

Does the Budget Really Matter?

Outcomes of the Uganda's Primary Education Spending

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1. Introduction

“*Old controversies die slowly*” (Edwards, 1998). For over a century social analysts have debated the connection between public expenditure and economic performance. While according to public sector economists government spending results in faster growth, some analysts have argued that there is very little connection between the two, and may help economic performance. This controversy continues today, even as the world is experiencing an unprecedented period of public expenditure boom, and in spite of numerous empirical studies that claim to have found a positive effect of government spending. This paper focuses on the implications the achievement of universal access has had on primary education outcomes in Uganda. In other words, could we have achieved better outcomes with more spending in the education sector?

We are interested in understanding Government’s priorities and commitment to education sector vis-à-vis other sectors over the last decade or so. The specific issue this paper addresses is how has UPE been achieved from a financing perspective. Using Campos and Pradhan (1996) model, we have analysed public expenditure at three levels: at aggregate macro level, inter-sector level, and intra-education sector and primary sub-sector level.

During his campaign in 1996, one of the candidates then, Yoweri Kaguta Museveni promised the electorate that, if elected President, Government would provide free primary education to four children per family. Museveni was elected, and in January 1997, the Universal Primary Education (UPE) was introduced, only one month after the President had announced it. One of the greatest challenges confessed by officials interviewed in the Ministry of Education and Sports, and Ministry of Finance, Planning and Economic Development was to mobilise enough resources (both financial and manpower) to implement the reform. With increased commitment from government and donor community, there has been substantial resource flow into education sector, which may suggest that UPE has been achieved from a financing perspective.

This paper sets to investigate what implications the achievement of universal access has had on primary education outcomes. It provides a detailed analysis of the trends in primary education outcomes before and after introduction of UPE.

It measures educational outcomes through indices of educational quantity and quality, and selects five key outcomes indicators to investigate. These are: the primary gross enrolment ratio,

the primary net enrolment ratio, the survival rate to primary grade five, the primary school completion rate, and dropout rates. The first two indicators are measures of quantity and access to primary education, while the last three are measures of the internal efficiency of education systems and stand as proxy measures of quality. All these indicators measure different aspects of the goals of UPE. Other input indicators such as pupil/teacher ratio, pupil: classroom ratio and pupil: textbook ratios are also presented. The paper uses data primarily from the following sources: Education Statistical Abstract (ESA) 1989-1992, ESA 1993, ESA 1994, ESA 1995, ESA 1996, ESA 1997, ESA 1998, Headcount and School Mapping Exercises 1999, ESA 2000, and ESA 2001.

2 Trends in public education expenditures

2.1 Aggregate level of public spending and the budget deficit

Tables 1 and 2 give a breakdown of expenditure between two main spending categories, recurrent and development expenditures, and show how it is financed. Tables 3 and 4 break this down further into spending per sector. Recurrent component of the public expenditure is allocated to wage and non-wage payments, after taking out non-discretionary expenditures on interest payments and other statutory expenditures. Discretionary resources available to Government include domestic revenue and external assistance, minus debt service payment.

Revenue compared to expenditures

One of the greatest budgetary difficulties facing the Government has been revenue shortfall almost every subsequent year. Government expenditure, including external development budget averaged 20-25 percent of GDP in the 1990s, while total revenue including grants was a dismal 10-17 percent of GDP during the same period.

Uganda's revenue to GDP ratio grew from 6.7 percent in 1989 to 12.5 percent in 1997. Unfortunately, it generally stagnated at 11-12 percent between 1997 and 2001. At 11-12% of GDP, Uganda's Tax Revenue/GDP ratio is lowest in Sub-Saharan Africa. Kenya's Revenue/GDP ratio is 26 percent, Tanzania 14 percent, Ghana's 19 percent, Malawi 17%, and Mozambique and Zambia, about 20 percent.

Expenditure trends and growing budget deficit

Volatility has characterised both tax revenues and budget support in recent years, thus complicating management of the budget. As Table 2 shows, total revenues (excluding grants) have consistently lagged behind total expenditure, representing a deficit of more than 6 percent of GDP between 1990 and 2001. The budget deficit (excluding grants) rose from 6.1 percent of GDP in 1996/97 to 11.0 percent of GDP in 2000/01.

The increase in the deficit was caused by expenditure rising faster than domestic revenue, despite a substantial increase in the latter during 1998/99. Again, the increase in expenditure was part of the medium term fiscal strategy to increase expenditures towards poverty reduction programmes, including education, health, water and the roads sectors. Aid inflows have helped to reduce the deficits though substantial proportion of the budget still remains uncovered. The MTEF figures show increasing aid flows, with external finance accounting for over 50 percent of total expenditure. Aid flows as percentage of GDP have been in the range of 9.2 - 16 percent as Figure 1 and Table 3 demonstrate.

Total Government expenditure in 1991 constant prices amounted to Ushs 844 billions in 2000/01 (Table 1). This is equivalent to an increase of 3.5 percent of GDP from 19.2 of GDP in 1998/99 to 22.7 percent of GDP in 2000/01. The major components that have contributed to this increase are the poverty reduction programmes, including non-wage recurrent expenditure, arising from the increased operational costs of districts, and domestic development expenditure.

Budget support from external sources

Foreign aid inflows into the country have generally been increasing and this has enabled Government to increase expenditure towards poverty eradication programmes (Figure 1 and Table 3). The ratio of foreign inflows to GDP was on a downward trend between 1992/93 and 1995/96 within which period it declined from 16.3 percent to 9.2 percent. Between 1995/96 and 2001/2002, the ratio of foreign inflows to GDP was an upward trend. It increased from 9.2 percent in 1995/96 to 16.8 percent in 2001/02. One challenge arising from this is the increase in the stock of external debt, which as a percentage of GDP, increased from 53.6 percent in 1997/98 to 62.5 percent in 2000/01. Increased net foreign inflows have raised concerns about the long-term sustainability of Uganda's external debt and overall fiscal stance. However, Uganda has benefited from debt relief under the HIPC debt initiative. The HIPC debt initiative has mitigated the external debt burden challenge the country is faced with. Uganda was the first country to reach the

completion point both under the first HIPC framework in April 1998 and under the enhanced HIPC in 1999. Savings made by the country arising from debt relief under the HIPC debt initiative were channelled into a Poverty Action Fund (PAF) to finance poverty reduction programmes, including UPE.

With commitment to poverty eradication, Uganda needs substantial donor support with increasing aid in form of general budget support, including support for recurrent costs, if development projects are to be adequately maintained and operated.

Figure 1. Uganda net foreign inflows as share of GDP

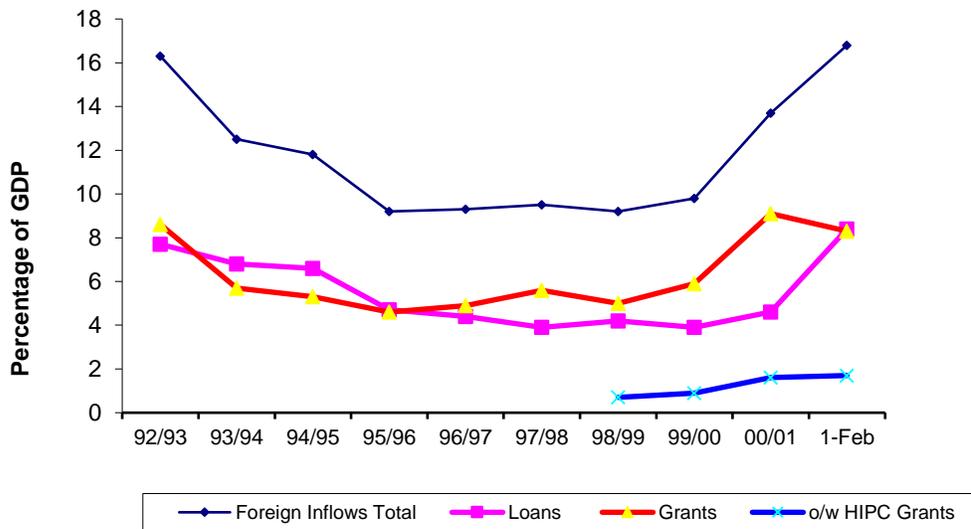


Table 1. Summary of government finance (1991 Constant Prices) in Ushs millions

	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
TOTAL REVENUE AND GRANTS	167,100	230,040	367,100	362,880	379,680	385,000	448,350	532,300	599,600	678,850	630,760	752,964
Tax revenue	129,750	153,720	133,800	161,820	217,860	249,550	304,100	373,500	374,574	444,115	384,936	405,837
Non-tax revenue	57,000	3,840	3,400	12,780	15,240	4,600	6,000	6,000	26,177	31,236	19,184	27,559
Grants	31,650	72,480	229,900	188,280	146,580	130,850	137,550	158,250	198,850	203,500	226,640	319,568
TOTAL EXPENDITURE	253,890	385,391	410,310	431,005	511,548	459,150	498,550	558,450	623,090	727,050	738,972	844,376
Recurrent expenditure	158,280	235,913	237,470	194,071	245,063	262,200	302,550	342,300	370,340	445,590	390,908	455,624
i. Interest payment	-	-	-	41,632	42,312	26,900	29,400	33,600	43,700	48,100	38,168	50,412
ii. Domestic expenditure	-	-	-	152,440	202,751	235,300	273,150	308,700	326,640	397,490	352,740	405,212
Development expenditure	95,610	149,478	161,070	236,214	222,735	191,300	194,650	215,150	251,250	280,300	308,608	399,204
i. External finance	69,645	-	125,090	214,756	194,939	153,900	163,500	164,000	206,400	222,950	220,560	265,400
ii. Net lending	(15)	-	11,770	720	1,680	5,700	1,400	1,000	1,500	1,160	39,456	(10,452)
iii. Domestic finance	25,980	-	35,980	21,458	27,796	37,350	31,150	51,150	44,850	57,350	88,048	133,804
Overall budget deficit including grants	(86,790)	(155,351)	(43,210)	(68,125)	(131,868)	(74,150)	(50,200)	(26,150)	(23,490)	(48,200)	(108,212)	(91,412)
Deficit excluding grants	(118,440)	(227,831)	(273,110)	(256,405)	(278,448)	(205,000)	(187,750)	(184,400)	(222,340)	(251,700)	(334,852)	(410,980)

Source: Ministry of Finance, Planning and Economic Development

Table 2. Government revenue and expenditure as a share of GDP (%) 1989/90 – 2000/01

	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Total revenue and grants (%GDP)	8.6	11.3	17.5	16.0	15.9	14.6	15.6	17.7	19.1	20.0	17.8	20.2
(a) Tax revenue	6.7	7.6	6.4	7.1	9.1	9.4	10.6	12.5	11.9	13.1	10.9	10.9
(b) Non-tax revenue	3.0	0.2	0.2	0.6	0.6	0.2	0.2	0.2	0.8	0.9	0.5	0.7
(C) Grants	1.6	3.6	11.0	8.3	6.1	4.9	4.8	5.3	6.3	6.0	6.4	8.6
Total Expend (%GDP)	13.1	19.0	19.6	19.0	21.4	17.4	17.4	18.6	19.8	21.5	20.8	22.7
Recurrent Expenditure	8.2	11.6	11.9	8.5	12.1	10.2	10.5	11.4	11.8	13.1	12.1	12.0
Development Expenditure	4.9	7.4	7.7	10.4	9.3	7.2	6.8	7.2	8.0	8.3	8.7	10.7
Budget Deficit (as %GDP)	4.5	7.6	2.1	3.0	5.5	2.8	1.7	0.9	0.7	1.4	3.1	2.5
Budget Deficit (%GDP) Excluding Grant	6.1	11.2	13.0	11.3	11.6	7.8	6.5	6.1	7.1	7.4	9.4	11.0
Average Growth in Gov't Exp		51.8	6.5	5.0	18.7	(10.2)	8.6	12.0	11.6	16.7	1.6	14.3
Real Growth in GDP		5.2	3.1	8.4	5.3	10.6	8.5	4.5	4.8	7.8	4.6	5.0

Source: Ministry of Finance, Planning and Economic Development

Table 3. External debt and net foreign inflows as a share of GDP (%)

	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02 projected
External Debt Total	81.9	75.0	58.8	58.2	58.1	53.6	54.8	55.5	62.5	66.8
Multilateral	54.5	45.4	37.5	41.2	42.2	40.8	44.3	44.8	51.0	50.7
Bilateral	20.2	17.5	12.7	13.0	12.0	11.7	11.7	10.5	10.5	8.7
Commercial Banks/Non-Banks	7.5	5.3	2.9	2.8	2.3	2.1	1.3	1.3	0.9	0.8
Foreign Inflows Total	16.3	12.5	11.8	9.2	9.3	9.5	9.2	9.8	13.7	16.8
Loans	7.7	6.8	6.6	4.7	4.4	3.9	4.2	3.9	4.6	8.4
Grants	8.6	5.7	5.3	4.6	4.9	5.6	5.0	5.9	9.1	8.3
o/w HIPC Grants							0.7	0.9	1.6	1.7

Source: World Bank Database and Staff Estimate

2.2 Composition of public expenditure

In this section, we have provided an overview of Government expenditure in different sectors of the economy as well as expenditure within the education sector itself. This, however, may not be a good basis for relating public spending with primary education outcomes. We shall therefore, go a step further to analyse composition of public expenditure at primary level, which will shed light on the trends in public expenditure allocations to primary education and how they relate to achievements in primary education sub-sector e.g. expansion in real resources (trained teachers, classrooms, textbooks), and other outcomes measures discussed in the previous chapter.

2.2.1 Inter-sectoral expenditure allocations

The Government's Poverty Eradication Action Plan (PEAP) prioritises public action across various sectors to meet the objective of poverty eradication and identifies key sectors that are given priority in resource allocation. These include primary education; primary health care; roads maintenance and agricultural modernization, among others. Table 4 gives a summary of government expenditure allocation by sectors as a share of GDP and total government expenditure for the period 1991/92 – 2000/01. It can be observed that Public Administration and Security (comprising defence, police, prison and security organs such as ISO, ESO, etc.) were, until recently (1997/98), the biggest spenders of Government resources.

In spite of the restructuring of the public service, which led to the retrenchment of a number of civil servants, expenditure on public administration still remains one of the largest areas of public expenditure. This is due to large expansion at the level of executive appointments at the centre and in the districts, including the proliferation of commissions. With time, however, the proportion of government expenditure going to public administration has gone down slightly, and so has expenditure on defence (security).

Table 4 also shows how the structure of the budget is changing, with priority programme areas such as education and health increasing in real terms and as a share of GDP, and security confined to below 5% of GDP for the last ten years.

