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**MAPPING WAYS FORWARD:  
PLANNING FOR 9-YEAR BASIC EDUCATION IN RWANDA**

**Final Report**

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# **A ROAD MAP OF WAYS FORWARD: PLANNING FOR 9-YEAR BASIC EDUCATION IN RWANDA**

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## **Executive Summary**

This report consolidates recent reviews of policy and progress on Nine Year Basic Education in Rwanda. It identifies the main issues that require new policy, projects costs and financial gaps associated with different scenarios for expansion, and suggests implementation structures. Taken together these constitute a road map towards universalizing primary education with low repetition and drop out rates and much reduced double shifting, and substantially expanded Tronc Commun with a greater proportion of trained teachers and more learning materials. The financial resources required are feasible. The challenge is to develop effective implementation strategies for large scale investment in improved quality, expanded capacity, and managed growth that can lead to the attainment of the targets the GOR has set for Nine Year Basic Education.

## **Key Issues**

### **Consolidating Progress towards Universal Primary Education**

MINEDUC gives **priority to the development of primary education** in the ESSP. Much remains to be achieved. Repetition and drop out is serious problem and may not fall as planned, quality and achievement are very varied and far from satisfactory, classrooms and learning material need further investment, double shift schools persist at grades 1-3. This implies continued investment in the sector such that about 50% of educational resources are available to primary, pupil teacher ratios can be diminished to allow reductions in double shifting, investments in learning material occur to increase the number of books per child within a developmental curriculum, teacher training and support in-service is enhanced, and physical infrastructure is improved in quality and quantity. The total number of children in primary schools will remain fairly stable between 2005 and 2015, after which it will begin to increase again at the rate of population growth amongst six year olds. This is a window of opportunity to improve the quality of access and successful completion rates.

## **Recommendations:**

- Ensure primary teacher supply in sufficient numbers to **reduce pupil teacher ratios from 1:67 to 1:45 by 2015**. This would be sufficient to reduce class sizes, improve learning quality, and reduce double shifting to a minimum. This would require up 3,000 new teachers a year initially, reducing to about 300 a year from 2011 as enrolments stabilise.
- Sequentially **reduce double shifting** in lower primary through building and rehabilitating classrooms in sufficient numbers (about 1100 classrooms a year would be needed over ten years to reduce double shifting to less than 15% in grades 1-3).
- **Develop curriculum materials** usable in typical primary school environments, including teacher support manuals, and produce and distribute

these to achieve a target of **one book for every three 3 pupils** by 2015 in core subjects.

- **Strengthen school management strategies to reduce repetition and drop out** and improve learning through more effective governance, annual school plans, decentralized monitoring and evaluation, and in-service support for good practice.
- **Ensure 50% of recurrent spending is budgeted for primary education** until enrolment, retention and completion targets are achieved. Design an investment strategy that balances continued needs at primary level with **managed growth at Tronc Commun** until 2015.

## **Managing the Expansion of Access for Nine Year Basic Education**

### **i) Teacher Supply and Teacher Training**

Any plan to expand access to Tronc Commun has to address the question of teacher supply. More than half Tronc Commun teachers are currently untrained, and over 80% of secondary teachers are male. No expansion should proceed on the basis that this proportion of untrained teachers will rise. The current training system based in KIE is very expensive per trained teacher (RWf 4-6 million per graduate) and cannot be scaled up at affordable costs.

Various analyses lead to the same conclusions. These are that **the length of initial training should be shortened**, that it should be possible for **Tronc Commun teachers to be trained through one year full time and one year of school based support** after completing Upper Secondary, and that **initial training has to be organised for costs no more than about five times the cost of a secondary school student** per year if it is to be affordable.

### **Recommendations:**

- Establish **National Colleges of Education to train Tronc Commun teachers** in advance of rapid expansion. Up to four will be needed by 2015 each enrolling up to 500 trainees). This is the preferred option and could be achieved through conversion and restaffing of existing institutions as demand for new primary teachers falls. Other options include mixed institutions which train both primary and Tronc Commun teachers; distance education for initial training, and radical revision of KIE training to reduce costs per graduate to five times the cost of a secondary school pupil per year. None of these other options are as attractive.
- **Continue support for primary school teacher training institutions** matched with falling demand and ensure that if Tronc Commun CoEs are established they work with primary TTCs to improve training quality.
- **Recruit and train teacher trainers for new CoEs** who have pedagogic experience of Tronc Commun, and who have commitment to improved professional practice, pupils learning, and appropriate subject knowledge.
- **Develop new teacher training curricula** matched to the training modality chosen and the needs of new teachers at primary and Tronc Commun level.

## **(ii) Curriculum, Learning Materials and Assessment**

Secondary school curricula have not been comprehensively revised within a consistent conceptual framework that provides continuity of learning from grade 1 – grade 9. This is a major task that will take several years. It is unavoidable if materials are to meet learners needs, teachers' capabilities, and be teachable effectively in at least 80% of the schools. Primary curricula also need development and this should proceed alongside of revision at secondary level. Most education systems challenged by expansion and quality have elected to focus on core learning competencies at primary level, and a core curriculum of a restricted range of subjects (usually five or six) at lower secondary, with an emphasis on essential outcomes.

### **Recommendations:**

- **Agree the conceptual framework of the curriculum** will shape the development of new national core curricula.
- **Agree the core subjects** which should be prioritised at primary and secondary level and their desired learning outcomes.
- **Refine and implement the six year curriculum development plan** to develop, and produce new curriculum materials for each grade sequentially (1-6 at primary and 1-3 at secondary) starting in 2006
- **Agree methods of production and distribution** and budget costs. Test procurement and delivery systems in 2006.
- **Agree a national assessment strategy** linked to curriculum outcomes constructively linked to curriculum reform which promotes equity and access and can reduce repetition and drop out. **Develop a six year plan** to develop, and produce new curriculum materials for each grade sequentially (1-6 at primary and 1-3 at secondary).

## **(iii) School Infrastructure Development**

Physical investment in classrooms and schools remains widely needed. The need to equip primary schools with basic furniture continues, a significant proportion of buildings are unsuitable for learning, and new classrooms will need constructing to reduce double shifting and replace deteriorating stock. Decisions are needed on how fast to progress and how to construct and finance building.

### **Recommendations:**

- **Establish how much under utilized capacity exists in existing schools** and how much growth can be absorbed through provision of additional classrooms
- **Identify where new schools should be built** to maximize gains in access, avoid duplication, and create economies of scale? Phase this to allow new building to commence in 2006
- **Decide the method(s) of procurement** capable of creating 1000 or more primary school classrooms and up to 100 new Tronc Commun schools (or their equivalent in classroom capacity) each year. Pilot these modalities in 2006.

- **Decide preferred policy on the design of new Tronc Commun facilities.** The options are classes added to primary schools, separate Tronc Commun schools, or Tronc Commun classes joined with Upper Secondary schools.
- **Identify, cost and contract construction/rehabilitation related to teacher training by 2006.**

#### **(iv) School Management and Efficiency**

Expanded access at Tronc Commun level and above requires reduction in costs per student if the resource envelop is not to be exceeded. No mass enrolment secondary school systems have cost per pupil ratios at secondary to primary of more than 2:1. In Rwanda the current ratio is more than 5:1. If enrolments at primary were universal, and the net enrolment rate at secondary was 50%, secondary expenditure would approach five times as much as primary and thus exceed the entire education budget.

#### **Recommendations:**

- **Plan and implement school by school reductions in subsidised boarding** through clear procedures for subsidy levels in each school. Aim to have no more than 10% subsidized boarding at Tronc Commun by 2015 and 20% at Upper Secondary. Boarding above these levels would be full cost recovery.
- **Identify methods to increase the internal efficiency with which teachers are deployed** and utilized in schools, so that the learning time and learning achievement of pupils is maximized
- **Reduce the number of non teaching administrative staff** to no more than 20% of the number of teachers from current levels (which appear to be as much as 40% of the number of teaching posts) through redeployment and streamlining administration.
- **Increase the number of schools which have active and purposeful development plans** against which to self evaluate progress towards local and national objectives
- **Establish effective school monitoring and evaluation systems**, coupled with constructive support, to identify levels of efficiency and methods to improve quality and output.

#### **Other Issues**

##### **i) Cost Recovery and Fees.**

Primary schools are now Fee-Free. The cost of making Tronc Commun Fee Free varies from about RWf 1 to RWf 4 Billion a year between 2006 and 2015. This assumes a RWf 11,000 flat rate waiver to all pupils accompanied by a capitation grant to schools of similar value to replace lost income. These costs could be reduced if richer households continued to pay and others did not. It is preferable to use selective fee waivers to make Tronc Commun fee free to the poor. This would be redistributive and would increase access faster than making it fee free for all.

#### **Recommendations:**

- **Waive fees at the rate of Day School fees** (RWf 11,000 fee waiver per year), and not for boarding costs above this level.
- **Waive fees only for those who are unable to pay** through school/community level allocation of waivers transparently awarded.
- **Introduce a capitation grant** to replace fee income foregone by schools.

## ii) The Private Sector and Expanded Access.

Very few primary schools are private and it appears that new policy at this level is not needed. At Tronc Commun about 40% of current provision is private. The private sector is diverse (community based, for profit and not for profit, Church and NGO supported) and much provision depends on subsidies from FARG and DEF which may or may not continue. Recent trends suggest the sector is not growing indicating that it may be reaching the limits of affordability, and the availability of scholarships to support private school fees.

### Recommendations:

- **Maintain the *status quo* in relation to subsidies for private schools.** Consider the possibility of a RWf capitation to those that can demonstrate efficient performance
- Consider giving **access to in-service support** to private school teachers related to the implementation of new curricula.
- **Consider extending text book subsidies** to poor, low fee private school pupils
- **Establish an effective regulatory system** for private schools

## Costs and Financing

Financial projections indicate the rates of growth that could be sustained within a resources envelop defined by domestic resources and external assistance. The Central Projection assumes total primary enrolments fluctuate between 1.8 million and 1.65 million between 2005 and 2015, repetition falls to 6% and drop out to 5% and completion rates reach 80%. The number of years of schooling to produce a primary school graduate drops from over 10 years to 7.3 years. The Transition rate into Tronc Commun rises to 75% in 2015 and numbers enrolled triple from 130,000 to over 410,000. The gross enrolment rate increases from 20% to 48% at Tronc Commun. Enrolments in Upper Secondary grow more slowly from 72,000 to 114,000 (all schools). Primary teacher training in TTCs continues but reduces as demand for new primary teachers falls after 2010. Teacher training at Tronc Commun is reformed to take place in Colleges of Education with costs much lower than KIE at no more than five times the cost of a secondary school pupil per year.

Key reforms that are needed to achieve the outcomes of the Central Projection. These include:

- Reductions in double shifting in grades 1-3 to about 15% of schools with an average pupil teacher ratio of 45:1

- Much reduced repetition and drop out
- Up to RWf 3000 per child learning material capitation at primary school to provide one book for every three pupils in core subjects
- Reformed teacher training and the creation of secondary Colleges of Education
- Much reduced subsidised boarding to less than 10% at Tronc Commun and less than 20% at Upper Secondary
- Reductions in secondary non-teaching administrative staff from about 40% of the teaching cadre to less than 20%
- Learning material capitation of up to RWf 5,000 to provide one book for every three pupils in core subjects
- Systematic curriculum revision focused on a restricted range of core subjects
- Construction of about 1,100 primary school classrooms and between 250 and 1,000 secondary classrooms a year
- Reduction in the proportion of the education budget allocated to higher education
- Fee waivers linked to ability to pay in secondary schools.

If these reforms are not implemented progress towards targets will be slower.

The Central Projection assumes that the resources allocated to education rise to 30% of the governments domestic resources (and a little under 5% of GDP). Under this scenario primary education absorbs about 50% of recurrent expenditure over the period, Tronc Commun increases from about 13% to 17%, and higher education falls from over 30% to below 18%. Primary education spending rises to about RWf 35 billion, and Tronc Commun to RWf 12 billion. Cost per pupil at primary rise from about RWf 10,000 to over RWf 20,000. At Tronc Commun they fall from RWf 57,000 to RWf 37,000, and at Upper Secondary from RWf 71,000 to RWf 54,000 as a result of reduced barding and lower administrative and other non teaching costs. Without these increases in efficiency high rates of expansion will be unaffordable.

Gaps between domestic resources and recurrent educational expenditure would be about RWf 16 until 2011 and then fall. Fee Free Tronc Commun would add from RWf 1 billion to RWf 4 billion to the gaps as enrolment expanded. Gaps would have to be externally financed.

Development expenditure needed to construct primary classrooms and schools is between RWf 4 and 6 billion a year if double shifting is to be reduced. Expansion of Tronc Commun facilities would require between RWf 1 billion and RWf 6.7 billion a year. Cost would be less if classroom building costs could be reduced.

Three other scenarios have been modelled. **Scenario 2 (faster UPE)** is designed to place greater emphasis on progress in primary education. The pupil teacher ratio is reduced faster to reach 1:45 by 2009 rather than 2012 in the Central Projection. Repetition falls to 5% by 2009 not 2014. Learning materials capitation is doubled from RWf 1,500 to RWf 3,000 from 2006.



The result is that more new primary teachers are needed before 2010 and fewer after, the number of years needed to produce a primary graduate falls faster and transition rates into secondary rise slightly faster. Recurrent expenditure increases on primary to reach RWf 37.6 by 2015. Primary takes over 50% of recurrent expenditure between 2005 and 2015. The recurrent financial gap exceeds RWf 20 billion until 2010, and falls to RWf 7 billion by 2015. Primary classroom building costs are slightly higher.

**Scenario 3 (expansion of Tronc Commun with investment in quality)** returns to the assumptions of Scenario 1 for primary, but invests more in the expansion of Tronc Commun. This is achieved by providing learning material capitation of RWf 5,000 per pupil. It also assumes salary growth for secondary teachers of 5%, not 3%, to reflect the fact that most secondary teachers will be trained by 2015, whereas most are untrained currently.

The result is that enrolments at primary and secondary grow as in Scenario 1. Expenditure at secondary level increases faster to reach RWf 17.6 billion at Tronc Commun and RWf 5.8 billion at Upper Secondary by 2015 (without fee free). Recurrent financing gaps rise to RWf 20 billion by 2011 and fall back to RWf 10 billion (without fee free). The additional costs may be necessary to ensure that expanded Tronc Commun does have trained teachers and sufficient learning materials.

**Scenario 4 (accelerated growth in Tronc Commun to reach 80% transition rate by 2010)** seeks to achieve a transition rate into Tronc Commun of 80% by 2010, rather than 75% by 2015. It does this by accelerating the growth in entry to S1 from about 12% a year to 25% a year. These rates of growth would require 20,000 additional places to be created in 2005 rising to an extra 85,000 a year in 2010. At this time over 3,000 new Tronc Commun teachers would be needed each year, and over 2,000 new classrooms each year.

The financial demands created by this would create a recurrent financing gap which rise to RWf31 billion by 2015 or RWf 39 billion if fee free. The latter is about 70% of the total education budget and is clearly unsustainable. It is unachievable for non financial reasons as well.

The broad conclusions are that the assumptions of the Central Projection lead to a financially sustainable outcome with considerable progress on UPE, and substantial expansion of access to Tronc Commun by 2015. Faster progress on UPE (scenario 2) may be possible if non financial constraints can be resolved but these should not be under estimated. Greater investment in quality at Tronc Commun is desirable and affordable if opportunities for reform are grasped (scenario 3). Expansion fast enough to achieve a transition rate of 80% by 2010 (scenario 4) is unattainable.

## **A Road Map Forward**

If these outcomes are to be achieved policy decisions are needed in the area identified. These need to be accompanied by detailed planning of implementation strategies capable of delivering results. It is suggested that a national Nine Year Basic Education Executive Co-ordinating Committee (NBEEC) is established to report to the Minister of Education at least monthly or more frequently if necessary and chaired by the SG or his nominee. NBEEC should include selected stakeholders including representation

from MINECOFIN, the Office of the President, and key post holders in MINEDUC (Directors of planning and finance, Directors of primary and secondary education).

NBEEC could be serviced by Four Basic Education Technical Committees – the School Infrastructure Technical Committee (SITEC); the Curriculum Technical Committee (CURTEC); the Teacher Education Technical Committee (TETEC); the Finance and Educational Management Technical Committee (FEMTEC). These technical committees could consist of three to five members with appropriate expertise and responsibilities. Their task would be to service NBEEC, develop detailed and costed plans within an agreed overall policy framework, targets and resource envelop, support implementation directly or through other MINEDUC post holders, and monitor progress against agreed indicators. A more detailed set of suggestions is contained in the main report.

### **In Conclusion**

Nine Year basic Education for all is the goal of the GoR. Raising the levels of knowledge and skill in the population has the potential reduce poverty and exclusion. Increased access has to be matched with imaginable levels of resource needs that can be sustained. It requires balanced investment that reflects stated priorities and requires hard choices between competing claims for scarce resources.

Expanded access is achievable within a feasible financial envelop. Too rapid expansion could damage quality, undermine demand, and waste resources. Too slow expansion and opportunities will be missed to improve national competitiveness, make best use of national talents, and enhance equity.

