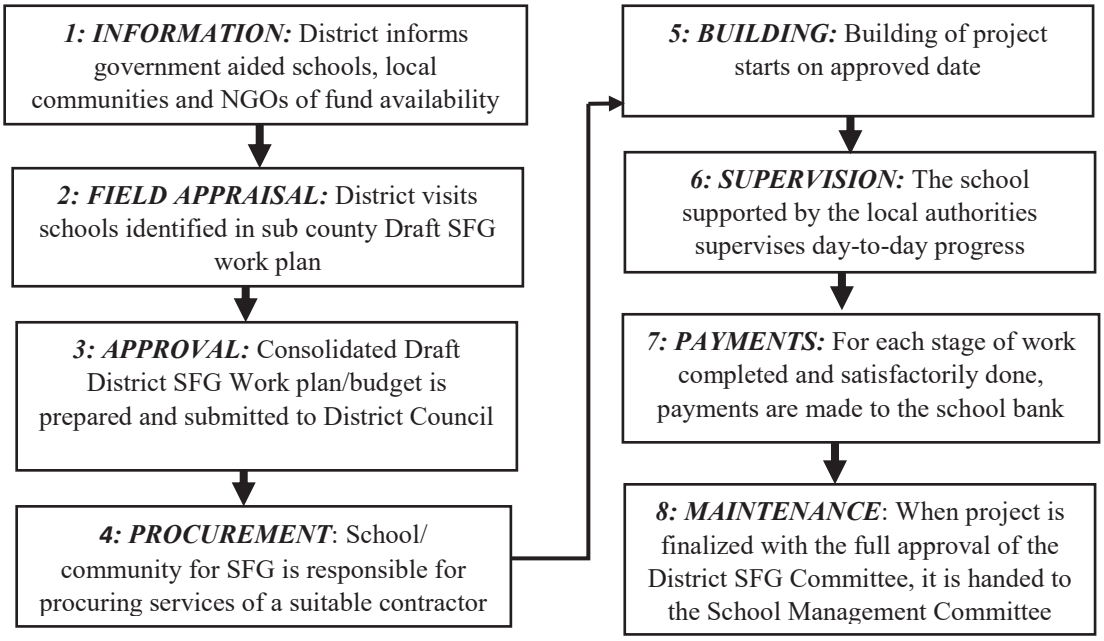
Activity	Time frame	Responsibility
Communication of SFG District Ceilings	November	MoES
SFG promotional activities	January, February	District (DFO/MEO)
Field Appraisal	March	District (DEO/MEO)
Preparation, Review, approval and submission of the Draft Annual SFG workplan/Budget	April	District SFG Committee and District Council
Approval of the District Annual SFG workplan/Budget	May/June	MoES
Signing a letter of understanding between the District and MoES	June	MoES and District (PS/MoES and CAO)

Source: SFG-Guidelines, 2007

The SFG guidelines were formulated at the time of PEAP, however, they have not been updated to reflect changes in the budgeting cycle (PFMA Act of 2015). There is need for harmonization of the guidelines with the respective reforms. A simple SFG process was established by the Central government where broad policies, standards, eligibility criteria and implementation guidelines were set up. The Government channels the SFG funds to Districts from a central account. The Districts receive and account for the funds, select the beneficiary schools on poverty criteria, assist the schools to implement the programme, control quality and channel the funds to the schools. The schools apply to the fund, receive and account for the funds, select a suitable contractor, supervise and pay the contractor and assure equitable access

to all. See Figure 3.5 for illustration of the process followed from the promotion of the grant through to completion.

Figure 3. 5: SFG Planning Process



Source: SFG-Guidelines 2007

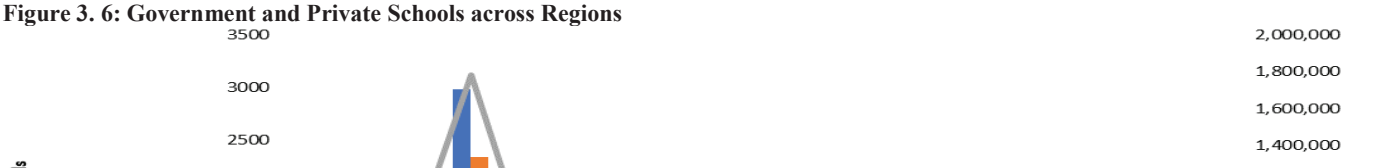
3.3 Estimates for attaining the standard Pupil Classroom Ratio (PCR) and other Key Standard Parameters

This subsection reviews the cost of constructing primary schools necessary to achieve the standard PCR. It first of all approaches primary education provision in Uganda's liberalized environment; it then explores the current education statistics using the education enrolment policies and how much costs it takes to fill its gaps.

3.3.1 Education Provision in a Liberalized Environment

Since the liberalization of the education sector by the Ugandan Government in 1993, the provision of primary education is undertaken by both the Government and the private sector. Out of the 18,887 primary schools in Uganda, 64 percent (12,035 schools) are Government schools and the remaining 36 percent (6,852 schools) are private schools (School Census data 2015). The same picture emerges from a regional perspective as government schools are more than the private schools in all the regions (Figure 3.6). The high number of government schools is an indication of the government effort to provide free education to the poor sections of society since school going pupils who cannot afford the private schools can access education, gain skills and make their livelihoods better. This is in line with the first objective of the UPE policy.

Figure 3. 6: Government and Private Schools across Regions

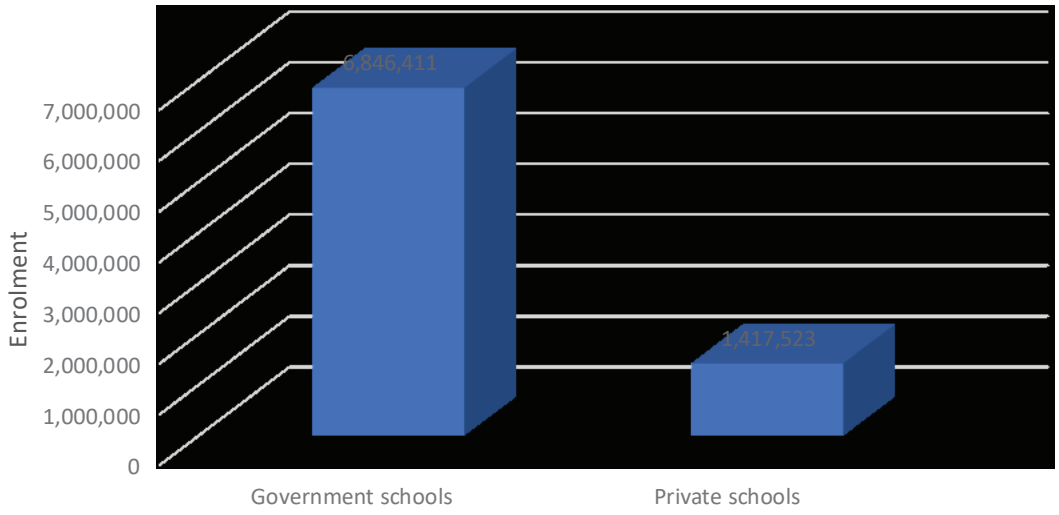


	Acholi	Ankole	Bugandа	Bukedi	Bunyoro	Busoga	Elgon	Karamoja	Kigezi	Lango	Teso	Toro	West Nile
Government schools	636	1325	2981	612	644	1150	657	225	745	622	677	869	892
Private Schools	177	776	2340	314	681	649	282	48	274	177	331	619	184
Enrolment	455,915	654,635	1,784,30	591,829	439,077	892,067	503,226	132,814	365,790	584,524	537,395	578,587	743,766

Source: EMIS, 2015

Pupil enrolment is also high in government schools as compared to the private schools. Of the 8,263,934-pupil enrolled in 2015, 83 percent (6,846, 411 pupils) was in Government schools while the other 17 percent (1,417,523 pupils) was in private schools (Figure 3.7).

Figure 3. 7: Government Schools Vs Private Schools enrolment in Uganda in 2015(Totals)



Source: EMIS, 2015

In government schools, most of the targeted education indicators are worse than the required minimum compared to private schools. Private schools fare better on education system indicators which include the pupil-classroom ratio, the pupil teacher ratio, the pupil latrine ratio and the pupil textbook ratio. As already discussed, this inherently creates an inequity problem in Uganda's education system[12], as pupils in private schools are likely to fare better than their counterparts in government schools.

[12] A standard Ugandan child's lifetime income status is defined at the onset by the type and/or locality of school he/she chooses. You are destined to be poor even before you grow.

3.3.2 Financing Options for reducing the Pupil Classroom Ratio

3.3.2.1 Increasing the stock of classrooms in the worse-off districts

The high enrolment in government schools has greater impact on the education outcomes, especially if the public allocation and expenditure on primary education increases at a slower pace than the enrolment. This leads to a situation of high pupil teacher ratios; high pupil classroom ratios; high pupil latrine stance ratios and low pupil textbook ratios. This poor learning environment consequently affects the student performance. Important to note is that the education production function can be compared to that of conventional goods and services. This production process entails the combination of factors of production as inputs to produce the desired output as well.

SFG should be allocated to ensure that minimum education indicators targets are met and are uniform across districts and schools. For this to happen, at current costs the total financial requirements to attain the required PCR is Ushs.1.19 trillion (Table 3.7)[13]. The additional number of classrooms required to reduce the pupil classroom ratio to the required government standard is determined by assessing the school statistics. For instance, as of 2015, Maracha district had a stock of 298 classrooms, and therefore attaining the standard pupil classroom ratio requires constructing 1,292 classrooms. However, given the available stock of 298 classrooms, the deficit that needs to be closed is 994 classrooms. This translates to 142 schools required to cover up this deficit. This entails either constructing new schools in the district to increase the classroom stock or increasing the number of classrooms within the particular existing schools.

Table 3. 8: Estimated Costs of constructing schools to meet the Government Standard pupil classroom ratio and other key standard parameters

School Facilities	Cost Estimates – ESSP 2017/18-2019/20 (Ushs.)	Required Number to fill gap	Total Cost (UGX.)
3-classroom block, including lightening arrestors	126,604,000	4,013	508,061,852,000
2-classroom block, including lightening arrestors	84,671,956	4,013	339,788,559,428
2-classroom block, including lightening arrestors	84,671,956	4,013	339,788,559,428
***Sub-total** (7 classrooms OR a complete basic school's classroom needs)*	***295,947,912***	***4,013 schools***	***1,187,638,970,856***
Administration Block	92,040,000	4,013	369,356,520,000
5-stance VIP latrine includes stance for SNE pupils (2 units)	32,352,250	18,352 *(2 unit)* 5 stance latrines	593,728,492,000
2- unit Teacher's houses	108,076,800	10,427	1,126,916,793,600
2- unit external kitchen	32,009,272	4,013	128,453,208,536
2-stance VIP latrine (2 units)	15,515,500	4,013	62,263,701,500
Water Harvest System (10,000L)	9,315,789	4,013	37,384,261,257
Sub-total			***2,318,102,976,893***
Others			
Teacher's chair (8 units)	180,000	32,104	5,778,720,000
Teacher's Chair (8 units)	550,000	32,104	17,657,200,000
3-seater Desks	300,000	496,292[14]	148,887,600,000
Sub-total			***172,323,520,000***
GRAND TOTAL			**3,678,065,467,749**

Source: NPA Computations based on MOES Cost estimates (ESSP 2017/18-2019/20)

[13] Basing on the assumption that each school has 7 classrooms, the equivalent number of schools from the available stock of classrooms is 334 schools. For example, Arua district has 9 classrooms per school on average; Maracha district has 5 classrooms per school on average. The inadequacy of the classrooms in Maracha district explains its high pupil classroom ratio of 230.
14 Obtained by multiplying the number of missing classrooms by the standard pupil classroom ratio of 53. This gives 1,488,876 pupils to sit in these classrooms. Dividing 1,488,876 pupils by 53 to obtain the number of 3 seater desks gives 496,292 desks.

However, the selected intervention is dependent on many other factors like; the education sector share of the national budget, area population, income distribution of the district and the number of private schools in the district among others. Against this backdrop, a strong planning system at the Local Government level is important in deciding on whether to construct new schools or increase the stock of classrooms in the existing schools.

Besides the PCR, other important policy parameters to consider include; attaining the pupil-to-latrine stance ratio of 40:1 and the construction of teachers' houses. The 2015 school census data reveals a total of 45,028 latrine blocks in the worse off schools. However, attaining a pupil-to-latrine stance ratio of 40:1 requires 81,732 latrine blocks. This creates a deficit of 36,704 latrine blocks or 18,352 (2 unit) 5-stance VIP latrines including a stance for SNE pupils. This is also as indicated in the Education and Sports Sector Strategic Plan 2017/18-2019/20. However, for better results, a school can have a minimum of 8 teachers or more so as to achieve the standard pupil teacher ratio. With a total of 4,013 schools, this gives 32,104 teachers and correspondingly 32,104 teachers' houses. With the available stock of teachers' houses (11,250 houses), a total of 20,854 houses or 10,427 (2 unit) houses need to be constructed. The estimated cost of construction for the 4,013 schools required to attain the standard pupil classroom ratio of 53 per class and other standard parameters like pupil-to-latrine stance ratio of 40:1; and availing the teachers with houses requires enormous resources of Ushs.3.7 trillion (as shown in table 3.5 above). However, the implementation of this option requires the distribution of the cost over the years and identification of the neediest districts that require urgent attention given the available stock of physical and human resources.

3.3.3 Construction of Schools per Parish

The Government policy of construction of a primary school per parish is key to better education outcomes; however, it should be implemented cautiously based on the need analysis. 556 parishes in the 13 regions do not have a government school (table 3.8). The 13 regions include: Acholi, Ankole; Buganda; Bukedi; Bunyoro; Busoga; Elgon; Karamoja; Kigezi; Teso; Toro; Lango; and West Nile. Buganda has 132 parishes with no government school, followed by Elgon region at 88 parishes. On the other hand, Kigezi region has only nine parishes without a government primary school. However, not all the parishes without a government school necessarily require the government school. Indeed, the need for a government school is dependent on many factors like: the district population; pupil the enrolments; the socio-economic status of the population in the district; the availability and distance between the schools; and the district geography. All this comprehensive analysis is required by government to provide the necessary inputs needed in the provision of quality primary education.

Table 3. 9: Parishes without a Government Primary School as per region and District

Region	No. of parishes without government school
Acholi	16
Ankole	48
Buganda	132
Bukedi	41
Bunyoro	34
Busoga	36
Elgon	88
Karamoja	14
Kigezi	9
Teso	44
Toro	53
Lango	23
West Nile	18

Region	No. of parishes without government school
Total	**556**

Source: MoES, 2015

Further, due to the limited budget resources and high costs of building a school per parish, the decision to build a specific school should be based on prioritization parameters. Currently there are 556 parishes without a government aided primary school. The total cost of constructing a simple primary school in these parishes is UGX.786.3 bn (Table 3.8). Of this, satisfying the infrastructural needs of the 556 parish schools would cost UGX. 376.3 bn and the other recurrent costs like head teachers, teachers, and instructional materials would cost UGX. 410 bn. These costs are not sustainable and there is need to prioritize. As such, there is need for a transparent and a clear coordination of all stakeholders in the local governments that analyzes and identifies the neediest parishes for prioritized school construction. Against this backdrop, the success of the programme needs to actively involve all stakeholders to determine whether to construct new primary schools especially for the neediest parishes or renovating the existing schools in other parishes. The overarching goal of the programme should be tagged at improving quality of education through the reduction in pupil classroom ratio, pupil latrine ratio and other key standard education parameters.