Table 4. Sectoral composition of public expenditure 1994/95-2000/01

SECTOR	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
<i>Expenditure as a share of GDP (%)</i>							
Public Administration	4.59	5.54	6.09	6.56	6.33	7.1	7.02
Security	4.38	4.08	4.87	4.28	4.83	5.46	5.58
Roads and works	0.97	0.95	1.80	1.36	2.27	2.96	3.62
Agriculture	0.54	0.32	0.36	0.34	0.52	0.52	0.48
Education	4.37	4.12	5.84	6.51	7.41	9.6	9.15
Health	1.45	1.40	1.68	1.53	1.98	2.34	2.71
Economic functions & social services	1.80	1.31	1.69	1.05	1.32	2.76	3.05
Interest payments	1.78	1.90	1.87	2.45	2.46	-	--
<i>Expenditure as a share of total govt. expenditure</i>							
Public Administration	21.0	25.5	22.9	25.1	21.6	20.0	18.5
Security	20.1	18.8	18.4	16.4	16.5	15.3	14.8
Roads and works	4.5	4.4	6.8	5.2	7.7	8.3	9.6
Agriculture	2.5	1.5	1.4	1.4	1.8	1.4	1.3
Education	20.0	18.9	22.0	24.9	25.2	26.3	24.9
Health	6.6	6.4	6.3	5.9	6.7	6.5	7.2
Economic functions & social services	8.3	6.0	6.4	4.0	4.5	5.0	5.4
Interest payments	8.2	8.7	7.0	9.4	8.4	6.2	7.3

This expenditure trends clearly show that the education sector is now a major component of the central Government budget, comprising over 30 percent of the discretionary recurrent budget and 24-27 percent of the total national budget including Government counterpart funding for development (see Table 5). The increase in education spending, however, did not come about through a reallocation of expenditures from other sectors, but from absolute increases in the size of the overall Government budget. Other priority sectors like health and agriculture have had increases but at rates much lower than that of education.

Expenditure on health as a proportion of the total Government expenditure increased from 6.5% in 1999/2000 to about 8% in 2001/02, while roads increased from 8.3% in 1999/2000 to 9.1% in 2000/01. These clearly demonstrate that the budget strategy is becoming more pro-poor.

Comparing Table 5 with Table 6 enables us to see that, although the relative share of recurrent expenditure as a proportion of GDP is higher than the share of development expenditure, development expenditures have grown faster than recurrent expenditures in recent years. Development expenditure as a share of GDP grew from 6.8 percent in 1995/96 to 10.7 percent in 2000/01, representing an increase of about 4 percentage points (see Table 2). During the same

period, recurrent expenditure as a share of GDP increased slightly by about 1.5 percentage points from 10.5 percent to 12.0 percent.

Table 5. Functional composition of government recurrent expenditure

Sector (% of GDP)	1991/92- 94/95 average	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Public administration	2.5	2.33	2.76	3.87	3.44	3.85	3.98
Security	2.1	3.22	3.53	1.68	2.53	2.16	2.14
Education	1.24	0.93	1.01	2.88	3.03	2.98	3.02
Health	0.4	0.38	0.67	0.65	0.72	0.73	0.91
Economic functions & social Services	1.75	2.74	2.21	0.40	0.62	1.05	0.61
Interest payments	2.3	-	-	0.88	0.92	0.09	1.32
Sector (% of total government recurrent expenditure)							
Public Administration	25.6	24.2	27.1	28.1	14.8	22.6	33.3
Security	21.5	28.7	34.6	30.4	32.7	36.8	32.9
Education				31.2	31.9	32.4	32
Health	3.8	4.0	6.6	6.3	6.4	6.1	7.6
Economic and other social Services	2.5	1.5	4.1	3.9	5.5	8.8	5.1
Interest payments	23.9	-	-	8.5	8.2	9.2	11.1

Since 1997/98 there has been tremendous growth in development expenditure. This coincided with the implementation of UPE reform and new sector programmes such as the new Health Sector Plan and the Road Sector Development Programme. Domestic development expenditure increased in absolute terms by 69% in 1998/99 and 57% in 1999/2000 (Background to the Budget 2000/01). Recurrent expenditure stagnated between 1994/95 and 1997/98, but rose by 1.3 percent point of GDP to 13.1 percent share in 1998/99 only increasing slightly to 12.4 percent in 2000/01.

These later increases in the recurrent component of the public expenditure could be a result of the budget reform where emphasis is being placed on integrating recurrent and development budget, and to increase resources to cater for the recurrent related costs of the development budget. For example, when budgeting for building materials for primary schools, emphasis is also put on payment for labour and costs of supervising the project. In the past these were overlooked and many development projects stalled because the recurrent cost implications for development projects were not taken into account in budget/project support or when negotiating with donors.

Sectors which have experienced significant growth in development expenditure include education and health, roads and water (included under economic functions). On the other hand, it is security that has been on the lead in recurrent expenditure both in absolute terms and as a share of total government expenditure (Table 5). However, not much growth in expenditure has occurred in this sector in recent years. The high expenditure incurred in 1999/2000 is explained by resources that went to pay demobilised soldiers, while the major single increase in public administration recurrent expenditure in fiscal year 1999/2000 is attributable to national referendum. The low figures for 1989/90 – 1992/93 could be associated with the civil/public service reform, which led to streamlining of the government ministries and reduction in the number of civil servants.

4.2.2 General trends in public education spending

The share of education recurrent expenditure in total Government recurrent expenditure declined from 21 percent in 1983/84 to 11 percent in 1986/87 (Table 7). It increased slightly to 17.3 percent in 1987/88, reached 19.2 percent in 1988/89 and came down to 15.2 percent in 1989/90. However, since the introduction of UPE, it has been increasing and was 32% in 2000/01. In the development budget also, the share of education sector used to be very low, between 2 and 5 percent from mid 1980s to early 1990s, except in 1986/87, when it rose to 9.2%. In 1989/90, it was again as low as 3.6% of the total development budget, but rose to 9.4% in 1994/95, 9.9% in 1996, 24% in 1998/99, and currently, it is about 21%. The later increases coincided with the implementation of UPE reform.

Overall, education sector currently receives by far one of the largest aggregate shares of Government budget, at 26.9 percent in 1999/00, 26.7 percent in 2000/01, and 25 percent in 2002/03 FY. Expenditure on education is projected to increase to 27.8 percent of total government budget in the medium term.

The education sector has also been able to absorb over 90% of the money allocated to it. For example, the recurrent discretionary budget allocated to education represented a share of 32.4 percent of the total recurrent budget in 1999/00 and the outturn was 31.2 percent. Of the total education budget, 64.9 percent was allocated to primary education and the share of the outturn was 62.7 percent.

Table 6. Shares of education expenditure (%)

Year	Education in total govt. budget	Education recurrent in total recurrent expenditure	Education development in total development expenditure	Primary education expenditure as a share of education budget
1990/91		19.4	3.2	
1994/95	20.0	19.4		40.1
1995/96	18.9	16.4	1.7	47.9
1996/97	22.0	21.2	2.8	54.6
1997/98	24.9	28.8	8.6	63.4
1998/99	25.2	34.5	8.8	65.6
1999/00	26.9	32.4	9.1	64.9
2000/01	26.7	32.0	9.9	68.6
2001/02	23.9	31.2		65.1
2002/03	25.0			69.0

Source: Several issues of Background to the Budget, and Ministry of Finance

In 2000/01, education accounted for 26.7 percent of the total government budget, and the outturn in education sector (actual amount) was 24.9 percent of the total government expenditure. With regards to the recurrent discretionary budget, education's share of the national budget was 32 percent, and a significant 68.6 percent was allocated to primary education. The outturns were 30.5 and 67.4 percent respectively. The gap between budget allocation and the outturn in education sector and primary education sub-sector in particular has been partly due to the poor performance of the wage-bill.

Out of the total (nominal) budget, the recurrent budget increased from US\$ 268.4 billion in 1999/00, to Shs 311 billion in 2000/01, with the wage bill increasing by over 20 percent, while non-wage rose by 9.8 percent. This is mainly attributed to the primary teachers wage raise of more than 25 percent, from US\$ 114.3 billion in 1999/00 to Shs 143.7 billion in 2000/01. The total development budget fell to Shs. 106.3 billion in 2000/01 from Shs. 116.3 billion in 1999/00. However, overall donor budget support increased from Shs. 72.1 billion to Shs. 90.6 billion during this period.

In 2001/02 a total of US\$ 458.27 billion was allocated to education, out of which US\$ 350.78 billion (76.5%) was for recurrent wage and non-wage expenditure and the remaining Shs 107.48 billion (23.5%) was for Capital Development. The recurrent budget allocated to education represented a share of 31.2 percent of the total Government discretionary recurrent budget; out of which 65.1 was allocated to primary education.

The share of the expenditure going to Poverty Action Fund (PAF) areas within the sector has increased from 65.2 percent in 1999/2000 to over 70 percent in 2002/03. In addition, much of the resources under the Enhanced HIPC initiative have been channelled to education sector especially to recruit more teachers in order to reduce the pupil/teacher ratio; to accelerate the classroom construction programme; and to enhance the provision of water and sanitation facilities for schools.

4.2.3 Intra-sectoral education expenditure allocations

Public expenditure within education sector covers the Ministry Headquarters, Education Service Commission, Education Standard Agency, National Curriculum Development Centre, Uganda National Examinations Board (UNEB), Primary and Secondary Education, Tertiary Education, Business, Technical, Vocational Education and Training (BTVET).¹

As we observed in the previous section, recent trend in education sector has seen substantial increases in real terms in public expenditure to primary education, compared to other education sub-sectors. The broad prioritisation based on the Medium Term Budget Framework accords primary education between 65-70 percent of education budget, secondary school 12-15%, tertiary education between 11-15%, BTVET about 4.0%, and others (MOES HQs, Planning Dept, Education Service Commission, Education Standard Agency, National Curriculum Development Centre, UNEB, Capacity Building Programmes, and National Council of Sports) about 2.9 percent. These ratios are constantly revised upwards or downwards in the annual budget depending on priorities within the education sector.

Primary education accounted for less than 30 percent of the recurrent education budget in the 1980 and 1990s except in 1988/89 when the share rose to 32.8 percent, but dropped to miserable 4.4 percent two years later (1990/91). Between 1998/99-2002/2003, primary education has received over 65 percent of the total education recurrent budget.

¹ Tertiary education includes Teacher Training colleges, technical colleges, and universities, among others. In the past, Makerere University was independent of the Ministry of Education, in budget allocation but is now considered under the ministry during budget allocation.

Table 7. Share of recurrent expenditure on education by sub-sector (%)

Sub-sector	1988/89	1989/90	1990/91*
MOE Headquarters	2.3	4.4	35.2
Teaching Service Commission	0.7	1.5	2.7
School Inspectorate	3.4	4.0	4.0
Primary Education	32.8	28.6	4.4
Secondary Education	25.6	16.2	11.4
Teacher Training	9.7	14.0	10.5
Schools and Colleges	0.8	1.8	0.6
Technical / Com. Education	8.9	11.3	7.3
Higher Education excl University	2.5	3.9	2.4
MOE Total	86.7	85.7	78.5
Makerere University	13.2	14.3	14.5
Ministry of Local Government	--	--	7.1
Total for Education Sector	99.9	100.0	100.0

Source: Draft Estimates of Recurrent Expenditure 1990/91

*In 1990/91 budget, all staff salaries were included under 'Headquarters', while in the previous years these were distributed over the different programmes, e.g. School and Colleges, School Inspectorate, Teacher Training, Primary Education, etc.

As demonstrated in Table 9, the recurrent primary education budget increased to Ush 228.4 billion in 2001/2002 from Ushs214.8 billion in 2000/01, and Ushs 174 billion in 1999/2000 (a 31% increase in two years).

Primary education expenditure rose on account of the general expansion of the education expenditure, and the protection of education sector (primary in particular) from cuts. Other sub-sectors such as tertiary education and ministry headquarters have suffered frequent budget cuts in their non-wage current expenditure, but primary education has been protected from cuts. Compared to other education sub-sectors, primary education has greatly benefited from the savings arising from the HIPC Debt Initiative and other bilateral support channelled through the Poverty Action Fund (PAF). Initially, Government provided, from its own tax revenue Ushs 75 billion in the budget for primary education (in 1997), and increases this by 50% in the 1997/98 Financial Year.

Other education sub-sectors have experienced some increases in their recurrent expenditure. They too benefit from PAF but at a share much smaller than primary education.

Recurrent budget to secondary education also rose in real terms between 1994/95 and 2000/01 though with some fluctuations in between, while expenditure to technical and vocation institutions and other tertiary education institutions generally decreased in real terms. Budget allocation to post

primary, technical and vocational education is anticipated to rise in the medium term in view of the increasing demand for secondary education as the first batch of the UPE sits the primary leaving examination this year.

Recurrent expenditures in Universities (Uganda Management Institute inclusive) have had slight increases except for 1999/2000 when expenditure fell slightly. In fact all the education sub-sectors experienced cuts in 1999/2000, in real terms though the absolute figures reflected some increases or near the level for previous year.

Table 8. Education sub-sector recurrent expenditure at constant 1991 prices (millions Ushs)

Sub-Sector	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
General Administration	--	--	--	--	4,135	3,916	3,272
Primary	18,430	22,145	40,555	57,770	71,339	64,712	77,733
Secondary	658	871	1,441	15,000	20,726	16,640	18,221
Tech & Vocational	--	--	--	--	4,780	3,344	2,604
Tertiary	--	--	--	--	14,739	14,648	13,476
Universities & UMI	10,785	11,855	12,300	12,405	13,345	11,924	12,304
TOTAL	50,818	49,541	72,461	103,970	153,748	142,748	159,712

Source: Ministry of Education and Sports

The 'general administration' includes MOES HQs, Planning Dept., UNEB, Education Service Commission, Education Standard Agency, National Curriculum Development Centre, Capacity Building Programmes, and National Council of Sports

Government development expenditure to education sector has risen steadily in the period between 1995 and 2002. However, this increase has not been uniform across the sector. There has been marked reallocation between functions with most of the increase going to school development at primary and secondary levels. There has also been marked increase in expenditure in instructional materials under the Support Uganda Primary Education and Reform (SUPER) and the Primary Education and Teacher Development (PETD) Programmes, which had reduced the ratio of textbook to pupils from about 1:23 in 1995 to average of about 1:5 currently.