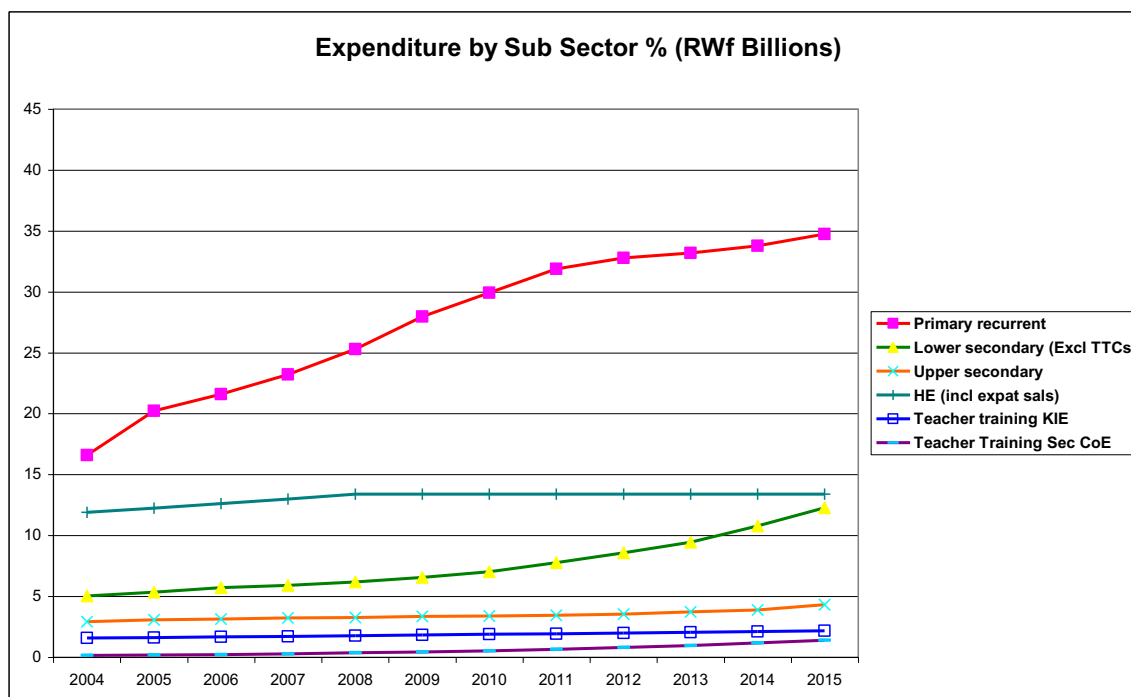
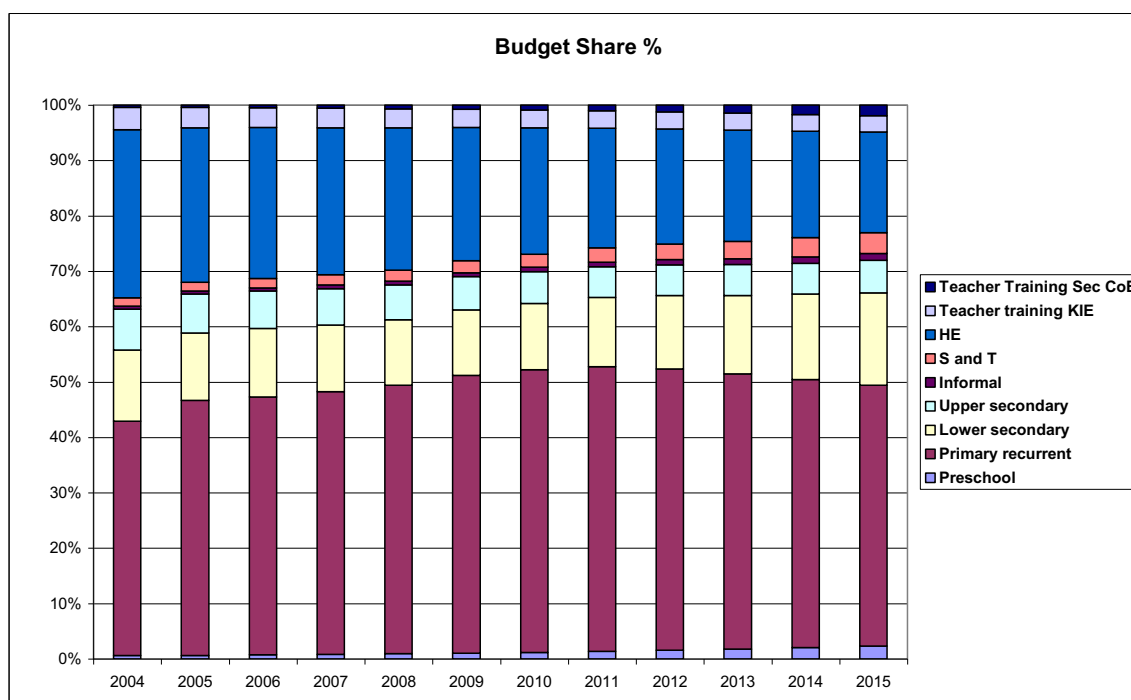
## Summary of Projection Scenarios

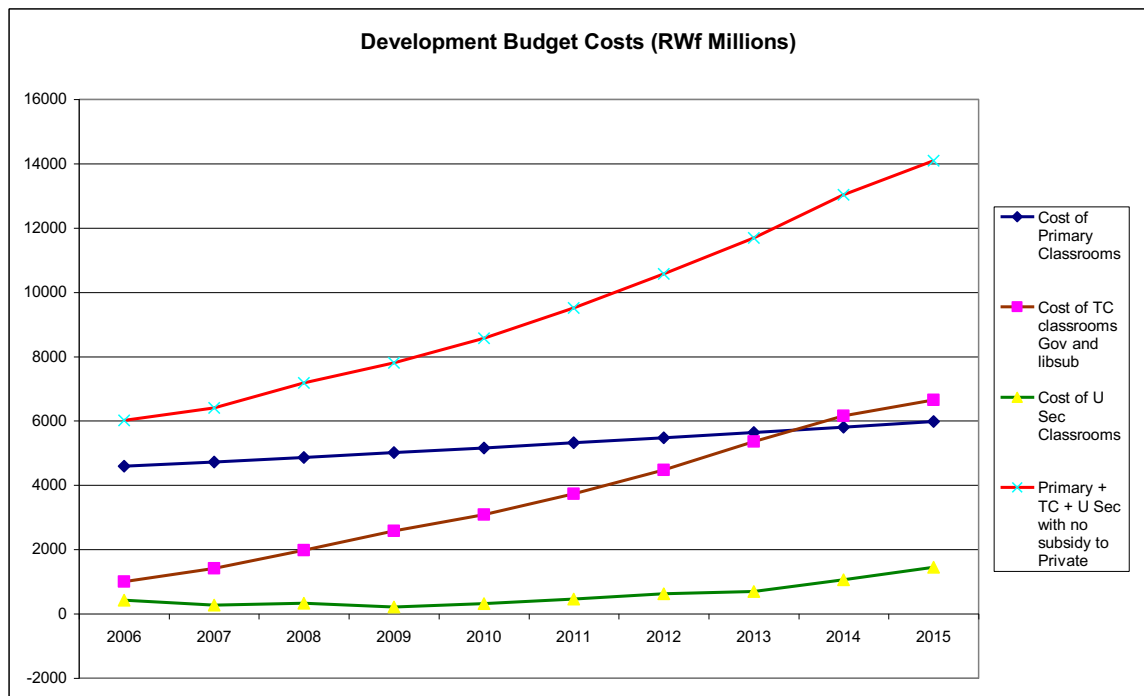
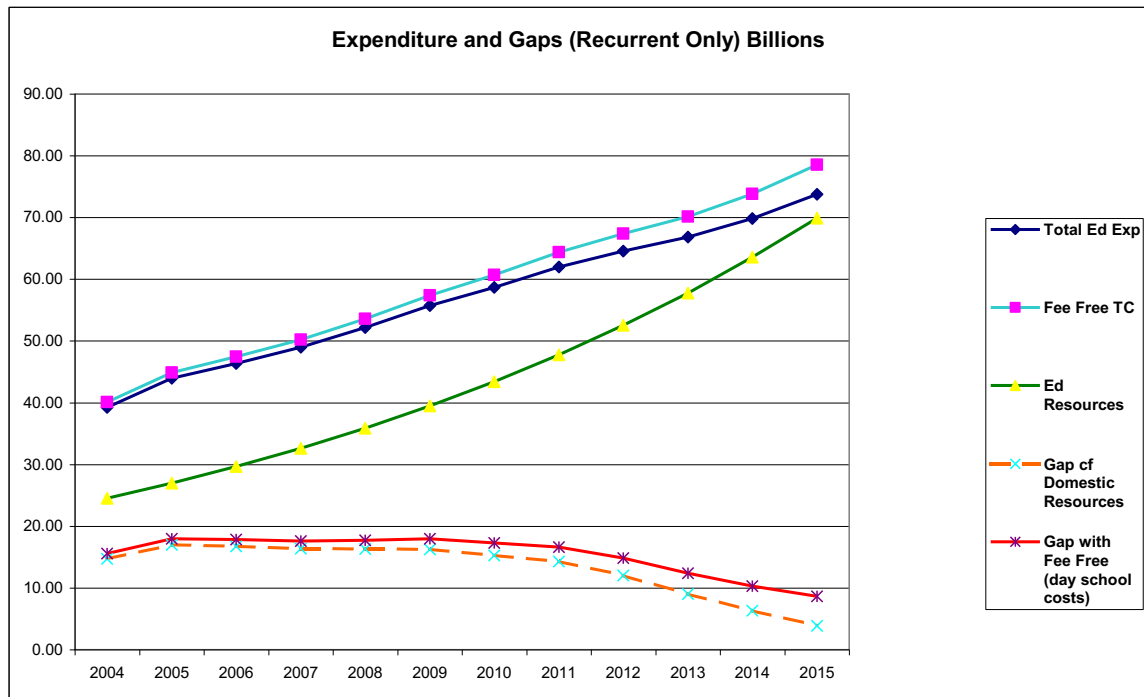
	2004	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015
<b>Primary</b>	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 2</b>	<b>Scen. 2</b>	<b>Scen. 2</b>	<b>Scen. 3</b>	<b>Scen. 3</b>	<b>Scen. 3</b>	<b>Scen. 4</b>	<b>Scen. 4</b>	<b>Scen. 4</b>
Total Primary Enrolment	1752588	1752058	1769242	1641440	1725410	1673163	1614593	1752058	1769242	1641440	1752058	1769242	1641440
Primary Grade 6 Enrolment	110708	142782	270543	237017	141707	256213	228963	142782	270543	237017	142782	270543	237017
Repetition Rate	20%	18%	9%	6%	17%	5%	6%	18%	9%	6%	18%	9%	6%
Drop Out Rate	16%	14%	5%	5%	14%	5%	5%	14%	5%	5%	14%	5%	5%
Number of Teachers	28774	30113	39718	40124	30612	40900	39468	30113	39718	40124	30113	39718	40124
Number of New Teachers Needed	2203	2194	2801	1479	2767	585	1670	2194	2801	1479	2194	2801	1479
Pupil Teacher Ratio	67	64	49	45	62	45	45	64	49	45	64	49	45
Primary Gross Enrolment Ratio	132	129	117	97	127	110	96	129	117	97	129	117	97
Primary Completion Rate (alt. method)			76%	78%		74%	75%		76%	78%		76%	78%
Years schooling for a primary grad.		10+	8.0	7.3	10+	7.8	7.3	10+	8.0	7.3	10+	8.0	7.3
<b>Tronc Commun</b>													
Transition Rate Primary/TC		48%	39%	75%	46%	40%	78%	48%	39%	75%	61%	80%	99%
Repetition Rate	9%	8%	4%	3%	8%	4%	3%	8%	4%	3%	8%	4%	3%
Drop Out Rate	9%	8%	5%	3%	8%	5%	3%	8%	5%	3%	8%	5%	3%
Number of Teachers Gov+libsub	2600	2868	5042	10399	2868	5042	10399	2868	5042	10399	3090	11322	18347
New teachers Needed		398	887	1827	398	887	1827	398	887	1827	620	3123	1149
Pupil Teacher Ratio	30	30	30	30	30	30	30	30	30	30	30	30	30
Enrolment TC (incl private)	131427	143862	226326	410483	143862	226326	410483	143862	226326	410483	150532	414724	648922
Number of additional TC pupils		12435	23836	46278	12435	23836	46278	12435	23836	46278	19105	84520	12331
Number of New TC Classes needed		276	530	1028	276	530	1028	276	530	1028	425	1878	274
% Boarding	76%	70%	25%	8%	70%	25%	8%	70%	25%	8%	70%	25%	8%
TC Gross Enrolment Ratio	20%	21%	30%	48%	21%	30%	48%	21%	30%	48%	22%	55%	77%
<b>Upper Secondary</b>													
Transition Rate TC/U.Sec		62%	42%	36%	62%	42%	36%	62%	42%	36%	62%	42%	36%
Repetition Rate	4%	4%	3%	3%	4%	3%	3%	4%	3%	3%	4%	3%	3%
Drop Out Rate	7%	6%	4%	2%	6%	4%	2%	6%	4%	2%	6%	4%	2%
Number of Teachers	1442	1576	1982	2821	1576	1982	2821	1576	1982	2821	1576	2808	6825
Number of New Teachers Needed		207	152	408	207	152	408	207	152	408	207	617	1051
Pupil Teacher Ratio	25	25	25	25	25	25	25	25	25	25	25	25	25
Enrolment Upper Sec	72124	74856	92135	114302	74856	92135	114302	74856	92135	114302	74856	112776	214400
% Boarding	75%	70%	40%	20%	70%	40%	20%	70%	40%	20%	70%	40%	20%
U Sec Gross Enrolment Ratio	11%	12%	13%	14%	12%	13%	14%	12%	13%	14%	12%	16%	27%

<b>Expenditure</b>	<b>2004</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>
	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 2</b>	<b>Scen. 2</b>	<b>Scen. 2</b>	<b>Scen. 3</b>	<b>Scen. 3</b>	<b>Scen. 3</b>	<b>Scen. 4</b>	<b>Scen. 4</b>	<b>Scen. 4</b>
<b>Primary</b>													
Teachers Rem. Mult.of GDP/capita	3.9	3.9	3.9	4.0	3.9	3.9	4.0	3.9	3.9	4.0	3.9	3.9	4.0
Unit Cost Mult.GDP/capita	0.08	0.10	0.12	0.14	0.11	0.15	0.15	0.10	0.12	0.14	0.10	0.12	0.14
Overall Primary Unit Cost (RWf)	9472	11549	16923	21172	13462	20108	23310	11549	16923	21172	11549	16923	21172
Recurrent Expenditure	16600	20235	29940	34752	23227	33644	37637	20235	29940	34752	20235	29940	34752
<b>Tronc Commun</b>													
Teachers Rem. Mult.of GDP/capita	4.7	4.7	4.8	4.9	4.7	4.8	4.9	4.8	5.4	6.0	4.8	5.4	6.0
Unit Cost Mult.GDP/capita	0.49	0.47	0.31	0.24	0.47	0.31	0.24	0.47	0.34	0.29	0.47	0.34	0.29
Overall Tronc Commun Unit Cost (RWf)	57418	55603	42151	36906	55603	42151	36906	56333	46394	44949	56333	46394	44949
Recurrent Expenditure	5028	5351	7033	12274	5351	7033	12274	5876	8768	17630	6287	18771	30387
Recurrent Exp. if free (11,000/cap)	5886	6325	9020	17024	6325	9020	17024	6851	10755	22380	7337	23232	38768
<b>Upper Secondary</b>													
Teachers Rem. Mult.of GDP/capita	5.6	5.6	5.7	5.8	5.6	5.7	5.8	5.7	6.4	7.1	5.7	6.4	7.1
Unit Cost Mult.GDP/capita	0.61	0.58	0.44	0.35	0.58	0.44	0.35	0.59	0.48	0.42	0.59	0.48	0.42
Overall Upper Sec. Unit Cost (RWf)	70750	68907	59485	54205	68907	59485	54205	69895	65300	65345	69895	65300	65345
Recurrent Expenditure	2907	3084	3375	4317	3084	3375	4317	3337	4047	5823	3337	5533	13219
<b>Teacher Training</b>													
<b>KIE</b>													
Number of Teachers per annum KIE	350	350	350	350	350	350	350	350	350	350	350	350	350
Overall Cost per Graduate (RWf)	4000000	4120000	4776209	5536935	4120000	4776209	5536935	4120000	4776209	5536935	4120000	4776209	5536935
Recurrent Expenditure per year	1400	1442	1672	1938	1442	1672	1938	1442	1672	1938	1442	1672	1938
<b>Secondary Colleges of Education</b>													
Number of Teachers needed/produced		547	1232	2597	547	1232	2597	547	1232	2597	1066	4122	1986
Overall Cost per Graduate (RWf) (1+1)	300000	315000	402029	513102	315000	402029	513102	315000	402029	513102	315000	402029	513102
Recurrent Expenditure		169	429	1189	169	429	1189	169	429	1189	239	1515	1171

<b>Finance</b>	<b>2004</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>
	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 2</b>	<b>Scen. 2</b>	<b>Scen. 2</b>	<b>Scen. 3</b>	<b>Scen. 3</b>	<b>Scen. 3</b>	<b>Scen. 4</b>	<b>Scen. 4</b>	<b>Scen. 4</b>
Education Resources as % Domestic Res.	19.4%	20.1%	24.4%	29.6%	20.1%	24.4%	29.6%	20.1%	24.4%	29.6%	20.1%	24.4%	29.6%
Education as % of GDP (incl. external)	4.5%	4.5%	4.7%	4.5%	4.8%	4.9%	4.7%	4.6%	4.9%	5.0%	4.7%	6.2%	6.1%
<b>Projected Recurrent Exp. (Billions)</b>													
Preschool	0.2	0.3	0.7	1.7	0.3	0.7	1.7	0.3	0.7	1.7	0.3	0.7	1.7
Primary recurrent	16.6	20.2	29.9	34.8	23.2	33.6	37.6	20.2	29.9	34.8	20.2	29.9	34.8
Lower secondary (Excl TTCs)	5.0	5.4	7.0	12.3	5.4	7.0	12.3	5.9	8.8	17.6	6.3	18.8	30.4
Upper secondary	2.9	3.1	3.4	4.3	3.1	3.4	4.3	3.3	4.0	5.8	3.3	5.5	13.2
Informal	0.2	0.2	0.5	0.9	0.2	0.5	0.9	0.2	0.5	0.9	0.2	0.5	0.9
S and T	0.6	0.7	1.4	2.8	0.7	1.4	2.8	0.7	1.4	2.8	0.7	1.4	2.8
HE (incl expat sals)	11.9	12.3	13.4	13.4	12.3	13.4	13.4	12.3	13.4	13.4	12.3	13.4	13.4
Teacher training KIE	1.6	1.6	1.9	2.2	1.6	1.9	2.2	1.6	1.9	2.2	1.6	1.9	2.2
Teacher Training Sec CoE	0.2	0.2	0.5	1.4	0.2	0.5	1.4	0.2	0.5	1.4	0.4	1.7	1.1
<b>Total Ed Exp</b>	<b>39.2</b>	<b>43.9</b>	<b>58.7</b>	<b>73.8</b>	<b>46.9</b>	<b>62.4</b>	<b>76.7</b>	<b>44.7</b>	<b>61.1</b>	<b>80.6</b>	<b>45.3</b>	<b>73.8</b>	<b>100.5</b>
Fee Free TC	40.1	44.9	60.7	78.5	47.9	64.4	81.4	45.7	63.1	85.4	46.3	78.3	108.8
<b>Domestic Resources</b>	<b>24.5</b>	<b>27.0</b>	<b>43.4</b>	<b>69.9</b>	<b>27.0</b>	<b>43.4</b>	<b>69.9</b>	<b>27.0</b>	<b>43.4</b>	<b>69.9</b>	<b>27.0</b>	<b>43.4</b>	<b>69.9</b>
<b>Gap of Domestic Resources</b>		<b>17.0</b>	<b>15.3</b>	<b>3.9</b>	<b>20.0</b>	<b>19.0</b>	<b>6.8</b>	<b>17.8</b>	<b>17.7</b>	<b>10.7</b>	<b>18.3</b>	<b>30.4</b>	<b>30.6</b>
Gap with Fee Free (day school costs)		18.0	17.3	8.6	20.9	21.0	11.5	18.7	19.7	15.5	19.4	34.9	38.9
<b>Development Costs</b>													
<b>Primary School Classrooms/Schools</b>													
Total Classrooms needed @ target PTR		27549	34314	34537	27549	32521	33729	27549	34314	34537	27549	34314	34537
Average build per year to meet 2015 need		1113	1113	1113	1054	1054	1054	1113	1113	1113	1113	1113	1113
Cost of Primary Classrooms		4454	5163	5985	4218	4890	5669	4454	5163	5985	4454	5163	5985
Double shift rate Grades 1-3		85%	53%	20%	85%	53%	20%	85%	53%	20%	85%	53%	20%
<b>T. Commun Classroom and Schools</b>													
Number Classrooms needed		290	608	1071	290	608	1071	290	608	1071	628	1931	234
Cost of TC classrooms Gov and libsub		1054	3086	6653	1054	3086	6653	1054	3086	6653	2795	10988	861
<b>Upper Secondary</b>													
Number Classrooms		45	68	267	45	68	267	45	68	267	45	411	296
Cost of U Sec Classrooms		275	321	1452	275	321	1452	275	321	1452	275	2379	1625
<b>Total development Costs</b>		5782	8569	14090	5547	8296	13773	5782	8569	14090	7523	18529	8471

## The Central Projection – Selected Outcomes





## **A ROAD MAP OF WAYS FORWARD**

### **PLANNING FOR 9-YEAR BASIC EDUCATION IN RWANDA**

**Professor Keith M Lewin, Dr Albert Kwame Akyeampong**

#### **Introduction**

The Government of Rwanda (GOR) has committed itself to providing 9 years basic education to meet its aspiration to expand access to lower secondary education for all Rwandan children over time. At the heart of this commitment is the desire to ensure that all children, irrespective of socio-economic background, have access to a minimum level of education that provides basic skills and knowledge for useful citizenship, and provides the foundation for post-basic education

“The government’s primary objective in vision 2020 for education is to provide Universal Primary Education (UPE – grades 1 through 6) by 2010 and subsequently Basic Education (grades 1 through 9 for all (EFA) by 2015” – Education Sector Policy 2002 plan (amended April 2003)”

The GOR also sees the move towards 9-year basic education as part of its poverty reduction strategy, designed to build on and complement that achievement of gender equitable primary schooling.