Table 3. 10: Total Cost Estimate for Constructing a Primary School in 556 Parishes

A	Wage Bill	Units Used	Unit Cost	Annual Cost
1	Head teacher Scale U4	1	611,984	7,343,808
2	Teacher Scale U5	7	408,135	34,283,340
	Sub-total			***41,627,148***
B	**Capitation Grant**			
	Capitation grant per pupil per year	500	10,000	5,000,000
	Sub-total			***5,000,000***
C	**Infrastructural Needs**			
1	Administration Block	1	92,040,000	92,040,000
2	3-Classroom Block, includes lightening arrestors	1	126,604,000	126,604,000
3	2-Classroom Block, includes lightening arrestors	1	84,671,956	84,671,956
4	2-Classroom Block, includes lightening arrestors	1	84,671,956	84,671,956
5	5-stance VIP Latrine, includes stance for SNE Students	2	32,352,250	64,704,500
6	2-unit Teacher's House	1	108,076,800	108,076,800
7	2-unit External Kitchen	1	32,009,272	32,009,272
8	2-stance VIP Latrine	2	15,515,500	31,031,000
9	Teacher's Chair	8	180,000	1,440,000
10	Teacher's Table	8	550,000	4,400,000
11	3-Seater Desks for 500 pupils	126	300,000	37,800,000
12	Water Harvest System (10,000L)	1	9,315,789	9,315,789
	Sub-total			***676,765,273***
D	**Instructional Materials (IMs) –** (Estimated Cost according to the ESSP 2017/18 - 2019/20)			11,071,756
	Sub-total			***11,071,756***
E	**Examinations (UNEB)**			
	PLE candidates	71	56,000	3,976,000
	Sub Total			***3,976,000***
	SUMMARY			
	Cost Category		**Total Amount**	
	Wage			41,627,148

A	Wage Bill	Units Used	Unit Cost	Annual Cost
	Non-Wage (Capitation, IMs and UNEB)			20,047,756
	Development (Facilities)			676,765,273
	Total Estimated Unit Cost			**738,440,177**

Source: MoES Cost estimates based on the ESSP 2017/18-2019/20

To sum up

Low facilitation of UPE makes it inequitable compared to non-UPE schools. The current SFG is too little to achieve the minimum required education facilitation targets. Further, its current allocation method is highly discretional and inefficient. It should be evaluated so as to prioritize addressing the current pressing needs gaps in school facilitation. On the other hand, while the capitation grant allocation is more transparent, however, it is also too little to deliver meaningful education results. Further, the allocation formula is largely tilted towards reducing the variable grant component, other factors constant and needs to be revisited.

SECTION FOUR:

4.0. EDUCATION FINANCING WITH FOCUS ON PRIMARY EDUCATION

4.1 Introduction

This section analyses education financing with specific focus on primary education. All education financing sources are analyzed. These sources include public financing, both domestic and external support and private financing, including household and other private financing. Private financing includes: households, non-governmental organizations (NGOs), associations, religious institutions, communities and private companies.

4.2 Overview Public Education financing

Overall, Uganda's public expenditure on education has grown in both nominal and real terms, since the inception of UPE. Over the 1990s, education spending grew faster in real terms than total public expenditure (Table 4.1). However, similar growth rates were found in health, roads and works, justice law and order, security and agriculture. While most of the other sectors have increased in real terms public administration expenditure fell during the 1990s. Real expenditure on education grew most quickly after the introduction of UPE, peaking at 27 percent between 1997/98-1999/00. It has however been declining significantly in the 2000s to 8 percent in 2015/16 and 2017/18 period.

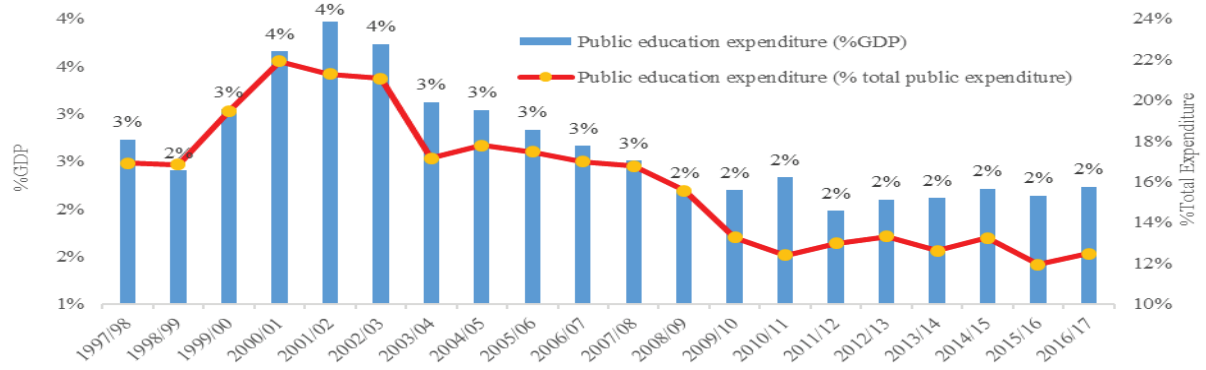
Table 4. 1: Real average annual growth rates in public expenditure by sector

MTEF	1997/98-1999/00	2000/01-2002/03	2003/04 - 2005/06	2006/07 - 2008/09	2009/10-2011/12	2012/13-2014/15	2015/16-2017/18	1997/98-2017
Education	27%	18%	3%	8%	15%	13%	8%	13%
Security	33%	16%	8%	16%	32%	5%	5%	16%
Roads & Works	63%	29%	-4%	65%	11%	32%	9%	29%
Agriculture	47%	95%	0%	29%	16%	13%	21%	31%
Health	25%	57%	-7%	19%	17%	7%	10%	18%
Justice, Law & Order	10%	23%	9%	12%	37%	17%	10%	17%
Public Administration	12%	15%	-11%	7%	21%	18%	7%	10%
Total public expenditure	17%	18%	10%	18%	19%	15%	12%	16%

Source: Ministry of Finance, Planning and Economic Development, Background to the budget (Various years)

Nonetheless, the share of public expenditure allocated to Education has significantly declined since 2001/02 in line with changing Government priorities. The share of public expenditure allocated to Education expenditure increased at inception of UPE in 1997 to peak at 30 percent in 2000/01 and remained within the 20 percent requirement for developing countries for the next three years. But it has since 2003/04 significantly declined to a current 12 percent in 2016/17 (Figure 4.1).

Figure 4. 1: Share of Public Expenditure on Education



Source: Ministry of Education and Sports MTBF

In comparison to East African countries, Uganda has the lowest government education spending as a proportion of GDP. Uganda's public spending on education as a proportion of GDP is low, averaging 2.8 percent over the UPE period (Figure 4.1). In comparison within the region, Uganda's expenditure on education is lowest compared to the neighboring countries (Table 4.1).

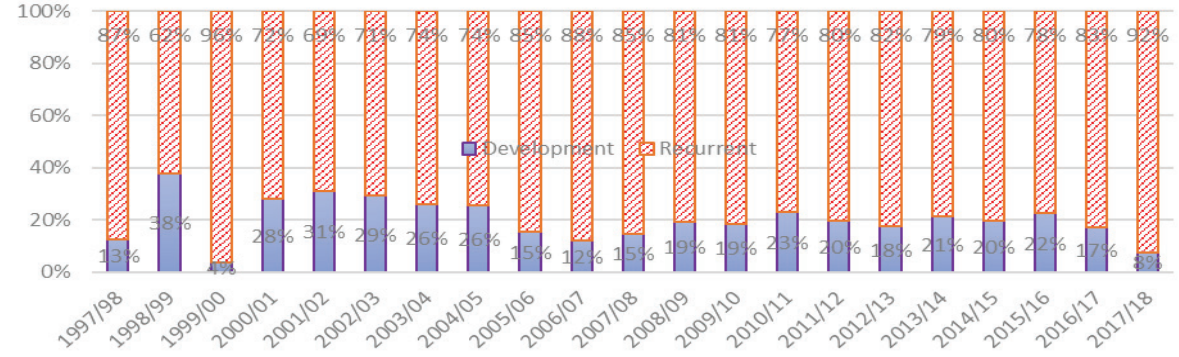
Table 4.2: characteristic of public education expenditure in the East African Community

Indicator	Uganda	Kenya	Rwanda	Tanzania	Burundi	SSA
Government expenditure on education (%GDP)	2.2	N/A	5	3.5	5.4	4
Government expenditure on education (% total expenditure)	11.8	N/A	16.6	17.3	17.2	16.6

Source: (Kavuma et al., 2017)

Over 80 percent of the public expenditure on education caters for operational expenses. Over the UPE period, recurrent expenditure forms the largest component of public education expenditure (see Figure 4.2). Nonetheless, domestic development expenditure rose immediately after UPE introduction to 38 percent in 1998/99 from 13 percent in 1997/98 then began declining in the subsequent years. The increase was motivated by the need to provide the necessary learning environment to counter the dramatic increase in enrolment in 1998/99, a year after UPE was announced. It's worthwhile noting that throughout the UPE period, recurrent expenditure has been increasing and averaged over 80 percent between 1997/98 and 2017/18.

Figure 4. 2: Public Education expenditure share (recurrent and domestic development)

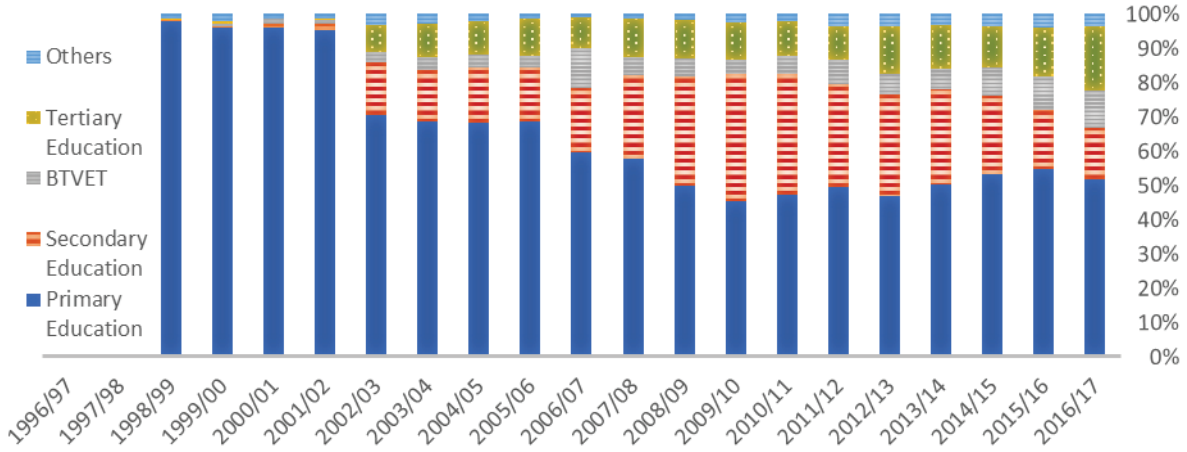


Source: Ministry of Finance, Planning and Economic Development, Background to the budget (various years)

In line with UPE policy, primary education takes the majority of Public expenditure on education, however, this share has declined significantly in recent years. The share of the public education expenditure to primary education quickly rose to above 90 per cent from

1997/98 to 2001/02 before declining in the following years. From 2010/11 to 2012/13, primary education accounted for just under two-thirds of all education spending thereafter stagnating at two thirds. Secondary education expenditure declined as a share of the total in the mid-1990s but began to rise again immediately after the abolition of fees at primary level attributed to the introduction of Universal secondary education. Since 2011/12, however, secondary education's share of education expenditure has declined continuously. University spending appears to have reduced the most with UPE introduction. Since 1997, university spending accounted for approximately one-quarter of all education spending (see Figure 4.2).

Figure 4. 3: Public education expenditure by sub-sector



Source: Ministry of Education and Sports MTBF

Over 80 percent of the public expenditure on primary education is for operational expenses and these expenses are steadily growing. Primary recurrent expenditure grew faster after the introduction of UPE. It averaged 83 percent in the 1990s and increased marginally in the preceding years averaging 84 percent from 1997/98 to 2017/18 (see Figure 4.4). This trend is attributed to the increased primary teacher recruitments and phased salary enhancements within the UPE period. Over the period, domestic development expenditure on primary education has fluctuated but not grown to the level required to realize the UPE policy commitments especially in providing adequate facilities to enable teaching and learning.

Figure 4. 4: Public education expenditure on primary sub-sector (recurrent and development)

Source: Ministry of Education and Sports MTBF

Of the public expenditure on primary education, teacher wages costs account for the largest operational expenses. The increase in the teacher wage costs over the years is because of the increase in salary enhancement and teaching staff numbers to respond to the dramatic

increase in pupil enrolment. As such, teacher wage costs have consistently increased since the introduction of UPE from 62 percent in 1998/99 to 88 percent in 2016/17 (see Table 4.3).

This increase in teacher wage costs has been at the expense significant under facilitation for other operational expenses that aid effective teaching. UPE capitation grant as a share of primary education expenditure increased over the 1990s averaging 20 percent of the primary recurrent budget. However, it significantly declined to below 10 percent on average between 2006/07 and 2016/17. This has not kept pace with the growth in pupil enrolment implying a low per capita unit cost for pupils. A similar picture emerges in spending on instructional materials replacement that has been below 4 percent throughout the UPE implementation. Also, similar picture emerges in spending on pre and in-service training (Table 4.3).

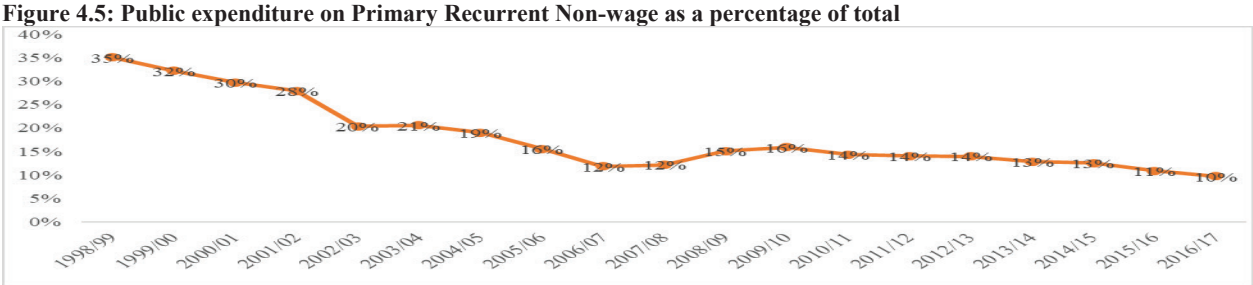
Table 4. 3: Recurrent public primary education expenditure (% share)

Activity	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
Primary Teacher Wage bill	62	64	66	67	75	75	78	81	85	85	83	81	83	83	84	85	86	87	88
UPE capitation grant	18	22	19	20	15	15	11	11	8	8	10	9	7	8	7	7	7	8	7
Instructional materials	3	3	5	0	0	0	0	0	0	0	2	4	4	3	3	2	2	2	2
PLE fees	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
Pre-service Training (Wage & non-wage)	6	6	4	6	5	5	3	4	3	3	3	4	3	3	4	3	3	2	2
In-service Training (wage & no-wage)	1	2	3	3	3	3	2	2	2	2	1	1	1	1	0	0	0	0	0
Others	11	2	2	2	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1

Source: Ministry of Education and Sports, MTBF

Indeed, unlike wage costs, non-wage costs of operational expenses have not kept pace with the growth of pupil enrolment. This constrains attainment of UPE objectives as non-wage expenses are critical enable teachers to effectively teach and deliver UPE. As Figure 4.5 shows, since the commencement of UPE, both wage and non-wage recurrent budget items have been increasing with wage being higher than the non-wage item implying low commitment to pedagogical activities/items which include: operating and maintenance expenses and expenditure on textbooks and other teaching and learning materials. It is clear that the majority of primary school expenditure has been spent on salaries and in particular teachers' salaries. When fees were abolished non-wage expenditure began to increase owing primarily to increases in government recurrent expenditure on teaching and learning materials and increases in the capitation grants given to districts for primary schooling. In 1998/99, non-wage recurrent expenditure reached 36 per cent of total recurrent expenditure but has declined steadily over the UPE period.