Table 9. Education sub-sector recurrent expenditure as a share of GDP and total education recurrent expenditure (%)

	19 94/95	19 95/96	1996/97	1997/98	1998/99	1999/00	2000/01
Sub-Sector Expenditure (% GDP)							
General Administration					0.1	0.1	0.1
Primary	0.8	0.8	1.3	1.7	1.9	2	2.1
Secondary	0	0	0	0.4	0.6	0.5	0.5
Tech & Vocational					0.1	0.1	0.1
Tertiary					0.4	0.5	0.4
Universities & UMI	0.4	0.4	0.4	0.4	0.4	0.4	0.3
Total	2	1.7	2.2	2.9	3.5	3.6	3.5
Sub-sector expenditure (% total recurrent)							
General Administration					3.2	3.4	2.6
Primary	38.9	47.3	58.6	57.5	55.3	56.2	60.9
Secondary	1.4	1.9	2.1	14.9	16.1	14.4	14.3
Tech & Vocational					3.7	2.9	2
Tertiary					11.4	12.7	10.6
Universities & UMI	22.8	25.3	17.8	12.4	10.3	10.4	9.6
Total	100						

Table 10. Education development expenditure by sub-sector at 1991 constant prices (Ushs million)

SUB-SECTOR	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
General Administration					2,263	1,245	2,049
Primary	-	-	-	-	20,563	24,524	27,504
Secondary	-	-	-	-	981	24	1,164
Tech & Vocational					164	828	999
Tertiary					339	584	543
Universities & UMI	1,630	1,215	515	480	375	816	7,295
TOTAL					24,684	28,021	39,553

Table 11. Education development expenditure by sub-sector as a share of GDP and total education development expenditure (%)

	1994/95	1995/96	1996/97	1997/98	19 98/99	1999/00	2000/01
Sub-sector expenditure (% GDP)							
General Administration					0.06	0.03	0.04
Primary	-	-	-	-	0.56	0.76	0.75
Secondary	-	-	-	-	0.03	0	0.03
Tech & Vocational					0	0.03	0.03
Tertiary					0.01	0.02	0.01
Universities & UMI	0.07	0.04	0.02	0.01	0.01	0.03	0.2
Total	0.14	0.1	0.1	0.1	0.67	0.86	1.07
Sub-sector expenditure (% total development expenditure)							
General Administration					9.17	3.59	4.19
Primary	-	-	-	-	83.31	88.3	70.27
Secondary	-	-	-	-	3.97	0.09	2.97
Tech & Vocational					0.66	2.98	2.55
Tertiary					1.37	2.1	1.39
Universities & UMI	46.77	45.17	15.8	13.54	1.52	2.94	18.64
Total					100	100	100

2.2.4 Trends in Per capita expenditure per pupil/student

Ensuring adequacy of resources at sector level alone is not enough. The major issue is how the resources are distributed to the different sub-sectors, and what goes to financing each pupil/student enrolled in school.

In Table 13, we are able to see that the per capita expenditure allocation per student is highest at the university level, followed by the other tertiary institutions, technical and vocational institutions, then secondary and lastly, primary education.

Table 12. Per capita recurrent expenditure per pupil/student (in Ushs 1991 constant prices)

Level of Education	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01
Primary	7,995	8,400	13,216	10,893	12,286	10,291	11,851
Secondary	35,918	34,116	56,109	58,746	81,283	67,776	82,993
Tech & Vocational	-	-	-	-	312,214	160,963	130,265
Tertiary	-	-	-	-	467,447	398,282	380,356
Universities & UMI	1,098,269	879,321	655,092	601,659	464,950	353,618	378,056

With the advent of cost sharing, however, per student spending in university education has reduced remarkably, from over 1 million shillings in 1994/95 to less than 0.4 million in 2000/01. Expenditures have also reduced for students at the other tertiary institutions, technical and vocational schools as Table 14 clearly demonstrates.

In the past, higher education: university and tertiary education were the major beneficiaries of education budget. In the 1980s the total number of students in the university was less than 0.5 percent of the number of pupils in primary school, yet the recurrent expenditures in these two sub-sectors differed only slightly. With time, Government discontinued allocation to expenditure items such as student “boom” (pocket allowance to students at higher institutions of learning e.g. the university) and boarding and transportation costs at post-primary level. This helped to reduce the wide disparity between primary and post-primary resource distribution.

As the recurrent expenditure at post-secondary levels went down, there was general increase in per pupil expenditure at primary level, but at a rate much lower than the decline in the expenditure at post-secondary level. To illustrate, per capita expenditure at university level experienced about 66 percent reduction between 1994/95 and 2000/2001, while expenditure at primary increased by only 48 percent in the same period.

The secondary level, however, received proportionally higher increase in per capita student expenditure at 131 percent in the same period. This simple analysis shows us that at per unit expenditure level, primary education has not benefited much from expenditure reform although the consolidated expenditure figures may appear impressive. It is also possible that the high rate of enrolment in primary school may cause the Government a little longer time to achieve a reasonable unit cost of schooling.

The same is true for secondary schooling. Enrolment in both Government and private secondary schools increased from 336,022 in 1997 to 427,592 in 1999, representing a 27 percent increase over the two years (Table 14). For the same period, the transition rate from Primary Seven (P7) to Senior One (S1), increased by about 34% (i.e. from 112,000 to 150,000 pupils).

Table 13. Education total student enrolment, Recurrent and Unit Expenditure at 1991 constant prices

Education Sub-Sector	Parameter	1994	1995	1996	1997	1998	1999	2000
Primary	<i>Total recurrent exp</i>	18,430	22,145	40,555	57,770	71,340	64,712	77,733
	<i>Enrolment</i>	2,305,258	2,636,409	3,068,625	5,303,564	5,806,385	6,288,239	6,559,013
	<i>Per pupil cost</i>	7,995	8,400	13,216	10,893	12,286	10,291	11,851

	<i>Primary equivalence</i>	<i>pupil</i>						
	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Secondary	<i>Total recurrent exp</i>	6,575	8,705	14,405	15,000	20,725	16,640	18,220
	<i>Enrolment</i>	183,058	255,158	2,56,732	336,022	254,974	427,592	219,536
	<i>Per student cost</i>	35,918	34,116	56,109	58,746	81,283	67,776	82,993
	<i>Primary pupil equiv</i>	4.0	4.1	4.2	5.4	6.6	7.0	7.0
Vocational and Technical Institutes	<i>Total recurrent exp</i>					4,780	3,344	2,604
	<i>Enrolment</i>	12,921	13,360	14,536	15,814	15,310	20,775	19,990
	<i>Per student cost</i>					312,214	160,963	130,265
	<i>Primary pupil equiv</i>					25.4	16.0	11.0
Other Tertiary Institutions	<i>Total recurrent exp</i>					14,740	14,648	13,476
	<i>Enrolment</i>	31,917	40,370	39,668	39,627	31,533	36,778	35,430
	<i>Per student cost</i>					467,447	398,282	380,356
	<i>Primary pupil equiv</i>					38.0	39.0	32.0
University	<i>Total recurrent exp</i>	10,785	11,855	12,300	12,405	13,345	11,924	12,308
	<i>Enrolment</i>	9,820	13,482	18,776	20,618	28,702	33,720	32,556
	<i>Per student cost</i>	1,098,269	879,321	655,092	601,659	464,950	353,618	378,056
	<i>Primary pupil equiv</i>	137.0	104.7	49.6	55.2	37.8	34.0	32.0

Comparing the primary pupil equivalence figure for primary with figures for secondary and post secondary enables us to see a huge difference in the unit cost of schooling across these education levels.

In 1994 university education was 137 times more expensive (in terms of public resources) than primary education, 105 times in 1995, 50 times in 1996, 55 times in 1997, and 32 times in year 2000. From 1998 to 2000, there has not been a significant difference between unit cost (i.e. cost per student) for university education and spending in other institutions. This shows the effect of the decision by Government to spend less on higher institutions of learning. While the cost for single student in technical and vocational school would be enough to send 25 pupil in primary school in 1998, in year 2000 this cost reduced by more than half - to 11 pupil in primary school.

Per unit cost for secondary schooling has ranged between 4-7 primary pupils' equivalence (i.e. secondary education was 4 -7 times more costly than primary). Interestingly, these costs have continued to increase (against the cost of primary) instead of going down as it occurred for the other sector. This shows that secondary education is becoming more and more expensive with time.

2.3 Composition of Public Expenditure at Primary Level

Since 1997 Government has continued to increase expenditure on primary education with the major thrust placed on teacher recruitment, teacher training, classroom construction and provision of instructional materials (Table 15).

2.3.1 Expenditure on teachers' wages

Primary education recurrent budget increased by about 9 percent in 2002/03 budget mainly on account of primary teachers wages, which increased by about 17 percent (i.e. from Ushs 153.8 billion in 2000/02 to Ushs 179.87 billion in 2002/03). The teachers wage bill constitutes the biggest proportions of the total primary education expenditure, with annual average of over 46 percent since 1997/98. The primary staff establishment increased from 94,000 in 1998/99 to 101,000 in 1999/2000. The March 2002 payroll data indicates 113,232 teachers have accessed the payroll. That explains the increases in the wage bill.

Table 14. Primary education recurrent and development expenditures as share of total primary education expenditure (%)

	1998/99	1999/2000	2000/01	2001/02
Primary Recurrent				
Pre-service Training Non-Wage	2.70	2.64	1.33	2.36
Pre-service Training -Wage	2.40	2.15	1.66	1.62
In-service Training Non-Wage (incl. Allowance)	0.36	1.12	1.78	1.60
Recurrent instructional materials (replacement)	2.35	1.69	4.19	
Teacher Wage bill – districts 1/	52.33	46.21	48.20	45.22
UPE (capitation) grant to districts	17.23	17.22	14.65	13.75
PLE fees		0.67	0.78	0.66
Others	0.28	0.34	0.56	0.65
Primary Development				
Classroom construction	10.14	15.23	18.36	21.22
TDMS (phase 1-5)	6.58	5.25	3.44	2.09
Procurement of textbooks	5.37	4.70	3.50	4.84
Other programmes (UNISE services, EARS, etc)	0.28	0.37	0.83	3.73
Summary				
Recurrent primary education expenditure	77.6	72.5	73.8	67.2
Development primary education expenditure	22.4	27.5	26.2	32.8

The UPE Capitation grant, on the other hand, fell by more than 10.8 percent in 2002/03 i.e. from Ushs 46.74 billion in 2001/02 to Shs 41.7 billion in year 2002/03.

2.3.2 Expenditure on Classroom construction

As Table 15 shows, development expenditure at primary school level focused mainly on classroom construction. Classroom construction was fully decentralised, with the creation of district development budgets funded by the School Facility Grant (SFG). Construction activities under this programme began in January 2000.

Expenditure on classroom construction continues to account for over 15 percent of the total primary education expenditure, since 1999 as shown in Table 15. A total classroom stock of 66,300 was recorded by March 2002. Although primary education development budget declined from US\$ 88.857 billion in 2001/02 to US\$ 84.147 billion in 2002/03, the classroom budget allocation remained the same for the two years at US\$ 55.9 billion.

2.3.3 Training of teachers

The other noticeable expenditure component is capacity building for primary school teachers through the Teachers Development and Management System (TDMS), which comprised over 5 percent of the total primary education expenditure between 1997 and year 2000. The rationale for increased spending in this area is to eventually improve quality of teaching in primary schools. The TDMS budget, however, fell from US\$ 6.972 to 3.43 billion as it winds up in year 2002/03. In 2001/02 Government allocated additional US\$ 4.7 billion to Primary Teachers' Colleges (PTCs) to fully cover the non-wage costs. In addition, beginning financial year 2001/02 Government undertook to sponsor all the students enrolled in PTCs, covering 16,425 pre-service students and 8,000 in-service trainees by year 2001/02. Also, with effect from financial year 2001/02 Multi grade teaching budget was provided for teacher education, as a non-wage recurrent item. The funds have been used on procurement of materials like furniture.

2.3.4 Expenditure on instructional materials

There are also noticeable increases in expenditure on instructional materials and on the procurement of textbooks. Expenditure on textbooks declined from 5.3 percent of the total education expenditure at primary level to 3.5 percent in 2000/01 but tried to recover again in 2001/02. This can be explained by the improvement in the procurement system, which has translated into reduced costs for textbooks. The other possible reason is that substantial

investments in textbook in the previous years have reduced pressure to spend on textbooks, and more resources are being re-allocated to other expenditure areas like training of teachers and classroom construction.

From the discussion above, we are able to see that expenditures on teachers' wages and classroom construction have crowded out other sub-sectors in the primary education system. In the next sections, we shall be able to see whether the increased expenditure in the wage bill have translated into increased remuneration for primary school teachers.

2.4 Teachers' salary structure and trends

In Uganda, the Ministry of public service determines the salary structure and rates for civil servants after Salary Reviews and consultation with the Cabinet. Salary adjustments or increases are usually announced during the budget speech or communicated through the media or Government internal circulars. Salary adjustments affect all Government employees within the categories or Government salary scales covered by the change. Table 16 shows the primary teachers' salary trends at constant prices, from 1990/91-2000/01.

Table 15. Primary teacher pay scales and monthly salaries at constant 1991 prices

	Scale	1990/91	91/92	92/93	93/94	94/95	95/96	1996/97	1997/98	1998/99	1999/00	2000/01	% Average annual growth after UPE
H/teacher	U3	7892	13168	10438	16877	43066	47373	130246	179562	188652	150832	158373	6.97
	U4	6349	10593	8398	16113	41718	45890	96482	135152	141876	113643	119204	7.51
Graduate	U5a	5446	9086	7204	15560	40665	44732	78653	100314	105327	84262	88477	4.38
Grade 5	U5b	5140	8566	6799	14753	39139	43053	72959	94863	99657	79726	83669	5.01
	U5c	4888	5826	6467	13450	25607	28168	55523	55523	61051	51293	56434	1.00
	U6	4268	5087	5646	12677	24064	26470	44802	44802	49333	41397	45537	1.01
Grade III	U7	4033	4806	5336	12284	22180	24398	36812	36812	40493	34014	37415	1.00
'O'/'A'	U8	3486	4152	4609	9191	15906	17496	26152	26152	28767	25315	27846	2.00

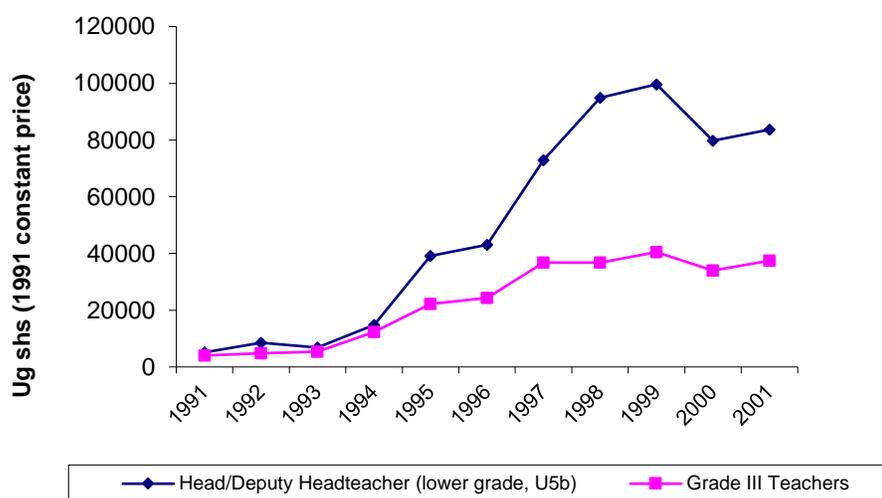
Source: Authors' computation based on data from Ministry of Public Service for various years

Notes:

- (i) Headteacher & Deputy Headteacher: U3-U6, depending on qualification, experience and whether it is a Grade I, II or II school
- (ii) University Graduate (trained): U5a-U3, depending on number of years in service (experience)
- (iii) University Graduate (untrained teacher): U5c-U4, depending on number of years in service
- (iv) Grade 5 teacher: U6-U5b
- (v) Grade III teacher: U7-U6
- (vi) 'O' and 'A' Level leaver (untrained): U8

Analysis shows variation in average annual salary increases across the grades (U1-U8) of between 1-7.5 percent after introduction of UPE (Table 16). The groups that benefited more from these increases were those within the U3-4 (mainly head-teachers and deputy head-teachers), and those in U5b salary scales (Grade 5 teachers). The rest of the teachers hardly had significant real increases in their salaries. This is further illustrated by Figure 5, which shows a widening gap between salaries paid to head and deputy head teachers especially from 1997 to 2000.