A considerable amount of analysis and policy review has been undertaken over the last five years which chart progress towards UPE, identify outstanding needs, and profile the constraints on rapid progress to Nine Year Basic Education. This report consolidates these analyses into road map of ways forward. Its focus is on the proposed expansion of Tronc Commun. However this has to be seen in the context of continued needs at the primary level.

This report has three parts. First, the main issues for UBE policy are identified. These are matters that require judgement, decision and policy commitment to a medium term framework of growth that can be financed. As always this process will involve trade offs between options related to clear prioritisation of sub-sectors and outcomes. Key questions concern the rate of progress at different levels that can be sustained taking into account financial and non-financial constraints, and the ways in which sub-sectors interact (UBE depends on successful achievement of UPE, teacher training must occur in advance of demand for new teachers if the proportion of untrained teachers is not to rise, curricula must be adjusted to new learners with different capabilities and life futures to those in the past).

Second, new projections have been developed to identify options related to sustainable financing and the need for external assistance to keep UPE and UPE on track. These use enrolment driven methods at primary level, and model feasible rates of Tronc Commun growth whether fee free or not with due attention to non-financial constraints. The Central Projection is based on a financially viable scenario that reflects stated priorities of the GoR. Other scenarios are modelled which chart shifts



of emphasis in progress towards targets at primary and Tronc Commun levels. The resource gaps associated with each scenario are identified.

Third, if planned expansion is to occur, then new structures to manage its evolution may be needed alongside those that already exist. This section discusses some of the options for developing a road map of activities. If UPE is to be both achieved and sustained it is likely to be necessary to reduce double shifting at lower primary (which reduces learning time, overloads teachers, and may encourage repetition and drop out). This would require considerable but imaginable increases in classroom capacity and reductions in overall pupil teacher ratios to 1:45, as is currently planned. If this is coupled with actions needed to support Tronc Commun growth (especially reformed teacher training at this level, and much higher rates of classroom and school construction in appropriate locations), then programmed and coordinated development activities are needed that are sequenced to reinforce each other.

Detailed technical data are contained in annexes along with commentaries on some key issues.

## **The Main Issues for Universalising Nine Year Basic Education**

### **Consolidating Progress towards Universal Primary Education**

MINEDUC gives priority to the development of primary education in the ESSP. Much remains to be achieved. Repetition and drop out is a very serious problem and may not fall as planned, quality and achievement are very varied and far from satisfactory, classrooms and learning material need further investment, double shift schools constitute over 85% of schools at grades 1-3.

The development of Nine Year Basic Education must protect the gains made so far and ensure that improvements in access, participation and completion continue. This implies continued prioritization of the sector such that about 50% of educational resources are available to primary, pupil teacher ratios can be diminished to allow reductions in double shifting, investments in learning material occur to increase the number of books per child to at least 1:3 in core subjects within a developmental curriculum, teacher training and support in-service is enhanced, and physical infrastructure is improved in quality and quantity.

Double shifting is a particular issue since it is concentrated amongst the youngest pupils who are most at risk of premature drop out and repetition, and who may also experience the least qualified teachers at a time when their learning needs, and their capacity to learn, are probably greatest. It may have a different impact on boys and girls whose responsibilities outside the school vary. This is both a curriculum issue (curricula have to be such that they can be taught successfully to at least 80% of pupils under the conditions that actually exist), and one of physical capacity. Previous plans have assumed double shifting continues at current levels. If it does repetition and drop are unlikely to fall, and the least qualified teachers will continue to have the highest workloads. If the pupil teacher ratio can be lowered to 45:1 and feasible investment in classroom building made over a ten year period, double shifting could be considerably reduced with benefits for time on task, more attention to learners needs, and higher learning quality learning leading to less repetition (see Annex 5).

Total numbers of children in primary schools are likely to fall between 2005 and 2015, after which they will begin to increase again at the rate of population growth amongst six year olds. This is a window of opportunity to improve the quality of access.

Expansion at Tronc Commun level depends on the quality and quantity of primary school graduates. Thus the rate at which Tronc Commun should grow has to be balanced against the continuing needs for development at primary level. Very rapid growth at Tronc Commun in advance of secure gains in primary schooling may not be the best option. Growth rates have to be matched to realistic assessments of priorities and benefits related to exclusion and poverty reduction. Tronc Commun will grow, not least in response to the rising number of primary graduates. It should not grow so fast that resources are diverted from primary or that management capacity is over stretched and quality undermined.

The question is if investment at primary level is to be protected at about 50% of domestic recurrent resources how can it be directed to most effect with which methods of implementation?

### **Key Recommendations**

- Ensure primary teacher supply in sufficient numbers to **reduce pupil teacher ratios from 1:67 to 1:45 by 2015**. This would be sufficient to reduce class sizes, improve learning quality, and reduce double shifting to a minimum. This would require up 3,000 new teachers a year initially, reducing to about 300 a year from 2011 as enrolments stabilise.
- Sequentially **reduce double shifting** in lower primary through building and rehabilitating classrooms in sufficient numbers (about 1100 classrooms a year would be needed over ten years to reduce double shifting to less than 15% in grades 1-3).
- **Develop curriculum materials** usable in typical primary school environments, including teacher support manuals, and produce and distribute these to achieve a target of **one book for every three 3 pupils** by 2015 in core subjects.
- **Strengthen school management strategies to reduce repetition and drop out** and improve learning through more effective governance, annual school plans, decentralized monitoring and evaluation, and in-service support for good practice.
- **Ensure 50% of recurrent spending is budgeted for primary education** until enrolment, retention and completion targets are achieved. Design an investment strategy that balances continued needs at primary level with **managed growth at Tronc Commun** until 2015.

### **Managing the Expansion of Access for Nine Year Basic Education**

#### **i) Teacher Supply and Teacher Training**

Any plan to expand access to Tronc Commun has to address the question of teacher supply. More than half Tronc Commun teachers are currently untrained, and over 80% of secondary teachers are male. No expansion should proceed on the basis that this proportion of untrained teachers will rise. The current training system based in KIE is very expensive per trained teacher (RWf 4-6 million per graduate) and cannot be scaled up at affordable costs. Distance education is unlikely to be appropriate for initial training, though it might continue to have a useful role to play in in-service upgrading and support, if costs can be contained. Various analyses lead to the same conclusions. These are that the length of initial training should be shortened, that it should be possible for Tronc Commun teachers to be trained from the pool of Upper Secondary graduates through one year full time and one year of school based support, that initial training has to be organised for costs no more than about five times the cost of a secondary school student per year<sup>1</sup> if it is to be affordable, and that new capacity is needed to meet the demand for teachers that will arise as Tronc Commun expands.

Policy decision need to be made before substantial enrolment growth, so that trained teachers are available and the proportion of untrained teachers does not rise. This implies that several key issues need timely resolution.

## Recommendations

- **Establish National Colleges of Education to train Tronc Commun teachers** in advance of rapid expansion. Up to four will be needed by 2015 each enrolling up to 500 trainees). This is the preferred option and could be achieved through conversion and restaffing of existing institutions as demand for new primary teachers falls. Other options include mixed institutions which train both primary and Tronc Commun teachers; distance education for initial training, and radical revision of KIE training to reduce costs per graduate to five times the cost of a secondary school pupil per year. None of these other options are as attractive.
- **Continue support for primary school teacher training institutions** matched with falling demand and ensure that if Tronc Commun CoEs are established they work with primary TTCs to improve training quality.
- **Decide whether to continue to support Upper Secondary teacher training at the KIE** at current levels of cost, output and likely attrition, and to consider the effectiveness of one year post graduate training programmes.
- **Recruit and train teacher trainers for new CoEs** who have pedagogic experience of Tronc Commun, and who have commitment to improved professional practice, pupils learning, and appropriate subject knowledge.
- **Develop new teacher training curricula** matched to the training modality chosen and the needs of new teachers at primary and Tronc Commun level. This can proceed in parallel with the development of the institutional capacity and new Tronc Commun curricula. New curricula may also be needed at primary level. These should be sensitive to the fact that 80% or more of those taught will come from poorer households than that of the teacher, and bring very different levels of cultural capital to the learning process. If new teachers

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<sup>1</sup> This ratio should be achievable with graduate staff working at a staff student ratio of 20:1. It is with the range found in efficient systems in Sub Saharan Africa. Much higher ratios as in KIE would absorb as much as the entire Tronc Commun budget if projected to 2015. The ratio in the UK is about 1:1.5.

are not orientated to the factors that influence repetition and drop out, and sympathetic to overcoming their causes, progress will be slow. Other excluded groups (e.g orphans) may also need different and sensitive teaching strategies that all new teachers should possess.

The lead time in securing the supply of trained teachers is a critical constraint on the planned growth of Tronc Commun. If this is not recognized expansion will lead to more than three quarters of teachers at this level being untrained with uncertain consequences for quality.

## **(ii) Curriculum, Learning Materials and Assessment**

Secondary school curricula have not been comprehensively revised within a consistent conceptual framework that provides continuity of learning from grade 1 – grade 9. This is major task that will take several years. It is unavoidable if materials are to meet learners needs, teachers capabilities, and be teachable effectively in at least 80% of the schools. Primary curricula also need development and this should proceed alongside of revision at secondary level to meet new needs.

Most education systems challenged by expansion and quality have elected to focus on core learning competencies at primary level, and a core curriculum of a restricted range of subjects (usually five or six) at lower secondary. The reasons are self-evident. This increase the chances of secure achievement of basic skills at primary level (language, literacy, numeracy, and reasoning) which are a precondition for progress to higher levels, citizenship and livelihood enhancement. Lower secondary need to build on these achievements and develop abstract thinking skills in relation to content relevant to the needs of expanded numbers of pupils drawn from wider ranges of ability than in the past. In the short term curricula will have to be usable by untrained teachers (with or without the benefit of teachers guides and in-service support), since untrained teachers are likely to be in the majority until at least 2010 until training output is expanded.

Quality learning materials, usually the most cost effective investment that can be made to improve learning achievement, cannot be produced and distributed without a clear process of design, development and procurement sequenced over several years with consistency of purpose. The main costs lie in production and distribution; the main intellectual challenge lies in conceptualization and development. Critically no effective system of primary or secondary schooling develops without reasonable access to learning materials, especially texts for pupils. Expanded access has to occur alongside curriculum development that produces coherent learning from grade to grade.

Assessment plays a central role in shaping learning and teaching, measuring learning achievement, diagnosing learning difficulties, and determining who is selected for progression and further studies. For all these reasons a national assessment strategy is needed related to expanded access to improve school based diagnosis of learning problems, ensure that selection is fair and valid, and reinforce curriculum reform intended to improve the quality and level of achievement.

## Recommendations

- **Agree the conceptual framework of the curriculum** will shape the development of new national core curricula. Which conceptual framework will shape the development of new curricula (subject content considerations, outcome based approaches, constructivist approaches to learning, child development and cognition, modularization of learning, multigrade etc.)?
- **Agree the core subjects** which should be prioritised at primary and secondary level and their desired learning outcomes.
- **Refine and implement the six year curriculum development plan** to develop, and produce new curriculum materials for each grade sequentially (1-6 at primary and 1-3 at secondary) starting in 2006
- **Agree methods of production and distribution** and budget costs. Test procurement and delivery systems in 2006.
- **Agree a national assessment strategy** linked to curriculum outcomes constructively linked to curriculum reform which promotes equity and access and can reduce repetition and drop out.

### (iii) School Infrastructure Development

Physical investment in classrooms and schools remains widely needed. The need to equip primary schools with basic furniture continues, a significant proportion of buildings are unsuitable for learning, and new classrooms will need constructing to reduce double shifting and replace deteriorating stock. Decisions are needed on how fast to progress.

Double shifting in lower primary could be largely eliminated by 2015 if about 1,100 new classrooms were added to the stock each year from 2005. This would cost between RWf 4 and 6 billion per year. It would require new modalities of procurement and construction, possibly similar to the School Finance Grants in Uganda or those used in Ghana, both of which have exceeded these levels of classroom construction.

Expanded access at Tronc Commun at the rates envisaged in the Central Projection would create demand between 250 and 1000 classrooms a year (equivalent to 25 to 100 new schools). This is an order of magnitude above recent rates of school construction. Although it may be possible to convert some under utilized buildings in the short term, this will not be sufficient in the medium term and new building will be necessary.

In the first year of any planned expansion a detailed plan will be needed to identify new school locations, establish an effective method of procurement, and demonstrate that it is capable of building classrooms and schools at volumes and of quality that meet needs. If this cannot be achieved expansion should be deferred until such time as classroom capacity can be created. Otherwise over crowding will be the result with adverse effects on learning, completion and health. Since public schools have provided more places for girls than for boys, new construction should directly

recognize the need to create girl friendly environments in relation to safety, sanitation, and boarding where this is essential.

## **Recommendations**

- **Establish how much under utilized capacity exists in existing schools** and how much growth can be absorbed through provision of additional classrooms
- **Identify where new schools should be built** to maximize gains in access, avoid duplication, and create economies of scale? Phase this to allow new building to commence in 2006
- **Decide the method(s) of procurement** capable of creating 1000 or more primary school classrooms and up to 100 new Tronc Commun schools (or their equivalent in classroom capacity) each year. Pilot these modalities in 2006.
- **Decide preferred policy on the design of new Tronc Commun facilities.** The options are classes added to primary schools, separate Tronc Commun schools, or Tronc Commun classes joined with Upper Secondary schools.
- **Identify, cost and contract construction/rehabilitation related to teacher training** by 2006.

### **(iv) School Management and Efficiency**

Expanded access at Tronc Commun level and above requires reduction in costs per student if the resource envelop is not to be exceeded. No mass enrolment secondary school systems have cost per pupil ratios at secondary to primary of more than 2:1. In Rwanda the current ratio is more than 5:1. If enrolments at primary were universal, and the net enrolment rate at secondary was 50%, secondary expenditure would approach five times as much as primary and thus exceed the entire education budget.

The most obvious sources of efficiency gains at secondary level lie in reducing subsidized boarding. The gains are considerable and could amount to as much as RWf 7 billion a year by 2015 at Tronc Commun alone in the Central Projection. It requires systematic mechanisms to reduce boarding down to around 20,000 places at Tronc Commun. This should be sufficient to retain essential boarding for those with special needs. Boarding above this threshold would then be unsubsidized. Average public costs per Tronc Commun student would fall to about 3 times those at primary level making higher rates of participation affordable.

The current pupil teacher ratio (30:1 in Tronc Commun) probably cannot be reduced. It may be possible to make much better use of trained teachers through efficient timetabling, reduced absenteeism, and better use of the number of days in the school year. All of these could improve learning outcomes and apply also to primary schools.

Current information suggests that about 1500 administrative posts exist in secondary schools (nearly 40% of the number of teachers). If this is the case there should be considerable scope to decrease costs by redeployment and streamlining administration.

Other efficiency gains will come from reducing repetition that can reduce class sizes and should improve achievement, and less drop out. However such reductions require effective management methods at school level, and curricula adjustments. Circulars alone are unlikely to achieve the desired effects.

## **Recommendations**

- **Plan and implement school by school reductions in subsidised boarding** through clear procedures for subsidy levels in each school. Aim to have no more than 10% subsidized boarding at Tronc Commun by 2015 and 20% at Upper Secondary. Boarding above these levels would be full cost recovery.
- **Identify methods to increase the internal efficiency with which teachers are deployed** and utilized in schools, so that the learning time and learning achievement of pupils is maximized; provide incentives for cost effective management.
- **Reduce the number of non teaching administrative staff** to no more than 20% of the number of teachers from current levels (which appear to be as much as 40% of the number of teaching posts) through redeployment and streamlining administration.
- **Increase the number of schools which have active and purposeful development plans** against which to self evaluate progress towards local and national objectives.
- **Establish effective school monitoring and evaluation systems**, coupled with constructive support, to identify levels of efficiency and methods to improve quality and output.

## **Other Issues**

### **i) Cost Recovery and Fees.**

Primary schools are now Fee-Free. The cost of making Tronc Commun Fee Free varies from about RWf 1 to RWf 4 Billion a year between 2006 and 2015. This assumes a RWf 11,000 flat rate waiver to all pupils accompanied by a capitation grant to schools of similar value to replace lost income. These costs could be reduced if some households continued to pay and others did not. It is uncertain how the agencies and programmes that sponsor fees (FARG, DEF, NGOs etc) would react to fee waivers. Thus the impact on the overall public budget is difficult to predict.

If fees are waived for those who pay, then income will be foregone from those who can afford to pay currently amounting to about RWf 1 billion (excluding any public subsidy of private school pupils). This would be enough to waive fees for about the same number of new pupils (130,000) as those currently enrolled in government and libre subsidie schools. It is preferable to use selective fee waivers to make Tronc Commun fee free to the poor. This would be redistributive and would increase access faster than making it fee free for all.

The direct costs of schooling to households (fees and other costs of attendance (special contributions, uniforms, travel, books etc) at secondary level have to be low if access is to increase. Poor households in much of Sub Saharan Africa are unable to

allocate more than about 5% of household income to education expenses for all children, placing an affordability limit on attendance.

## **Recommendations**

- **Waive fees at the rate of Day School fees** (RWf 11,000 fee waiver per year), and not for boarding costs above this level.
- **Waive fees only for those who are unable to pay** through school/community level allocation of waivers transparently awarded.
- **Introduce a capitation grant** to replace fee income foregone by schools.

### **ii) The Role of the Private Sector in Expansion**

Very few primary schools are private and it appears that new policy at this level is not needed. At Tronc Commun about 40% of current provision is private. The private sector is diverse (community based, for profit and not for profit, Church and NGO supported) and is currently often rural rather than urban. Much provision depends on subsidies from FARG and DEF which may or may not continue. Recent trends suggest the sector is not growing indicating that it may be reaching the limits of affordability and the availability of fee scholarships.

A clear policy is needed that does not restrict the growth of well founded private schools delivering effective services for which there is demand. However, it is not clear on what basis the GoR would choose to subsidise growth from tax revenue in the sub-sector. If it did it would be at the expense of supporting expanded and new government and libre subsidie schools. If the subsidy was substantial, private schools would *de facto* become like libre subsidie schools.

Some proportional and matched subsidy might be feasible if it could be monitored and proved to be cost effective. Access of private school teachers to in-service training related to new curricula seems desirable as does access to low cost learning material. The issues that surround physical investment on private property, credit guarantees for non commercial risks, and any transfer of beneficial ownership of assets from public to private organisation are much more complex. Unless a case is made and accepted the status quo would seem the best option. Growth will then be market driven and paid for from outside the public budget.

## **Recommendations**

- **Maintain the *status quo* in relation to subsidies for private schools.** Consider the possibility of a RWf capitation to those that can demonstrate efficient performance
- Consider giving **access to in-service support** to private school teachers related to the implementation of new curricula.
- **Consider extending text book subsidies** to poor, low fee private school pupils
- **Establish an effective regulatory system** for private schools



## Projecting Expanded Access within the Resource Envelop

Projections have been developed to establish the costs of sustaining investment in primary schooling to move towards the goals set by the GoR, and increasing access to Tronc Commun. Baseline data have been drawn from GoR statistics and stated policy. These new projections build from previous scenarios (e.g. models 5 and 6 in the Long Term Educational Strategy and Financial Framework and in ESSP). They take into account:

- The need to reduce the primary pupil teacher ratio from 67:1 to 45:1 to reduce double shifting in primary 1-3, and to maintain investment at primary at or around 50% of the recurrent budget
- The changing flow of primary pupils completing grade six assuming repetition and drop out fall.
- The demand for new secondary teachers, and the need to find an alternative method of training to the high cost, four year KIE programme
- The costs of fee free Tronc Commun, interpreted as a subsidy to schools of RWf 11,000 per child to replace the element currently paid privately
- Reductions in boarding at rates consistent with protecting vulnerable children and orphans
- Private secondary schooling growing at no more than 5% per year as a result of limited demand for unsubsidised places. Higher growth would not be constrained and may occur, but it would do so without further public subsidy.
- Gradual reduction in the share of the budget absorbed by higher education. This would limit the number of publicly sponsored students but would not inhibit the growth in the number of off-budget students financed in other ways.
- Classroom construction/new schools at an average of 4, 5 and 6 million RWf per furnished classroom at primary, Tronc Commun, and Upper Secondary respectively.
- A ceiling of 30% of government resources allocated to education

These elements have been updated from previous models and make substantial differences to the outcomes achievable. Alongside these assumptions there is a need to consider fully the non-financial constraints on growth.