Figure 4.5: Public expenditure on Primary Recurrent Non-wage as a percentage of total



Source: Ministry of Education and Sports MTBF

School facilitation grant takes the largest share of the development expenditure of primary education. Since UPE inception, school building has constantly been increasing from 30 percent in 1998/99 to over 40 percent in 2014/15 before falling below 30 percent in the preceding years (see Table 4.4). Expenditure on instructional materials increased from 5 percent in 1998/99 to 13 percent in 2004/05 before being cut-off in the following years. The teacher development component expenditure increased faster before UPE introduction as part of the necessary reform recommended in the education White paper. It however declined after UPE introduction from 43 percent in 1998/99 to about 1 percent in 2003/04. Since then, it has been increasing and stood at 27 percent in 2016/17. On the other hand, provision of school meals has only been funded in 2004/05 and composed of 10 percent of the primary development expenditure.

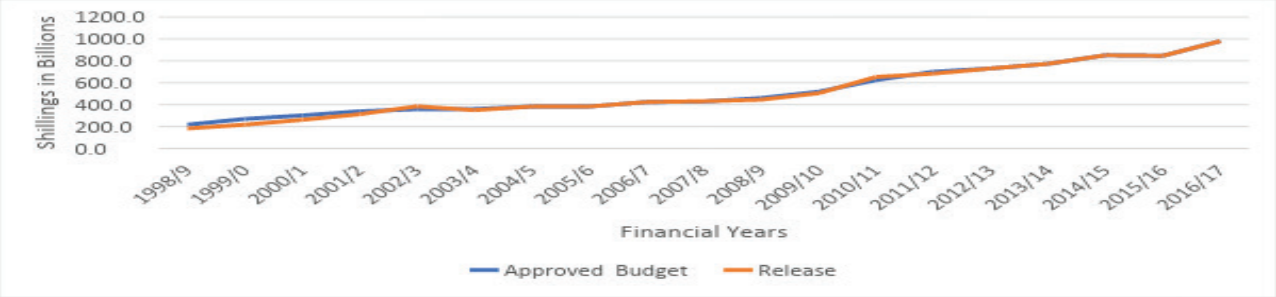
Table 4.4: Domestic development expenditure on primary education (% share)

Activity	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
School building (SFG)	30	39	57	65	63	63	55	72	56	58	62	82	84	86	67	55	49	29	18
Emergency Construction	0	0	0	0	1	0	0	2	6	6	8	3	3	2	2	2	9	56	55
Disadvantaged	18	13	2	11	15	18	19	15	4	5	4	3	1	1	21	19	19	1	0
Instructional Materials	5	11	16	15	16	16	13	0	0	0	0	0	0	0	0	0	0	0	0
Teacher development	43	36	17	9	6	1	2	11	33	31	26	12	11	10	11	24	23	14	27
EMIS	3	2	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Provision of Meals	0	0	0	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: Ministry of Education and Sports, MTBF

Overall, the Budget for Primary Education has been credible since the approved budget is effectively released to execute intended programs. Over the years, releases to the sector for implementing the UPE program were in line with approved budget save for the first four years of UPE implementation (1998/9 – 2001/2). This means that budget shortfalls over the years are minimal due to supplementary releases in some years (see Figure 4.6). This implies that the sector is protected from budget cuts due to its importance.

Figure 4.6: Primary sub-sector releases against the approved budget



Source: Ministry of Education and Sports, MTBF

4.3. Public External Financing of Education Sector

Since the UPE period, external financing though declining in the last 5 years, is very important to execution of the education sector programs. It has averaged 25 percent of total education spending in the last 15 years; however, it has declined in the last 5 years to 16 percent (Table 4.5).

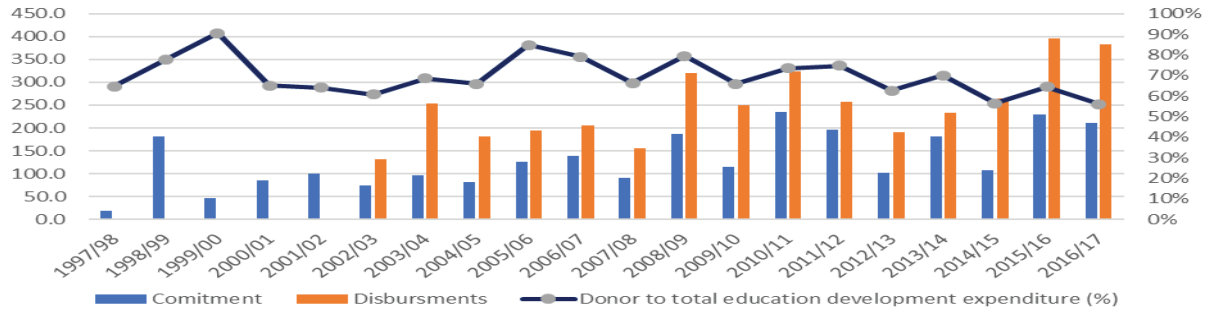
Table 4.5:Characteristics of external education financing (percent)

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
External Education expenditure as % of GDP	0.9	1.5	0.9	0.9	0.8	0.5	0.9	0.6	0.6	0.4	0.3	0.3	0.3	0.4	0.4
Share of external financing to education (%)	11	14	8	9	2	6	12	7	9	6	5	5	6	7	6
External Education expenditure as % of education expenditure	24	45	29	30	29	20	40	27	28	21	13	14	15	21	17
Education external expenditure growth (%)		92	-28	7	6	-25	107	-22	30	-20	-26	22	13	49	-3

Source: Source: Aid data from OECD CRS On-line Database

Particularly, Donors finance the majority of education development expenditure. During the first year of UPE introduction (1997), approximately 65 per cent of the development budget was being financed by donors and rose to 78 percent in 1998/99 and 90 percent in 1999/00 before reducing gradually (see Figure 4.7). The reduction in donor-financed education expenditure was partly due to the introduction in 1998 of the Poverty Action Fund (PAF). The PAF is used to channel funds towards priority areas identified in the Poverty Eradication Action Plan (PEAP). The fund was set up with Highly Indebted Poor Countries (HIPC) funds but government and bilateral donors contribute to it.

Figure 4.7: Donor financed education expenditure



Source: Source: Aid data from OECD CRS On-line Database
Note: data on disbursements between1997/98-2001/02 are missing

Development Assistance Cooperation (DAC) countries are the major external funders to the education sector though disbursements are slightly lower than commitments. DAC countries have disbursed the biggest external financial resources of UGX 2,085.2 billion against commitments of 2,169.0 5 billion between 2002/03 and 2016/17 followed by multilaterals with disbursements of UGX 1,584.4 billion against commitments of UGX 1,961.7 billion over the same period. Non-DAC countries contribution to external expenditure on education amounted to UGX 21.6 billion between 2009/10 and 2016/17. It's also important to note that disbursements to the education sector have fluctuated over the years and lower than the commitments (see Table 4.6).

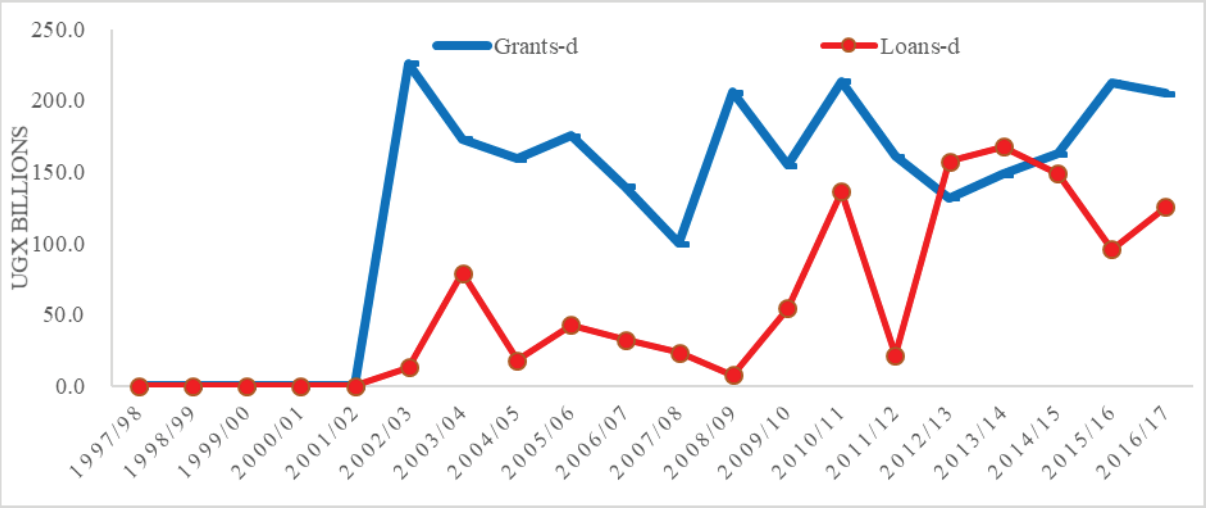
Table 4.6: External Education Expenditure by Source (countries)

	Commitments			Disbursements		
Year	DAC	Multilaterals	Non-DAC	DAC	Multilaterals	Non-DAC
1997/98-2001/02	434.4	257.1	-	-	-	-
2002/03	73.7	99.2	-	86.1	152.7	-
2003/04	96.2	96.1	-	152.4	99.5	-
2004/05	81.9	62.4	-	94.2	82.7	-
2005/06	125.2	1.4	-	108.0	110.2	-
2006/07	138.6	134.4	-	109.5	62.7	-
2007/08	90.7	3.3	-	92.4	30.5	-
2008/09	186.1	38.3	-	181.0	32.7	-
2009/10	115.8	515.8	0.2	145.3	63.3	0.2
2010/11	234.6	29.6	0.4	187.2	162.1	0.4
2011/12	195.7	88.9	0.5	138.8	43.5	0.5
2012/13	101.9	35.7	0.6	102.5	185.7	0.6
2013/14	181.5	309.7	-	123.7	191.5	0.5
2014/15	107.6	8.5	-	143.0	168.4	0.4
2015/16	229.1	381.1	2.6	213.8	91.3	3.5
2016/17	210.5	157.3	0.0	207.3	107.6	15.5
2002/03-2016/17	2,169.0	1,961.7	4.3	2,085.2	1,584.4	21.6

Source: Source: Aid data from OECD CRS On-line Database
Note: DAC=Development Assistance Corporation countries

Donor support to the education sector is erratic and largely in form of grants, however, loans' importance is increasing. Since 2002/03, grants disbursements are higher than loan disbursements until 2012/13 and 2013/14 at when they slightly fell below the loans disbursements at UGX 131.6 billion and UGX 157.3 billion respectively before increasing again in preceding years (See Figure 2.8). These grants disbursements are very erratic, fluctuating every year. Also, loan disbursements have fluctuated since 2002/03 from UGX 12.9 billion to a minimum of UGX 7.7 billion in 2008/09 and a peak of 167.3 billion in 2013/14. Since 2011/12, loans grew more than grants; grants grew by 4 percent while loans grew by 125 percent.

Figure 4.8: External Financing of Education by type of assistance



Source: Source: Aid data from OECD CRS On-line Database
Note: data on disbursements between1997/98-2001/02 are missing; d=disbursements; c=commitments

However, while donor commitments have increased over the UPE period, actual disbursements fall short of these commitments. The disbursements to Primary, secondary and post-secondary education sub-sectors were 12 percent, 13 percent and 18 percent below the commitments while disbursements to general administration were 206 percent above the commitments (see Table 4.7).

Table 4.7: Donor Financed Education Expenditure by Sub-sector

	Commitments				Disbursements			
Year	Basic education	Secondary education	Post-Secondary education	Others	Basic education	Secondary education	Post-Secondary education	Others
1997/98	14.0	0.0	0.9	4.2	-	-	-	-
1998/99	31.7	7.1	1.3	142.3	-	-	-	-
1999/00	39.8	2.8	3.7	0.8	-	-	-	-
2000/01	17.9	0.9	26.9	39.2	-	-	-	-
2001/02	74.9	2.3	4.2	19.6	-	-	-	-
2002/03	42.2	9.6	3.5	18.5	33.3	4.3	8.7	86.1
2003/04	59.3	4.5	6.8	25.6	76.2	11.3	14.3	152.4
2004/05	55.1	17.0	5.9	4.0	60.1	11.2	16.3	94.2
2005/06	29.4	10.5	72.3	12.9	40.3	17.2	29.0	108.0
2006/07	56.7	39.6	28.4	13.9	48.1	23.0	25.0	109.5
2007/08	19.6	12.3	12.8	46.0	31.9	20.4	10.1	92.4
2008/09	103.1	23.5	11.6	48.0	95.3	27.7	16.4	181.0
2009/10	45.0	20.3	14.2	36.3	39.5	36.0	28.1	145.3
2010/11	107.9	68.4	14.6	43.8	102.4	17.2	16.3	187.2
2011/12	67.6	28.9	20.0	79.2	86.4	12.8	19.8	138.8
2012/13	61.1	9.2	21.2	10.3	57.3	10.0	21.1	102.5
2013/14	78.1	8.1	84.9	10.3	75.4	10.7	24.1	123.7

	Commitments				Disbursements			
Year	Basic education	Secondary education	Post-Secondary education	Others	Basic education	Secondary education	Post-Secondary education	Others
2014/15	55.8	13.6	27.4	10.8	75.4	16.7	30.3	143.0
2015/16	125.5	72.6	18.6	12.4	95.4	47.3	39.3	213.8
2016/17	56.1	23.9	25.8	104.6	83.0	58.7	33.7	207.3
Total	1,140.9	375.0	405.0	682.5	1,000.1	324.5	332.6	2,085.2

Source: Source: Aid data from OECD CRS On-line Database

4.3. Primary Education External Expenditure by Sub-sector

Donor support to primary education is mainly for capital expenses. 55 percent of donor support was for capital investment, 23 percent for budget support, 16 percent for core contribution and pooled programmes and 7 percent for experts and technical assistance.

Table 4.8: Primary Education Sector External Expenditure by Category

Year	Budget support	Core contributions and pooled programmes and funds	Project type interventions	Experts and other Technical Assistance	Scholarships and student costs in donor countries
2007/08	-	1.2	20.6	-	-
2008/09	-	0.8	8.0	-	0.1
2009/10	-	0.2	20.2	0.4	-
2010/11	51.2	37.4	26.6	3.8	-
2011/12	1.9	44.5	34.6	10.4	-
2012/13	-	25.2	26.8	11.8	-
2013/14	25.4	11.4	60.8	13.8	-
2014/15	-	6.6	69.4	4.6	0.0
2015/16	-	8.9	87.4	6.4	0.0
2016/17	-	9.2	68.7	9.4	-
Total	206.5	145.4	504.7	60.7	0.1

Source: Source: Aid data from OECD CRS On-line Database

4.4. Private Education Financing

Despite, Government being the main funder of education system around the world, this is not the case in Uganda. In Uganda, households are the main funders of the education system. Household education expenditure as a percentage of GDP is higher than public education expenditure as a percentage of GDP (Table 4.9). The household expenditure on education has been increasing since 2010/11 and as a percentage of GDP stood at 3.6 percent in 2013/14. This is attributed to the increasing costs of education.