Figure 2. Trend in teachers' salaries



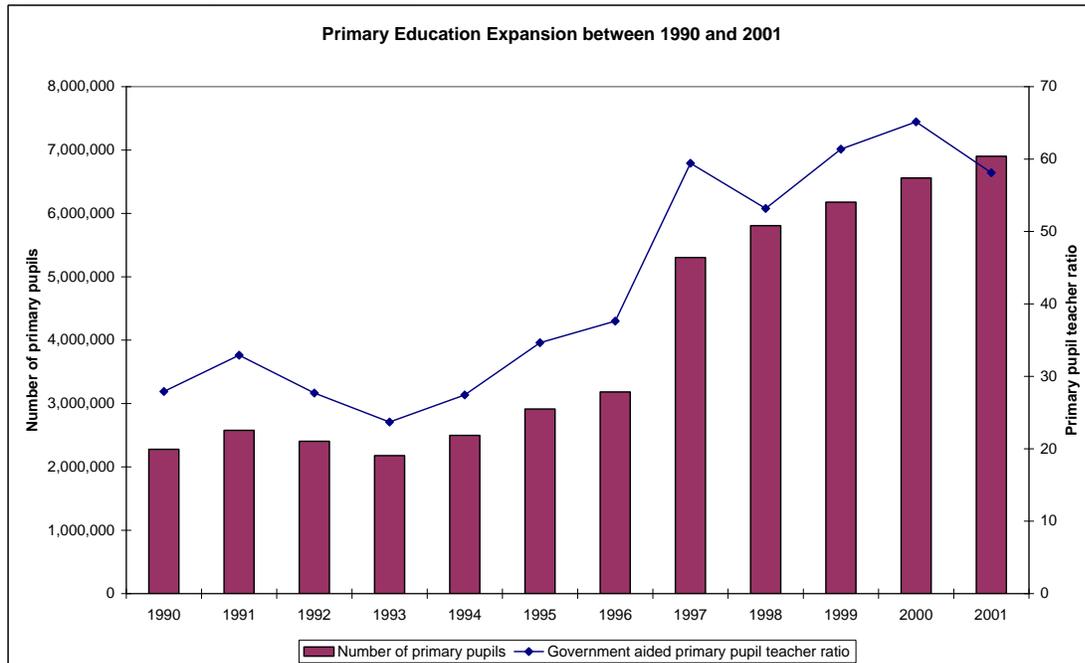
What is more interesting is the results, which shows higher salary increases before introduction of UPE compared to the periods after UPE was introduced. Between 1991/92 and 1996/97 real salaries increases ranged between 48 and 67 percent. The categories that had the highest increases were those in U5a and U5b salaries scale (i.e. university graduates and grade 5 teachers). Those who received the lowest increases were the senior four untrained license teachers. This means that Government used to reward teachers primarily according to their academic qualification. Today, those in position of headship are the ones that are more rewarded. This can be a source of disincentive to new entrants and those would wish to joint teaching profession. We heard this complaint when we visited the schools in Hoima and Rakai that the disparity in salaries paid to the head teachers and ordinary teachers were not justifiable and could demoralise other teachers.

3. Education outcomes

Expansion of the primary education system

In this section we look briefly at how primary school enrolment, provision of schools, and teachers changed over the last decade. Before of limitation of data for private schools we have focused mainly on government aided primary schools. Enrolment expanded rapidly after 1997 as illustrated in Figure 1, for government-aided schools.

Figure 3. Primary Education expansion 1990-2001

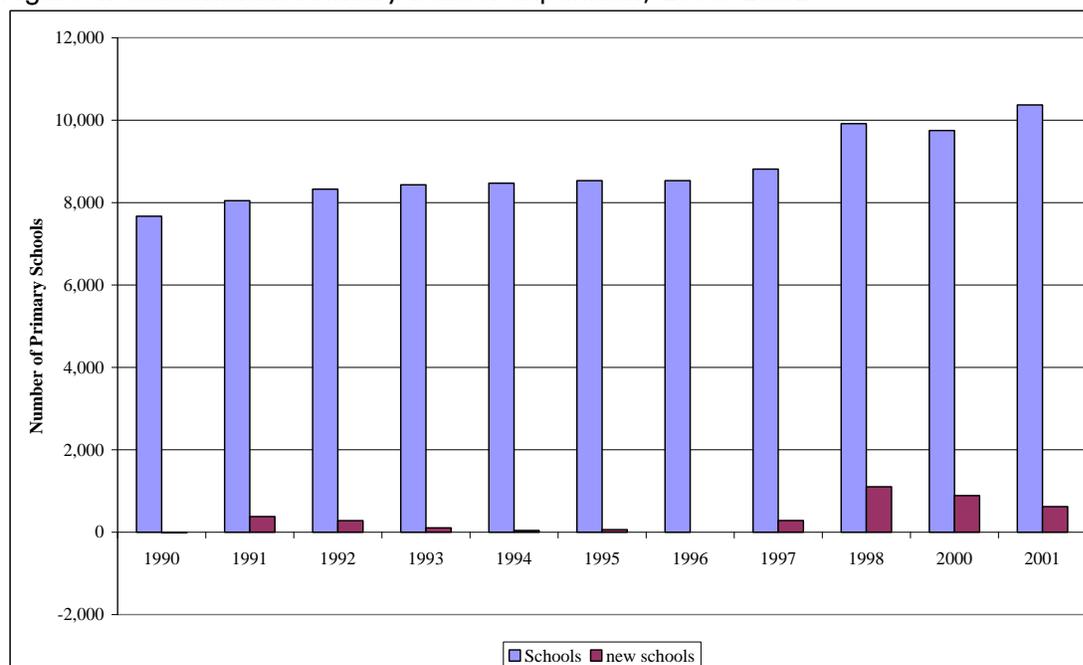


Sources: Data is taken from Education Statistical abstracts between 1990 and 2001 listed above.
Notes: Enrolment data is for total enrolment (government aided, private and community schools). However, data on enrolments in private schools is only available for 1994, 1995, 1996, 1998, 1999, 2000 and 2001. The pupil teacher ratio is for government aided schools only as data on the number of private teachers is only available after 1999.

Pupils/teacher ratio worsened, with a sudden rise in 1997, and dropping slightly in 2001. The slight improvement is due to later inventions like recruitment of more primary teachers.

Increased demand for school places due to UPE led to significant growth in number of primary schools in the country (Figure 2).

Figure 4. Government Primary School expansion, 1990-2001



Source: Data taken from Education Statistical Abstracts with the exception of 1993 and 1997 which are taken from MOES Education for all (EFA) assessment.

Over 3,500 schools more schools have been established (are added) after 1996, bringing the total number of schools to about 12,280 in 2001 (43 percent increase over 1996 figure). Between 2000-2001 alone, 887 new schools were registered. Consequently, number of classrooms expanded from 69,344 in 1996 to 71,486 in 2001. Notwithstanding this improvement, pupils are still overcrowded in class (pupils/classroom ratio stood at 97, on average in 2001. In 1996 it was 44).

Trends in education outcomes

Access to primary schooling

Official statistics indicate that access to primary schooling in Uganda did not improve between 1960 and 1980, about 20 years after independence. Gross primary school enrolment ratio of about 50 percent stayed between 1960, and 1980, whereas other Sub-Saharan African countries for which data are available almost doubled their primary school enrolment ratios from 40 to 77 percent, during the same period. After a change of government in 1980, a recovery programme, which

partly aimed at expansion of primary and secondary education led to increased enrolment at both primary and secondary levels. Primary gross enrolment went up to 73 percent in 1985 and maintained about the same rate up to 1995. Secondary school enrolment on the other hand, rose to 10 percent in 1985 (from 5% in 1980) and achieved 12 percent gross enrolment in 1995.

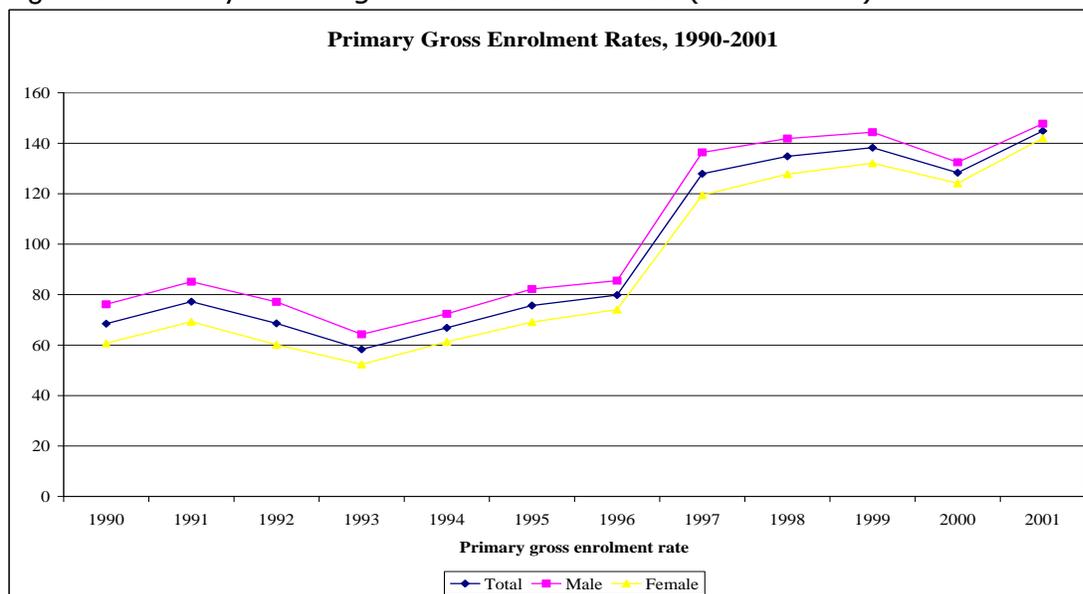
Gross enrolment hardly exceeded 80 percent between 1990 and 1996 as illustrated in Figure 3 (and summarised in Appendix Table A3.3). Primary school gross enrolment fell from 2.3 million in 1990 to 2.1 million in 1993 - a decrease of over 4 percent (Table A3.1). Enrolment increased slightly to 2.4 million in 1994 (but still below the 1991 enrolment figure). It reached about 3 million in 1996 (i.e. a 34.8 percent rise above the 1990 gross enrolment figure). The accumulative effect of the wars of 1971-1990s, economic deterioration and reduction in sectoral allocations to social services led to slow down in enrolment between 1988 and 1996 (FAWE and IDS, 2000).

The trends in enrolment before UPE also witnessed significant gaps between boys and girls. For example, between 1990 and 1996, female gross enrolment ratio (GER) ranged between 52 and 74 percent, compared to male GER of between 64 and 86 percent. There were over 10 percent more boys than girls enrolling in primary schools. FAWE and IDS's 1999 study shows a widest gender gap in Northern and Eastern regions than in any other regions. The report, however, does not explain the cause of this disparity.

Comparing the number of new entrants in primary schools against the required age entry (6 years old population) in Table A3.3 also enables us to see a wide variation in gross access between 1990 (104%) and 1993 (67%). Over these periods, female pupils were fewer in number than male pupils.

With introduction of UPE in January 1997, enrolment in primary school nearly doubled as illustrated in Figure 3.3 (see also Appendix Table A3.1). Total enrolment rose from about 3 million pupils in 1996 to more than 5.3 million in 1997, and 7.3 million pupils in 2002 (i.e. 73 percent gross enrolment increase in 1997, and 137 percent rise between 1996 and 2002). While, primary school access has been impressive over the entire period, the enrolment of girls still compares less to boys'.

Figure 5. Primary school gross enrolment rates (1990-2001)



Notes and sources: See Table 3.1.

It is also easily noticeable that gross enrolment ratios (Figure 3, Table A3.1) follow a similar pattern as the gross intake ratio (Table A3.3) with the number of girls trailing that of boys. Gender gap tended to widen between 1997 and 1999 and narrowed somewhat in 2001 (gender parity index, which measures the number of girls for every boy enrolled) increased from 0.87 in 1997 to 0.96 in year 2001. The closer the index is to 1 the less the gender disparity. This shows that for every boy enrolled in 2001, there were 0.96 girls compared with 0.87 and 0.80 girls in 1997 and 1990 respectively. The results therefore, show that the gap has become very narrow over time. Parents have, indeed started to appreciate the importance of sending girls to school. This has been particularly helped by Government and development agencies in rural areas (NGOs) that have sensitised parents on the value of educating the girl-child.

The gross enrolment ratio is a good measure of the general capacity of the education system. However, the GER takes no account of over or under age enrolment. For example, according to education statistical abstract 2000, a total of 290,565 children enrolled in school were under aged, while 1,196,461 were over aged. The net enrolment ration (NER) addresses this problem because it includes those pupils who are of the correct school age.²

² Net Enrolment Ratio (NER) is the ratio of pupils aged between 6-12 years, enrolled in school to the total population aged 6-12 years. That is:

$$\frac{\text{Population aged between 6 and 12 enrolled in primary school in Uganda}}{\text{Primary school aged population in Uganda (total population between 6 and 12)}}$$

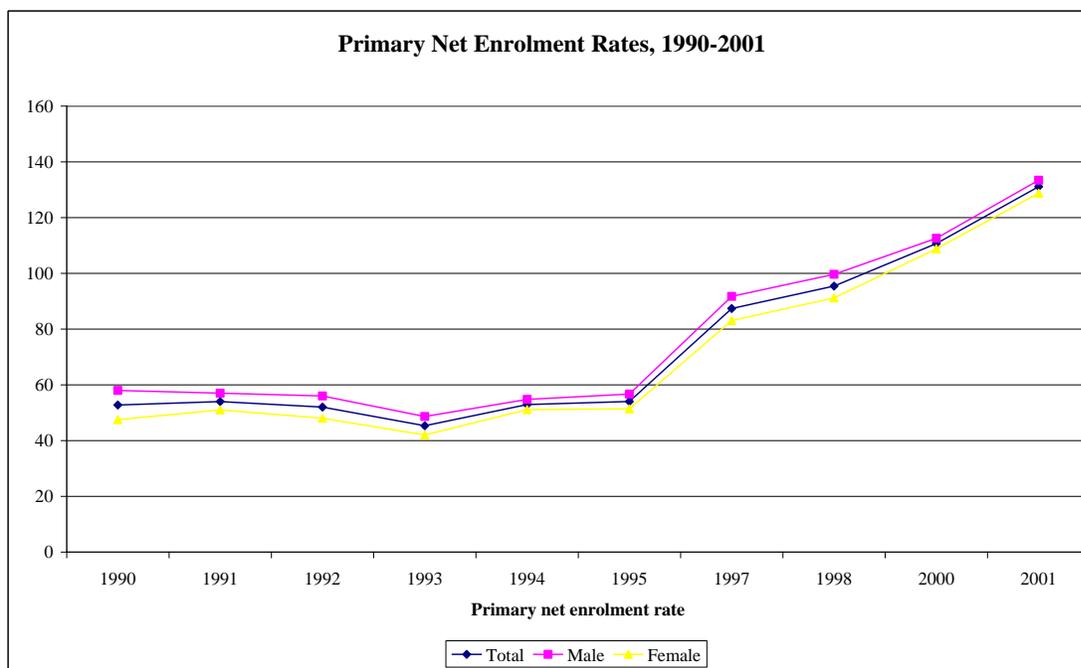
Figure 4 shows a dramatic rise in Net enrolment Rates especially after introduction of UPE (see also Appendix Table A3.2). Table A3.2 shows rise in NER from 53 percent in 1990 to 87 percent in 1997. This means that in 1990 about a half (47%) of children of school going age were not going to school either because of lack of school fees or other school costs, and for some other reasons. In 1993 there were more children at home than those attending school (55 versus 45%). In 1997 the trend dramatically reversed; 87 percent were in school compared to 13 percent who remained at home. This shows that the cost of education was the main barrier to primary school access, which was being solved by universal primary education.