A Central Projection has been developed to create a sustainable financing framework designed to maintain progress towards universal primary education with increased completion rates and reduced repetition and drop out, increased Tronc Commun gross enrolment rates from 20% to more than 45%, tripling number enrolled by 2015 (130,000 to over 400,000), and achieving transition rates into Tronc Commun above 75% by 2015<sup>2</sup>. The costs of teacher training, a major constraint on growth at Tronc Commun, have been included. The assumption is that KIE enrolments remain at current levels which will be sufficient to meet demand for Upper Secondary teachers.

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<sup>2</sup> The standard definition  $\text{Transition rate} = (\text{Number in grade 6} - \text{repeaters}) / (\text{entrants to S1 the following year})$  can create misleading results. It is likely to fall before increasing, unless S1 grows faster than primary output which is unlikely before 2010. To prevent it falling S1 would have to grow at over 30% a year in some years.

Most training of new Tronc Commun teachers is planned to be conducted through Colleges of Education operating at less than RWf 300,000 per trainee per year, with one year training in College and one year in school. It has been assumed that subsidised boarding will be reduced to below 10% at Tronc Commun and below 20% at Upper Secondary. This creates savings of up to RWf 8.5 billion a year by 2015.

Investment to improve quality at primary level will continue to bring the pupil teacher ratio down to 1:45. This is sufficient to minimise double shifting in grades 1-3 to below 15%, which is necessary if repetition is to reduce and drop out decline in the early grades. An additional RWf 1,500 capitation for learning materials has been included from 2005 to enhance quality improvement and move towards acceptable ratios of text books per child. The primary gross enrolment rate will fall to around 100% as overage pupils and repeaters are reduced<sup>3</sup>. Completion rates improve over the period but have to be interpreted with caution<sup>4</sup>. Classroom construction costs to achieve these outcomes at primary would be between RWf 4-6 billion a year, at costs per classroom of RWf 4,000,000. The number of new primary teachers needed falls from about 3,000 in the early years to average about 300 from 2011-2015. This will release capacity which may be used to train Tronc Commun teachers.

The resources available for the Central Projection are financed by 30% of government resources plus external resource flows. The projection identifies the gaps between recurrent domestic resources and expenditure with and without Fee Free Tronc Commun. Fee free subsidies at RWf 11,000 per pupil at Tronc Commun account for about RWf 1 billion rising to RWf 4 billion by 2015. Overall gaps are about RWf 16 billion for most of the projection period and fall towards 2015. This however does not take into account needs to invest in learning materials at Tronc Commun and above, or the possible impact on salaries of radically reducing the numbers of untrained teachers in secondary schools. It also assumes that subsidised boarding is reduced as planned and that the number of administrators is frozen at current levels. The gaps also depend on GOR revenues growing as anticipated in macro economic projections which indicate sustained increases at 5% a year that may not be realised.

Construction costs increase from RWf 6 to 14 billion<sup>5</sup> for the full programme and would be less if more modest targets for growth, the reduction of double shifting were adopted. If classroom building and furnishing costs were less than RWf 4, 5 and 6 million at primary Tronc Commun and Upper Secondary the amounts would fall correspondingly. Alternatively if high cost science, technology and vocational institutions were created then much more would be required.

The assumptions and results of the Central Projection are summarised below (see also Annex 1).

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<sup>3</sup> The primary GER can fall as the number of repeaters reduces. The NER should continue to increase.

<sup>4</sup> Completion rates defined as (the number enrolled in grade 6 – repeaters)/(number of 12 year olds) can fall as the mix of overage pupils in grade 6 changes. This standard method of calculation can produce ambiguous results. An alternative method is to use Completion rate = (the number enrolled in grade 6 – repeaters)/(number of new entrants six years before).

<sup>5</sup> This global figure does not separately account for rehabilitation of existing stock which would be an additional cost.

## Central Projection Baseline Assumptions

<b>Primary</b>	<b>2004</b>
Population growth	2.20%
7 year olds	234650
7-12 year olds	1329530
Primary pupils	1752588
Primary Teachers	28774
Unit Cost	9472
Av Salary/Year	450000
Salary growth	3%
Pupil Teacher Ratio	67
GER	132%
Repetition Rate	20%
Drop Out Rate	16%
T sals as mult. GDP/cap	3.87
Unit cos as mult. GDP/cap	0.08
<b>Tronc Commun</b>	
Population growth	2.20%
13-15 year olds	666799
TC pupils gov/libsub	77996
TC Pupils private	53431
TC Teachers (gov/libsub)	2600
TC Administrators	550
Unit Cost	57418
Av Salary/Year	550000
Salary growth	3%
Pupil Teacher Ratio	30
GER incl priv	20%
Repetition Rate	9%
Drop Out Rate	9%
T sals as mult. GDP/cap	4.7
Unit cost as mult. GDP/cap	0.49
<b>Upper Secondary</b>	
Population growth	2.20%
16-18 year olds	636006
U Sec pupils gov/libsub	36041
U Sec Pupils private	36083
U Sec Teachers (gov/libsub)	1442
Administrators	1000
Unit Cost	70750
Av Salary/Year	650000
Salary growth	3%
Pupil Teacher Ratio	25
GER incl priv	11%
Repetition Rate	4%
Drop Out Rate	7%
T sals as mult. GDP/cap	5.6
Unit cost as mult. GDP/cap	0.61
<b>Cost of classroom</b>	
Primary	4000000
Tronc Commun	5000000
Upper Secondary	6000000

## The Central Projection 2004-2015

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Primary</b>												
Total Primary Enrolment	1752588	1752058	1741488	1740244	1756337	1794161	1769242	1728243	1692590	1663621	1643035	1641440
Primary Grade 6 Enrolment	110708	142782	159701	174194	190757	254838	270543	265126	260088	254556	242489	237017
Increase in Grade 6 Enrolment		29%	12%	9%	10%	34%	6%	-2%	-2%	-2%	-5%	-2%
Repetition Rate	20%	18%	16%	14%	12%	10%	9%	8%	8%	7%	6%	6%
Drop Out Rate	16%	14%	12%	9%	7%	5%	5%	5%	5%	5%	5%	5%
Number of Teachers	28774	30113	31404	33005	35127	37953	39718	41328	41374	40666	40163	40124
Number of New Teachers Needed	2203	2194	2543	3112	3880	2903	2801	1287	533	717	1166	1479
Pupil Teacher Ratio	67	64	61	58	55	52	49	46	45	45	45	45
Class Size	67	64	61	58	55	52	49	46	45	45	45	45
Primary Gross Enrolment Ratio	132	129	125	123	121	121	117	112	107	103	99	97
Primary Completion Rate (Std method)	35%	46%	51%	56%	61%	81%	85%	82%	80%	77%	72%	69%
Primary Completion Rate (alt. method)						51%	76%	78%	80%	81%	80%	78%
Number years schooling for a primary grad.						9.6	8.0	7.6	7.4	7.3	7.3	7.3
<b>Tronc Commun</b>												
Transition Rate Primary/TC		48%	45%	45%	45%	37%	39%	44%	49%	56%	67%	75%
Rate of increase in S1 Enrolments		7%	7%	8%	11%	11%	12%	12%	12%	12%	12%	13%
Repetition Rate	9%	8%	7%	6%	5%	4%	4%	3%	3%	3%	3%	3%
Drop Out Rate	9%	8%	8%	7%	6%	6%	5%	5%	4%	3%	3%	3%
Number of Teachers Gov+libsub	2600	2868	3175	3458	3846	4374	5042	5817	6729	7790	9023	10399
New teachers Needed		398	450	442	560	720	887	1027	1203	1397	1623	1827
Pupil Teacher Ratio	30	30	30	30	30	30	30	30	30	30	30	30
Class Size	45	45	45	45	45	45	45	45	45	45	45	45
Enrolment TC (incl private)	131427	143862	156928	168407	183117	202490	226326	253672	285536	322149	364205	410483
Rate of increase in S1 Enrolments		7%	7%	8%	11%	11%	12%	12%	12%	12%	12%	13%
Number of additional TC pupils		12435	13066	11479	14710	19373	23836	27347	31864	36613	42056	46278
Number of New TC Classes needed		276	290	255	327	431	530	608	708	814	935	1028
% Private	41%	40%	39%	38%	37%	35%	33%	31%	29%	27%	26%	24%
% Boarding	76%	70%	65%	55%	45%	35%	25%	20%	15%	10%	9%	8%
Number of Subsidised C73Boarding (in govt+libsub)	59020	60228	61913	57063	51919	45922	37816	34904	30281	23370	24362	24957
TC Gross Enrolment Ratio	20%	21%	23%	24%	25%	27%	30%	33%	36%	40%	44%	48%
TC Completion Rate (Std method)	14%	15%	17%	19%	20%	21%	23%	25%	28%	31%	35%	39%

<b>The Central Projection</b>												
<b>Upper Secondary</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Transition Rate TC/U.Sec		62%	58%	54%	50%	46%	42%	39%	36%	36%	36%	36%
Repetition Rate	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Drop Out Rate	7%	6%	6%	5%	5%	4%	4%	3%	3%	2%	2%	2%
Number of Teachers	1442	1576	1650	1764	1838	1927	1982	2068	2190	2355	2539	2821
Number of New Teachers Needed		207	152	197	162	181	152	185	225	275	302	408
Pupil Teacher Ratio	25	25	25	25	25	25	25	25	25	25	25	25
Class Size	40	40	40	40	40	40	40	40	40	40	40	40
Enrolment Upper Sec	72124	74856	76668	80336	84717	89463	92135	94866	97909	102045	106693	114302
% Private	50%	47%	46%	45%	46%	46%	46%	46%	44%	42%	40%	38%
% Boarding	75%	70%	65%	55%	50%	45%	40%	35%	30%	25%	20%	20%
Number of subsidised Boarding (in govt + libsub)	27031	27587	26806	24259	22971	21678	19823	18094	16425	14721	12697	14104
U Sec Gross Enrolment Ratio	11%	12%	12%	12%	12%	13%	13%	13%	13%	13%	13%	14%
<b>Expenditure</b>												
<b>Primary</b>												
Teachers Remuneration Mult.of GDP/capita	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	4.0	4.0	4.0	4.0
Unit Cost Mult.GDP/capita	0.08	0.10	0.10	0.11	0.11	0.12	0.12	0.13	0.13	0.13	0.14	0.14
Overall Primary Unit Cost (RWf)	9472	11549	12400	13346	14401	15585	16923	18443	19375	19957	20555	21172
Recurrent Expenditure	16600	20235	21595	23225	25293	27963	29940	31874	32794	33200	33773	34752
<b>Tronc Commun</b>												
Teachers Remuneration Mult.of GDP/capita	4.7	4.7	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.9	4.9
Unit Cost Mult.GDP/capita	0.49	0.47	0.44	0.41	0.37	0.34	0.31	0.29	0.27	0.25	0.24	0.24
Overall Tronc Commun Unit Cost (RWf)	57418	55603	54019	51123	48188	45202	42151	40560	38971	37377	37112	36906
Recurrent Expenditure	5028	5351	5729	5905	6179	6568	7033	7755	8564	9453	10785	12274
Recurrent Expenditure if fee free (11,000/cap)	5886	6325	6840	7152	7607	8242	9020	10116	11377	12807	14787	17024
<b>Upper Secondary</b>												
Teachers Remuneration Mult.of GDP/capita	5.6	5.6	5.6	5.6	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8
Unit Cost Mult.GDP/capita	0.61	0.58	0.55	0.51	0.48	0.46	0.44	0.41	0.39	0.37	0.35	0.35
Overall Upper Secondary Unit Cost (RWf)	70750	68907	67166	64147	62532	60981	59485	58032	56615	55222	53845	54205
Recurrent Expenditure	2907	3084	3149	3220	3275	3352	3375	3440	3552	3718	3899	4317

<b>The Central Projection</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>Teacher Training</b>												
KIE												
Number of Teachers produced per annum KIE	350	350	350	350	350	350	350	350	350	350	350	350
Overall Cost per Graduate available (RWf)	4000000	4120000	4243600	4370908	4502035	4637096	4776209	4919495	5067080	5219093	5375666	5536935
Recurrent Expenditure per year	1400	1442	1485	1530	1576	1623	1672	1722	1773	1827	1881	1938
Reformed Secondary Colleges of Education												
Number of Teachers needed/produced		547	594	757	960	1068	1232	1446	1708	1979	2317	2597
Overall Cost per Graduate available (RWf)	300000	315000	330750	347288	364652	382884	402029	422130	443237	465398	488668	513102
(1+1)												
Recurrent Expenditure		169	181	206	276	368	429	520	641	795	967	1189
<b>Finance</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
GDP	986092	1035396	1087166	1141524	1198601	1258531	1321457	1387530	1456907	1529752	1606240	1686552
GDP Growth	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Population	8490	8677	8868	9063	9262	9466	9674	9887	10105	10327	10554	10786
GDP/capita	116145	119328	122597	125956	129406	132952	136594	140337	144181	148132	152190	156360
Domestic revenue	126427	133858	141716	150025	158811	168101	177922	188306	199282	210886	223152	236117
Domestic Revenue as % GDP	12.8%	12.9%	13.0%	13.1%	13.2%	13.4%	13.5%	13.6%	13.7%	13.8%	13.9%	14.0%
Education Resources as % Domestic Res.	19.4%	20.1%	20.9%	21.7%	22.6%	23.5%	24.4%	25.4%	26.4%	27.4%	28.5%	29.6%
Education as % of GDP (including external)	4.5%	4.5%	4.5%	4.6%	4.6%	4.7%	4.7%	4.7%	4.6%	4.6%	4.6%	4.5%
<b>Recurrent Expenditure Only</b>												
Primary Education as % of Education	42%	46%	47%	47%	48%	50%	51%	51%	51%	50%	48%	47%
Tronc Commun as % of Education	13%	12%	12%	12%	12%	12%	12%	13%	13%	14%	15%	17%
U. Sec as % of Education	7%	7%	7%	7%	6%	6%	6%	6%	6%	6%	6%	6%
Higher Education as % of Education	30%	28%	27%	27%	26%	24%	23%	22%	21%	20%	19%	18%
Teacher Training KIE	4.0%	3.7%	3.6%	3.5%	3.4%	3.3%	3.2%	3.1%	3.1%	3.1%	3.0%	3.0%
Teacher Training Secondary TTC	0.4%	0.4%	0.4%	0.6%	0.7%	0.8%	0.9%	1.0%	1.2%	1.4%	1.7%	1.9%

<b>The Central Projection Projected Expenditure (Billions)</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Preschool	0.2	0.3	0.3	0.4	0.5	0.6	0.7	0.8	1.0	1.2	1.4	1.7
Primary recurrent	16.6	20.2	21.6	23.2	25.3	28.0	29.9	31.9	32.8	33.2	33.8	34.8
Lower secondary (Excl TTCs)	5.0	5.4	5.7	5.9	6.2	6.6	7.0	7.8	8.6	9.5	10.8	12.3
Upper secondary	2.9	3.1	3.1	3.2	3.3	3.4	3.4	3.4	3.6	3.7	3.9	4.3
Informal	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.7	0.8	0.9
S and T	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.6	1.8	2.1	2.4	2.8
HE (incl expat sals)	11.9	12.3	12.6	13.0	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
Teacher training KIE	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.1	2.1	2.2
Teacher Training Sec CoE	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.8	1.0	1.2	1.4
Total Ed Exp	39.2	43.9	46.4	49.0	52.2	55.7	58.7	62.0	64.5	66.8	69.8	73.8
Fee Free TC	40.1	44.9	47.5	50.2	53.6	57.4	60.7	64.4	67.4	70.2	73.8	78.5
Domestic Resources	24.5	27.0	29.6	32.6	35.9	39.5	43.4	47.7	52.5	57.8	63.5	69.9
Gap of Domestic Resources		17.0	16.7	16.4	16.3	16.3	15.3	14.3	12.0	9.0	6.3	3.9
Gap with Fee Free (day school costs)		18.0	17.8	17.6	17.7	17.9	17.3	16.6	14.8	12.4	10.3	8.6

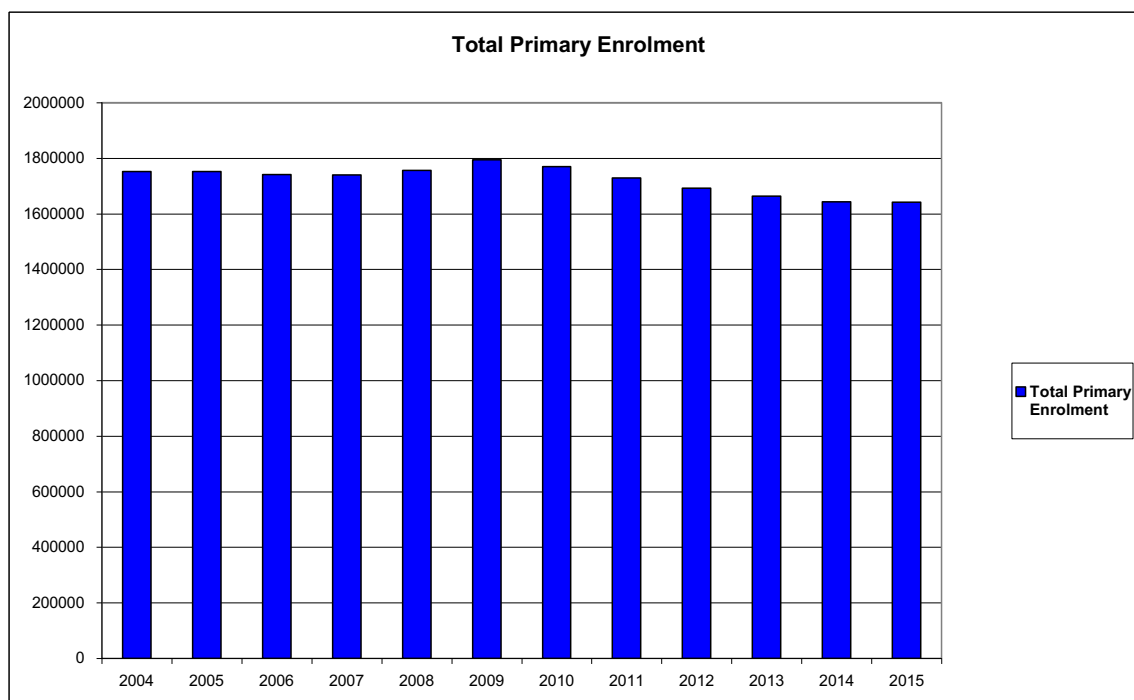
<b>The Central Projection Options (RWf Millions)</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>Add. Cost Fee Free (11,000 RWf Gov+Libsub)</b>		975	1112	1247	1428	1673	1987	2361	2813	3354	4002	4750
<b>Add. Cost Fee Free if 50% receive subsidy (Gov/libsub)</b>		487	556	624	714	837	993	1181	1406	1677	2001	2375
<b>Add cost of primary learning materials 1500RWf</b>		2788	2854	2938	3054	3213	3264	3284	3313	3354	3412	3510
<b>Add cost TC learning materials 5000RWf</b>		0	0	0	0	0	0	0	0	0	0	0
<b>Add cost U Sec learning materials 5000RWf</b>		0	0	0	0	0	0	0	0	0	0	0
<b>Cost of Boarding at TC</b>		1551	1642	1559	1461	1331	1129	1073	959	762	819	864
<b>Cost of Boarding at TC without reduction in boarders</b>		1684	1920	2154	2467	2890	3432	4078	4859	5794	6912	8205
<b>Difference i.e. saving from reduced boarding</b>		133	278	595	1006	1559	2303	3005	3900	5031	6093	7341
<b>Cost of Boarding at U Sec</b>			710	711	663	646	628	592	556	520	480	427
<b>Cost of Boarding at U Sec without reduction in boarders</b>			761	820	904	970	1047	1110	1192	1300	1441	1600
<b>Difference i.e. saving from reduced boarding</b>			51	109	241	323	419	518	636	780	960	1173
<b>Add. Cost of private capitation of RWf 5000 for TC</b>			298	327	353	381	413	448	487	530	577	628
<b>Add. Cost of private capitation of RWf 5000 for U Sec.</b>			183	188	198	218	239	254	265	273	282	290