Table 4.9: Household Education Expenditure

	2009/10	2010/11	2011/12	2012/13	2013/14
Household education expenditure (million UGX)	1,564,296	1,557,664	1,971,842	2,178,758	2,441,540
Household education expenditure as % of GDP	3.82%	3.31%	3.32%	3.41%	3.58%
Public education expenditure as % GDP	2%	2%	2%	2%	2%

Source: NEA Report, 2016

The responsibilities of stakeholders in education and training are defined in the Education Act (2008), with shared responsibilities between Government and Households. Section 5(2)(c) of the Education Act (2008) requires parents to provide food, clothing, shelter, medical care and transport to their children. On the other hand, section 5(1)(a) requires Government to provide for learning and instructional materials, structural development and teachers' welfare.

Nonetheless, some parents particularly from poor households assume that UPE policy is a relegation of all responsibilities to Government. Field findings reveal that majority of the parents perceive UPE as: (i) a government relief program for the poor (28 percent); (ii) education for everybody (28 percent); (iii) completely free education (23.5 percent); (iv) a program for only the poor where no one should make a contribution (14.3 percent); (v) while others believe it is President Museveni's political program (8.1 percent). This implied parents' relegation of their roles to Government.

4.5. Overall Household Education Expenditure by Education Level

Expenditure on primary education takes the largest share of household expenditure on education. During the period 2010 to 2014, primary education, lower secondary and higher education had the large proportions of household education expenditure (Table 4.10). Specifically, primary education averaged 39 percent of the total household expenditure on education, lower and upper secondary averaged 35 percent while higher education averaged 20 percent in the period. At less than 6 percent, Pre-education, Teacher Training, and BTVET combined had the lowest proportions of household usage. Nonetheless, BTVET expenditures are on a rise. BTVET expenditures grew by 119 percent, Higher education grew by 76 percent primary education grew by 60 percent Lower secondary by 46 percent. Teacher Training grew by 37 percent Upper secondary grew by 32 percent and pre-education only grew by 17 percent.

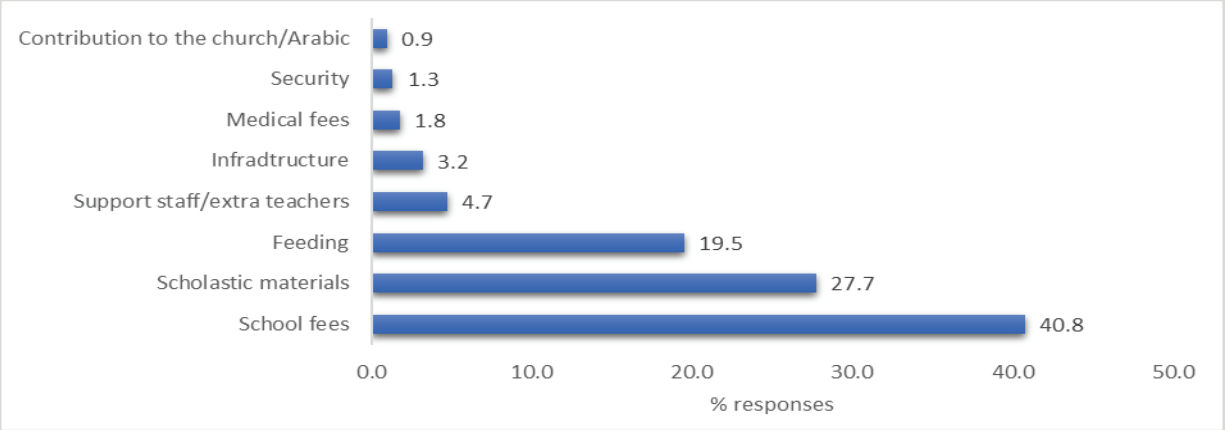
Table 4. 10: Household Education Expenditure by Education Level

Education Level	2009/10	2010/11	2011/12	2012/13	2013/14
Pre-primary	58,802	25,651	51,522	64,708	66,617
Primary	599,419	587,721	764,480	837,123	960,868
Lower secondary	450,705	444,878	549,140	628,369	660,222
Upper secondary	113,587	126,542	149,556	166,077	150,109
Teacher Training education	21,103	22,118	27,143	28,060	28,884
BTVET	16,404	22,363	27,772	36,585	33,759
Higher education	307,276	328,392	402,230	417,837	541,080
Total	**1,567,296**	**1,557,665**	**1,971,843**	**2,178,759**	**2,441,539**

***S**ource: NEA Report, 2016*

Contrary to UPE policy of free education at primary level, school fees take the largest share of household expenditure on primary education (Figure 4.10). Generally, parents pay for over 50 school items for their children to go to school with school fees as the main item. On average 41% of the household expenditure on education goes towards fees over the period between FY2009/10 and FY2013/14. These fees have increased by 56.7 percent from UGX 683,318 in 2010 to UGX 1,070,952 in 2014 (NEA, 2016). The other items include: scholastic materials (27.7 percent); and school feeding (19.5 percent). School fees includes; development fees, remedial teaching, examination fees, extra co-curricular activities, PTA funds, report books, boarding fees, board fees, holiday packages, extra lessons, school trips, utility charges (water and electricity), emptying toilet charges, art and craft training and recommendation letters for P.7. In addition, parents also provide for; physical benefits for teachers, food supplies packed lunch for pupils, transport/school van, and medical bills. Other physical school requirements include: brooms, toilet papers and building materials and sanitary pads. These extra costs/requirements increase the cost of education to households devastating access to education. Additionally, the evaluation reveals that parents also pay for similar items financed by government. This is because government financing is inadequate to effectively run primary schools. Government schools disaggregate fees into several components which leads to multiple payments (see Figure 4.9).

Figure 4.9: Items paid for by households in public primary schools (% responses)



NPA UPE Survey, 2017

At primary level, household education cost per pupil is 4 times higher in private schools compared to public schools due to UPE policy of subsidized primary education in government schools. This disparity is negligible at secondary school level (Table 4.11). However, at higher education levels (BTVET, Teacher Training and others) public expenditure per student is on average 44 percent higher in public schools compared to private schools. This has telling implications, in that, households spend more where there is value for money. Implying, they spend more in private schools per pupil in private schools at primary level because the learner's outcomes are significantly different and better in private schools. However, the contrary is true for higher education. Nonetheless, public primary schooling is also subsidized and thus cheaper.

Disparities also exist in expenditure per pupil in rural and urban schools as rural schools pay relatively less school fees compared to urban schools. Rural schools pay less school fees compared to urban schools (Table 4.11).

Table 4.11: Household Expenditure on Education Per Pupil

Education level	Average costs per student		
	Public	private	Public and private
Pre-Primary Education		129,906	129,906
Primary Education	102,509	525,778	92,539
Lower Secondary Education	1,255,313	1,176,895	452,325
Upper secondary education	1,992,875	2,127,016	802,367
Teacher training Education	3,127,347	622,342	1,142,205
BTVET	921,597	622,342	718,228
Higher Education	4,159,513	3,305,980	1,863,621

Source: National EA, 2016

Majority of the school fees payments are made in cash and farm produce. Cash and farm produce are the most commonly used modes of school fees payment (NPA Survey, 2017). The other two payment modes are in-kind and by labour. Payment by labour is more common in rural schools while in-kind is more in urban schools. There are penalties for non-payment of school charges which include; suspension (25.8 percent), no meals to pupils (20.4 percent), denial of report cards (13.4 percent), sending children back home (12.6 percent), denial of exams and tests (7.3 percent) and issuance of warning letters (6.3 percent). Inflicting penalties for non-payment of charges is contrary to section 9(3) of the Education Act (2008).

4.6 School Feeding Aspects

The 1998 Uganda Education Policy (Section 4.3.12(i (a)) provides that parents' contribution is crucial in the provision of feeding as a basic child requirement. The Uganda Education Act (2008) stipulates that: (i) the Minister shall from time to time issue statutory requirements on school meals (Section 3 (2(b)); (ii) the head teacher shall collect fees for mid-day meals in case of city and municipality councils (Section 15(2(c)); (iii) the school may levy a charge for mid-day meals as determined by the management committee in consultation with the district council (Section 15(5)); (iv) the taking of mid-day meals at school and the payment for such meals shall be voluntary and no pupil who has opted not to pay for or take mid-day meals at school shall be excluded from school for non-payment for such meals (Section 15(6)); and, (v) the funds of a management committee shall consist of moneys paid for mid-day meals (Section 19(1)).

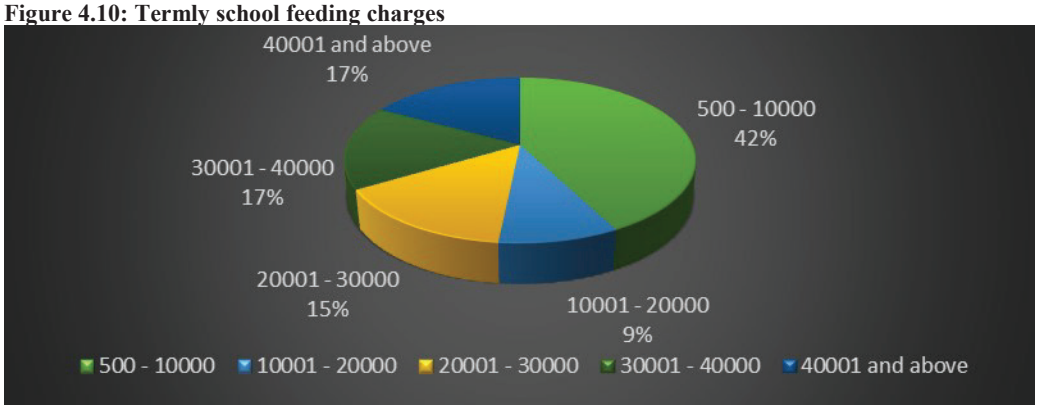
Of those children who attend primary school, the United Nations World Food Programme estimates that 66 million go to school hungry and are unable to learn (Drake et al., 2016). It is therefore recommended that the most sustainable and government-owned programs are those designed and implemented together by the education, health and agriculture sectors. Countries are moving towards local sourcing and production of food, and away from food aid, except in humanitarian crises, and are producing stronger regulatory frameworks as well as financial reporting mechanisms (Drake et al., 2016).

From the survey, 72.4 percent of the parents answered that their children feed while at school, and 27.6 percent answered that their children don't feed while at school. Low feeding levels were mainly recorded in West Nile at 38.5 percent and Acholi regions at 48.7 percent. Parents in private (rural and urban) schools feed their children more at 87.6 percent compared to those of government schools at 66.9 percent.

4.6.1. Termly School Feeding Charges

The average school feeding costs to cover school feeding costs per term is UGX 10,000. The classified school feeding amounts are as shown in **figure 4.10.**

Figure 4.10: Termly school feeding charges



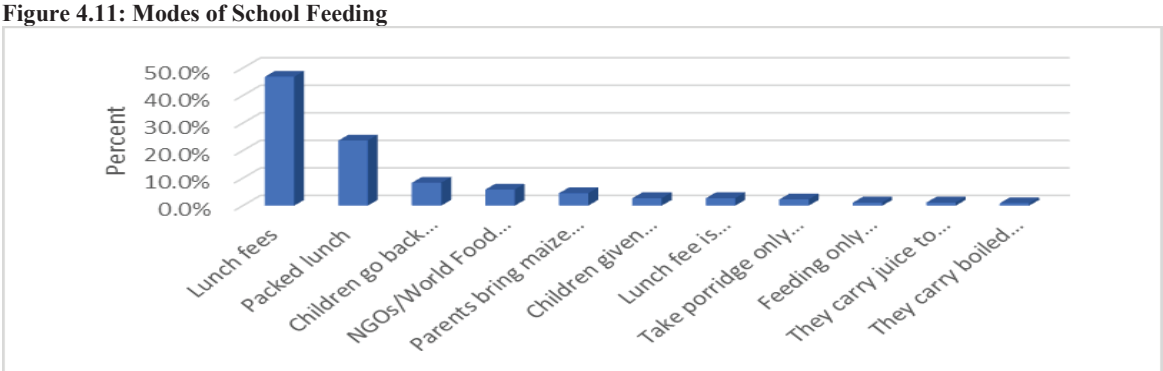
NPA UPE Survey, 2017

Feeding charges are lowest in the regions of: Karamoja, Central II, West and Busoga; while the charges are high (above UGX 40,000) for mainly Acholi region. The reasons for low feeding charges for Karamoja are because of the positive effects of feeding programmes of Non-Governmental Organizations (NGOs) interventions like World Food Programme (WFP) while the charges in Acholi were high because of the effects of drought in the region. Therefore, environmental factors have an effect on cost of feeding such regions.

Feeding fees are paid for different purposes which include; lunch provision (47.6%) and porridge provision (14.1%). In Central II (94.1%) and GKMA (90.9%) regions, lunch provision at school is mainly provided while porridge is mainly consumed in Central I region (4.9%). On the other hand, buying food for teachers is most prominent in the Western region where 50 percent of community participants pay for teachers' feeding. Feeding only P.7 students is prominent in West Nile (30%) and GKMA (13.6%). Paying of cooks (28.1%), purchase of firewood (18.8%), and grinding of maize (40.6%) are mainly undertaken in Busoga region. The items mainly paid for in Karamoja region under the feeding item include buying firewood (44.4%), grinding maize (11.1%) and fetching water (11.1%) as schools are food beneficiaries from WFP especially with enormous efforts from the former Minister of Karamoja affairs and First Lady Hon Janet Kataaha Museveni.

4.6.2. Modes of School Feeding

Figure 4.11: Modes of School Feeding



NPA UPE Survey, 2017

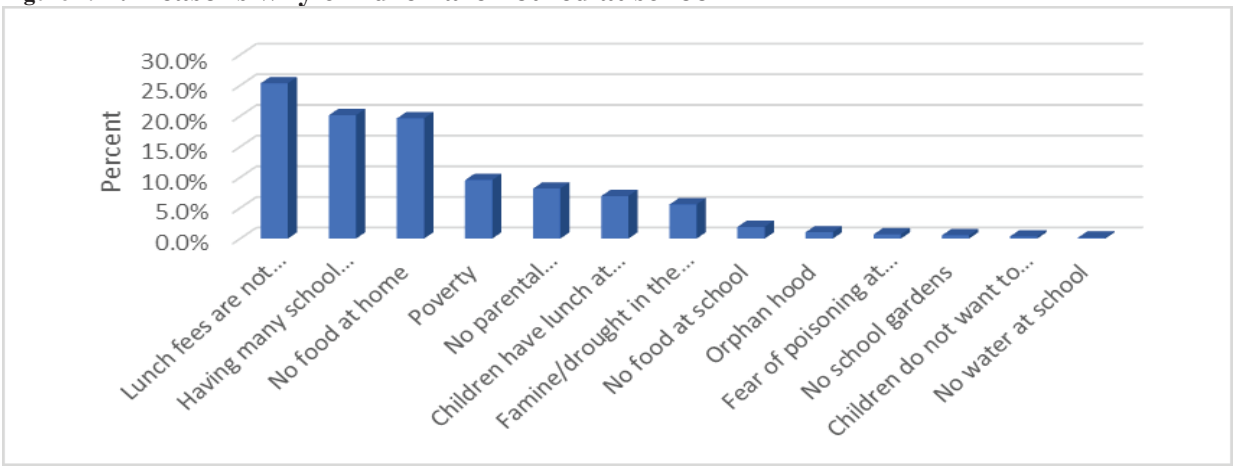
School feeding is mainly by paying lunch fees to schools (46.8%) and packing lunch (23.6%). Other different ways through which children are fed include: children going back home for lunch (8.3%); NGOs/World Food Program providing lunch (5.9%); parents bringing maize and beans to school/payment in kind (4.5%); children given money for meals (2.7%); lunch fees being included on school fees payment (2.7%); taking only porridge at school (2.3%); feeding only candidate classes (1.1%); carrying juice to school (1.1%) and carrying boiled water to school (0.9%). These are illustrated in the figure 4.12 above.