The ratio between boys and girls has progressed towards achieving gender equity in primary access. In the formulation of the UPE policy and the Education Strategic Investment Plan, specific provisions are made to address the issue of gender imbalance. For example, in the initial UPE- 4 children per family plan, in a family where there were both boys and girls in a family, at least two of the four children must be girls. This initiative and others that followed have gone a long way in addressing gender inequality that existed in primary schooling prior to the UPE reform. Further to this, the new approach also accords priority to children with disabilities, over other children without disability problem. Orphans also enjoy the same priority.

The increase in the Gross Intake Ratio (GIR), from 104% in 1990 to 265% in 1997 can be explained by introduction of UPE in 1997 (Table A3.3).

Table 3.1 below shows the proportion of total enrolment absorbed in private schools. The number of pupils in private schools as percentage of total pupils enrolled in school rose from 4 percent in 1996 to 18 percent in 2000, which shows the increasing role private schools have played in the implementation of UPE.

Figure 6. Primary school net enrolment rates (1990-2001)



NB: It is not possible for net enrolment rates (NERs) to exceed 100 per cent. In Table 2 you can see that for the later years 2000 and 2001 NERs are supposed to be over 100 per cent. This is either due to incorrect age specific enrolment data or poor population projections. It would be worthwhile checking if any more recent age specific population projections are available. I would also suggest exploring the reliability of the age specific population data. If you compare age specific and gross enrolment in Tables 1 and 2 it appears that a very large proportion of gross enrolment is made up of children between the ages of 6-12. This is unlikely to be true. It may be worth going to look at some of the household surveys and Demographic and Health Surveys to see whether net enrolment data has been reported in there.

Table 16. Private enrolment as a proportion of total enrolment

Year	Total Pupils	Total Private Pup	% private
1994	2,496,139	190,881	8
1995	2,912,473	276,064	9
1996	3,181,289	112,664	4
1998	5,806,385	530,176	9
1999	6,176,315	233,817	4
2000	6,559,013	1,148,208	18
2001	6,900,916	891,568	13

Source: Data is taken from Education Statistical abstracts between 1990 and 2001 listed above.

Notes: This table may be misleading as it may be a product of better response by private institutions to the MOES EMIS survey.

4. Internal efficiency of education system and quality of UPE

Although enrolment indicators are able to shed light on capacity of the school system to provide access to children who are in need of education service, they do not provide information on the internal efficiency of the education system. One effective way to improve internal efficiency in education system in an education system is to reduce wastage. Investigation into internal efficiency can be done by examining persistence indicators such as repetition, dropout and survival rates (FAWE and IDS, 2000).

This section uses survival rate to primary grade five, the primary school completion rate, and primary leaving examination passes as measures of the internal efficiency of education systems and as proxy measures of quality. The survival rate is the percentage of a given cohort of Primary one pupils who completes the primary cycle in 7 years. That is, it excludes repeaters. The repetition rate is the ratio of children who repeat a grade once or more, while the dropout rate represents the number of children who completely drop out of the school system.

Due to cuts in education sector spending (shares allocated to education declined from 13.7% in 1990/91 to 10.6% in 1994/95)³ and political instability, quality of education in Uganda remained low. Dropout and repetition rates remained high throughout the 1990s with less than one-third of all those who enrolled in P1 before 1997 likely to complete P7 on time (Appendix Table A3.4, 3.5, 3.6. See also Figure 3.5-3.7, and 3.10). During the same period, only 29 percent of girls compared to 48 percent of boys were able to complete primary school (World Bank, 1995b).

Concerning textbooks, the years before implementation of UPE had one of the worst records in terms of pupils/textbook ratio, except in the 1970s when pupils had easy access to textbooks and other instructional materials. In the early 1970s primary school children enjoyed the ‘luxury’ of one textbook per subject per pupil. About 1979/1980 parents began to buy textbooks for their children, and ratio of pupils to textbook continued to rise in 1980s through mid 1990s (personal interview). Available data for 1995 shows that three pupils were sharing a textbook in the three major subjects: English, mathematics and Science (Table 3.6).

Interviews with officials in the Ministry of Education and Sports also revealed that the number of pupils per stream (classroom) was below 40 pupils (P.1 to P.7) throughout the 1980s and early

³ Ministry of Finance and Economic Planning, 1995:26

1990s. Existing literature suggests that prior to the introduction of UPE widespread poverty deterred many children from attending school, and incidence of child labour increased. Because of poverty, many families could not afford school fees, and were faced with the decision to choose between education and competing needs. Government continued to train more teachers, so the ratio of pupils to a teacher (prior to UPE) did not change significantly (Table A3.8, Figure 3.8).

Internal efficiency and education quality after UPE

In the analysis, we have used repetition, dropout and survival rates, and average number of pupil-years per successful completer as proxies to gauge the quality of primary schooling especially after the UPE. Impact on pupil/teacher ratio, classroom/pupil ratio, and other quality indices are also applied, as well as the PLE-UNEB results.

Analysis takes into consideration the difficulties involved in comparing examination results over time when the results are norm referenced. A standard primary school curriculum against which students' performance is assessed has tended to address this concern. The primary school syllabi are criteria against which students' performance has been assessed over time. Interviews with officials from the Uganda National Examinations Board (the national examination body) indicate that the mean/average mark used for norm referencing has not varied significantly during the last one decade or so.

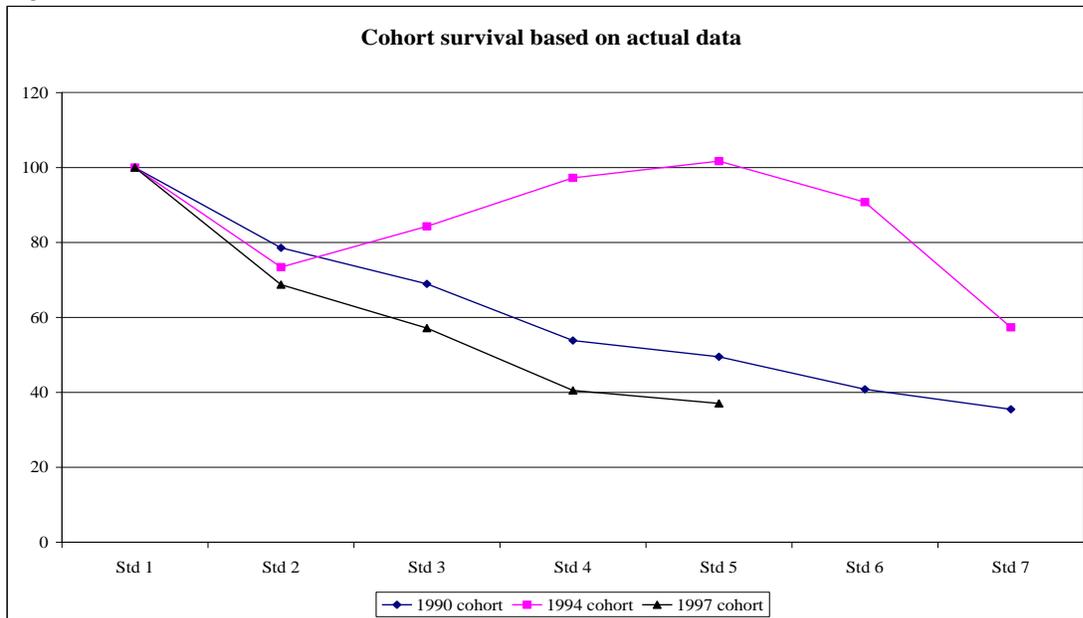
Primary survival rates

Figure 5 shows the percentages of the 1990, 1994 and 1997 cohorts surviving each primary grade. For example, of the 482,690 new entrants into P1 in 1990 79 per cent progress into P2, 69 per cent survive until P3, 54 survive to P4 etc. After 7 years 35 per cent of the original number of students reach P7. Only 35 per cent of students starting primary school in 1990 completed in 1996.

The 1994 cohort diagram is a little strange because the line does not decline after P1. Between P2 and P3 the line rises suggesting that survival into P3 is higher than P4. This is likely to be due to re-entrants into the system which can explain why there appear to be more students in P3 in 1996 than students in P3 in 1995. Comparing the 1990 cohort with the 1997 cohort it is clear that more students survived to P5 in 1990 than in 1997. This suggests that the internal efficiency of

the primary education system has declined. However, there is one major caveat. The data presented above does not account for repetition so it slightly underestimates cohort survival.

Figure 7. Cohort survival for 1990, 1994 and 1997 entrants



Sources: ESA (various years).

Notes: Data on new enrolments was not available for 1992, 1994 and 1999. New enrolment for various grades in these years have been estimated based on the proportion new enrolments were in a specific grade in the previous year. For example, Standard 3 enrolment in 1992 is calculated by multiplying total enrolment in 1992 in Standard 3 by new enrolment in Standard 3 in 1991 and dividing by total enrolment in Standard 3 in 1991.

Table 3.2 below presents similar data broken down by gender. One can see that male survival tended to be higher in the early nineties but for the 1997 cohort survival rates are similar.

Table 17. Actual Cohort Survival 1990, 1994 and 1997

Cohort	Survival to P5			Survival to P7		
	Male	Female	Total	Male	Female	Total
1990	50	49	50	38	32	35
1994	105	98	102	63	51	57
1997	37	37	37	-	-	-

Sources and Notes: See Figure 4.

Reconstructed cohort method

To be in line with what UNESCO uses and means by survival rates to grade 5 it is necessary to use the reconstructed cohort method (see notes given out at the beginning of the project). Basically this differs from the previous tables by only using one year of information for each calculation. To calculate cohort survival using this method it is necessary to know repetition, promotion and drop out rates for each grade. Using this information one can predict how many of a starting cohort will reach the end of the primary cycle.

Table 18. Indicators of internal efficiency for government aided schools

	P5 Survival rate			P7 Survival Rate			Average number of pupil years per			Input output ratio		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
	1991	58	52	55	36	25	29	16	21	18	2.28	3.06
1995	61	50	56	34	22	27	17	24	20	2.47	3.38	2.83
1997	158	158	158	87	87	85	12	12	12	1.74	1.74	1.74
2000	29	28	28	12	10	11	31	35	33	4.37	5.01	4.64
2001	71	72	72	43	39	40	14	15	14	1.97	2.16	2.06

Source: Author's calculations using pupil data in Education Statistical Abstracts (various years)

Notes: All figures reported in the table are calculated using the reconstructed cohort method. This method uses single-year promotion, repetition and drop-out rates to calculate pupil progression through the primary school system. The P5 (P7) survival rate shows the proportion of P1 students surviving to P5 (P7). The average number of pupils years per successful completer is defined as the total number of years spent in primary education by a cohort divided by the number of students in the cohort that actually complete. The input output ratio is calculated by dividing the number of years actually spent in primary education by the cohort by the minimum number of years that would be required to complete primary education for all completers. Larger values of the input output ratio signify greater inefficiency.

Trends in repetition rates

Repetition rates declined in all classes between 1997 and 1998 (most likely) due to policy of automatic promotion. UPE system encourages automatic promotion (for P.1-P6) to create room for new intakes (especially P1). Clearly, repetition was higher before UPE than the periods after introduction of UPE (Figure 3.6 and 3.7). Highest repetition rate occurred in the lower grades (P1-P4) prior to UPE, and P1-P2 and P.6-P7 after UPE.

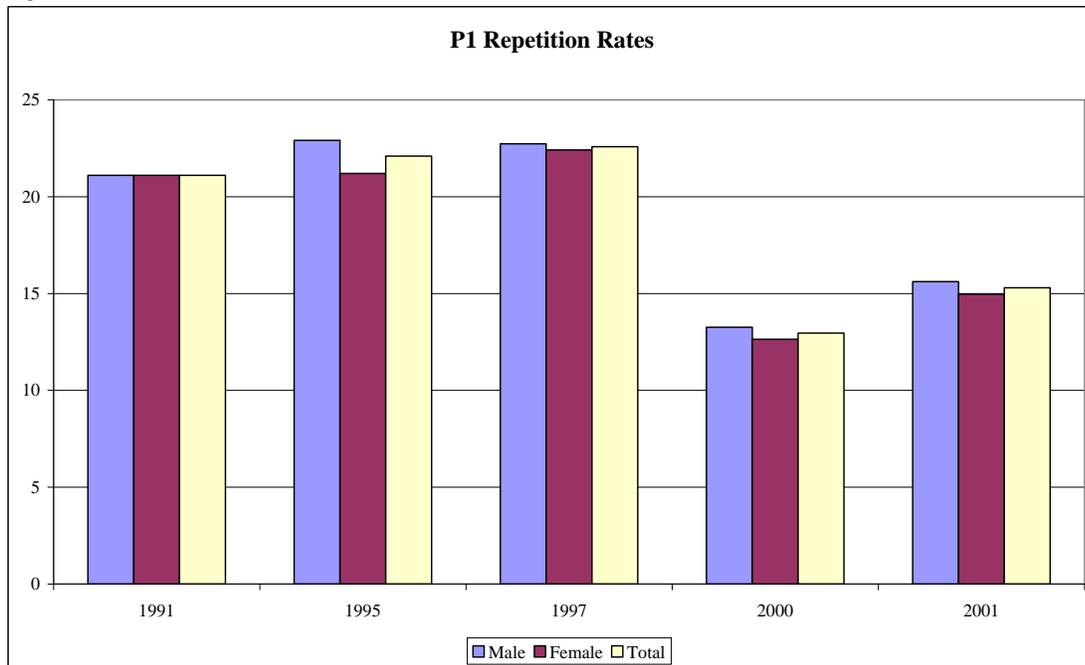
Repetition rates have fluctuated from year to year; after hitting record high in 1997, repetition dropped in all the grades in 1998, but rose again in 2000 and declined slightly in 2001 in all classes except P2 and P7. The high rates, which occurred in 1997, could be a result of the internal system to adjust fast enough to accommodate the large influx of pupils leading to over congestion in class, too many pupils that could be managed by one teacher, hence difficulty to have an effective learning. Many children who enrolled especially in P1 were under-aged and

could not perform well enough to proceed to next class (or simply be allowed to proceed e.g. to P2 because they were too young). Discussions with education officials in Hoima revealed that many children followed their older brothers and sisters to school and insisted to remain in school although they were too young to study.