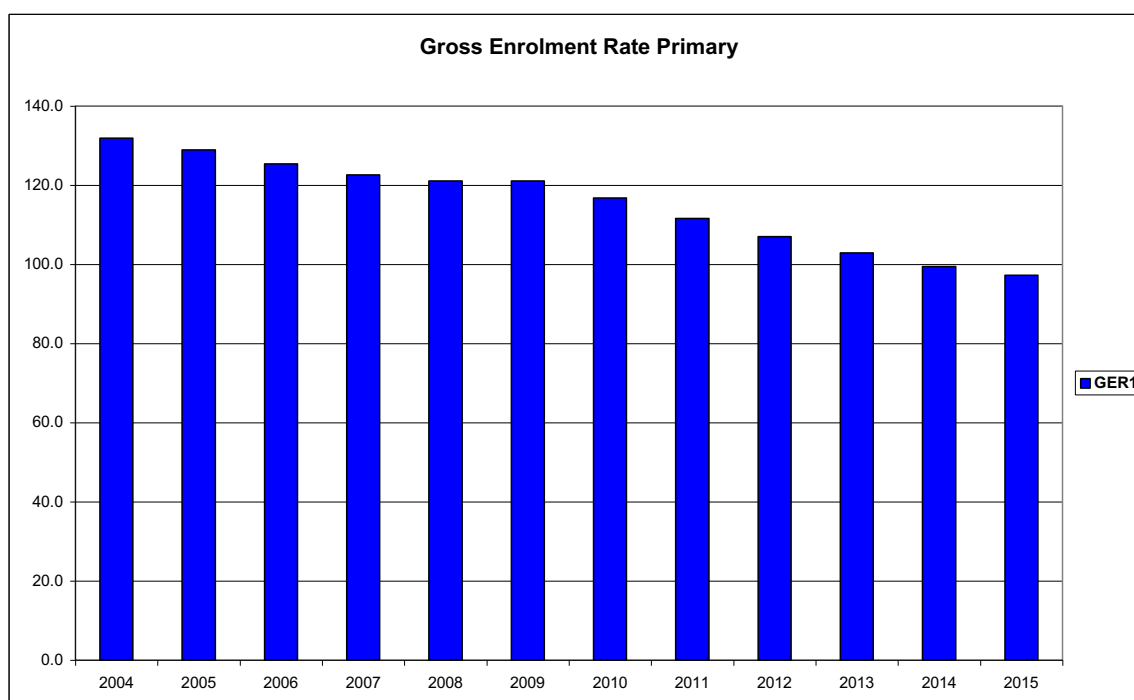
<b>The Central Projection</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>Development Costs</b>												
<b>Primary School Classrooms/Schools</b>												
Total Classrooms needed @ target PTR	27549	28774	29672	31124	32599	34314	34590	34447	34336	34348	34537	
Total Classrooms existing	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000
Deficit in classrooms	3549	4774	5672	7124	8599	10314	10590	10447	10336	10348	10537	
Total extra needed in 2015												1113
Average build per year to meet 2015 need	1113	1113	1113	1113	1113	1113	1113	1113	1113	1113	1113	1113
Cost of Primary Classrooms	4454	4587	4725	4866	5012	5163	5318	5477	5642	5811	5985	
Double shift rate Grades 1-3	85%	79%	72%	66%	59%	53%	46%	40%	33%	27%	20%	
Av Class size target	45	45	45	45	45	45	45	45	45	45	45	45
<b>Tronc Commun Classroom and Schools</b>												
Number Classrooms	290	255	327	431	530	608	708	814	935	1028	1071	
Cost of TC classrooms Gov and libsub	1054	1002	1411	1980	2584	3086	3738	4479	5363	6162	6653	
Cost of private TC classrooms @10% subsidy	49	44	35	37	44	49	54	62	67	73	75	
Ave class size target	45	45	45	45	45	45	45	45	45	45	45	45
<b>Upper Secondary</b>												
Number Classrooms	45	92	110	119	67	68	76	103	116	190	267	
Cost of U Sec Classrooms	275	430	275	335	208	321	458	621	690	1055	1452	
Cost of private U Sec classrooms @10% subsidy		0	13	42	42	22	11	0	0	1	12	
Ave class size target	40	40	40	40	40	40	40	40	40	40	40	40
<b>Total Construction Expenditure (millions)</b>												
<b>Primary + TC + U Sec with no subsidy to Private</b>	5782	6019	6411	7181	7804	8569	9513	10577	11694	13028	14090	

## Profiling Nine Year Basic Education in the Central Projection – Scenario 1

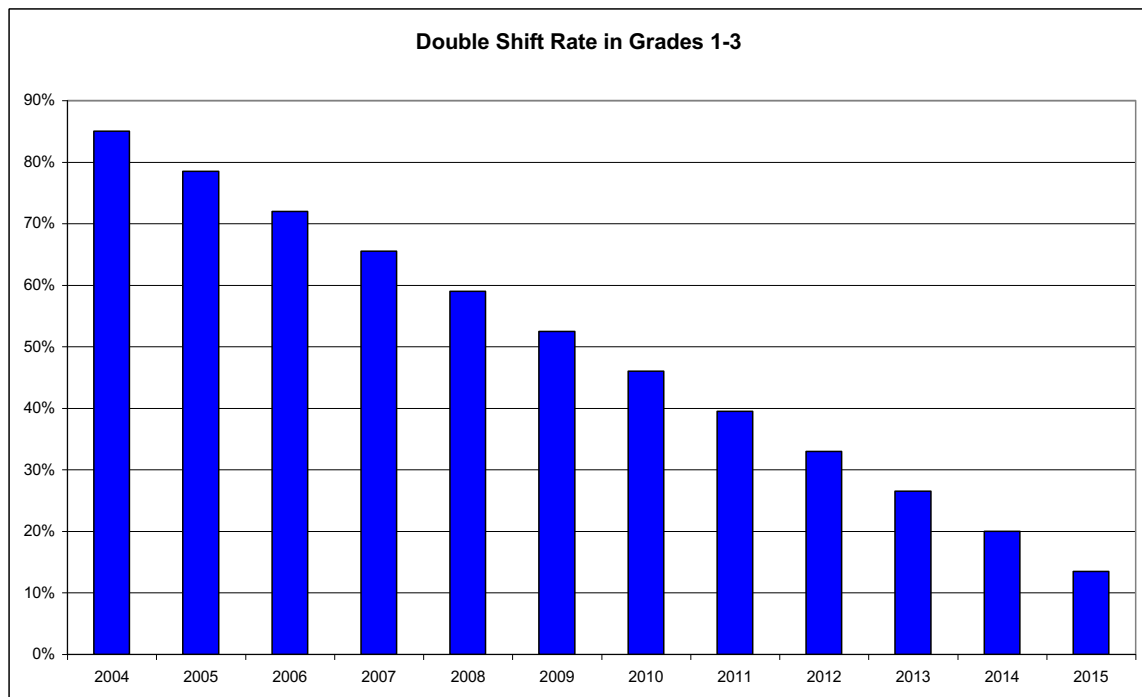
Total primary enrolment is projected to remain stable until about 2009, after which it will fall as a result of reduced entry rates into grade 1, and reduced repetition. After 2015 growth will return to the rate of population growth for 6 years olds – about 2.2% a year.



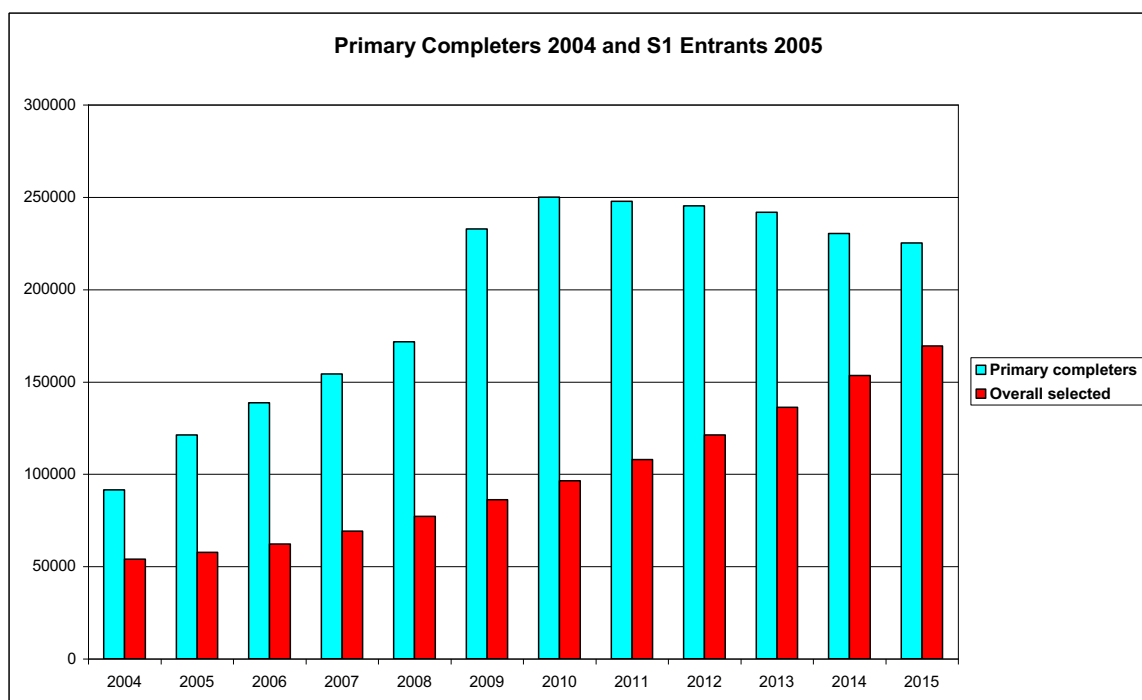
Gross enrolment rates at primary will fall as overage and repeating pupils diminish.



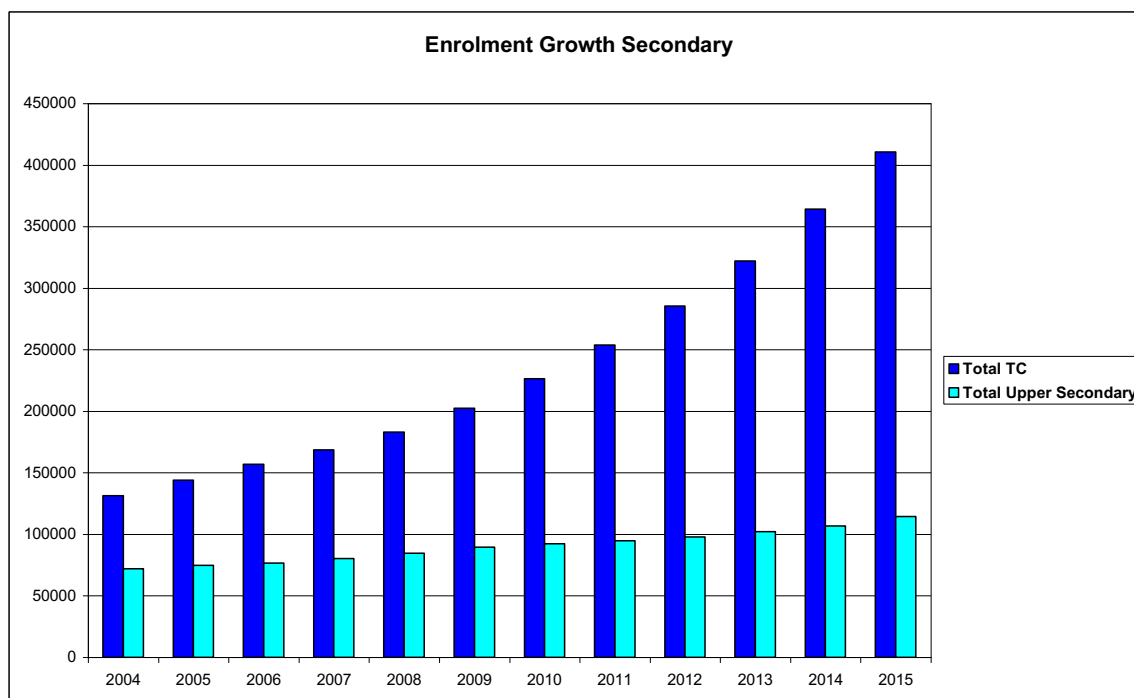
It will be possible to reduce double shifting to less than 15% by 2015 if the assumptions of the Central Projection are realised.



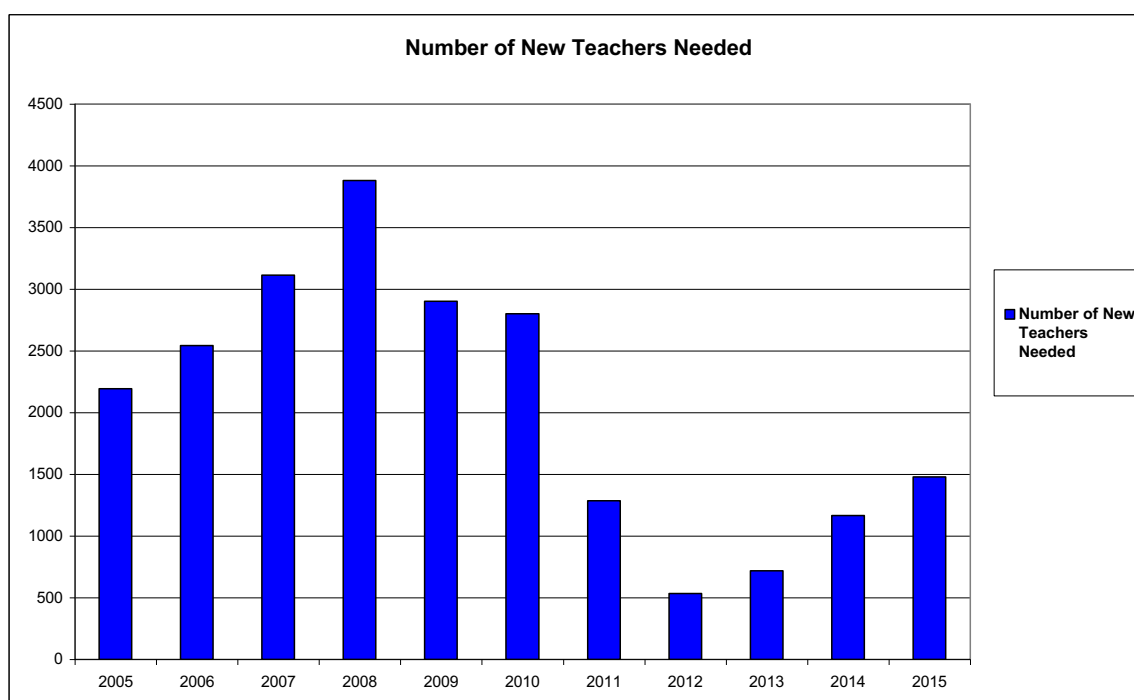
The number of grade 6 pupils completing (enrolment – repeaters) will rise rapidly until 2010 if repetition and drop out rates fall. Enrolments in S1 of Tronc Commun are projected to grow at between 7% and 12% a year in the Central Projection. Higher rates would require a much greater supply of teachers and classrooms and face non-financial constraints. Transition rates will fall then recover.



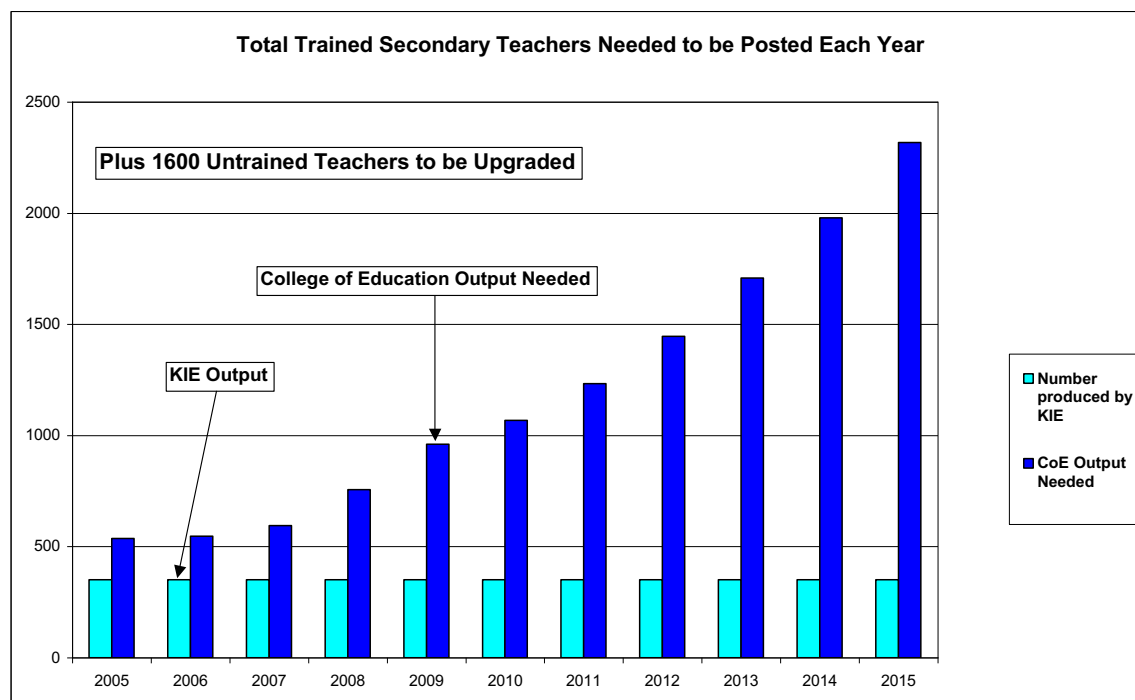
Enrolments in Tronc Commun in all schools will rise three times to reach 410,000 by 2015. Upper secondary is planned not to expand substantially until after 2015.



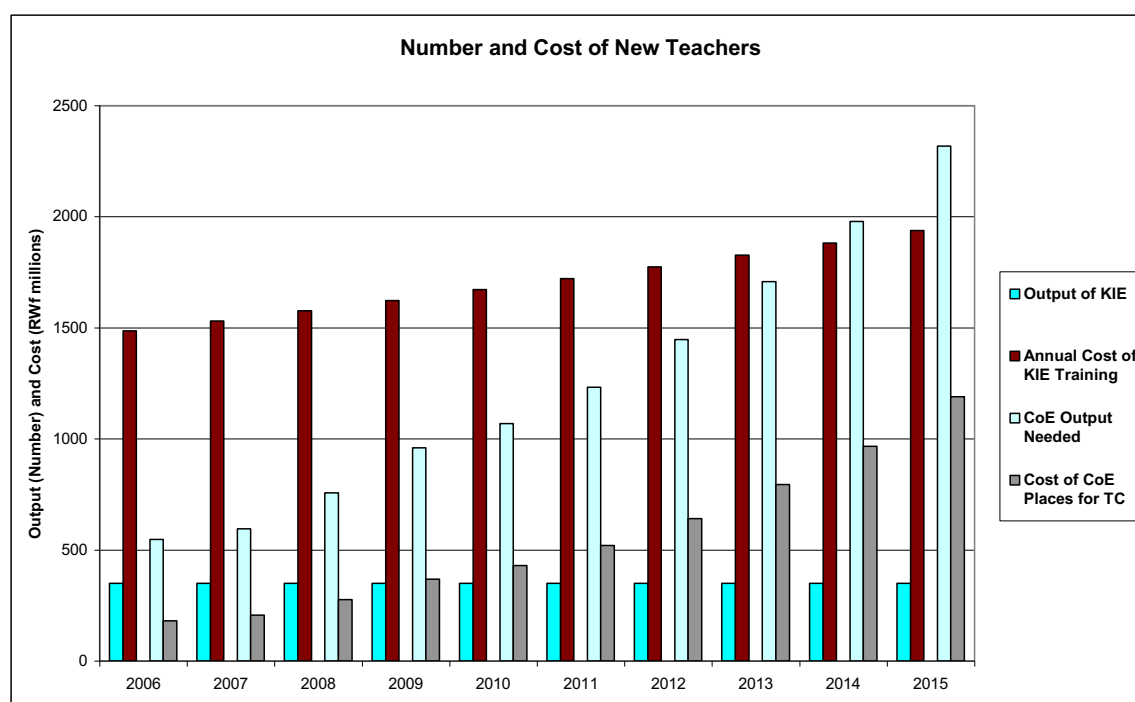
The number of new primary teachers needed to keep pace with this growth and reduce the primary pupil teacher ratio to 45:1 averages 2,800 a year until 2010 after which it falls to less than 1,000 once 1:45 has been achieved.