Regional analysis showed that to ensure feeding, children mainly went back home for lunch in (Western region (89.5%), West Nile (75%) and Bukedi (41.2%)); While parents mainly paid in kind (bringing maize and beans to school) in Acholi (57.1%) and Busoga (50%).
In Karamoja (89.3%), NGOs/World Food Program feeding modules are more prominent, whereas in Central I (66.7%) and GKMA (41.7%), children are mainly given money for meals. In Central II, there is a balance between payments in kind (33.3%), taking only porridge at school (33.3%) and going back home for lunch (33.3%). In South West, lunch fees are mainly included in the total school fees payment (53.8%) and 30.8% of the pupils go back home for lunch.

4.6.3. Reasons why Children go without Meals at School

As shown in figure 4.13, the major reasons why some children had no meals at school included; non-affordability of lunch fees (25.3%), having many school going children within a household (20.1%) and having no food at home (19.6%). Other reasons cited include; poverty (9.5%), failure/refusal of parental contribution to cater for lunch (8.2%), children have lunch at home (6.9%) and famine/drought (5.6%).

Figure 4.12: Reasons why children are not fed at school



Source NPA UPE Survey, 2017

Majority of the community (73%) agree that it should be the role of the parents to provide meals for their children. This is consistent with parents' role as provided for in the Education Policy (2008). Although 24.5 percent think it should be the government to provide meals.

Lessons from other countries on school feeding *(Drake et al., 2016)*
The transition to sustainable national programs depends on mainstreaming school feeding into national policies and plans, especially education sector plans. There is no 'one size fits all' for school feeding programs. Context is key, with different school feeding approaches being suited to different country situations. Analysis has shown that school feeding is most frequently viewed as primarily a social protection measure, and for nearly all countries examined, the primary sectoral outcome is improvement in education; through increased enrollment, reduced absenteeism, enhanced gender equality, and the enhanced learning that follows the elimination of hunger.
A comparative analysis from 14 countries (Botswana, Brazil, Cape Verde, Chile, Côte d'Ivoire, Ecuador, Ghana, Ghana, India, Kenya, Mali, Mexico, Nigeria, South Africa) showed that, in principle, school feeding programs can provide an integrated framework with multiple impacts across agriculture, education, health and nutrition, providing benefits which may be direct for the school children themselves, or may spillover to benefit secondary targets such as younger siblings and out-of-school children.
Policy and legal frameworks
Effective programs need to have a well-articulated policy and legal framework. The regulation is explicit in the national Constitution, as for example, in Brazil, Mexico, and South Africa. Ghana, the regulation is less formal, and school feeding is driven by program guidelines issued by the relevant department. Nigeria (Osun State) is moving from reliance on technical guidelines towards developing a State-level law on school feeding.
Community participation
The strongest and most sustainable school feeding programs are those that respond to community needs, are locally owned, and incorporate some form of parental or community contribution, whether cash payments or in-kind donations of food or labor. The programs in Kenya and Brazil, for example, owe their success to the clear delineation of the roles of the community and the different sectors. The successful participation of the community in decentralized programs in Chile and India is attributed to the detailed guidelines that helped define the community roles. School feeding programs should be responsive to the needs of communities and can create and increase opportunities for the local population. The programs may strengthen the capacity of communities to take advantage of opportunities such as supplying goods and services in response to the demand created by school feeding programs.

4.7. International Best Practices on Financing Free Primary Education

This section reviews the experience of different countries implementing free primary education with focus on its financing mechanisms.

UPE in Ghana like Uganda is subsidized education rather free education for all since the amount paid by Government is below the required amount for education. In Ghana like Uganda, the cost of schooling includes costs of uniforms, transportation to school, and school lunches as well as additional tuition (for tutorials) for children. The cost of each of the items is several times higher than the amount of money government pays per child as capitation grants. The abolition of fees amounting only to (USD 3) per child can therefore not be equated to free education as parents spend more on the education of their children in the form of other direct and indirect costs. The delay in releasing capitation grant to schools creates a huge gap between expectation and performance in the financial management of schools. (Ogawa & Nishimura, 2015).

A more flexible and diverse formula is used for Government financing of public schools in Europe. Three basic funding methods exist in Europe (European Commission / EACEA / Eurydice, 2014): The first is 'formula funding', i.e. the allocation of resources based on a universally agreed formula. The second is 'budgetary approval', i.e. the submission of a budget drawn up by schools or any other authorities for approval by the responsible funding authority. The third method has been named the 'discretionary determination of resources' and is where the responsible funding authority has complete discretion in determining the amount of resources to allocate, working case by case on estimates of resource needs.

In the European Commission, the transfer of funds to schools is mixed, with some transferring directly while others through intermediary entities. In more than a third of European countries, the central/top level ministries transfer resources for teaching staff directly to schools (Ireland, Spain, Croatia, Cyprus, the Netherlands, Portugal and Slovenia), or pay teachers' salaries (Belgium, Germany, Italy, Hungary, Malta and Liechtenstein). In the remaining countries, the top-level ministries share the responsibility for transferring funds and/or paying staff with intermediate authorities. The situation is similar for non-teaching staff, but it is more common for local or regional authorities to be involved, either on their own or with the central/top level authorities.

In the European Commission, Local authorities are responsible for transferring funds or buying operational goods and services to deliver directly to schools in almost all countries. These funds generally come partly or entirely from central/top level authorities. There are exceptions, however. In Croatia, for example, they come from cities' or municipalities' own taxes or income in the case of primary schools. In addition, in most countries, intermediate authorities also contribute to school financing from their own resources. In many Northern European countries (Denmark, Estonia, Finland, Sweden, the United Kingdom (Scotland), Iceland and Norway), and in Bulgaria (municipal schools), all the main resource categories (staff, operational goods and services and capital) are at least partially financed from local authorities' own revenues.

The transfer of funds for teaching staff is the area which involves the least number of authority levels, with funds transferred from the central/top level directly to schools in a third of countries. The transfer of resources for teaching staff involves only central level authorities in more than a third of countries. In the remaining countries, the top-level ministries share the responsibility for transferring funds and/or paying staff with local authorities (especially in the Nordic countries), or with the regional authorities or administrative divisions of top level authorities. The situation is similar for non-teaching staff, but it is more common for local or regional authorities to be involved, either on their own or with the central/top level authorities. In more than half of countries, the transfer of resources for non-teaching staff involves two or three levels of authority. The transfer of resources for operational and capital goods very often involves two or three authority levels. Consequently, it can be said that, in general, for all major resource categories (staff, operational and capital goods) more than one level of authority is involved in transferring resources to schools.

However, in a few countries, only the central/top level is involved in transferring resources to schools for all resource categories (staff, operational and capital goods) namely, Belgium (for community and private grant-aided schools), Ireland and Malta. In the Netherlands, all resource categories apart from capital goods involve only the top-level authority. In Germany, the transfer of resources for non-teaching staff, operational goods and services and capital goods is delivered via the school's 'maintaining' body (Schulträger), and in Iceland, the municipality is

responsible for the transfer of resources for staff and operational goods. In around half of the countries, an intermediate authority receives either a block grant or a lump sum and distributes it between the various resource categories. Intermediate authorities are, as the name suggests, in an 'intermediate' position in the education funding chain. They generally receive their funds from the central/top level, but can also, in many countries, raise their own revenue through, for example, collecting local taxes. Moreover, intermediate authorities sometimes have the power to decide the amount to be allocated to the different categories of resources (breaking down the block grant or lump sum). Local or regional authorities contribute to the funding of school-level education from their own revenue in over two thirds of countries.

To sum up

UPE in Uganda is subsidized education rather than free education for all since the amount paid by Government is below the required amount for education. Government cannot and should not provide an illusion that it can pay the required UPE costs for the desired outcomes. Indeed, overall households are spending more than government on education. Further, government expenditure is largely on teacher’s wages at the expense of other expenses that aid learning thus improving learning outcomes.

SECTION FIVE:

5.0. PROJECTIONS AND FINANCING OF EDUCATION INVESTMENT

5.1. Introduction

Government is committed to provide inclusive, quality and relevant primary education to attain the Uganda Vision 2040 and 2030 Agenda, nonetheless, the cost of attaining the targets as espoused in these development agendas is unknown. Primary Education is central to the realization of the Uganda Vision 2040 and the 2030 Agenda for Sustainable Development. And as such, the government through the implementing UPE has committed to increase access and provide quality and relevant primary education. However, the ideal[15] costs and financing of the UPE till 2030 has not been established.

Against this backdrop, this section presents the cost estimates of achieving the ideal key education UPE indicators. The costing analysis employs the EPSSim model under three different scenarios: Baseline Scenario; a High Efficiency; and Improving Quality Related Indicators Scenario to specifically provide indicative information on: pupil enrolment; the necessary human, physical and financial means needed to implement defensible development actions; and lastly the cost estimates and their consequences for budgetary and financial resources.

5.2. Targets and Assumptions

The projections presented in this section are built around key education development targets and assumptions (Table 5.1). The targets of the indicators are in line with the achieving the SDGs and Uganda Vision 2040 by 2030. However, some of these are specifically informed by the country's ability to attain: for instance, while the SDGs target improvement in the promotion rates to at least 99 percent for all grades except grade 4 at 95 percent, in this modelling exercise, we set the promotion rates at 87 percent.

Table 5.1. Categories of UPE Objectives by Level of Education

Policy Issue	Measurable targets	Initial value (2014)	Target value (2030)		
			Baseline Scenario	Efficiency Scenario	Quality Improvement Scenario
Access	Gross intake Rate	125%	125%	100%	100%
	Gender Parity Index (GPI)	1.04	1.04	1	1
Internal Efficiency rate	Promotion rate	76%	76%	87%	87%
	Repetition rate	8%	8%	5%	5%
Quality of education	Pupil teacher ratio	52	52	40	40
	Teacher salaries[16] (as multiple of GDP per capita)			4.0	4.0
	Textbook Policy (Pupil Book Ratio)			3	3
Costs and Financing	Domestic Revenue	13.7%	13.7%	13.7%	23.2%
	Public Expenditure /Domestic resources for education (% of	3.9%	3.9%	3.9%	5.0%

[15] Assuming that the minimum education indicators are met.
[16] The pupil teacher ratio and teacher salary multiples are negatively correlated to GDP per capita and so these targets depend on the target year and assumed GDP growth rates.

Policy Issue	Measurable targets	Initial value (2014)	Target value (2030)		
			Baseline Scenario	Efficiency Scenario	Quality Improvement Scenario
	GDP)				
	Primary education budget as a share education budget	53%	53%	53%	58%

Source: NPA Computations based on the EPSSim Model

5.2.1 Universal access to Primary Education

The first objective of UPE is universal inclusiveness in primary education. In this modelling exercise, two methods are based on in determining the access or the participation in primary education. Firstly, on the basis of access indicators, such as the intake rate in first grade of primary level, and the secondly, on the basis of the enrolment ratio. The two methods (or approaches) have their own advantages and disadvantages.

The approach by Gross intake rate (GIR) is meant to be closer to reality, because it follows the learning process. In this approach, GIR becomes the decision variable, while the gross enrolment ratio (GER) becomes the result. In other words, to increase the enrolment ratio, the action is on the access to education by increasing entrants to Grade 1. On the other hand, the approach by GER considers the participation in education as the decision variable, which corresponds to the particular concerns the decision-makers have in ensuring the effective achievement of enrolment targets. The GIR is dependent on the enrolment ratio as well as other flow indicators, such as the promotion and repetition rates. In this costing exercise, we adopt the GIR approach, and since it's the government's objective that the children entering primary school are of right age (6 years) through the implementation of the Early Childhood Education policy. Therefore, we assume that by 2025, the GIR will be 100 percent on the account of implementation of the ECD policy. Through the provision of preschool, it is assumed that children will be better prepared for primary school.

5.2.2 Internal Efficiency

Another UPE goal is to ensure that all children must enter school and remain in school. On the basis of the intake rate (GIR), we measure the progression of pupils from one grade to another by applying the promotion, repetition and drop-out rates and ultimate estimate the number of pupils. The assumptions for the flow rates under the different scenarios are shown in table 5.1. A target value of 5 percent for Repetition is also assumed. In principle, it is possible to achieve universal basic education with high rates of repetition but the costs of repetition are high, both in terms of children's time, and in terms of school resources (Wils, 2015). Further, we assume that investments in primary education for instance recruitment of teachers, provision of instructional materials will help to bring repetition down to a level that minimizes such waste.

5.2.3 Improving the Quality

The third education commitment under the UPE programme is that improving the quality of education. There a number of interventions that can improve primary school quality (UNICEF, 2014 & Bruns et.al, 2011). The assumptions in the costing exercise reflect some of the measurable and material inputs like teachers, textbooks, construction of classrooms that have been found to be important. These are included as resources and costs in the projections. However, there are a number of other, "soft" changes that do not necessarily have predictable costs associated with them, but are nonetheless essential to school quality. These are, for example: child-oriented teaching methods focused on skills; using languages that pupils

understand; teachers making full use of class time and school days; responsible and responsive school management. It is assumed that these changes occur in addition to the measures that have explicit costs.

The scenarios include the following assumptions to improve quality of education:

1. Pupil-teacher ratios (PTR) to reach levels that have been shown to be necessary for a minimum standard of learning (Bruns et.al, 2003). As shown in table 1, the target PTR is set at 40 in 2030. Further, we assume a teacher attrition of 3 percent. Therefore, the government must recruit additional teachers that leave the profession either due to death or search of greener fields in other professions.

2. The provision of enough classrooms so that there is a classroom for every teacher (pupil classroom ratio = PTR). The assumed costs of classrooms include the purchase of furniture and annual maintenance of existing classrooms to maintain quality.

3. Support the recruitment of talented and motivated teachers by providing adequate salaries. Evidence shows that teacher quality is essential to learning. However, lower teacher salaries below the average for jobs requiring a similar level of skills, only makes it difficult to recruit the best people to the teaching profession (UNICEF, 2010). Therefore, improving the quality of education must correspondingly move in tandem with enhancement of teachers' salaries. The target teacher salary multiple (salary as a multiple of GDP per capita) is inversely correlated with GDP per capita, and is assumed static at 4.0.

4. Provide sufficient learning materials and administrative support to manage school systems. Recurrent expenditures need to cover purposes other than teacher salaries (e.g. materials). In the present exercise, we assume a progressive increment in the capitation grant from UGX. 10,000 to at least UGX. 59,000.

However, the above inputs will have an impact on learning only if better teaching methods are adopted and if all teachers are in class teaching the full expected school hours. As mentioned, these changes are assumed although they are less a matter of budget and costs than the result of changes in policy, curriculum, training, and management.