Other over-aged pupils who had never been to school found it embarrassing to begin from P1 but joined from middle and upper classes (P3-P5). They ended up performing very poorly, and had to repeat classes. Statistics show high rates of repetition occurring among boys than girls – from primary one to seven (Figure). In 2001, a total of 655,862 repeated classes; 341,818 (52%) of these were boys and 314,044 (48%) were girls.

The trends in Figures 6 and 7 suggest significant differences in repetition between boys and girls in Primary Seven (top grade) compared to lower grades (P1 for example).

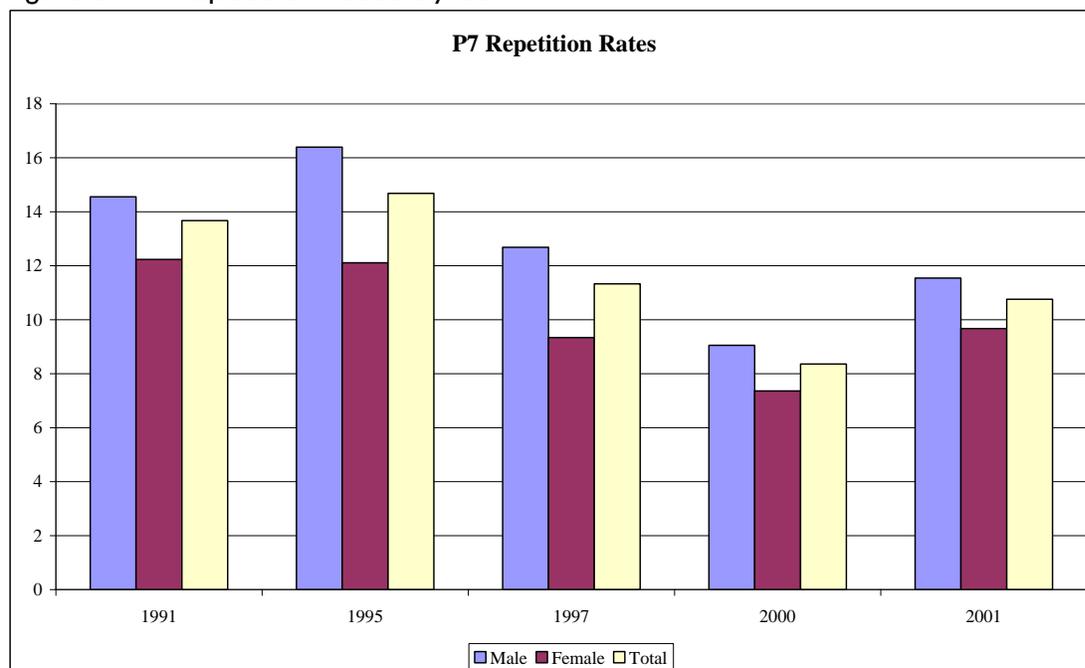
Figure 8. P1 Repetition rates by sex



Notes and sources: see Table 6.

In P1 there is about the same number of boys repeating class compared to girls, while in P7 the number of boys repeating far exceeds that of girls. It is difficult to explain this trend, but most often, girls who manage to persist up to top grade (P7) are brighter in class and perform relatively well in primary leaving examination.

Figure 9. P7 Repetition rates by sex



Notes and sources: see Table 6.

Primary school dropout rates

We considered the number of pupils who were enrolled in a school during the previous academic year but left school (dropped out) before the end of the school year (it does not include pupils who transferred to another school). Although dropout rates are rampant, they are on the decreasing trend especially after UPE. Highest dropout rates occurred in P1 and P2 for both boys and girls for most of the years but relatively higher for girls in higher classes.

In 2001, 4.7 percent of total enrolled pupils dropped out of school (4.7% among male and 4.8% among female pupils) compared to 4.5 percent that dropped out in 2000 (4.4% among male, and 4.6% among female pupils). In 2000, a study by FAWE and IDS tried to explain that significantly larger proportion of boys in P2 were leaving (dropping out of) school probably because many of them re-entered school system when they were over-aged and failed to cope with school system.

Data in Appendix Table A3.5 suggest negative dropout rates for female pupils in 1996 and both male and female pupils in 1997 and 1998. This is possibly due to re-entry into school especially after introduction of UPE. Analysis also shows that program aimed at reducing primary dropouts should focus

on pupils in lower grade especially P1 and top grades (P6 and P7) since dropouts tend to be highest at these levels.

Studies on dropout in education system in Uganda give various reasons for dropout from school. They include: lack of interest by pupils to continue with school, pregnancy, marriage, employment (pupil work during school hours), sickness, and family responsibilities. Others include: inability to pay fees, and disliking school (GoU, 2001). In 2001, lack of interest among pupils accounted for the highest rate of dropouts (boys being the majority), followed by family responsibilities (with girls being the majority). Sickness was the third most important reasons advanced for school dropout (with more girls dropping out for this reason than boys). This was the same trend in 2000 although the rates were much lower.⁴

A survey carried in Hoima and Rakai in 2002 confirms most of the findings published in Education Statistical Abstracts about pupil dropouts. In Hoima district, pupils were dropping out of school because their parents could not afford to buy uniform for them (or clothing to wear in school). Other reasons were sickness, and family responsibilities. Diseases such as epilepsy and river blindness cause the dropout of not less than 10 children in Hoima every year, according to report from District Inspector of Schools. Some children stay behind to help their family with agricultural work during peak labour season.

From June to September/October every year, many children from Kigorobya, Kabwooya, Kyabigambire – the major tobacco growing areas stay home to help their parents harvest and sort tobacco. Frequency of dropout is also high among children living along the lakeshore as they resort to fishing and casual work at landing sites especially Kibiro landing site, Tonya, Kaiso and Nyawaiga along Lake Albert. But the general trends in dropouts are on the decrease.

Despite the successes of the UPE programme, many children are still excluded from school. The present situation appears to be far from true and equitable universal primary enrolment if children continue to drop out of school. Indeed, without community and private schools, which are currently indicated to be absorbing over 10 percent of total primary enrolment, the situation would be worse. If UPE is to be fully achieved and sustained, it is essential that government gives priority to implementing measures that address the needs of drop-outs and other disadvantaged children who fail to access primary schooling.

⁴ Education Statistical Abstracts 2001:38, Ministry of Education and Sports

Second, the low learning achievement, especially in literacy and numeracy is another problem that government needs to tackle. Continued emphasis is needed on teacher training, the effective use of teaching and learning materials, an effective and user-friendly curriculum, and effective school management and teacher utilization.

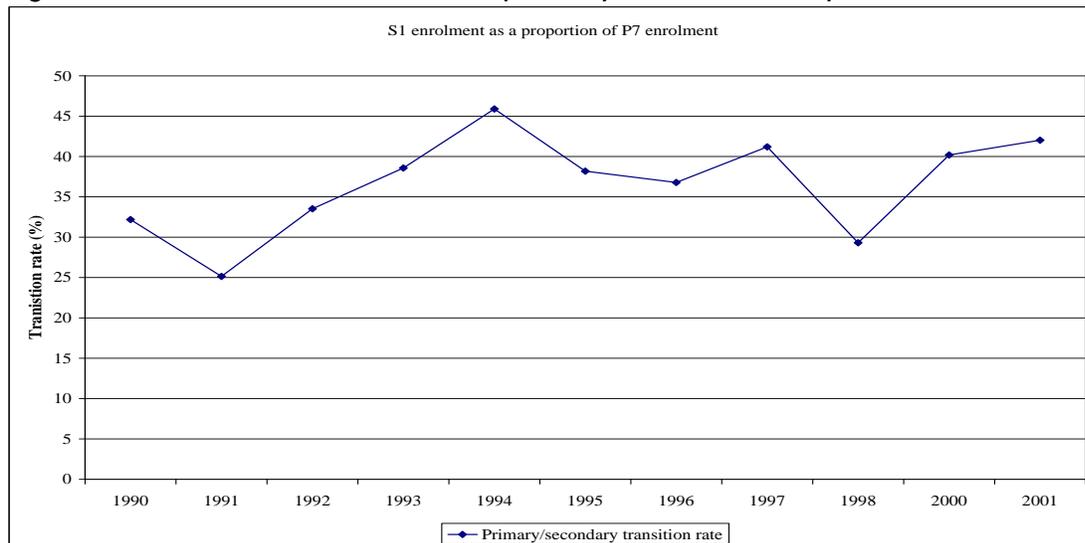
Third, HIV/AIDS imposes a threat to success of UPE. Challenges remain in defining the role of education in mitigating the spread of HIV/AIDS. Given the high rates of dropout, many children miss the key messages that schools can give on this important issue. HIV/AIDS is currently not covered in the curriculum till P.6 and P.7.

Transition rate between primary and secondary school

Figure 8 below illustrates the rates at which pupils who complete primary schools are absorbed (enrolled) in secondary school (senior one). Transition rates have fluctuated significantly over the years, attaining the lowest rate of about 25 percent in 1991 and the highest rate (slightly above 45%) in 1994.

This trend poses a great challenge for education system, which must adjust to address the problem of majority school leavers who cannot access secondary education at the moment.

Figure 10. Transition rate between primary and secondary school



Source: Data is taken from Education Statistical abstracts between 1990 and 2001 listed above.

Notes: Data is for government between 1990 and 1996. After this the transition rate is for all schools.

Impact of universal access and increasing enrolment

The high enrolment necessitated opening of more/new schools, construction of more classrooms; training and recruitment of more teachers; and provision of more instructional materials. These are discussed in more details in this section.

Impact on provision of school infrastructure

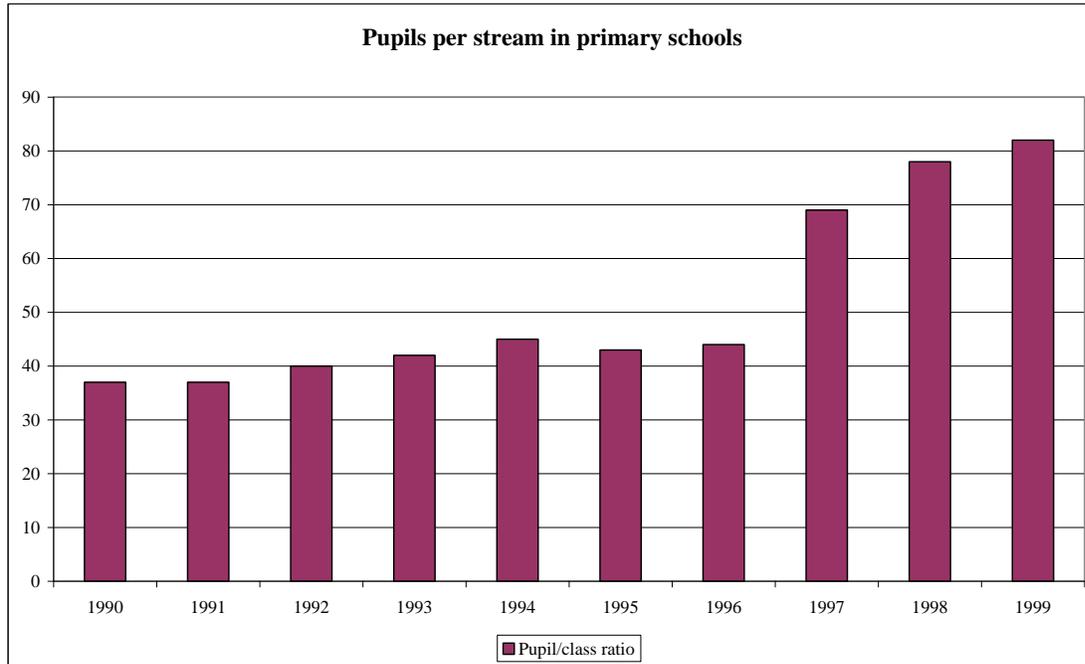
Classroom construction

A total of 6,317 classrooms have been constructed (after 1997), raising the stock to 71,486 in 2001 against a total requirement of 102,151. The pupil: classroom ratio is however, still high, and this is mainly due to a more proportionate increase in pupil enrolment as compared to classroom construction. Average number of pupils per classroom increased from 37 in 1990 to 44 in 1996. It rose to 69 in 1997, and reached 97 in 2001 (Table A3.5- Appendix). This is clearly illustrated in Figure 9, implying that despite the significant increase in number of new classroom, it hasn't helped to bring about significant improvement in the pupils/classroom ratio with the worst indicators reported for lower grades (Figure 10).

Construction of classroom, however, remains a priority activity for primary education sub-sector, and continues to receive budgetary support. In the 2002/03 annual budget, Government made a provision to the tune of Shs 60 billion to the districts towards classroom construction. This represents an increase of 23 percent over the annual budget for the financial year 2001/2002 (See Minister's statement, 2001/02).

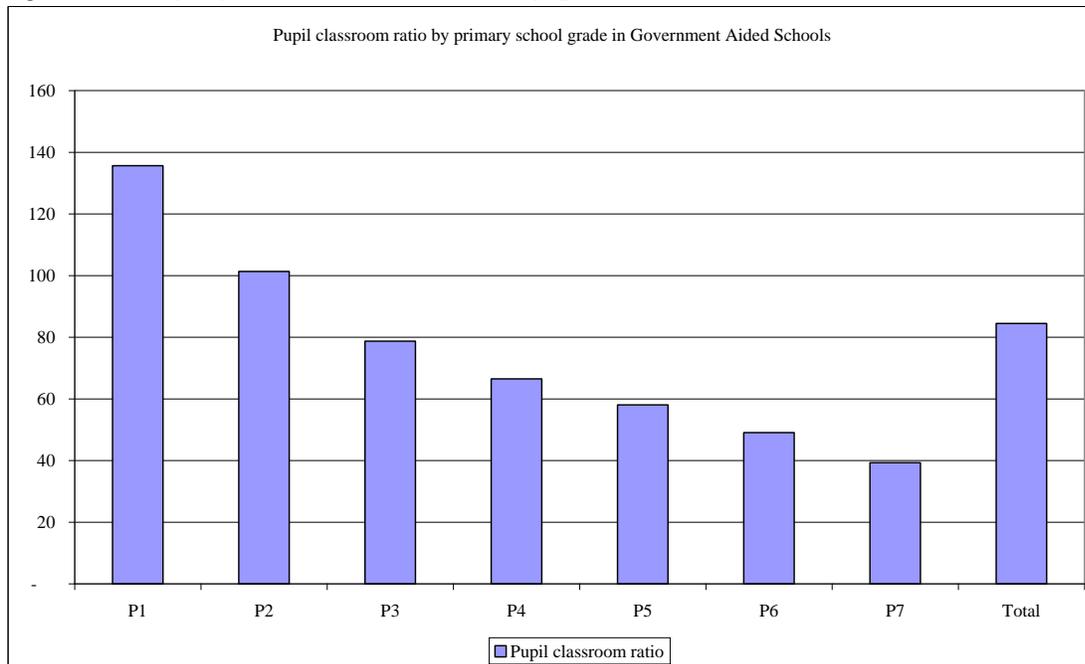
A new programme of classroom construction funded by the African Development Bank was expected to add a further Shs13 billion, which would raise the total classroom stock to about 71,486 by the end of 2001. Under the SFG, the community and Government have clearly defined roles in classroom construction. Government provides funds to purchase materials that cannot be obtained locally. It also pays the cost of labour. The community on the other hand contributes materials such as bricks. Available reports indicate that quite a reasonable number of classrooms have been constructed using SFG.