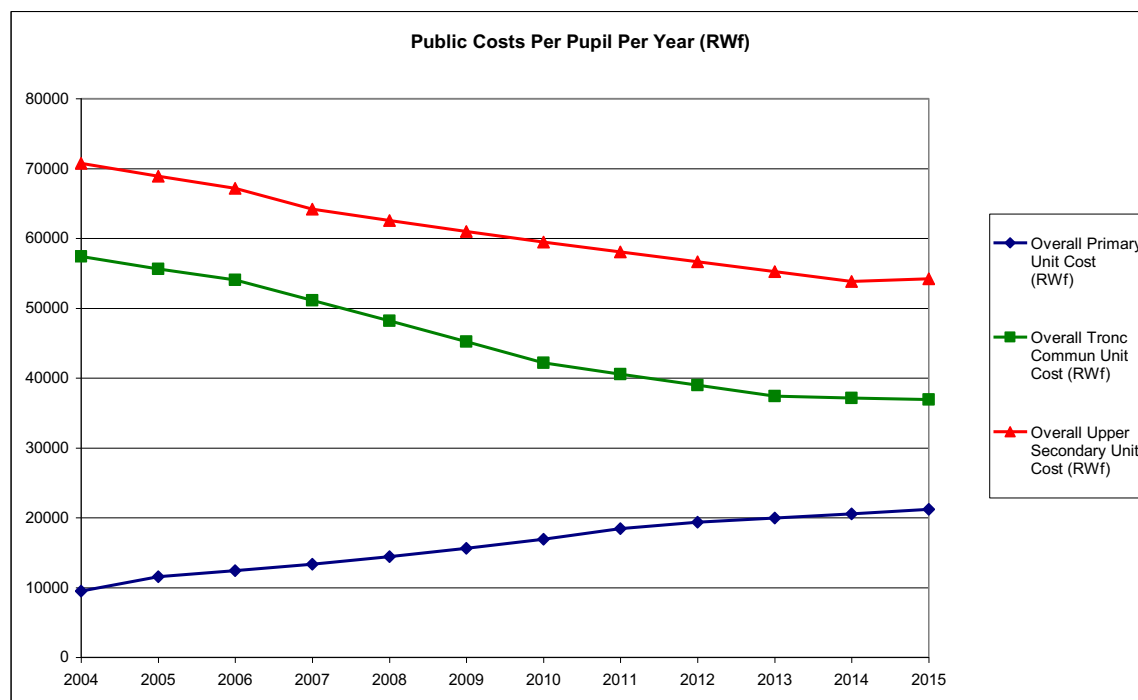
At Tronc Commun level significant growth in teacher output is needed that cannot be achieved through the KIE programmes at current cost levels. The projection assumes that KIE output remains at about 350 a year, and National Colleges of Education are established to train Tronc Commun teachers.



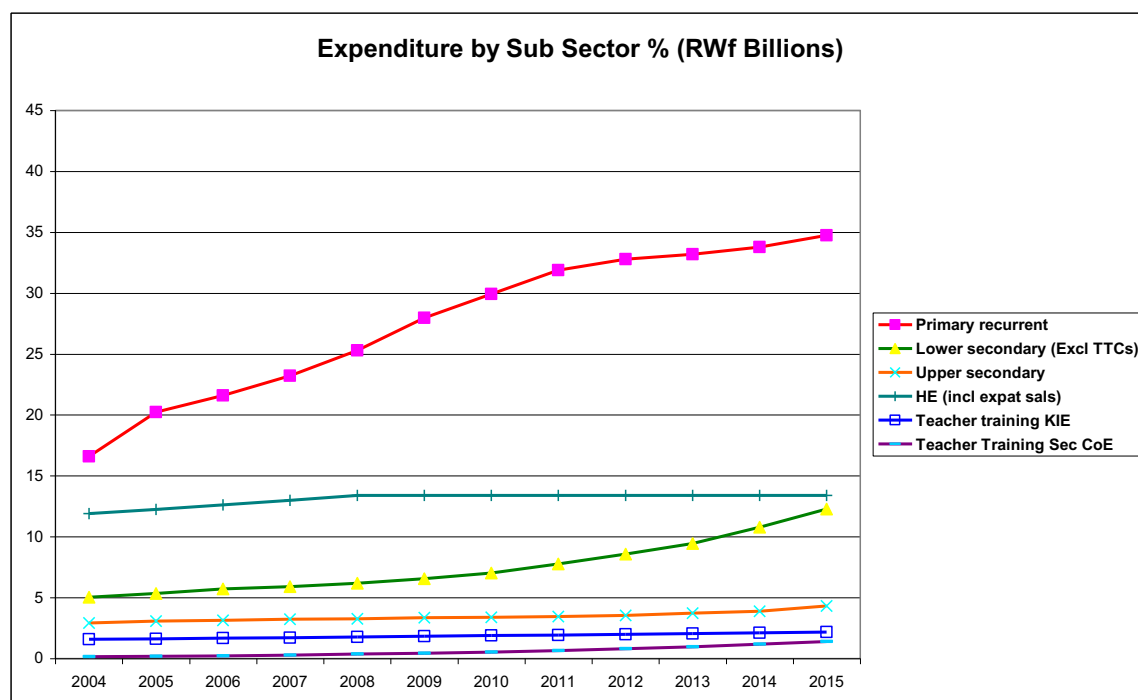
The cost of training secondary teachers is mostly in KIE (RWf 1.5-2 billion per year) though the output is only about 350. National Colleges of Education could provide the numbers needed for Tronc Commun expansion at much lower costs with much greater output – by 2015 eight times the KIE output for a little over half the cost.



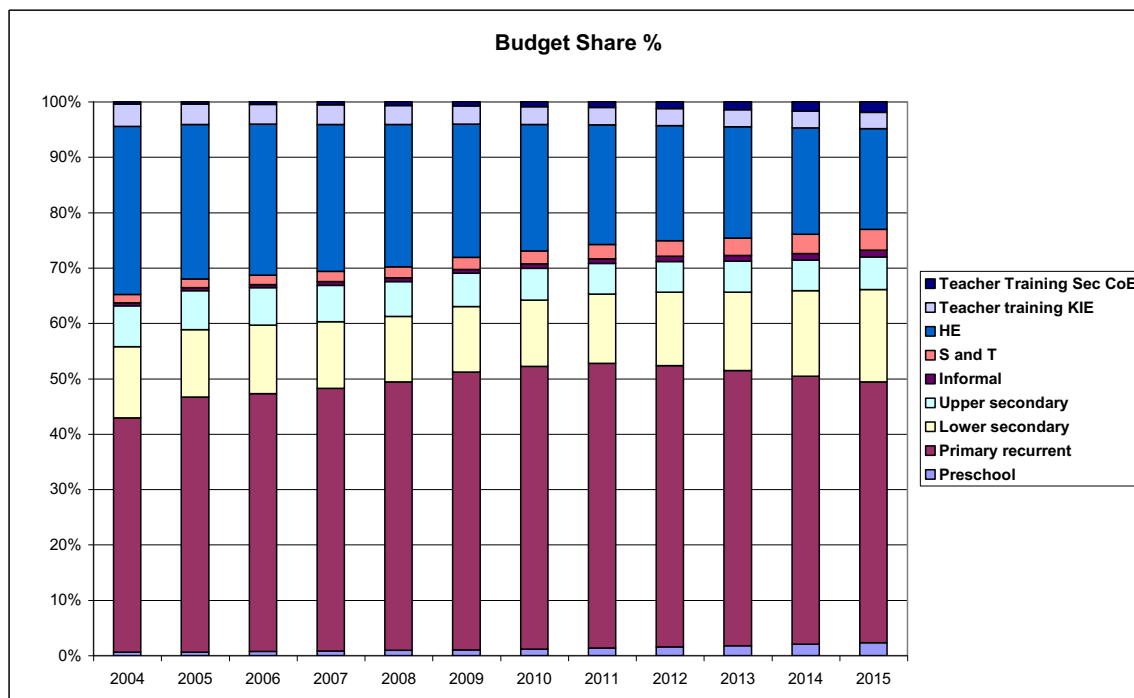
Cost per pupil at primary would rise reflecting reduced pupil teacher ratios and quality inputs. Costs at Tronc Commun and Upper Secondary would fall as subsidised boarding was reduced. The ratio of unit costs of Tronc Commun to primary would fall from about 5:1 to 2:1 making expanded secondary more affordable.



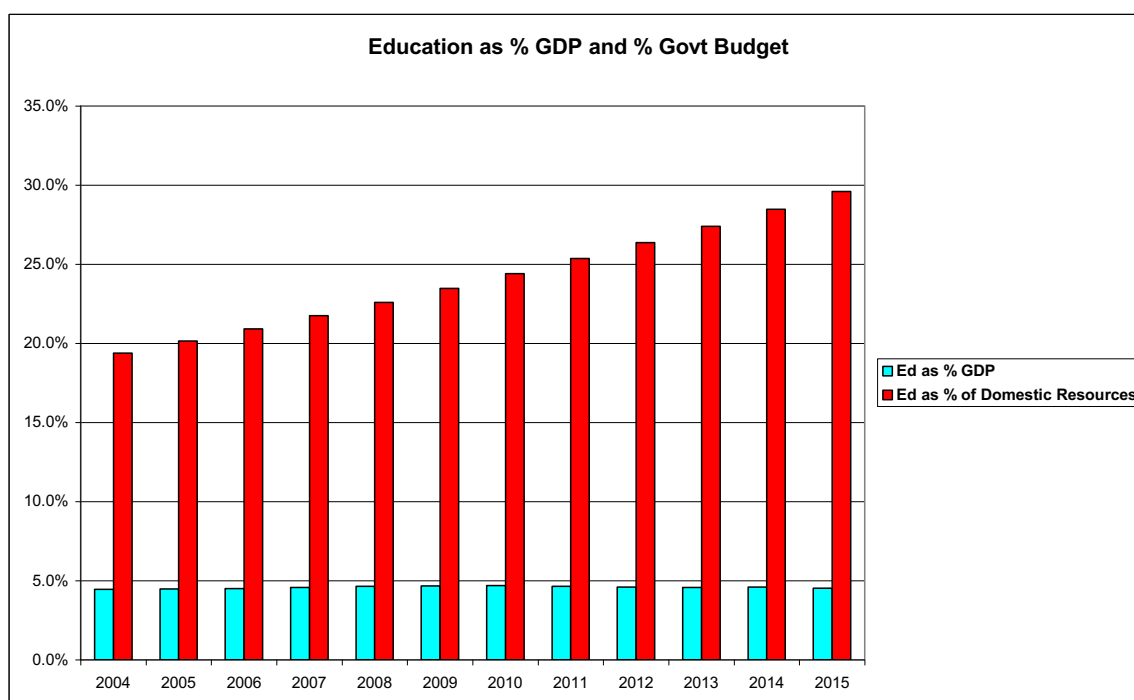
Recurrent expenditure on primary would rise to about RWf 35 billion by 2015. Higher education public expenditure would be stable. By 2015 Tronc Commun would approach the value of the higher education budget at around RWf 12 billion (and exceed it if it were fee free).



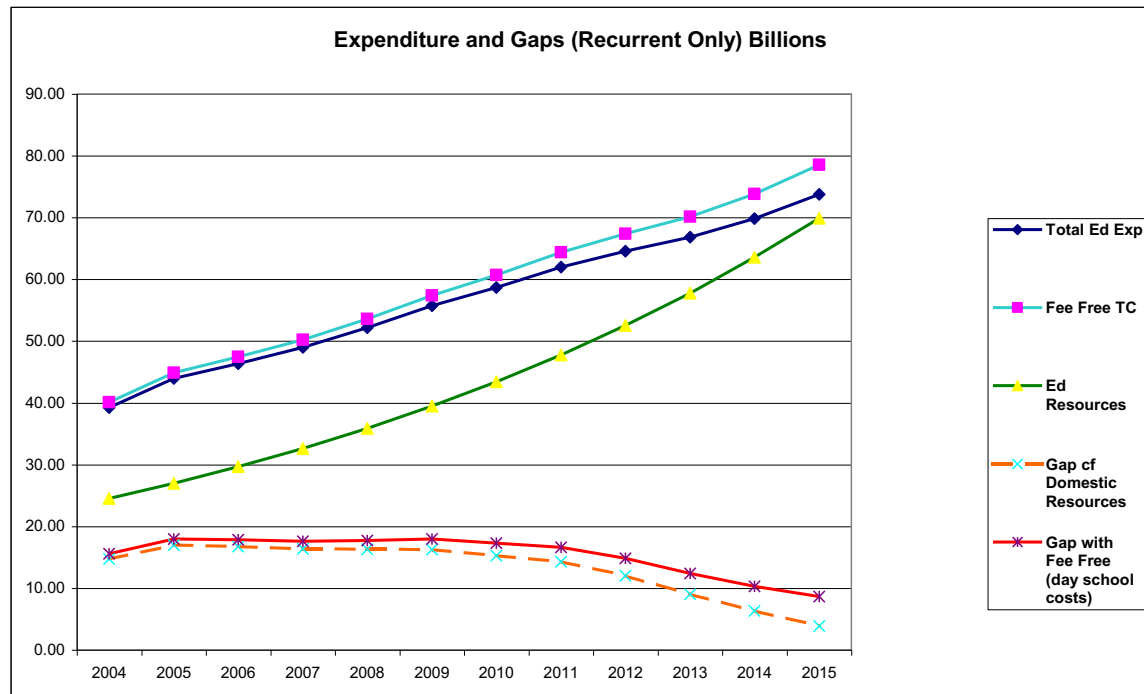
Budget shares for primary would be maintained at about 50%. Higher education would decline from over 30% to less than 20%. Tronc Commun and Upper Secondary would rise from 16% to 23% dependent on large reductions in non teaching salary costs at secondary. KIE would continue to absorb most expenditure on teacher education, with a small output.



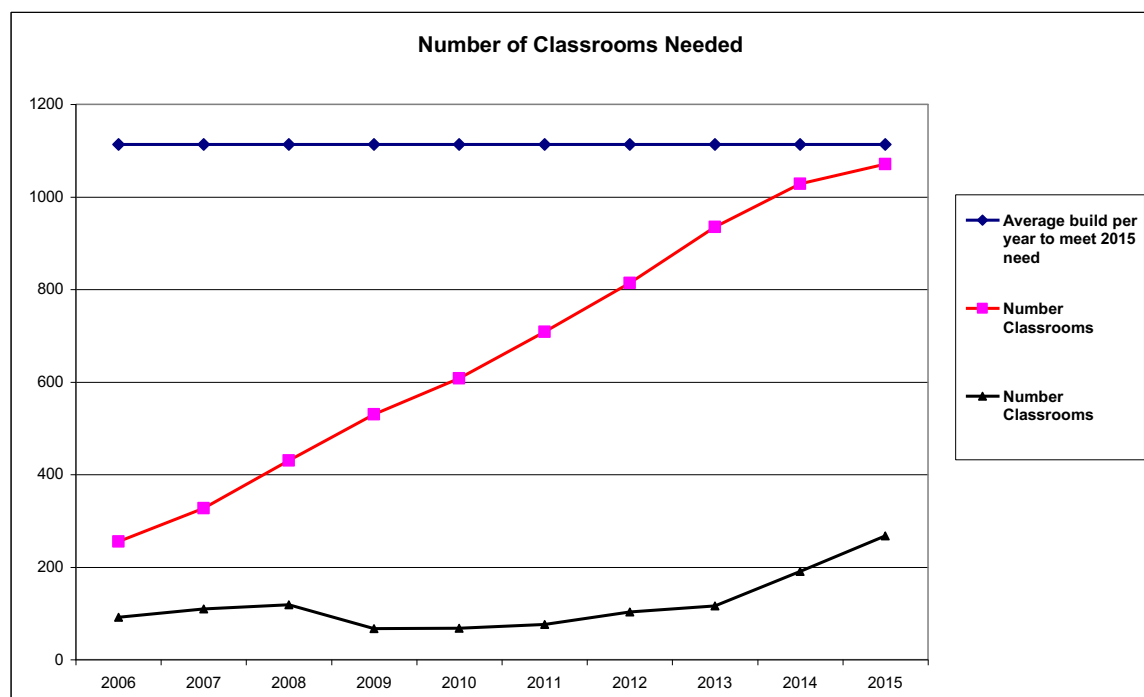
Education would take about 30% of domestic resources by 2015 and about 5% of GDP. This assumes GDP growth of 5% and revenue growth to 14% of GDP.



Overall educational expenditure would reach RWf 72 Billion of which as much as RWf 70 Billion might be available from domestic resources assuming economic growth remains on track. However there would be a financing gap averaging about RWf 16 billion until 2010. Fee free Tronc Commun would add between RWf 1 and 4 billion to the recurrent cost gap.

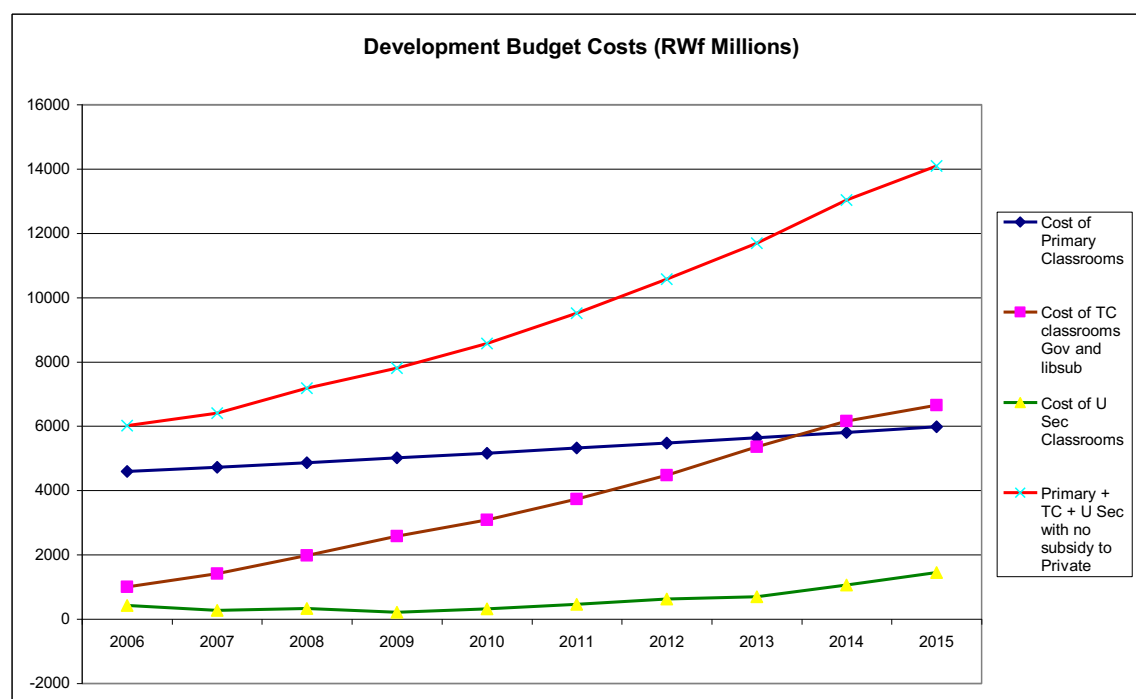


The number of new classrooms needed per year would be about 1,100 at primary assuming double shifting is to be reduced. At Tronc Commun 250 a year would be needed initially rising to about 1000 by 2015 if class sizes are not to rise above 45.