5.2.4. Financing to Reach the Education Goals

The scenarios assume that domestic budgets and other sources of financing like external resources will be critical to cover the costs of primary education expansion. The major source of financing is largely from the domestic revenue, however, meeting the key education targets will consequently raise the financing gap, and as such will require to source for funding from other sources to close the financing gap. Otherwise, If the other financing sources are not found, then attaining the education targets will be in vain.

The scenarios assume that the government's commitment to primary education is to increasingly be manifested with high priority for education in the public budget. The government domestic revenue is assumed to increase from 13.7 percent in 2014 to 23 percent in 2030. With increase in domestic resources, the public expenditure on education as a percent of the GDP is assumed to grow from 3.9 percent in 2014 to 5 percent in 2030.

Within the education budget, the share of primary education in the education budget is assumed to increase from 53 percent to at least 60 percent (the model assumes a minimum target of 60 percent). Despite the concerted domestic effort to raise revenue, the population growth will consequently raise the costs beyond the available resources. Therefore, the EPSSIM model computes the financing gap – the difference between the costs of progress towards the goals and the domestic budgets. This is the amount of financing that will need to be raised from sources other than the public budget – be it as official development assistance, non-state organizations, or other sources. The financing gap is a residual of the costs and budget. As the domestic budget increases, or, as costs decline, the financing gap declines.

5.3. Modelling Data

The data used in the model consists of education sector and those on the macro-economic frame. Specifically, the data includes: school-age population, access to and participation in education, the teaching, the pedagogical orientations, the school facilities, the economic development situation, the national education expenditures, etc. For particular data, the parameters are disaggregated by both public and private and gender (male and female) with the view of reducing existing disparities. The simulation relies on the existence of an accurate education management and information system (EMIS), the Census data results from UBOS and the Macroeconomic data obtained from Ministry of Finance.

Table 5.3. Baseline data and hypotheses

Initial values of parameters (baseline data)	**Simulation parameters (hypotheses)**
Access	**Access**
1. School-age population 2. Number of students 3. Gross enrolment ratios 4. Number of pedagogical groups 5. Number of classrooms	1. Gross enrolment ratio 2. Internal efficiency rate 3. Turnover of classrooms
Quality	***Quality***
6. Teaching personnel 7. Teaching and learning materials	4. Teachers' Classroom ratio 5. School materials policy
Costs and Financing	**Costs and Financing**
8. Salaries 9. Recurrent expenditures 10. Investment expenditures 11. Macro-economic data 11.1 GDP and annual growth rate 11.2 Budget/GDP ratio 11.3 Education budget/national budget ratio	6. Growth rate of national budget /GDP ratio 7. Growth rate of education/national budget ratio

5.3.1. Results for the Scenarios

All of the scenarios assume the same set of objectives described in table 1. In general, the results contain two categories of related information: pupil enrolment; the necessary human, physical and financial means needed to implement defensible development actions; and lastly the cost estimates and their consequences for budgetary and financial resources. We therefore the present and compare the results under the three scenarios

5.3.2 Pupil Enrolment

Government should start planning for an extra 4 million pupil enrolment by 2030. Overall under the three scenarios, the pupil enrolment is projected to increase for all the sexes. The pupil population is disaggregated by Public and private school and as well by gender. As shown in table, the total number of pupils increase from 8.3m in 2014 to over 12m under the three scenarios. However, the increase is higher in the improving quality scenario followed by the higher efficiency scenario with a pupil population of 12.8m compared to the 12m pupils in business as usual scenario. For all the years and scenarios, the results indicate achievement of gender equity due to a slight gap in the male and female pupil population.

Table 5.3: Projected number of pupils

		2014	2018	2019	2020	2025	2028	2029	2030
BAU	**Pupil Enrolment**	**8,326,155**	**8,571,649**	**8,766,414**	**8,998,724**	**10,417,336**	**11,383,303**	**11,724,802**	**12,076,547**
	Public	6,904,371	7,132,892	7,293,907	7,486,131	8,665,214	9,468,711	9,752,773	10,045,357
	Male	3,455,654	3,567,598	3,648,453	3,744,526	4,334,092	4,735,978	4,878,057	5,024,400
	Female	3,448,717	3,565,294	3,645,454	3,741,605	4,331,122	4,732,733	4,874,716	5,020,957
	Private	1,421,784	1,438,757	1,472,507	1,512,593	1,752,122	1,914,591	1,972,029	2,031,190
	Male	701,863	719,225	736,529	756,841	876,797	958,100	986,843	1,016,448
	Female	719,921	719,533	735,978	755,751	875,325	956,492	985,187	1,014,742
HE	**Pupil Enrolment**	**8,326,155**	**8,567,670**	**8,776,937**	**9,024,895**	**10,508,223**	**11,684,951**	**12,160,555**	**12,679,383**
	Public	6,904,371	7,071,952	7,216,307	7,388,094	8,389,637	9,209,891	9,553,789	9,933,905
	Male	3,455,654	3,544,743	3,621,675	3,712,762	4,248,677	4,681,372	4,860,314	5,057,083
	Female	3,448,717	3,527,209	3,594,633	3,675,332	4,140,961	4,528,519	4,693,475	4,876,821
	Private	1,421,784	1,495,718	1,560,629	1,636,801	2,118,585	2,475,060	2,606,765	2,745,478
	Male	701,863	747,681	780,589	818,989	1,060,151	1,238,507	1,304,403	1,373,805
	Female	719,921	748,038	780,040	817,812	1,058,435	1,236,553	1,302,362	1,371,673
IQ	**Pupil Enrolment**	**8,326,155**	**8,571,584**	**8,783,811**	**9,035,876**	**10,563,431**	**11,788,298**	**12,284,690**	**12,827,141**
	Public	6,904,371	7,071,952	7,216,307	7,388,094	8,389,637	9,209,891	9,553,789	9,933,905
	Male	3,455,654	3,544,743	3,621,675	3,712,762	4,248,677	4,681,372	4,860,314	5,057,083
	Female	3,448,717	3,527,209	3,594,633	3,675,332	4,140,961	4,528,519	4,693,475	4,876,821
	Private	1,421,784	1,499,632	1,567,504	1,647,782	2,173,793	2,578,407	2,730,900	2,893,236
	Male	701,863	749,611	784,009	824,462	1,087,787	1,290,234	1,366,532	1,447,754
	Female	719,921	750,021	783,495	823,319	1,086,006	1,288,173	1,364,368	1,445,483

Source: NPA Computations based on the EPSSIM Model

5.3.3 Material and Physical Resources

5.3.3.1 Number of Teachers

If the quality of education is to improve government will need to recruit an extra 88 percent of teachers to meet the standards of Pupil-to-Teacher by 2030 compared to teachers in 2014. Even with the business as usual scenario, the number of teachers increase from 131,840 teachers in 2014 to 191,818 teachers. Considering the attrition rate of 3 percent,

table 5. 4 shows the number of teachers that need to be recruited to meet the standard PTR. In the improving quality scenario, the number of teachers rises from the 131,840 in 2014 to 248,348 teachers in 2030, an increase of 88 percent. In other words, over 88 percent of the teacher stocks of 2014 will have to be hired in about 16 years. One may think that this increase is reasonable. Because of the demographic pressure, the primary education system will have to give access to more and more children in absolute terms who need to be accommodated with new teachers.

Table 5.4: Required Number of Teachers

Scenario	Resources	2014	2018	2019	2020	2025	2028	2029	2030
BAU	Annual Teacher Recruitment	-	6,421	7,253	7,959	9,783	10,690	11,011	11,341
	Total Teachers	**131,840**	**136,204**	**139,278**	**142,949**	**165,464**	**180,806**	**186,231**	**191,818**
HE	Annual Teacher Recruitment	-	6,221	6,965	7,594	8,788	11,294	12,198	13,123
	Total Teachers	**131,840**	**135,278**	**138,101**	**141,451**	**160,982**	**176,956**	**183,645**	**191,037**
IQ	Annual Teacher Recruitment	-	8,719	9,727	10,652	13,590	17,968	19,667	21,482
	Total Teachers	**131,840**	**143,514**	**148,778**	**154,787**	**191,259**	**221,678**	**234,316**	**248,348**

Source: NPA Computations based on the EPSSIM Model

5.3.3.2 Projected Instructional and Infrastructure Needs

Additionally, Government will need to increase investment by 45 percent on instruction and infrastructure needs by 2030 compared to 2014 levels. Based on the number of pupils, the required instruction and infrastructure needs are projected. Based on the implementation of the Teacher class system, it is assumed that pupil teacher ratio is equivalent to the pupil classroom. And as such, the number of classrooms under the three scenarios remained unchanged as shown in table 4. Besides classrooms, the model also projects the required instructional materials (textbooks and teaching guides) to aid in the learning and teaching processes.

Table 5.5: Projected Instruction and Infrastructure Needs

Scenario	**Resources**	**2014**	**2018**	**2019**	**2020**	**2025**	**2028**	**2029**	**2030**
BAU	Textbooks	575,364	594,408	607,826	623,844	722,101	789,059	812,731	837,113
	Teaching Guides	43,947	42,526	43,578	44,812	51,925	56,739	58,442	60,195
	Classrooms to build by year	-	6,421	7,253	7,959	9,783	10,690	11,011	11,341
	Classrooms Required	131,840	136,204	139,278	142,949	165,464	180,806	186,231	191,818
HE	Textbooks	575,364	589,329	601,359	615,675	699,136	767,491	796,149	827,825
	Teaching Guides	43,947	41,926	42,787	43,814	49,241	53,786	55,742	57,924
	Classrooms to build by year	-	6,221	6,965	7,594	8,788	11,294	12,198	13,123
	Classrooms Required	131,840	135,278	138,101	141,451	160,982	176,956	183,645	191,037
IQ	Textbooks	575,364	589,329	601,359	615,675	699,136	767,491	796,149	827,825

	Teaching Guides	43,947	44,478	46,095	47,944	58,502	67,380	71,122	75,302
	Classrooms to build by year	-	8,719	9,727	10,652	13,590	17,968	19,667	21,482
	Classrooms Required	131,840	143,514	148,778	154,787	191,259	221,678	234,316	248,348

Source: NPA Computations based on the EPSSIM Model

5.3.4 Total Primary Education Costs

On the basis of the pupil enrolment, the human and physical resources and their corresponding unit costs, we project the primary education cost. The education costs are categorized into recurrent and capital costs. The recurrent costs include: the teachers' wages and the capitation grants that covers the instructional materials and general expenses of running the primary schools. In this costing exercise, we assume in the quality improving scenario that the UPE CPI adjusted Capitation increases from the Shs10,000 in 2014 to about Shs 59,000. The other recurrent costs included in the model constitute the PLE Fees, per Candidate Pupil; Monitoring and supervision of Primary schools; and Facilitation to District Education Officers/Municipal Education Officers to mainly improve the quality of primary education through enhancement of inspection and supervision of schools. On the other hand, the capital costs include: construction of classrooms, teachers' houses, and latrines.

Table 5.6: Projected Primary Education and Financing Gap (Bn Shs) Except for Unit Costs

Scenario	Primary Education Costs	2014	2018	2019	2020	2025	2028	2029	2030
BAU	Primary Education	1,573	2,318	2,543	2,778	4,178	5,395	5,893	6,350
	Of which Recurrent	1,059	1,393	1,517	1,659	2,680	3,616	4,006	4,445
	Of which Capital	513	925	1,026	1,118	1,497	1,779	1,887	1,906
	Cost Per Pupil - Unit Cost	227,774	324,992	348,687	371,036	482,104	569,802	604,222	632,176
	Financing Gap	**500**	**1,014**	**1,174**	**1,340**	**2,343**	**3,271**	**3,663**	**4,009**
HE	Primary Education	1,545	2,275	2,488	2,710	4,043	5,459	6,061	6,558
	Of which Recurrent	1,059	1,384	1,504	1,642	2,611	3,544	3,955	4,431
	Of which Capital	485	891	983	1,067	1,432	1,915	2,106	2,127
	Cost Per Pupil - Unit Cost	223,710	321,728	344,722	366,745	481,862	592,697	634,372	660,162
	Financing Gap	**472**	**971**	**1,118**	**1,272**	**2,208**	**3,335**	**3,830**	**4,216**
IQ	Primary Education	1,984	2,942	3,247	3,584	5,984	8,860	10,211	11,556
	Of which Recurrent	1,398	1,855	2,044	2,269	4,120	6,307	7,378	8,694
	Of which Capital	586	1,086	1,203	1,315	1,865	2,553	2,833	2,862
	Cost Per Pupil - Unit Cost	287,307	415,943	449,953	485,118	713,318	962,051	1,068,841	1,163,262
	Financing Gap	**911**	**1,503**	**1,694**	**1,903**	**3,427**	**5,495**	**6,508**	**7,472**

Source: EPSSIM Model

Government will need gradually increase spending on Primary Education related costs to UGX. 7.5 trillion by 2030 to improve the quality of primary education (Table 5.6). In comparison to other scenarios, the quality improving scenario requires an increase of primary education spending from UGX 1,984Bn in 2014 to UGX 11,556Bn in 2030, equivalent over 450 percent compared to the business as usual and higher efficiency at 304 percent and 325 percent respectively. The higher education costs are driven by the assumptions and policy actions of reducing the PTR to standard level, building a classroom for each teacher and as well provision of instructional materials through increase of UPE capitation grants. Corresponding, the unit costs in the quality enhancing scenario are higher as compared to the others.

Given the massive resources required to improve the quality of education, it is illusion that the quality of education will improve under the current financing arrangements. To ensure the financing of the primary education expenditures, the improving quality scenario further considered particular assumptions. The costing exercise assumed a GDP growth rate of 8 percent by 2030. Corresponding, a tax to GDP ratio of 23 percent in 2030 from 13 percent in 2014. Further, we assumed that the education share in the national budget increases from 13 percent to at least 20 percent. And as such, the financing increases from UGX. 911Bn to UGX. 7,472Bn. The implication of this still is that the government has to find alternative sources of finance to close the financing gap on the account of improving the quality of primary education. The next sub section therefore provides options that be used taken to reduce the financing gap.

5.4. Options for Closing the Financing Gap

5.4.1 Domestic financing options

Leverage GDP growth to increase revenue mobilisation through more effective and broader means of taxation. The government needs to increase the share of the primary education budget to total education budget to at least 60 percent. This will increase the overall level of resources available to the primary sector. These efforts can be compounded with leveraging GDP growth to increase revenue mobilisation through more effective and broader means of taxation.

Institute corporate social responsibility schemes focused on mobilising resources for education. For instance, India, in April 2015 implemented initiatives that require 1–2% of average net profits from major corporations to flow into Corporate Social Responsibility (CSR) efforts, with education being a large priority. Although concerns have arisen about the implementation and impact of such schemes, such an initiative is estimated to generate up to US$2 billion in additional revenues toward public services in India.

The government should develop community-based partnerships and financing models. Partnerships and links with the community have been shown to be crucial to not only mobilise finances where public resources are limited, but to also increase buy-in and ownership, and bolster the value of education. The effectiveness of community-based partnership can be seen in Zimbabwe in the 1980s, where community contributions and labor were harnessed to build secondary school infrastructure. Parents took charge of school management, while the government financed teaching costs and learning materials. Besides, at the start of the UPE, initiative to build schools was a major premise. However, this has not worked as there is limited community participation in the provision of primary education. It is therefore important to revamp the link and partnerships with the community.

5.4.2 External Financing Options

Design diaspora bonds targeted towards education. Although this has been included under external financing, diaspora bonds could be issued in domestic currency to fund education. Given the high migrant remittances and their crucial role, the country can leverage these inflows to galvanize education success.