Figure 11. Pupils per stream in Government Aided Primary Schools



Source: MOES Education for All (EFA) Assessment, Table 6.2.9

Figure 12. Pupil per classroom ratio by grade 1997



Source: 1997 Education Statistical Abstract

Notes: The average figure does not match up with the data shown in Figure 8 because not all schools reported classrooms by grade (i.e. total classrooms by grade amounted to 61,217 compared to 74,519 for total classrooms).

Given a target to have a classroom for every teacher, the overall national primary school classroom requirement by the year 2003/4 is estimated to be 147,151 in line with the projected primary teacher requirement of 147,151. All together, 24,657 classrooms would be constructed in the medium term bringing the stock of permanent classrooms to 78,152 by the end of the plan period. Recent evaluation studies of the SFG Programme strongly recommend its continuation, which suggests that the target could be achieved.

Contribution of SFG (findings from the districts)

In Rakai district, since 1999 when it began to receive the school facilities grant (SFG), no major problem was reported regarding the flow of SFG funds (for classroom construction). The district, however, forfeited Ushs12m from their allocation of 2001/2002 due to late submission of the monitoring report. Nevertheless, the district still has the chance to spend the money in financial year 2002/2003 (the amount was rolled over into the financial year 2002/03). Through CBD project funded by DANIDA, 76 schools were constructed in Rakai between 1994-98. A number of classrooms have been constructed with funds coming through the budget support (Fig 11). For example a total of 104 new classrooms got built in 2000/01 with funding of 787 million shillings and 132 classrooms were constructed from a financial support of slightly over Ush 1.3 billion.

Construction of teachers' houses

There is no evidence to show any progress towards increasing the stock of houses at school to accommodate growing number of teachers. Because of this, many primary schools face acute shortage of teacher accommodation. In Rakai district, over 95% of the schools do not have a single staff house at the school. In Hoima, the story is not very different since nearly 90 percent of teachers talked to, indicated they hired houses in the neighbourhood and ride or walk to school. Given their meagre earnings, teachers are greatly constrained by the need to pay for their own accommodation. At times, it is difficult to find private accommodation at reasonable proximity to the school, which causes some teachers to travel long distances to school.

Provision of school furniture

Continues increase in number of pupils has exacerbated the existing shortage of chairs and desks in schools. In rural schools visited in Hoima and Rakai in July 2002, half had no chairs for pupils,

a situation which worsened after UPE. Before UPE, 10 percent of rural schools had enough chairs, and after UPE none of them had enough chairs. In several schools children in lower forms e.g. primary one, sat on the floor. There is sufficient evidence that supply of furniture has increased over years following implementation of UPE but has not been able to match the rate of enrolment.

Some districts like Rakai have received financial support from central government in form of equalisation grants (Ushs 40m p.a. for two consecutive years in case of Rakai); which has financed procurement of furniture for primary schools (supplementing other sources). If used well, such financial support to district can improve supply of furniture significantly, but it will take time to meet the demand.

Impact on primary teachers' workforce

Table 3.5 above shows growth in the number of primary school teachers in response to increasing enrolment. Although no significant growth in the number of teachers occurred, a year after introduction of UPE (due to ban on recruitment), many got recruited in subsequent years. The civil service reform programme, which started in the early 1990s led to a reduction of more than 50 percent of the civil service workforce, and critical services such as health and education were also affected by it. This ban on recruitment into the civil service was eventually lifted in the case of primary teachers.

To this end, Government launched a massive teacher recruitment and deployment drive in December 2000, aimed at increasing the number of teachers to meet the established ceilings for the districts. The primary teachers' establishment ceiling was raised from 101,600 to 125,804, aimed at reducing the ratio of pupils/teacher from 110 to 80 (for P1-P2) and 55 (for P3-P7). Districts were provided with resources to start recruitment of teachers to attain the new staff establishment ceiling based on MoES indicative figures for different categories of schools.

By October 2000 a total of 25,624 primary school teachers, including specialised teachers for the pupils with disabilities, had been recruited in 42 out of the 45 districts. Out of the newly recruited teachers, 18,344 were posted, 16,248 had assumed duty by 2000, while 6,659 were able to access the payroll (26%). By June 2001 total number of teachers on the payroll had grown to 103,404. Others (1,463 teachers) could not access the payroll because they were deployed to schools where there were no declared vacancies. It is good news that by March 2002, 113,232

teachers had managed to access the payroll (GoU, 2002). Weighing this against the target, the MoES is still a long way from achieving pupils/teacher ratio of 80 (for P1-P2) and 50 (for P3-P7).

Moreover the national averages (Table 3.4) contrast significantly with situation in most schools where a single teacher manages a stream of 200 pupils, especially P1 and P2. The table suggest significant rise in pupils/teacher ratio between 1997 and 1997. It dropped slightly in 1998, but continues to rise since. Clearly, it has not been easy to meet the demand in the short term. However, efforts have been made as it is showed else where in the study to address these concerns.

Table 19. Pupil Teacher ratio in Government Aided Primary Schools

Year	Total Pupils	Total Teachers	Pupil-teacher ratio
1990	2,276,590	81,590	28
1991	2,576,000	78,259	33
1992	2,403,745	86,821	28
1993	2,176,969	91,905	24
1994	2,305,258	84,043	27
1995	2,636,409	76,111	35
1996	3,068,625	81,564	38
1997	5,303,564	89,247	59
1998	5,276,209	99,237	53
1999	5,942,498	96,830	61
2000	5,351,099	82,148	65
2001	5,917,216	101,818	58

Sources: Data is taken from Education Statistical abstracts between 1990 and 2001 listed above.

Notes: Enrolment data is for government aided enrolment. The pupil teacher ratio is for government aided schools only as data on the number of private teachers is only available after 1999.

Perhaps reasonable pupils/teacher ratio would have been achieved if recruitment had worked uniformly for all districts. Statistics show that some districts were able to reach the ceiling; many did not. For example Rakai district managed to recruit teachers to their ceiling, by 2002, Hoima district had not exhausted the ceiling. The districts embarked on teacher recruitment exercise to try to counter the pressure. By 2001/02 financial, Rakai district had a total of 2970 primary teachers, 1,819 (61.2%) trained and 1,151 (38.8%) untrained. At the beginning of the financial year 2002/03, the total number of teachers stood at 3,116. It is worth noting that Rakai is the only district in the country that has recruited primary teaching staff to the required level. The district is about to reach the required staff ceiling set by the Ministry of Education of 3,297, which is not the case with Hoima.

Due to higher achievement in teachers recruitment, Rakai has comparatively lower pupil/teacher ratio (45:1 - comparing favourably with the national statistics of 54:1) than Hoima with pupils/teacher ratio of over 80. Pupils/classroom ratios, was also reported to be lower for Rakai compared to Hoima.

The TDMS programme, which began in 1996 contributed to the increase in teachers number because it enables recruitment of S.4 and S.6 leavers as licensed teachers to undergo in-service training for grade III teachers. In Rakai district data shows that the percentage of untrained teachers reduced from 45 percent in 1996 to about 25 percent in 2002.

The numbers of teachers who exit the system and qualified teachers who remain reluctant to teach in rural, areas erode the gains made in teacher recruitment. Improvements in teacher enrolment were also partially negated by erroneous deletions of teachers from the payroll and the deployment of others in schools without vacancies in some districts – hence denying them entry onto the payroll. While the national pupil: teacher ratio (PTR) of 58 exceeds the 2001 target ratio, it masks significant disparities across districts as illustrated in the examples of Rakai and Hoima. Conclusively therefore, there has been marked improvement in the recruitment of primary school teachers by various districts. Since May 2001, 10,515 primary school teachers have accessed the payroll, 2,111 have been reactivated, and 5,943 have been deleted. By October 2001, 106,854 primary teachers had accessed the payroll.

To encourage teachers to work in ‘difficult areas’ of the country, Cabinet agreed to give 20% of the teacher’s wage as extra pay to teachers in “hard-to-reach areas”. This definition applies to areas with persistent harsh conditions like poor and unreliable road network; difficult terrain; nomadic lifestyle; isolated areas like islands; poor provision and lack of social amenities; hostile communities; insecurity; lack of housing; and inadequate water supply. The target areas include: Kalangala; Moroto; Kotido; and Buvuma Islands, in Mukono district. Due to lack of data, it is difficult to tell how much this policy has been able to achieve in terms of attracting teachers to these areas.

Quality of teaching workforce at primary level

Improvement in quality of education in primary schools is a function of the quality of teachers therein. Teachers must have received sound education and training while at college to make them effective, competent and professional in their service.

Table 20. Percentage of Untrained teachers in government aided schools

Year	Untrained teachers	Total Teachers	%
1990	9,391	81,590	12
1991	8,682	78,259	11
1992	10,110	86,821	12
1993	31,833	91,905	35
1994	-	84,043	-
1995	20,883	76,111	27
1996	21,817	81,564	27
1997	26,673	89,247	30
1998	18,284	99,237	18
1999	-	96,830	-
2000	17,579	82,148	21
2001	18043	101,818	18

Sources: Data is taken from Education Statistical abstracts between 1990 and 2001 listed above.

Notes: The qualification of teachers is for government aided schools only as data on the number of private teachers is only available after 1999.

The 1990 data shows that a total of 12 percent of the teaching workforce were unqualified (untrained), with serious implications for the quality of primary education (Table 3.5). This ratio differs significantly from the report by Education Policy Review Commission that estimated that 60 percent of primary school teachers were untrained by 1990.

There has been some effort to improve quality of the teaching workforce. Primary Teachers' Colleges (PTCs) have been restructured and strengthened. Tuition fees in PTCs have been waived, and any one qualified to enter PTCs studies under full Government sponsorship. The proportion of primary teachers with the required academic qualifications and the teacher attrition rate has increased over time as a result. Primary Teachers' Colleges (PTCs) are now using a new curriculum (which has been in place since 1996). Support for the curriculum development came from the Teacher Development and Management System (TDMS) in the Ministry of education and sports.

The TDMS programme was designed to provide: (a) pre-service training of newly recruits into teaching; (b) In-service upgrading of practicing teachers; (c) in-service training (refresher courses) aimed at introducing new methods, textbooks and learning materials; and (d) management and support training for Head teachers, education officers, inspectors of schools, chairpersons school

management committee, PTA, etc. In addition to expanding the workforce by recruiting school leavers, qualified retired teachers who were still capable of teaching on contract were also re-employed.

With the declining quality indicators e.g. pupil: teacher, pupil: classroom, and teacher: classroom ratios, there are teething problems that Government and its stakeholders still need to effectively address. The recruitment of additional primary school teachers is key to ensuring improved quality in primary education. Ministry sources further indicate that within the UPE programme, the recruitment of more teachers to meet the increased demand for education, classroom construction and the maintenance of academic standards are the key issues demanding constant if not increasing attention.

Teacher training continues to be a key strategy for ensuring quality education. To cater for the abolition of cost sharing, an additional Shs. 4.7 billion has been allocated to Primary Teachers' Colleges (PTCs) to fully cover the non-wage costs. From fiscal year 2002/2003, all students enrolled in PTCs will be fully sponsored by government, covering 16,425 pre-service students and 8,000 in-service trainees. Supporting good practice in schools is a necessary component to improving quality. To this end a sub county level schools-performance award was approved in 2000. This scheme rewards improvement in accountability, transparency and record keeping, promotion of girls' education and Special Needs Education. Guidelines for the Primary Schools Performance Awards Scheme have been developed and the ministry has provided Ushs. 800 million to cover the costs of the scheme for the 2002/2003 fiscal years.

The sixth Education Sector Review (April-Oct, 2001) recognizes that even as government and its partners take stock of the achievements made, there are formidable challenges that require creative solutions if current achievements are to be sustained and increased.

Impact on supply of textbooks

Table 3.6 shows that there were fewer number of pupils per textbook before UPE than after it. The indicators were worst in 1997 than any periods after it.

Table 21. Pupil textbook ratios in government aided primary schools

Year	Total Pupils	Absolute number of textbooks			Pupil textbook ratio		
		English	Mathematics	Science	English	Mathemati	Science
1995	2,636,409	991,270	874,190	896,060	2.7	3.0	2.9
1996	3,068,625	654,280	567,082	336,857	4.7	5.4	9.1
1997	5,303,564	1,407,757	1,187,493	756,762	3.8	4.5	7.0
1998	5,276,209	1,696,205	1,367,628	1,375,532	3.1	3.9	3.8
1999	5,942,498	-	-	-	-	-	-
2000	5,351,099	2,019,476	1,661,493	1,715,677	2.6	3.2	3.1
2001	5,917,216	2,267,152	1,911,221	1,925,203	2.6	3.1	3.1

Sources: Data is taken from Education Statistical abstracts between 1990 and 2001 listed above.

Government devoted equivalent of USD 8.5 million for purchase of textbooks, readers and teachers' guide at the beginning of UPE. About 2.2 million books were purchased and distributed to all government-aided primary schools, but still, current pupil textbook ratio is very high (approx. 10:1). The Education Sector Review (ESR) report of April 2002 noted lack of supportive materials for both teachers and pupils in the use of the new curriculum (in Western Region), which means that additional financing is required to secure relevant materials. In Northern Uganda, ratio of textbook in some schools is 1 book to 10 pupils. What is perhaps of greater concern is that pupils do not access even the few textbooks because they are kept under lock and key by headteacher. Another disappointing thing is that some textbooks have been damaged by termites, cockroaches, and rats due to poor storage.

In Eastern Region, the ESR report observes similar problem of storage and lack of access to limited available textbooks/instructional materials, including materials for children with special needs. In Rakai district, officials talked to were satisfied with supply of textbooks, but were concerned with poor handling of books by pupils and teachers. The number of textbooks per pupils did not decline, but increased slightly in the sample schools because of a USAID supported project. In addition, the CBD project funded by DANIDA was able to provide Ushs 80m annually for textbooks between 1992-98. In the financial year 2001/02, the district again received Ushs 295m under the pilot Decentralised Instruction Materials Procurement project (DIMPP). These put the district at a fairly favourable position.

However, the ESR report recommends efforts to ensure achievement of adequate pupil book ratio (for most regions) for effective learning to be realised. This means that more funding is still needed for the purchase of textbooks and instructional material. With these, it is clear that increasing enrolment (UPE) has led to increased supply of textbooks and instructional materials, as well as public expenditure on these items.

Impact on learning outcomes: primary examination results

It is clearly evident from Table 3.7 below that the PLE results from 1992, five years before introduction of UPE and now seven years after UPE implementation have not varied significantly. The computed annual standard deviations across the four regions vary between 5.6-9.6, which suggests that there is no marked difference in the PLE performance at the national level.