Development expenditure to sustain the Central Projection needs to rise from RWf 6 billion to RWf 14 billion by 2015. Less would be needed if classroom construction costs were less than RWf 4, 5 and 6 million for primary, Tronc Commun and Upper Secondary. Expenditure needed averages about 20% of recurrent expenditure.



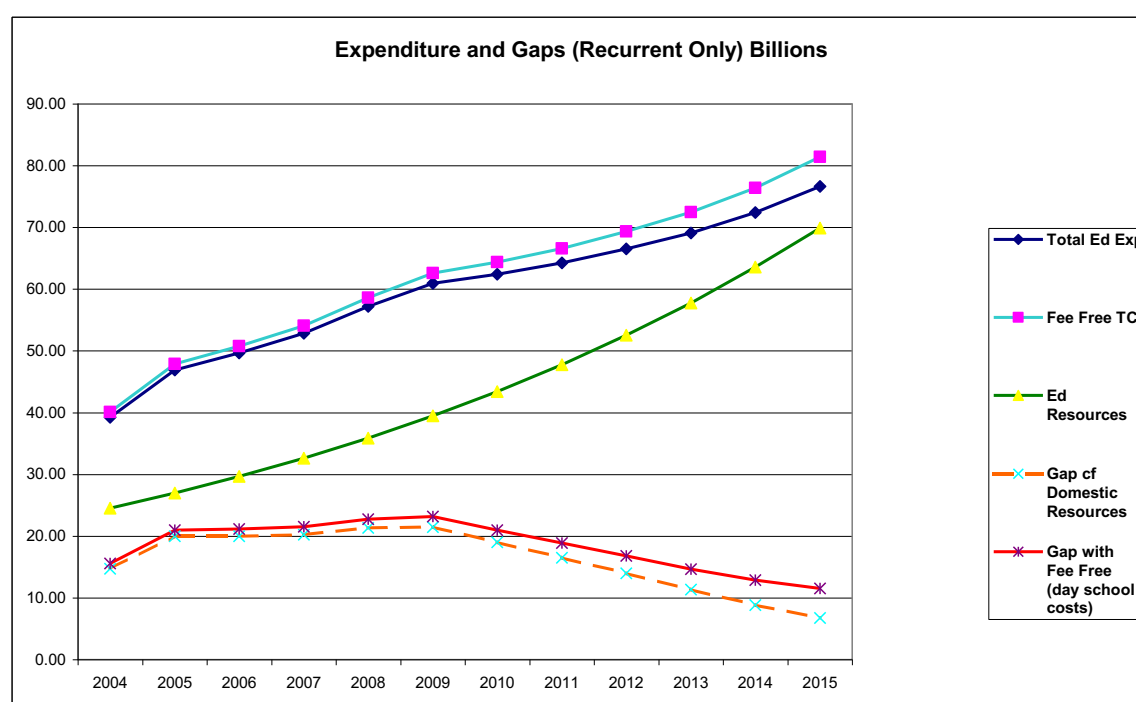
The broad conclusion is that the assumptions of the Central Projection lead to a financially sustainable outcome with considerable progress on Universalising Primary Education, and substantial expansion of access to Tronc Commun by 2015. Whether the outcomes can be achieved depends on whether the pattern of allocation of resources is realised, and whether the non-financial constraints on growth can be managed. It also depends on concerted action to reduce unit costs at secondary level without which expansion will be financially unsustainable.

## Other Scenarios

The **Central Projection (Scenario 1)** has been modified to illustrate the effects of three alternative policy options which may be considered desirable. **Scenario 2 (faster UPE)** is designed to place greater emphasis on progress in primary education. The pupil teacher ratio is reduced faster to reach 1:45 by 2009 rather than 2012 in the Central Projection. Repetition falls to 5% by 2009 not 2014. Learning materials capitation is doubled to RWf 3,000 from 2006.

The result is that more new primary teachers are needed before 2010 and fewer after and the number of years needed to produce a primary graduate falls faster. Transition rates into secondary rise slightly faster (as there are fewer pupils in grade 6 as a result of reduced repetition). Recurrent expenditure increases on primary to reach RWf 37.6 by 2015. Primary takes over 50% of recurrent expenditure between 2005 and 2015. The recurrent financial gap exceeds RWf 20 billion until 2010, and falls to RWf 7 billion by 2015. Primary classroom building costs are slightly higher (see Annex 2).

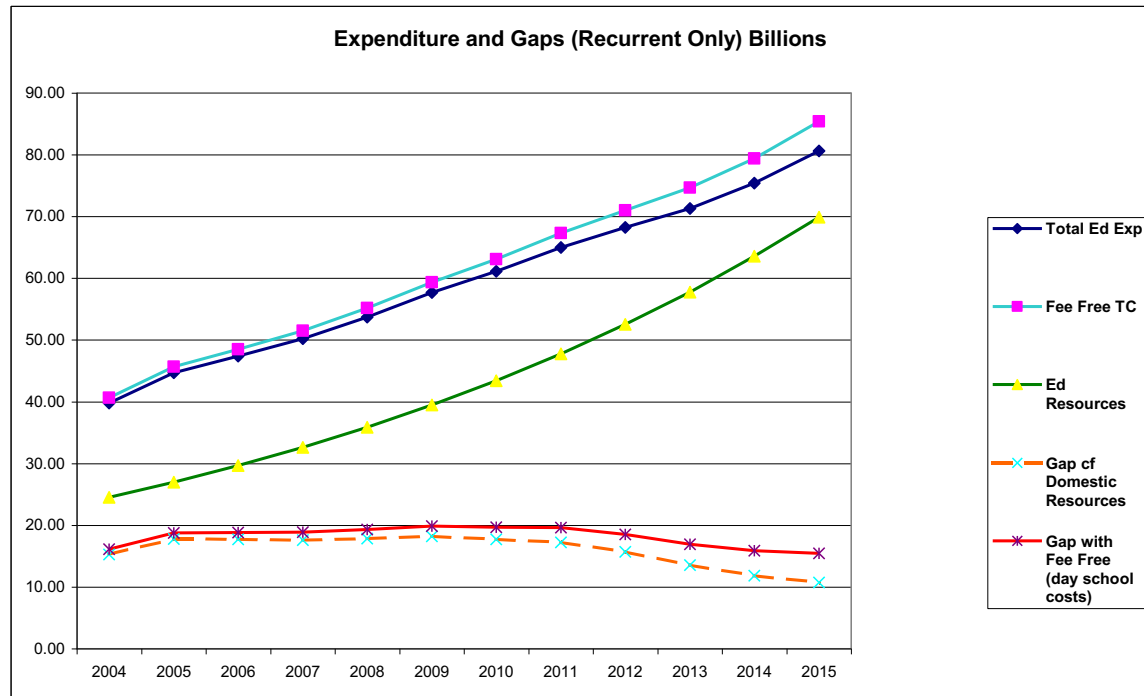
## Scenario 2



**Scenario 3 (expansion of Tronc Commun with investment in quality)** returns to the assumptions of Scenario 1 for primary, but invests more in the expansion of Tronc Commun. This is achieved by providing learning material capitation of RWf 5,000 per pupil in addition to current levels of support. This would seem essential if expanded Tronc Commun is to approach one book in each core subject for three pupils. It also assumes salary growth for secondary teachers of 5%, not 3%, to reflect the fact that most secondary teachers will be trained by 2015, whereas most are untrained currently.

The result is that enrolments at primary and secondary grow as in Scenario 1. Expenditure at secondary level increases faster to reach RWf 17.6 billion at Tronc Commun and RWf 5.8 billion at Upper Secondary by 2015 (without fee free). Recurrent financing gaps rise to RWf 20 billion by 2011 and fall back to RWf 10 billion (without fee free). These additional costs may be necessary to ensure that expanded Tronc Commun does have trained teachers and sufficient learning materials to sustain high completion and low repetition and drop out rates (see Annex 3).

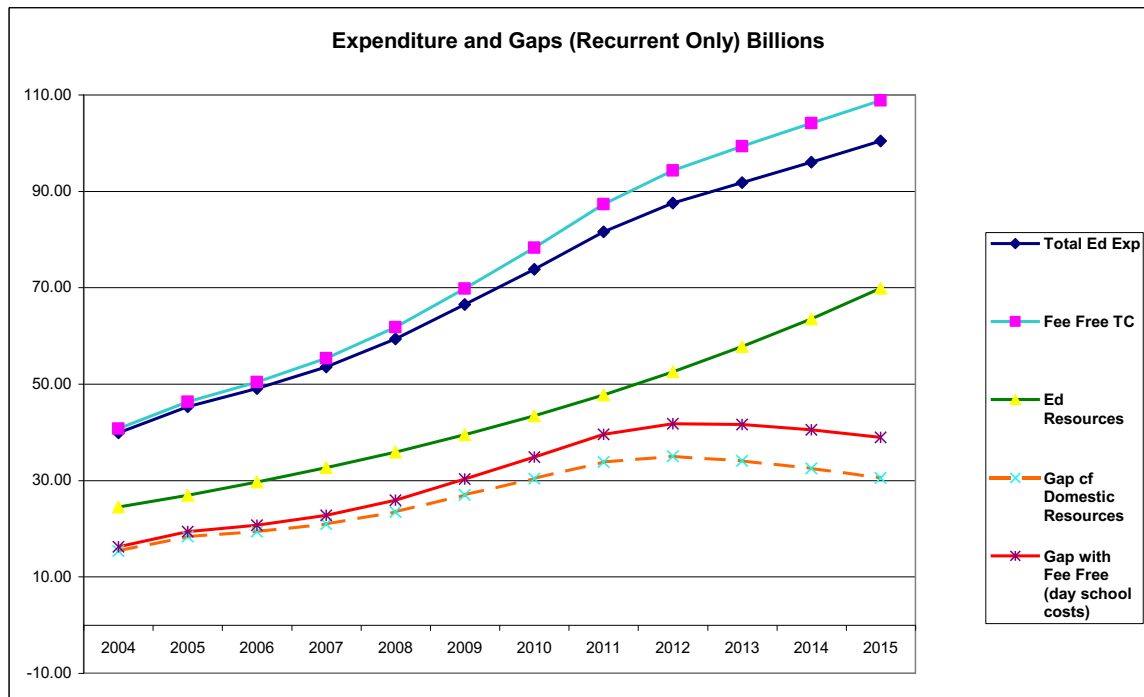
### Scenario 3



**Scenario 4 (accelerated growth in Tronc Commun to reach 80% transition rate by 2010)** also retains the assumptions of Scenario 1 for primary, and of Scenario 3 for secondary, but seeks to achieve a transition rate of 80% by 2010, rather than 75% by 2015. It does this by accelerating the growth in entry to S1 from about 12% a year to 25% a year. These rates of growth would require 20,000 additional places to be created in 2005 rising to an extra 85,000 a year in 2010. At this time over 3,000 new Tronc Commun teachers would be needed each year, and over 2,000 new classrooms each year.

The financial demands created by this would create a recurrent financing gap which rise to RWf31 billion by 2015 or RWf 39 billion if fee free. The latter is about 70% of the total education budget and is clearly unsustainable. It is unachievable for non financial reasons as well (see Annex 4).

## Scenario 4



The outcomes of the projections for the different scenarios are summarised below.

### Projections – Summary of Scenarios 1,2,3,and 4

	2004	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015
<b>Primary</b>	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 2</b>	<b>Scen. 2</b>	<b>Scen. 2</b>	<b>Scen. 3</b>	<b>Scen. 3</b>	<b>Scen. 3</b>	<b>Scen. 4</b>	<b>Scen. 4</b>	<b>Scen. 4</b>
Total Primary Enrolment	1752588	1752058	1769242	1641440	1725410	1673163	1614593	1752058	1769242	1641440	1752058	1769242	1641440
Primary Grade 6 Enrolment	110708	142782	270543	237017	141707	256213	228963	142782	270543	237017	142782	270543	237017
Repetition Rate	20%	18%	9%	6%	17%	5%	6%	18%	9%	6%	18%	9%	6%
Drop Out Rate	16%	14%	5%	5%	14%	5%	5%	14%	5%	5%	14%	5%	5%
Number of Teachers	28774	30113	39718	40124	30612	40900	39468	30113	39718	40124	30113	39718	40124
Number of New Teachers Needed	2203	2194	2801	1479	2767	585	1670	2194	2801	1479	2194	2801	1479
Pupil Teacher Ratio	67	64	49	45	62	45	45	64	49	45	64	49	45
Class Size	67	64	49	45	62	45	45	64	49	45	64	49	45
Primary Gross Enrolment Ratio	132	129	117	97	127	110	96	129	117	97	129	117	97
Primary Completion Rate (Std method)	35%	46%	85%	69%	47%	83%	66%	46%	85%	69%	46%	85%	69%
Primary Completion Rate (alt. method)			76%	78%		74%	75%		76%	78%		76%	78%
Years schooling for a primary grad.		10+	8.0	7.3	10+	7.8	7.3	10+	8.0	7.3	10+	8.0	7.3
<b>Tronc Commun</b>													
Transition Rate Primary/TC		48%	39%	75%	46%	40%	78%	48%	39%	75%	61%	80%	99%
Rate of increase in S1 Enrolments		7%	12%	13%	7%	12%	13%	7%	12%	13%	20%	25%	2%
Repetition Rate	9%	8%	4%	3%	8%	4%	3%	8%	4%	3%	8%	4%	3%
Drop Out Rate	9%	8%	5%	3%	8%	5%	3%	8%	5%	3%	8%	5%	3%
Number of Teachers Gov+libsub	2600	2868	5042	10399	2868	5042	10399	2868	5042	10399	3090	11322	18347
New teachers Needed		398	887	1827	398	887	1827	398	887	1827	620	3123	1149
Pupil Teacher Ratio	30	30	30	30	30	30	30	30	30	30	30	30	30
Class Size	45	45	45	45	45	45	45	45	45	45	45	45	45
Enrolment TC (incl private)	131427	143862	226326	410483	143862	226326	410483	143862	226326	410483	150532	414724	648922
Rate of increase in S1 Enrolments		7%	12%	13%	7%	12%	13%	7%	12%	13%	20%	25%	2%
Number of additional TC pupils		12435	23836	46278	12435	23836	46278	12435	23836	46278	19105	84520	12331
Number of New TC Classes needed		276	530	1028	276	530	1028	276	530	1028	425	1878	274
% Private	41%	40%	33%	24%	40%	33%	24%	40%	33%	24%	38%	18%	15%
% Boarding	76%	70%	25%	8%	70%	25%	8%	70%	25%	8%	70%	25%	8%
Number of Subsidised C73Boarding (in govt+libsub)	59020	60228	37816	24957	60228	37816	24957	60228	37816	24957	64896	84916	44032
TC Gross Enrolment Ratio	20%	21%	30%	48%	21%	30%	48%	21%	30%	48%	22%	55%	77%
TC Completion Rate (Std method)	14%	15%	23%	39%	15%	23%	39%	15%	23%	39%	15%	37%	68%

	<b>2004</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>
	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 2</b>	<b>Scen. 2</b>	<b>Scen. 2</b>	<b>Scen. 3</b>	<b>Scen. 3</b>	<b>Scen. 3</b>	<b>Scen. 4</b>	<b>Scen. 4</b>	<b>Scen. 4</b>
<b>Upper Secondary</b>													
Transition Rate TC/U.Sec		62%	42%	36%	62%	42%	36%	62%	42%	36%	62%	42%	36%
Repetition Rate	4%	4%	3%	3%	4%	3%	3%	4%	3%	3%	4%	3%	3%
Drop Out Rate	7%	6%	4%	2%	6%	4%	2%	6%	4%	2%	6%	4%	2%
Number of Teachers	1442	1576	1982	2821	1576	1982	2821	1576	1982	2821	1576	2808	6825
Number of New Teachers Needed		207	152	408	207	152	408	207	152	408	207	617	1051
Pupil Teacher Ratio	25	25	25	25	25	25	25	25	25	25	25	25	25
Class Size	40	40	40	40	40	40	40	40	40	40	40	40	40
Enrolment Upper Sec	72124	74856	92135	114302	74856	92135	114302	74856	92135	114302	74856	112776	214400
% Private	50%	47%	46%	38%	47%	46%	38%	47%	46%	38%	47%	38%	20%
% Boarding	75%	70%	40%	20%	70%	40%	20%	70%	40%	20%	70%	40%	20%
Number of subsidised Boarding (in govt + libsub)	27031	27587	19823	14104	27587	19823	14104	27587	19823	14104	27587	28079	34123
U Sec Gross Enrolment Ratio	11%	12%	13%	14%	12%	13%	14%	12%	13%	14%	12%	16%	27%
<b>Expenditure</b>													
<b>Primary</b>													
Teachers Rem. Mult.of GDP/capita	3.9	3.9	3.9	4.0	3.9	3.9	4.0	3.9	3.9	4.0	3.9	3.9	4.0
Unit Cost Mult.GDP/capita	0.08	0.10	0.12	0.14	0.11	0.15	0.15	0.10	0.12	0.14	0.10	0.12	0.14
Overall Primary Unit Cost (RWf)	9472	11549	16923	21172	13462	20108	23310	11549	16923	21172	11549	16923	21172
Recurrent Expenditure	16600	20235	29940	34752	23227	33644	37637	20235	29940	34752	20235	29940	34752
<b>Tronc Commun</b>													
Teachers Rem. Mult.of GDP/capita	4.7	4.7	4.8	4.9	4.7	4.8	4.9	4.8	5.4	6.0	4.8	5.4	6.0
Unit Cost Mult.GDP/capita	0.49	0.47	0.31	0.24	0.47	0.31	0.24	0.47	0.34	0.29	0.47	0.34	0.29
Overall Tronc Commun Unit Cost (RWf)	57418	55603	42151	36906	55603	42151	36906	56333	46394	44949	56333	46394	44949
Recurrent Expenditure	5028	5351	7033	12274	5351	7033	12274	5876	8768	17630	6287	18771	30387
Recurrent Exp. if free (11,000/cap)	5886	6325	9020	17024	6325	9020	17024	6851	10755	22380	7337	23232	38768
<b>Upper Secondary</b>													
Teachers Rem. Mult.of GDP/capita	5.6	5.6	5.7	5.8	5.6	5.7	5.8	5.7	6.4	7.1	5.7	6.4	7.1
Unit Cost Mult.GDP/capita	0.61	0.58	0.44	0.35	0.58	0.44	0.35	0.59	0.48	0.42	0.59	0.48	0.42
Overall Upper Sec. Unit Cost (RWf)	70750	68907	59485	54205	68907	59485	54205	69895	65300	65345	69895	65300	65345
Recurrent Expenditure	2907	3084	3375	4317	3084	3375	4317	3337	4047	5823	3337	5533	13219