To sum up

If Uganda is to continue with the UPE policy, massive resources have to be channeled to primary education even with a business as usual approach. The required resources are much higher if Uganda continues with the UPE policy that actually improves the quality of education. In particular, the number of school pupils will be much larger than at present, and the quality of education – approximated by inputs like teachers and materials – is substantially better. The higher quality is reflected in greater per pupil expenditures, and overall, the expenditure on primary education will rise substantially. Delivering quality education under UPE policy under the current resource mobilization arrangements is just an illusion. Options for innovative resource mobilization include; strengthening the community partnerships, designing diaspora bonds for education, but above all, taking a policy step to increase the share of primary education in the education to at least 57 percent.

SECTION SIX:

6.0. CONCLUSIONS AND RECOMMENDATIONS

6.1. Conclusions

1. **Human Capital Development is a priority of Uganda's Development Agenda as enshrined in the Constitution, Uganda Vision 2040, the NDPs, and the Global Development Agenda (Agenda 2063 and Agenda 2030).** The Ugandan Government continues to finance human capital development sectors like Education through several policies and programmes such as; Universal Primary Education (UPE), Universal Secondary Education (USE), Business and Technical, Vocational Education and Training (BTVET) and Tertiary Education.

2. **Specifically, the UPE Programme has been fundamental in achieving educational goals since its inception in 1997.** The programme is premised on the provision of both human and capital resources required to increase access and affordability of primary education, thus keeping school age going children in school. These include; school facilities, scholastic materials, staff, inspection and examination fees among others. UPE is critical because primary education benefits the poor and is a big driver in tackling poverty and inequality, by equipping every individual with basic skills and knowledge so as to exploit the environment for self-development and national development. Indeed, the current return[17] to primary level education compared with the less than primary level is 10.2 percent, meaning that, an individual who completes the primary level is expected to increase his/her annual earnings by about 10.2 percent more than that of an individual who doesn't.

3. **Government financing over the years has been central in achieving the UPE objectives, especially in increasing access to education, and increasing literacy and numeracy.** At the onset of the UPE Programme, primary education was allocated the largest share of the education budget at about 65 percent until 2007 when Government priorities shifted to the financing of Universal Secondary Education (USE) and BTVET. To illustrate these financing milestones; the number of classrooms grew from 68,000 in 2000 to 100,000 in 2006, and 149,000 in 2014; representing a 46 percent increase between 2006 and 2014. Enrolment also increased from 2.6 million children in 1995 to 7.2 million in 2005, and consequently to 8 million in 2015. The proportions of grade 3 and 6 pupils who attained the desired proficiency levels in literacy increased from 34.3 percent and 20 percent in 2003 to 60.2 percent and 51.9 percent in 2015 respectively. Additionally, the proportions of grade 3 and 6 pupils who attained the desired proficiency levels in numeracy increased from 42.9 percent and 20.5 percent in 2003 to 71.7 percent and 52.6 percent in 2015 respectively.

4. **Notwithstanding this UPE Government financing progress, the quality of primary education still remains low, largely on the account of lower per pupil expenditure.** The UPE programme operates on two financing frameworks; UPE Capitation Grant and the School Facilities Grant (SFG). Whereas the SFG has been able to improve the state of physical infrastructure across the rural and urban divide, maintenance of the infrastructure still remains a challenge. Similarly, the current capitation grant is too low

[17] Return is defined as the difference between the cost of pursuing additional studies and the added earnings received as a result.

(UGX 10,000/= **or** US$ 2.66)[18] to deliver meaningful results in terms of inclusive and quality education, below comparator countries like Kenya, Ghana and Tanzania.

5. **Additionally, Government aided schools and rural schools are more technically inefficient[19] as compared to private owned and urban schools respectively.** This implies that increase of all school factor inputs in Government schools leads to less than the proportional increase in school achievements in literacy and numeracy. Such school factor inputs include; number of teachers, number of pupils, number of classes, number of toilet/latrine stances, and average class size and pupil teacher ratio among others.

6. **Given the benefits of UPE, Uganda should continue with the UPE policy; however, for quality education, massive resources have to be channeled to primary education even with a business as usual approach.** Indeed, the UPE Policy has been assessed to confirm that it is pro – poor and pro - development. However, the envisioned increase in enrolment partly explained by the increased population growth rate will lead to increased inputs necessitating an equal increase in education inputs like teachers and scholastic materials. This will ultimately lead to a higher per pupil expenditure and high overall primary education expenditure. Therefore, to achieve sustained quality UPE by 2030 will require an increase in primary education spending by over 450 percent compared to current spending. This is equivalent to a spending increase from UGX 2.9 trillion (3 percent of GDP) currently to UGX 11.6 trillion (8 percent of GDP) by 2030.

6.2. Recommendations

1) **Investment in family planning is critical for sustainable primary education financing.** Given that Uganda's rapid population growth, young age structure and high child dependency pose long-term financing challenges to education financing, Government should tailor and emphasize deliberate family planning policies to reduce on this rapid population growth. Otherwise, it should increase the resources at the same pace as the population growth rate, something which is likely unsustainable.

2) **Inequalities in the UPE system should be eliminated by addressing factors that lead to disparities between districts and schools**. Towards this: teacher allocation should be based on a formula that eliminates disparities and; SFG and Capitation grants disparities should be also eliminated, among others.

3) **The automatic promotion needs to be revisited to ensure the smooth flow within the UPE system is not achieved at the expense of learning**.

4) **The capitation grant allocation formula should be revised to ensure that it provides for minimum requirements to enable equitable access to quality education**. The formula should mainly be based towards ensuring cost coverage so as to lead to quality learning across schools. Also, the formula should take into account inflation, changes in the purchasing power, special needs education aspects and location. Towards this end, the proposed formula is provided in Box 3.1 in the main text.

5) **The per unit costs should also be differentiated based on the different costs of running a primary school in different locations.** For example, the proposed per unit

[18] The result is obtained by converting from the current capitation grant of 10,000 at the current exchange rate of 1 USD = UGX 3724/=
[19] Technical Efficiency is the capacity of the Decision-Making Unit (DMU) to maximize output given a certain level of inputs.

cost between rural and urban primary schools is UGX 59,503 and UGX 63,546 respectively at the current inflation rate.

6) **The Government should maintain the straight through payment system of capitation grants where capitation is paid directly on school accounts in a timely manner.** This is because this system helps to; shorten the flow of funds, eliminates bureaucracy, increases accountability and reduces leakages as compared to the traditional system where resources are paid through the District Education Officer's (DEO's) account.

7) **Further, Government should adopt a Pupil Identification Number (PIN) system where a pupil is tracked throughout the education cycle.** The system will also be able to identify and track pupils whenever they change/switch schools; or even drop out such that aspects of low funds and inaccurate statistics are dealt away with. Alternatively, the system can be integrated within the current National Identification Number (NIN) system.

8) **The allocation formula for SFG should be transparent, based on ensuring that minimum education indicators targets are met and are uniform across districts and schools**.

9) **In line with the Education Act (2008) of shared responsibilities among Government, Households and the Community, Government should correct the illusion that UPE is free education with no contribution from households**. Government communication should be clear and not conflicting on these responsibilities. And as such, this not only requires increased a comprehensive sensitization including the roles and responsibilities of various stakeholders in implementation of the UPE policy, but also rolling out and popularizing the UPE implementation guiding documents as a way of increasing household understanding of the programme. Further, parents should start financing education collaboratively as partners in the education; this will help to reduce the current education financing deficit and improve education quality as well. Other, poverty reducing social security support schemes should be designed and adequately targeted to support poor families to support UPE.

10) **Government should particularly make it clear that school feeding is a parents' role because Government cannot independently and sustainably finance school feeding.** The Education Act (2008) stipulates that it is the parents' role and responsibility to feed their children while at school. Innovative school feeding activities like those carried out by NGOs should also be promoted. However, in some justified instances, Government should support school feeding in some targeted areas; for example, in drought affected areas of Acholi and Karamoja.

11) **Government should oversee to the critical functions of ECD education so as to achieve quality primary education.** Government should take over critical functions like: teacher training by integrating the training of pre-primary teachers into the Primary Teacher Colleges (PTCs) curriculum development and policy formulation; Formulate and enforce national service delivery standards for pre-primary education; and in areas that are least served by the private sector, government should attach a pre-school class for children aged 4-5. This will be budget neutral since they are already enrolled into the primary education system which is free and compulsory.

12) **For the achievement of quality education, Government policy of construction of a primary school should be implemented cautiously based on the need analysis per parish and transparently defined (by formula) prioritization parameters**.

13) **There is need to increase both allocative and technical efficiency specifically in Government and rural schools.** This should be done by increasing the share of other critical inputs beyond teachers' costs; like scholastic materials, inspection, and school facilitation grants. Government should therefore increase the monitoring of government inputs, outputs and outcomes in order to improve the effectiveness and efficiency of primary schools. It should however be noted that increasing efficiency alone will only provide up to a maximum of only 10 percent of the extra financing required for quality primary education.

14) **A more balanced approach to spending on social sectors and infrastructure development needs to be adopted.** While there is indication that public spending on education grew at an average rate of 0.7 percent per year for the entire schooling age group (ages 6-24 years), this has grown at a much lower pace owing to the significant increase in the level of the school-age young population. This therefore calls for further allocation of resources to this age group. While much emphasis has been put on the primary age group (resources increasing by 1.2 percent per capita), this is still not sufficient to meet the increasing population under this age group.

15) **A total financial commitment is needed from Government to channel massive resources to primary education so as to sustain UPE and deliver quality education.** To achieve this, it is estimated that Government will have to increase capitation grant per pupil from UGX 10,000 to at least UGX 59,000. This necessitates at least 60 percent of education budget to be earmarked for UPE. This also requires primary education spending to increase from UGX 2.9 trillion (3 percent of GDP) currently to UGX 11.6 trillion (8 percent of GDP) by 2030.

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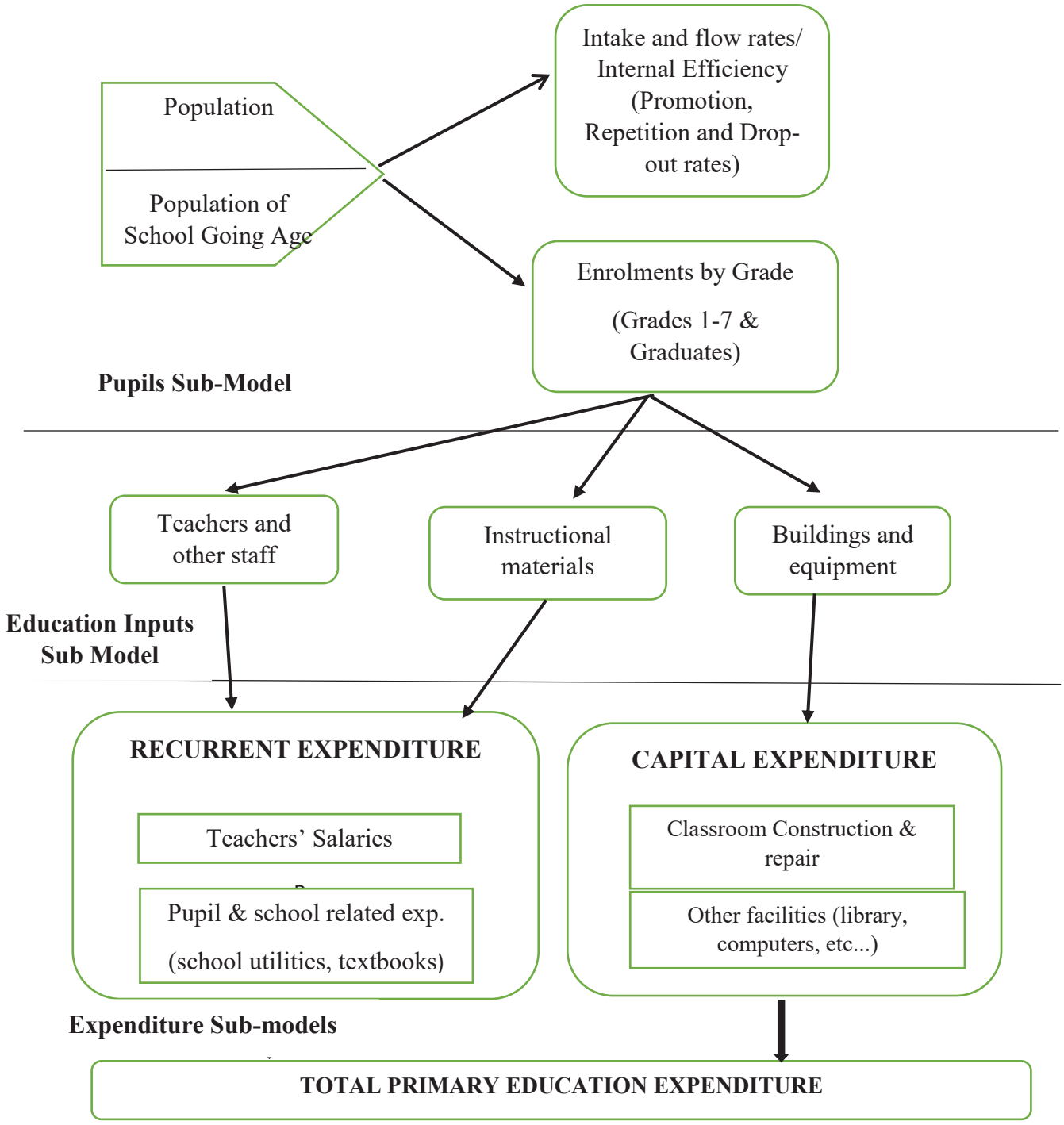
Technical Notes

Methodology for the Costing

The costing exercise employs UNESCO's Education Policy and Strategy Simulation (EPSSim) model. EPSSim is a demographic Computer Simulation Model for strategic education development planning and resource projections. The model is in the form of an Excel file using baseline population and enrollment data as well as information on staffing levels, student-teacher ratios, infrastructure and instructional materials to project financial, infrastructure and human resources requirements. In addition, the model uses a set of user inputted targets to project key education parameters from a base year to the target year. If for example, a target pupil teacher ratio is set at 40 and the base year value is 60, the model calculates the average annual decline between the base year and the target year necessary to achieve the target pupil teacher ratio.

Figure 1: Overview of simulation model



Therefore, information on the main education indicators is required for a base year. Once the baseline data and policy options are entered, the generic model can be used to approximate the pedagogical, physical, and financial consequences of policy orientations. Because of the availability of the 2014 National Population Census data and the availability of the data on most of the education indicators, 2014 was chosen as the baseline year for the model[20] and 2030 selected as the end projection year.

The simulation model can be divided into three components: projections for pupils; education inputs; and expenditure sub model (see Figure 1). The first of the model's components projects enrolment for primary education between a base year (2014) and target year (2030).

The enrolments are projected on the basis of school intake, repetition, promotion and drop-out rates. Targets for these parameters are entered into the model and projections are based on achieving these targets. For example, if a target primary school in take rate of 100% is entered for 2030, the model will calculate the annual increase/decrease from the base year value required to achieve the 2030 target. Based on these calculations the number of children entering primary school can be calculated for each projection year[21].

In each year (after the starting year) the new first grade pupils are calculated as the product of the assumed gross intake rate and school entry age population (the starting school-age population – 6 years for Uganda). First grade repeaters are added (last year's first grade multiplied by the assumed repetition rate) to get the full first grade. The second-grade students are the product of last year's first grade and the assumed promotion rate plus repeaters. And so forth for each grade and for each year's new assumptions on promotion and drop-out rates. The students are divided into males and females in public and private schools with separate flows for each group.