Table 22. Pupils' performance in Primary Leaving Examination (PLE) by Region, 1992-2001 (% pass mark)

Year	Central Region	North eastern Region	Western Region	Northern Region	Eastern Region	South-western Region	STDEV
1992	71	57	63	62	63	55	5.60
1993	82	69	82	69	74	67	6.74
1994	81	61	79	64	71	69	7.96
1995	83	65	80	67	84	76	8.13
1996	81	64	85	68	77	73	7.92
1997	83	74	92	77	83	79	6.28
1998	82	72	86	70	76	76	6.03
1999	83	82	88	77	78	74	5.01
2000	83	66	90	75	75	74	8.28
2001	79	61	84	78	63	66	9.66
<i>STDEV</i>	3.68	7.37	8.13	5.74	7.15	6.97	1.45

Source: Ministry of Education

Considering performance at individual regional levels, some regions have done much better than others. For example the first three regions (1-3) have performed much better than the last three regions (4-6). However, analysis of the region's annual performances did not show significant differences from year to year. In fact PLE results have improved for some regions after UPE. The inter-region differences are attributed to differences in education infrastructure and facilities as some are located in low potential areas (more rural-based setting) others offer better opportunities for improved education performance e.g. better qualified teachers, access to electricity, etc.

Table 23. Overall Percentage passes and dropout rates at primary school

	P1 Enrolment ('000)	P7 Enrolment ('000)	PLE Registration ('000)	PLE Sitting ('000)	PLE Passes (000)	% PLE Passes	Gross Survival Rate (GSR)	Net Survival Rate (NSR)	Transition Rate P7 to S1
	1	2	3	4	5	6	7	8	9
1990	555	174	161	144	118	82	32	26	40
1991	614	183	164	149	119	80	30	24	40
1992	563	181	170	155	104	67	30	20	32
1993	526	153	169	155	104	70	28	20	22
1994	568	182	171	175	124	71	30	21	31
1995	672	172	185	183	132	72	31	22	42
1996	797	495	192	200	141	-	-	-	40
1997	1,951	227		242	175	79	-	-	35

Source: Ministry of Education and Sports

As observed in Table 3.5, the best results were obtained in 1990. The proportion of pupils that obtained required passes decreased from 82 percent in 1990 to 79 percent in 1997. The poorest results were witnessed in 1992 when only 67 percent of the candidates obtained the required pass grade. The Gross Survival Rate also decreased from 32 percent in 1990 to 31 percent in 1995 while the Net Survival Rate (NSR) reduced from 26 percent in 1990 to 22 percent in 1995. The transition rate from P7 to S1 reduced from 40 percent during 1990 to 35 percent in 1997.

The results also depict a scenario where the drop out rate for girls seems to be relatively lower than that for boys for the lower forms/classes. The situation is quite opposite for the higher classes, where the drop out rate for girls is much higher than that for boys. It is generally believed that girls are dropping out of school partly because of lack of adequate sanitation facilities in schools. The majority of toilets (latrines) in schools lack doors or shutters to provide some form of privacy, whereas others are mixed sex toilets. These are very unfavourable conditions for the relatively mature girls who require a certain degree of privacy. Other possible causes of dropping out have been identified as inability to afford school uniform, lack of lunch in school and need to supply domestic labour services.

Impact of UPE on provision of secondary education

Recent studies have argued that the main challenge facing Uganda's education sector is ensuring the sustainability of the UPE programme, as well as embarking on the expansion of secondary school facilities early enough to meet future enrolment demands (Appleton, 2001).

The growth in primary enrolment led to expansion in number of secondary schools as well as enrolment. Number of government-aided schools grew by over 20 percent over the last seven

years and about 15 percent increase in the number of registered schools for the same period. There are 1,850 secondary schools, 9.9% of which are government aided, 25.4% partly government aided, 1,146 non government aided (purely private schools), 2.8% others that can be classified as community-cum-private schools (GoU, 2001). Less than 200 of these schools have reasonable facilities in terms of equipment and furniture and about 50 schools share facilities with primary schools, while others use community centres (personal interview).

Total number of students enrolled in secondary schools in 2001 were 539,786 of which, 301,814 (55.9%) were male and 237,972 (44.1%) were female. Total enrolment rose by 5.5 percent in 2001 over the 2000 enrolment figures. The year 2001 also recorded gross enrolment ratio (GER) of 13 percent (GER was 14.7% for male students and 11.7% for female students). NER was recorded at 12.9 percent (about 14% male NER and 11% female NER) in the same year (GoU, 2001).

The demand for teachers has increased considerably and will continue to be the case over the next decade especially as UPE progresses. A total of 30,425 teaching workforce was in service in 2001 (of which 81% were male teachers and 19%, female teachers). Large number of teachers in secondary schools is at present untrained. Out of the 30,425 teaching force in 2001, 19.6 percent were unqualified. With the current secondary education infrastructure, the sector is yet to attain the necessary capacity to cope with the large primary school leavers (Uganda Investment Authority and USAID*, 2001). The impending UPE bulge expected to join the secondary by the year 2004 is likely to put a lot of pressure on resources and facilities at secondary school level.

It is estimated that in 2003, about 1 million pupils will sit primary leaving examinations (first lot of UPE pupil to complete primary school cycle), yet the existing capacity in secondary schools can only absorb about 155,937 students in senior one (GoU/MoES, 2001:68). It is easy to guess what will happen to the majority. Other capacity constraint in secondary school is the shortage of scholastic materials. Teaching of science subjects in most of the mushrooming schools leaves a lot to be desired as they lack science laboratories.

A large number of schools in rural areas lack basic facilities like furniture hence making learning environment very un-conducive. Since a number of schools were destroyed during the

* USAID is the United States Agency for International Development.

years of turmoil and are in a dilapidated state, they will require urgent renovation to make them functional. Yet, statistics show that over 420 sub-counties do not have secondary schools, making access to secondary education difficult in these areas.

6 Conclusions and implications for policy

This chapter investigated the implications the achievement of universal access has had on primary education outcomes in Uganda. It analysed the trends in primary education outcomes (before and after UPE) using measures of education access/quantity such primary gross enrolment ratio, and primary net enrolment ratio, and measures of quality/internal efficiency of education system: the survival rate to primary grade five, the primary school completion rate, and dropout rates, among other indicators.

Since the introduction of UPE in 1997, public expenditure on education has generally been increasing every subsequent year, both in nominal and real terms. Increases in public spending on education far surpassed the resources foregone by the sector because of abolition of tuition fees at the primary school level. The School Facilities Grant enabled construction of classrooms and purchase of furniture to take care of increased enrolment. Because of these developments, education quality indicators that had worsened with the introduction of UPE in 1997 have generally improved, although desired targets are yet to be achieved.

From the analysis, all the access indicators improved significantly after UPE suggesting that UPE has been achieved in terms of increasing access to primary education, especially for the poor families who could not afford the cost primary education. The access outcomes have to a large extent been achieved as evidenced by consistent steady annual increases in enrolment. The closing of the gap in access between the rich and the poor, and between boys and girls means that UPE has led to relative equity in provision of basic education in Uganda.

There is, however, quantity-quality trade-offs in the present enrolment (access) gains. Nearly all indicators of internal efficiency, as well as input indicators deteriorated during the UPE implementation. Survival rates decreased in most cases, suggesting increasing wastage of the system. Repetition rates improved in most cases, but dropout rates increased. Average number of pupil years per successful completer and PLE achievements did not change significantly. On the

input side, many classrooms have been built, and substantial amount of instructional materials provided, with teachers attending in-service and formal training to improve their grades and more joining the teaching service, but this is weakly correlated with outcomes. For example, the pupils/classroom ratios, pupils/teacher ratio, and pupils/book ratios are far worse than what were before UPE. Notwithstanding, some improvements have taken place over the past years with UPE but not significant enough to make their impact count.

APPENDIX

Table A3.1. Primary school gross enrolment rates (1990-2001)

Year	Enrolment in Primary School			Primary school aged population			Gross enrolment ratio		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1990	1,269,564	1,007,026	2,276,590	1,666,994	1,658,000	3,324,994	76	61	68
1991	1,421,952	1,154,048	2,576,000	1,670,905	1,666,201	3,337,106	85	69	77
1992	1,349,753	1,053,992	2,403,745	1,750,288	1,753,233	3,503,521	77	60	69
1993	1,200,155	976,814	2,176,969	1,868,055	1,866,197	3,734,252	64	52	58
1994	1,352,241	1,143,898	2,496,139	1,868,055	1,866,197	3,734,252	72	61	67
1995	1,584,027	1,328,446	2,912,473	1,926,938	1,922,679	3,849,617	82	69	76
1996	1,707,247	1,474,042	3,181,289	1,996,182	1,989,923	3,986,105	86	74	80
1997	2,832,472	2,471,092	5,303,564	2,077,312	2,069,512	4,146,824	136	119	128
1998	3,061,722	2,744,663	5,806,385	2,158,442	2,149,100	4,307,543	142	128	135
1999	3,232,713	2,943,602	6,176,315	2,239,572	2,228,689	4,468,261	144	132	138
2000	3,395,554	3,163,459	6,559,013	2,564,030	2,548,716	5,112,746	132	124	128
2001	3,528,035	3,372,881	6,900,916	2,388,088	2,375,209	4,763,297	148	142	145

Sources: Enrolment data is taken from Education Statistical abstracts between 1990 and 2001 listed above. Population data for 1990 and 1991 are taken from MOES Education for all (EFA) Assessment. Population data between 1992 and 1999 are taken from projections based on the 1991 population and housing census reported in ESA 1995. Population data for 2000 and 2001 are taken from ESA 2000 and ESA 2001.

Notes: Enrolment data is for total (government aided, private and community schools) enrolment. However, data on enrolments in private schools is only available for 1994, 1995, 1996, 1998, 1999, 2000 and 2001. The primary school aged population is the population between the ages of 6 and 12. The primary gross enrolment ratio is defined as total primary school enrolment divided by total primary school age population.

Table A3.2: Primary net enrolment rates (1990-2001)

Year	Enrolment in Primary School 6-12			Primary school aged population			Net enrolment ratio		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1990	966,885	787,556	1,754,441	1,666,994	1,658,000	3,324,994	58	48	53
1991	952,416	849,763	1,802,179	1,670,905	1,666,201	3,337,106	57	51	54
1992	980,131	841,700	1,821,831	1,750,288	1,753,233	3,503,521	56	48	52
1993	908,840	783,837	1,692,677	1,868,055	1,866,197	3,734,252	49	42	45
1994	1,022,997	953,537	1,976,534	1,868,055	1,866,197	3,734,252	55	51	53
1995	1,092,206	988,076	2,080,282	1,926,938	1,922,679	3,849,617	57	51	54
1996	n.a	n.a	n.a	1,996,182	1,989,923	3,986,105	n.a	n.a	n.a
1997	1,905,185	1,718,501	3,623,686	2,077,312	2,069,512	4,146,824	92	83	87
1998	2,150,939	1,958,996	4,109,935	2,158,442	2,149,100	4,307,543	100	91	95
1999	n.a	n.a	n.a	2,239,572	2,228,689	4,468,261	n.a	n.a	n.a
2000	2,886,480	2,772,585	5,659,065	2,564,030	2,548,716	5,112,746	113	109	111
2001	3,186,217	3,058,837	6,245,054	2,388,088	2,375,209	4,763,297	133	129	131

Sources: Net enrolment data is taken from MOES Education for all (EFA) Assessment between 1990 and 1995. Remaining net enrolment data taken from ESA (various years). Population data for 1990 and 1991 are taken from MOES Education for all (EFA) Assessment. Population data between 1992 and 1999 are taken from projections based on the 1991 population and housing census reported in ESA 1995. Population data for 2000 and 2001 are taken from ESA 2000 and ESA 2001.

Notes: Enrolment data is for total (government aided, private and community schools) enrolment. However, data on enrolments in private schools is only available for 1994, 1995, 1996, 1998, 1999, 2000 and 2001. The primary school aged population is the population between the ages of 6 and 12. The primary net enrolment ratio is defined as total primary school enrolment between the ages of 6 and 12 divided by the total primary school age population.

Table A3.3: Primary gross intake rates (1990-2001)

Year	Enrolment in Primary School P1			6 year old population			Gross intake rate		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1990	264,502	218,188	482,690	232,509	233,289	465,798	114	94	104
1991	255,792	229,268	485,060	285,063	290,664	575,727	90	79	84
1992	n.a	n.a	n.a	280,464	278,156	558,620	n.a	n.a	n.a
1993	222,018	197,394	419,412	311,332	318,266	629,598	71	62	67
1994	n.a	n.a	n.a	314,571	320,467	635,038	n.a	n.a	n.a
1995	279,811	253,913	533,724	321,539	327,991	649,530	87	77	82
1996	345,365	319,361	664,726	321,273	319,859	641,132	n.a	n.a	n.a
1997	908,725	862,970	1,771,695	334,693	332,992	667,685	272	259	265
1998	769,650	733,334	1,502,984	348,065	346,064	694,129	221	212	217
1999	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
2000	561,224	554,058	1,115,282	376,465	373,995	750,460	149	148	149
2001	622,506	623,448	1,245,954	388,704	385,692	774,396	160	162	161

Sources: Enrolment in Primary P1 is taken from Education Statistical Abstracts. Population data between 1990 and 1998 are taken from MOES Education for all (EFA) Assessment. Remaining population data is taken from ESA 2000 and 2001.

Notes: Enrolment data is for government aided schools only. The gross intake rate is total six year old enrolment in P1 divided by the total 6 year old population.

Table A3.4: Total Repetition Rate in Government Aided Primary Schools

	Repetition		
	Male	Female	Total
1990			
1991	17	18	18
1992			
1993	15	16	15
1994			
1995	19	19	19
1996	17	18	17
1997	16	16	16
1998	8	7	8
1999			
2000	11	11	11
2001	12	12	12

Source: Author's calculations using pupil data in Education Statistical Abstracts (various years).

Notes: Repetition rates are calculated by dividing total repeaters in a given year by total enrolment (see education indicator notes).

Table A3.5 Drop-Out rates by grade in government aided schools

	Male			Female			Total		
	P1	P3	P6	P1	P3	P6	P1	P3	P6
1990									
1991	17	7	8	17	11	16	17	9	12
1992									
1993	30	20	25	24	19	26	27	20	26
1994									
1995	17	6	10	21	9	19	19	7	14
1996	11	0	10	10	-1	14	10	0	12
1997	-57	-16	4	-7	-11	16	-33	-14	10
1998	32	-1	5	28	-2	10	30	-1	7
1999									
2000	33	23	28	34	23	32	33	23	30
2001	18	3	15	18	2	18	18	2	17

Source: Author's calculations using pupil data in Education Statistical Abstracts (various years)

Notes: Drop-out rates are calculated by dividing new enrolment in the next grade by total enrolment in the previous year. For example, the P1 drop-out rate for 1991 is new enrolment in P2 in 1991 divided by P1 enrolment in 1990 (see education indicator notes).

Table A3.6. Pupils per classroom

Year	Pupils	Classrooms	Pupils per classroom
1993	2,176,969	58,846	37
1994	2,305,258	50,781	45
1995	2,636,409	74,963	35
1996	3,068,625	69,344	44
1997	5,303,564	74,519	71
1998	5,276,209	70,204	75
1999	6,176,315	80,205	77
2000	6,559,013	96,837	68
2001	6,900,916	88,292	78

Source: Data is taken from Education Statistical abstracts between 1990 and 2001 listed above.

Notes: Data is for government aided schools between 1993 and 1998. Total classroom ratio after that although unclear whether number of classrooms in ESA covers both grant aided and private.