The second component of the simulation model calculates the human and physical resources required to attain the targets. These resources include the number of teachers and classrooms required to accommodate projected levels of enrolment[22]. Projected need is primarily based on targets for pupil-teacher and pupil-classroom ratios. These are supplemented with assumptions on levels of teacher attrition and classroom depreciation to calculate annual needs between the base year and 2030. Teacher and classroom needs are combined with targets for salaries and construction costs in the third component. Targets for the average teacher salary in 2014 is used to project teacher costs. In a similar way, the cost of classroom construction is projected from the base year to 2030. Additional recurrent resources, such as books and teaching guides are modelled basing on the assumption that 3 pupils share one book and also 1 teacher per teaching guide. Other non-salary recurrent expenditures like UPE capitation grants and PLE examination fees also modeled. The costing exercise assumes a unit cost of Shs10,000 till 2020, and Shs 50,000 till the end of the target year.

The final component of the simulation model allows domestic resources for the education and primary education sector in particular to be projected. Targets for 2030 are set for the size of government revenues as a proportion of GDP, the proportion of the government budget that is spent on education and the composition of the education budget. For each year between the base year and target year it is therefore possible to compare projected costs based on the targets chosen with projected levels of domestic resources. Differences between projected costs and resources are reported as financing gaps/surpluses in the model. Some of the indicators used in the costing exercise were not available directly and had to be calculated from other indicators. For example, average teacher salaries as a percentage of GDP per capita were unavailable. However, information on total teacher salary expenditure, the total number of teachers and GDP per capita were used to calculate this indicator.

There are three principal stages to follow in the process of simulation modelling. These are: the organization of the baseline data to be projected, the definition of hypotheses (decision or independent variables), and the generation of results (result or dependent variables). The first stage of simulation is data entry. It consists of collecting and organizing data in population, the primary education sector and the macro-economic framework. Teacher salaries are related to GDP per capita in a dynamic fashion based on trend analysis of global data.

Limitations of the approach

Comparisons between the financing gaps estimated in this study and those in the Education and Sports Sector Strategic Plan (ESSP) 2017-2020 were made where possible. These comparisons revealed both similarities and differences. Where it was possible to unpick differences, these stemmed largely from differences in the data being used (e.g. the year costings were undertaken and the data used) and differences in the targets and assumptions governing the evolution of key cost parameters.

Projecting Results

The last stage of the simulation exercise is the projection of the results. The projections are the results of the simulation of policy hypotheses in relation to the baseline data. The simulation provides indicative information on (i) Pupil enrolments and (ii) the necessary human, physical and financial means needed to implement defensible development actions as well as the (iii) the cost estimates and their consequences for budgetary and financial resources (see Table 1.2, right column on "Dependent variables").

I. Pupil enrolments

Given population data, and the current status and future objective of pupil enrolment, promotion and repetition rates, a simulation model is able to project likely pupil populations in the years to come. These data are used to determine all the following resources of a given education system. Particularly, the main driving parameter when projecting primary school enrolment is primary school in take rate. Thus, the model starts out by projecting total New intakes to Grade 1, using assumptions about the population growth, and using the actual data on the age-6 of the Children of school intake age population in 2014, while projecting the age-6 population from 2015 onwards. These, together with assumptions about the intake rate (percent of age-6 population admitted into Primary Grade 1) from 2015 onwards, enable the total number of Grade 1 new

[20] The baseline year refers to the starting year of data that will be used in the simulation process.

[21] School age population projections are also included in the model to calculate the enrolment rates. These are based on the population projections.

[22] The simulation model does not project the number of graduates from teacher training colleges or include the costs of training new teachers.

entrants to be projected. The age 6 and age 6-12 population was obtained from 2014 population census data and is projected to grow at 3.0 percent. The Gross Intake rate, calculated by dividing the number of new entrants in grade 1, irrespective of age, by the population of official school-entrance age is expected to be 100 percent in 2030 from 125 percent in 2014. The gross enrolment rate for the entire sector (public plus private) is calculated by summing the pupil population in both public and private.

II. Personnel

After projecting the pupil enrolment, it becomes possible to estimate future requirements in the number of teaching and non-teaching personnel (managerial and supervisory staff, administrative and service personnel, technical and maintenance workers) over time. It also enables the evaluation of the training needs of these personnel, both at the pre-service and in-service levels. However, the current costing exercise does not take in account the non-teaching staff and the teacher training at the pre-service and in-service levels. The teacher needs are calculated basing on the attaining the target pupil-teacher ratio of 53. On the other hand, the attrition rate is estimated at 3 percent. Teacher attrition results from various causes including teachers exiting the system due to death and retirement.

III. Instructional materials and equipment

Still the model enables the estimation of the future needs for materials and equipment and indicate the requirements for the production and the distribution of these materials.

IV. Educational facilities

On the basis of the number of pupils and the variables of pedagogical management, the simulation model enables the projection of the number of buildings and rooms (both classrooms and other facilities) to build or to rehabilitate over a given time-horizon. It also indicates the amount of equipment to be purchased and maintenance to be undertaken.

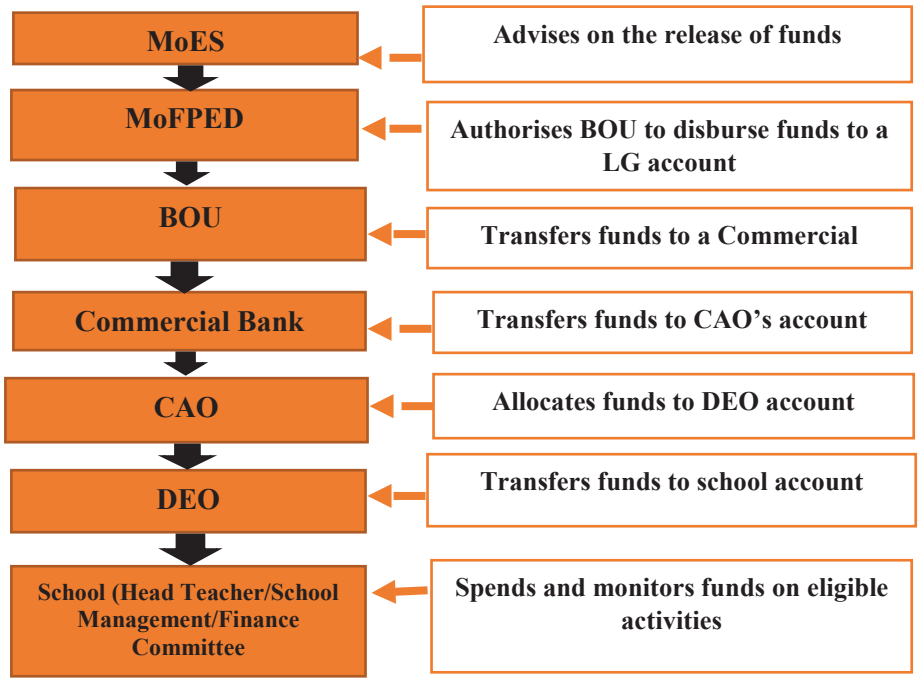
V. Education costs and financing

Each category of primary education inputs above involves costs. The ultimate purpose of a simulation is the quantification of the required financial resources resulting from a particular combination of possible decisions in education policy. Using the unit costs of education inputs, we are able to conduct resources projections. But the quantitative forecasts of educational development depend not only on the policy objectives, but also on the budgetary implications and the macro-economic feasability of the country. If the financial estimates relating to the education sector (total education costs) prove to be too high in relation to the possibilities of the national macro-economic framework, policy options are to be revised with the aim of defining bankable and financially sustainable policy variables.

For instance, to project teacher salaries, first we disaggregate number of teachers in primary schools by the official teacher professional categories: Grade III Teacher; Grade V Teacher; and Graduate Teacher. The average annual salary for a Grade III teacher is assumed to be Ug. Shs.408, 135; the average salary for a senior teacher is assumed to be 482,695; the average salary for a Principal teacher is assumed to be 511,617; and the average salary for a head teacher is assumed to 611,984. Teacher salary projections for period after 2014 are projected to annually increase at rate of 5 percent.

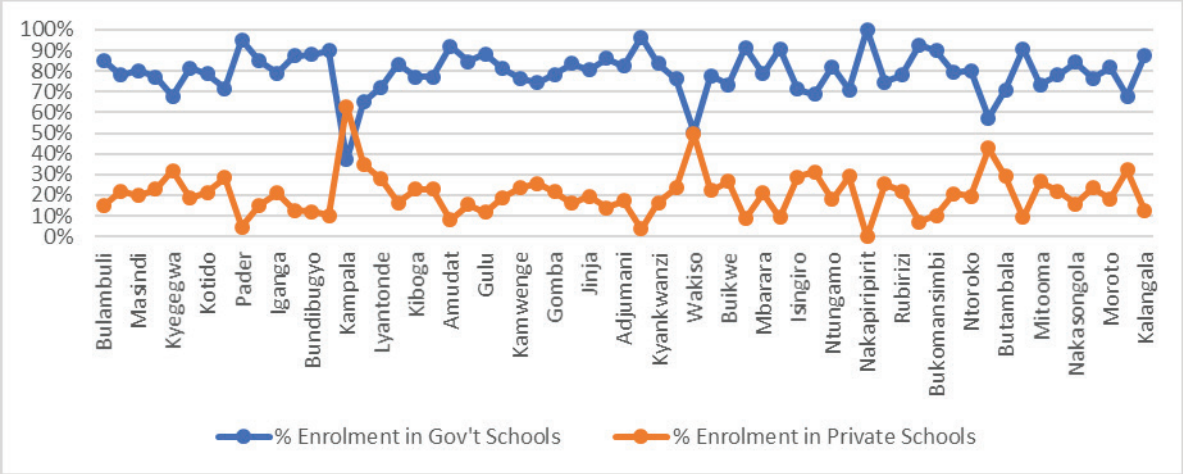
Annexes

Annex 1: Flow of Funds for the SFG Grant



Source: MoES and MoFPED Documents

Annex 2: Government and Private school's enrolment at District Level



Source: EMIS, 2015

Annex 3: Worse off Districts in terms of Classroom deficit

	Government Schools' enrolment	No. of classrooms	No. of Gov't schools	Estimated number of schools (@with 7 classrooms)[23]	Classrooms per school	PCR	Classrooms needed to attain standard PCR (1:53)[24]	Deficit in the no. of classrooms[25]	No. of schools equivalent to classroom deficit[26]	Cost Implications to satisfy the school deficit (Number of school deficit x unit cost of 7 classrooms (@295,947,912)[27]
Arua	249,803	2335	257	334	9	107	4713	2378	340	100,622,000,000
Tororo	149,990	1487	178	212	8	101	2830	1343	192	56,821,999,104
Nebbi	111,498	980	161	140	6	114	2104	1124	161	47,647,613,832
Maracha	68,484	298	61	43	5	230	1292	994	142	42,024,603,504
Manafwa	108,481	1066	156	152	7	102	2047	981	140	41,432,707,680
Kasese	150,348	1865	256	266	7	81	2837	972	139	41,136,759,768
Oyam	106,752	1070	108	153	10	100	2014	944	135	39,952,968,120
Apac	106,058	1059	126	151	8	100	2001	942	135	39,952,968,120
Mbale	95,449	927	116	132	8	103	1801	874	125	36,993,489,000
Kumi	72,746	522	90	75	6	139	1373	851	122	36,105,645,264
Butaleja	77,667	665	91	95	7	117	1465	800	114	33,738,061,968
Rakai	112,251	1376	227	197	6	82	2118	742	106	31,370,478,672
Paliisa	95,317	1062	108	152	10	90	1798	736	105	31,074,530,760
Lira	99,904	1160	106	166	11	86	1885	725	104	30,778,582,848
Mayuge	75,922	710	101	101	7	107	1432	722	103	30,482,634,936
Kibaale	123,828	1623	276	232	6	76	2336	713	102	30,186,687,024
Buyende	63,235	490	91	70	5	129	1193	703	100	29,594,791,200
Serere	76,972	752	97	107	8	102	1452	700	100	29,594,791,200
Kamuli	115,240	1480	179	211	8	78	2174	694	99	29,298,843,288
Koboko	57,883	407	69	58	6	142	1092	685	98	29,002,895,376
Budaka	62,914	523	62	75	8	120	1187	664	95	28,115,051,640
Iganga	110,423	1422	157	203	9	78	2083	661	94	27,819,103,728
Kole	58,863	461	58	66	8	128	1111	650	93	27,523,155,816
Busia	94,346	1131	125	162	9	83	1780	649	93	27,523,155,816
Mubende	92,772	1104	215	158	5	84	1750	646	92	27,227,207,904
Bugiri	91,252	1099	143	157	8	83	1722	623	89	26,339,364,168

[23] Estimated number of schools (@ with 7 classrooms) equate to the number of classrooms divided by 7 classrooms (The minimum number of classrooms that a school should ideally have).
[24] Classrooms needed to attain standard PCR is obtained by dividing the total enrolment by the target pupil classroom ratio
[25] Deficit in the number of classrooms is obtained by subtracting the (number of classrooms) from the classrooms needed to attain the standard PCR (1:53)
[26] Number of schools equivalent to classroom deficit equate to the ratio of (deficit in the number of classrooms) with 7 classrooms
[27] Unit costs of constructing 7 classrooms are adopted from the Ministry of Education and Sports; Education and Sports Sector Strategic Plan (2017/18-2019/20)

	Government Schools' enrolment	No. of classrooms	No. of Gov't schools	Estimated number of schools (@with 7 classrooms)[23]	Classrooms per school	PCR	Classrooms needed to attain standard PCR (1:53)[24]	Deficit in the no. of classrooms[25]	No. of schools equivalent to classroom deficit[26]	Cost Implications to satisfy the school deficit (Number of school deficit x unit cost of 7 classrooms (@295,947,912)[27]
Yumbe	*82,496*	*938*	*123*	*134*	*8*	*88*	*1557*	*619*	*88*	*26,043,416,256*
Kaliro	*54,910*	*426*	*89*	*61*	*5*	*129*	*1036*	*610*	*87*	*25,747,468,344*
Namutumba	*63,460*	*600*	*110*	*86*	*5*	*106*	*1197*	*597*	*85*	*25,155,572,520*
Luuka	*61,738*	*584*	*86*	*83*	*7*	*106*	*1165*	*581*	*83*	*24,563,676,696*
Kiryandongo	*56,151*	*504*	*74*	*72*	*7*	*111*	*1059*	*555*	*79*	*23,379,885,048*
Zombo	*62,115*	*630*	*93*	*90*	*7*	*99*	*1172*	*542*	*77*	*22,787,989,224*
Kyenjojo	*66,351*	*728*	*127*	*104*	*6*	*91*	*1252*	*524*	*75*	*22,196,093,400*
Amuria	*68,821*	*777*	*104*	*111*	*7*	*89*	*1299*	*522*	*75*	*22,196,093,400*
Bukedea	*60,632*	*624*	*95*	*89*	*7*	*97*	*1144*	*520*	*74*	*21,900,145,488*
Alebtong	*64,208*	*707*	*75*	*101*	*9*	*91*	*1211*	*504*	*72*	*21,308,249,664*
TOTAL		***33,592***	***4,590***	***4,799***	***7****	***105****	***61,684***	***28,092***	***4,013***	***1,187,638,970,856***

Source: *EMIS, 2015 and (Own Computations) and MoES ESSIP (2017/18-2019/20) *indicates an average value*

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