<b>Teacher Training</b>	<b>2004 Scen. 1</b>	<b>2005 Scen. 1</b>	<b>2010 Scen. 1</b>	<b>2015 Scen. 1</b>	<b>2005 Scen. 2</b>	<b>2010 Scen. 2</b>	<b>2015 Scen. 2</b>	<b>2005 Scen. 3</b>	<b>2010 Scen. 3</b>	<b>2015 Scen. 3</b>	<b>2005 Scen. 4</b>	<b>2010 Scen. 4</b>	<b>2015 Scen. 4</b>
KIE													
Number of Teachers produced per annum KIE	350	350	350	350	350	350	350	350	350	350	350	350	350
Overall Cost per Graduate available (RWf)	4000000	4120000	4776209	5536935	4120000	4776209	5536935	4120000	4776209	5536935	4120000	4776209	5536935
Recurrent Expenditure per year	1400	1442	1672	1938	1442	1672	1938	1442	1672	1938	1442	1672	1938
Reformed Secondary Colleges of Education													
Number of Teachers needed/produced		547	1232	2597	547	1232	2597	547	1232	2597	1066	4122	1986
Overall Cost per Graduate available (RWf) (1+1)	300000	315000	402029	513102	315000	402029	513102	315000	402029	513102	315000	402029	513102
Recurrent Expenditure		169	429	1189	169	429	1189	169	429	1189	239	1515	1171
<b>Finance</b>													
GDP	986092	1035396	1321457	1686552	1035396	1321457	1686552	1035396	1321457	1686552	1035396	1321457	1686552
GDP Growth	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Population	8490	8677	9674	10786	8677	9674	10786	8677	9674	10786	8677	9674	10786
GDP/capita	116145	119328	136594	156360	119328	136594	156360	119328	136594	156360	119328	136594	156360
Domestic revenue	126427	133858	177922	236117	133858	177922	236117	133858	177922	236117	133858	177922	236117
Domestic Revenue as % GDP	12.8%	12.9%	13.5%	14.0%	12.9%	13.5%	14.0%	12.9%	13.5%	14.0%	12.9%	13.5%	14.0%
Education Resources as % Domestic Res.	19.4%	20.1%	24.4%	29.6%	20.1%	24.4%	29.6%	20.1%	24.4%	29.6%	20.1%	24.4%	29.6%
Education as % of GDP (including external)	4.5%	4.5%	4.7%	4.5%	4.8%	4.9%	4.7%	4.6%	4.9%	5.0%	4.7%	6.2%	6.1%
<b>Recurrent Expenditure Only</b>													
Primary Education as % of Education	42%	46%	51%	47%	50%	54%	49%	45%	49%	43%	45%	41%	35%
Tronc Commun as % of Education	13%	12%	12%	17%	11%	11%	16%	13%	14%	22%	14%	25%	30%
U. Sec as % of Education	7%	7%	6%	6%	7%	5%	6%	7%	7%	7%	7%	7%	13%
Higher Education as % of Education	30%	28%	23%	18%	26%	21%	17%	27%	22%	17%	27%	18%	13%
Teacher Training KIE	4.0%	3.7%	3.2%	3.0%	3.5%	3.0%	2.8%	3.6%	3.1%	2.7%	3.6%	2.5%	2.2%
Teacher Training Secondary TTC	0.4%	0.4%	0.9%	1.9%	0.4%	0.8%	1.8%	0.4%	0.9%	1.7%	0.8%	2.4%	1.1%

<b>Projected Expenditure (Billions)</b>	<b>2004</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>
	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 1</b>	<b>Scen. 2</b>	<b>Scen. 2</b>	<b>Scen. 2</b>	<b>Scen. 3</b>	<b>Scen. 3</b>	<b>Scen. 3</b>	<b>Scen. 4</b>	<b>Scen. 4</b>	<b>Scen. 4</b>
Preschool	0.2	0.3	0.7	1.7	0.3	0.7	1.7	0.3	0.7	1.7	0.3	0.7	1.7
Primary recurrent	16.6	20.2	29.9	34.8	23.2	33.6	37.6	20.2	29.9	34.8	20.2	29.9	34.8
Lower secondary (Excl TTCs)	5.0	5.4	7.0	12.3	5.4	7.0	12.3	5.9	8.8	17.6	6.3	18.8	30.4
Upper secondary	2.9	3.1	3.4	4.3	3.1	3.4	4.3	3.3	4.0	5.8	3.3	5.5	13.2
Informal	0.2	0.2	0.5	0.9	0.2	0.5	0.9	0.2	0.5	0.9	0.2	0.5	0.9
S and T	0.6	0.7	1.4	2.8	0.7	1.4	2.8	0.7	1.4	2.8	0.7	1.4	2.8
HE (incl expat sals)	11.9	12.3	13.4	13.4	12.3	13.4	13.4	12.3	13.4	13.4	12.3	13.4	13.4
Teacher training KIE	1.6	1.6	1.9	2.2	1.6	1.9	2.2	1.6	1.9	2.2	1.6	1.9	2.2
Teacher Training Sec CoE	0.2	0.2	0.5	1.4	0.2	0.5	1.4	0.2	0.5	1.4	0.4	1.7	1.1
<b>Total Ed Exp</b>	<b>39.2</b>	<b>43.9</b>	<b>58.7</b>	<b>73.8</b>	<b>46.9</b>	<b>62.4</b>	<b>76.7</b>	<b>44.7</b>	<b>61.1</b>	<b>80.6</b>	<b>45.3</b>	<b>73.8</b>	<b>100.5</b>
Fee Free TC	40.1	44.9	60.7	78.5	47.9	64.4	81.4	45.7	63.1	85.4	46.3	78.3	108.8
<b>Domestic Resources</b>	<b>24.5</b>	<b>27.0</b>	<b>43.4</b>	<b>69.9</b>	<b>27.0</b>	<b>43.4</b>	<b>69.9</b>	<b>27.0</b>	<b>43.4</b>	<b>69.9</b>	<b>27.0</b>	<b>43.4</b>	<b>69.9</b>
<b>Gap of Domestic Resources</b>		<b>17.0</b>	<b>15.3</b>	<b>3.9</b>	<b>20.0</b>	<b>19.0</b>	<b>6.8</b>	<b>17.8</b>	<b>17.7</b>	<b>10.7</b>	<b>18.3</b>	<b>30.4</b>	<b>30.6</b>
Gap with Fee Free (day school costs)		18.0	17.3	8.6	20.9	21.0	11.5	18.7	19.7	15.5	19.4	34.9	38.9



<b>Development Costs</b>	<b>2004 Scen. 1</b>	<b>2005 Scen. 1</b>	<b>2010 Scen. 1</b>	<b>2015 Scen. 1</b>	<b>2005 Scen. 2</b>	<b>2010 Scen. 2</b>	<b>2015 Scen. 2</b>	<b>2005 Scen. 3</b>	<b>2010 Scen. 3</b>	<b>2015 Scen. 3</b>	<b>2005 Scen. 4</b>	<b>2010 Scen. 4</b>	<b>2015 Scen. 4</b>
<b>Primary School Classrooms/Schools</b>													
Total Classrooms needed @ target PTR		27549	34314	34537	27549	32521	33729	27549	34314	34537	27549	34314	34537
Total Classrooms existing		24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000
Deficit in classrooms		3549	10314	10537	3549	8521	9729	3549	10314	10537	3549	10314	10537
Total extra needed in 2015				1113			1054			1113			1113
Average build per year to meet 2015 need		1113	1113	1113	1054	1054	1054	1113	1113	1113	1113	1113	1113
Cost of Primary Classrooms		4454	5163	5985	4218	4890	5669	4454	5163	5985	4454	5163	5985
Double shift rate Grades 1-3		85%	53%	20%	85%	53%	20%	85%	53%	20%	85%	53%	20%
Av Class size target		45	45	45	45	45	45	45	45	45	45	45	45
<b>Tronc Commun Classroom and Schools</b>													
Number Classrooms		290	608	1071	290	608	1071	290	608	1071	628	1931	234
Cost of TC classrooms Gov and libsub		1054	3086	6653	1054	3086	6653	1054	3086	6653	2795	10988	861
Cost of private TC classrooms @10% subsidy		49	49	75	49	49	75	49	49	75	49	49	75
Ave class size target		45	45	45	45	45	45	45	45	45	45	45	45
<b>Upper Secondary</b>													
Number Classrooms		45	68	267	45	68	267	45	68	267	45	411	296
Cost of U Sec Classrooms		275	321	1452	275	321	1452	275	321	1452	275	2379	1625
Cost of private U Sec classrooms @10% subsidy			22	12		22	12		22	12		22	12
Ave class size target		40	40	40	40	40	40	40	40	40	40	40	40
<b>Total Construction Expenditure (millions)</b>													
<b>Primary + TC + U Sec with no subsidy to Private</b>		5782	8569	14090	5547	8296	13773	5782	8569	14090	7523	18529	8471

## **Developing a Road Map**

The main issues which require policy decisions related to Nine Year Basic Education have been identified. Attention has been drawn to key non-financial constraints on growth. Financial projections have indicated options within the resource envelop. These constitute the basis for a road map for the development a medium term strategy, subject to annual review, which could produce the outcomes indicated in GoR policy documents.

For this to happen the first step will be to make the key decisions identified, paying attention to those which are preconditions for further growth in access, and those which may require further consultation and deliberation. This report cannot pre-empt those decisions. It can indicate steps that are likely to be necessary whatever policy decisions are taken.

The framework below suggests actions necessary in the short term (2005), and processes desirable over the next three years. If Nine Year Basic Education is to progress within a framework which is planned, monitored, evaluated and revised at least annually then something along these lines will be necessary.

A possible organisational structure is as follows. This would have to be mapped on to responsible Ministry departments.

### **Nine Year Basic Education Executive Co-ordinating Committee (NBEEC).**

To report to the Minister of Education at least monthly or more frequently if necessary. To be chaired by the SG or his nominee. To include selected stakeholders including representation from MINECOFIN, the Office of the President, and key post holders in MINEDUC (Directors of planning and finance, Directors of primary and secondary education).

Other possible members might include representation from MINEDUC related to curriculum, teacher education, and building and learning materials procurement, and from the KIE, the proposed CoEs, Examinations Board and might include civil society. Some of these possible members may alternatively serve on the four technical committees identified below.

The NBEEC should be as small as is consistent with the expertise it needs (less than 10 members), act to formulate policy proposals for Ministerial decision, be pro-active in driving Nine Year Basic Education forward, and commission and review detailed plans developed by technical sub-committees.

NBEEC should not duplicate structures currently in place to liaise with development partners who might be invited to attend whenever appropriate.

### **Four Basic Education Technical Committees:**

- School Infrastructure Technical Committee (SITEC)
- Curriculum Technical Committee (CURTEC)
- Teacher Education Technical Committee (TETEC)
- Finance and Educational Management Technical Committee (FEMTEC)

These technical committees could consist of three to five members with appropriate expertise and responsibilities. Their task would be to service NBEEC, develop detailed and costed plans within an agreed overall policy framework, targets and resource envelop, support implementation directly or through other MINEDUC post holders, and monitor progress against agreed indicators.

### **Articulation and Co-ordination**

National level structures require close articulation with local capacity to implement plans. The mechanism for this has to be clear, purposeful, and responsive to feedback from schools and districts. Implementation will falter if there is are disconnects of perception, information, practicality, resource flows, motivation or commitment.

Wherever possible existing structures should be mobilised within the framework created by NBEEC and clear leadership of organisations and individuals established related to Nine Year Basic Education.

Information flows are needed if sequential development is to be realised with capacity coming on stream as and when it is needed. These should be both vertical (to NBEEC) and horizontal (between TECs).

### **Scheduling Activities for 2005/6**

The table below outlines how activities to support Nine Year Basic Education could be developed. It is presented as a preliminary suggestion with no detailed knowledge of existing implementation structures and responsibilities. It therefore needs iteration to harmonise it with current policy generation, implementation and evaluation mechanisms. Key to success will be adequate resource mobilisation, systematic co-ordination between agencies involved in implementation, clear and consistent sequencing of activities and outputs, and close monitoring or progress and impact leading to updated plans.

## A Road Map for 2005/6

2005	NBEEC	TETEC	CURTEC	SITEC	FEMTEC
Mar	<p>NBEEC meets to consider Medium Term Framework and move towards policy decision related to the Main Issues</p> <p>NBEEC confirms key policy decisions in advance of drafting a cabinet paper identifying priorities, financial implications, and methods for addressing non-financial constraints of expansion.</p> <p>Risk analysis commissioned to identify most critical assumptions underlying policy and explore how risks may be minimised.</p>	<p>TETEC established</p> <p>Review of training capacity in TTCs and KIE, recent output, costs and costs per trained teacher. Consideration of options to meet teacher demand at primary and secondary levels</p>	<p>CURTEC established with Examination Board representation</p> <p>Consolidate previous curriculum reviews and focus on core decisions needed by NBEEC to adopt a sequential and developmental curriculum framework. and plan a five year process to cover every grade level at primary and lower secondary to be complete by 2010.</p>	<p>SITEC established</p> <p>Review existing studies of infrastructure needs at primary and secondary level and confirm key issues for consideration by NBEEC.</p>	<p>FEMTEC established</p> <p>Review financial framework for Nine Year Basic Education. Identify domestic and international sources of likely finance and the steps necessary to secure these.</p>
Apr	<p>Cabinet paper considered and approved</p> <p>Agree Short Term Plan for improving the supply of learning materials</p>	<p>Feasibility study for conversion of selected TTCs to CoEs and any other viable alternatives drawing from previous analysis</p>	<p>Review availability and quality of learning materials in primary and secondary schools. Identify short term and medium term strategies for improved learning material provision.</p>	<p>Audit classroom and school capacity (using available data) to identify where the greatest infrastructure needs are at primary and where there may be spare capacity at secondary.</p> <p>Consolidate space enhancement plans for 2005/6.</p>	<p>Adapt plans and priorities in the light of resource constraints. Undertake risk analysis to include non-financial constraints. Separately initiate a review of system management and efficiency as it has an impact on school efficiency and effectiveness. Identify opportunities for increased efficiency and reduced unit costs at secondary level and above.</p>

May	<p>Education Sector Review to include discussion of revised BE framework</p> <p>Consider Basic Education Teacher Development Strategy</p>	Draft Basic Education Teacher Education Strategy submitted to NBEEC	Draft National Curriculum Framework for consultation	Reach conclusions from the audit and devise short term space enhancement strategy consistent with long term reductions in double shifting, and use of converted buildings where this is appropriate and does not duplicate provision.	<p>Revise projections and MTEF budget allocations in the light of events and policy decisions.</p> <p>Continue efficiency review, plan reductions in subsidised boarding, and explore pro poor rather than flat rate fee waivers at secondary level.</p>
June	<p>Sectoral work to prepare detailed plans in key areas (teacher education, curriculum, construction, and finance and management</p> <p>Consider Draft National Curriculum Framework</p>	Revision and elaboration of costed 3 year preliminary teacher education plan	Develop Draft National Framework for Nine Year Basic Education including the associated assessment strategies. Forward National Framework to NBEEC for approval	Work with EMIS and other data to identify within three months a medium term programme of construction to meet predicted needs identified in projections of pupil numbers.	<p>Liase with TETEC, SITEC, CURTEC concerning financing and capacity limitations or emerging plans</p> <p>Consolidate efficiency review with a view to revising resource allocation and management procedures at school and district levels</p>
July	<p>Continued</p> <p>Consider Short Term procurement plans for new classrooms and schools</p>	Revision and elaboration of costed 3 year preliminary teacher education plan to be implemented from 2006 with first CoE trainees to be admitted in 2007.	Develop and plan a five year curriculum development process to cover every grade level at primary and lower secondary to be complete by 2010. This should include revision of public examinations.	As above including modalities of procurement and construction capable of creating new space in the volumes required at realistic costs.	<p>Revisit financial requirements of BE and establish prospective budget lines etc.</p> <p>Liase with TETEC, SITEC, CURTEC concerning financing and capacity limitations or emerging plans</p>

Aug	Continued  Review proposed reforms and procured proposed by FEMTEC to increase efficiency and value for money, improve effectiveness, and locate accountability and audit trails	Revision and elaboration of costed 3 year preliminary teacher education plan to include improvement of physical conditions and capacity in TTCs and appointment and training of CoE staff.	Develop and plan a five year curriculum development process to cover every grade level at primary and lower secondary to be complete by 2010.	As above including audit trails and quality assurance mechanisms	Finalise efficiency review and draft policy paper for NBEEC Liaise with TETEC, SITEC, CURTEC concerning financing and capacity limitations or emerging plans
Sept	NBEEC consolidates plan 2006-2009  Consolidate Medium Term School and Class room Procurement and Construction plans	Drafting	Finalise a five year curriculum development process to cover every grade level at primary and lower secondary to be complete by 2010.	Draft school and classroom construction strategy paper based on detailed plans that locate the first tranche of new construction/rehabilitation, the procurement methods, and the audit trail and quality assurance	Consolidate financial plans plan 2006-9  Agree findings and actions arising from the efficiency review. Identify modalities to implement and monitor efficiency gains
Oct	Sector Review?  Agree Medium Term Framework for Curriculum Development and Learning materials Provision	Finalisation	Seek approval and financing for curriculum development process and learning materials production/acquisition. Liaise with FEMTEC	Circulate Draft strategy paper for review and agree cost estimates, budget lines etc. for FY 2006-8	Follow through efficiency gain programme Monitor and evaluate the impact of new resource allocation mechanisms e.g capitation grants, fee waivers, public grants to private schools etc as a continuing process feeding back into policy
Nov		Initiate recruitment of new CoE Teacher Educators	Identify team leaders and co-ordinators for different grade levels and subject areas	Finalise Strategy paper	Follow through efficiency gain programme et al as above
Dec		Appoint first cadre for CoEs	Appoint team leaders and co-ordinators for different grade levels and subject s	Draft first contracts etc.	Follow through efficiency gain programme et al as above

2006					
Jan	NBEEC Annual Review and Planning meeting for 2006	Audit and evaluate progress	Audit and evaluate progress	Audit and evaluate progress	Audit and evaluate progress
		First cadre of CoE teacher educators appointed and in staff development training Jan – Dec Initiate curriculum development for CoEs, and to enhance TTCs. Confirm planning of first intake of new CoE trainee teachers in 2007. Maintain quality improvement programme for TTCs	Commence revision of syllabi, and design and/or commissioning of learning material focused on grades 1 and 7.	Build schools and classrooms up to agreed targets for 2006 to test and refine procurement system etc.	Monitor and evaluate resource flows against agreed targets. Review impact of UBE development initiatives to identify gaps, locate ineffective implementation, audit expenditure and outcomes, and shape future interventions in cost effective ways.
		Audit and evaluate progress every three months	Audit and evaluate progress every three months	Audit and evaluate progress every three months	Audit and evaluate progress every three months

## **Concluding Remark**

Nine Year basic Education for all is the goal of the GoR. Raising the levels of knowledge and skill in the population has the potential reduce poverty and exclusion since their lack is both a part of the definition of poverty as well as a vector for poverty reduction. Increased access has to be matched with imaginable levels of resource needs that can be sustained. It also requires balanced investment that reflects stated priorities and requires hard choices between competing claims for scarce resources.

Expanded access is achievable within a feasible financial envelop. The rate at which it can be realised will depend on both on the supply of opportunity, and on the demand to participate. Too rapid expansion could damage quality, undermine demand, and waste resources. Too slow expansion and opportunities will be missed to improve national competitiveness, make best use of national talents, and enhance equity.



## **Annex 1: Assumptions – Central Projection.**

- The number of primary grade 6 leavers will grow in line with the flow of current enrolments through primary school. These will rise sharply until 2010 as the wave of expanded numbers passes through. After this the number of grade 6 completers will stabilise.
- Primary teacher training needs to be sufficient to bring Pupil Teacher Ratios down from 67:1 to 45:1 before 2015. This would reduce the need for double shifting assuming new classroom space is created. Double shifting diminishes to below 15% by 2015.
- Secondary Form 1 places will grow at a rate determined by affordability within the resource envelop and the non-financial constraints of growth.. Expansion from 2005 increases entrants at between 8% a year, rising to 15% over the plan period for government and libre subsidie schools and 5% for private schools.
- Transition rates into Tronc Commun will evolve from their current levels to reach over 70% by 2015. In the short term they may fall as a result of the rapid increase in grade 6 completers in advance of expanded capacity. Transition from Tronc Commun to Upper Secondary will stabilise just below 40% as a result of limiting growth at this level in favour of expanded Tronc Commun.
- Gross enrolment rates at Tronc Commun will rise from below 20% to about 48% by 2015, and from 11% to 14% at Upper Secondary. This would require enrolments of 410,000 (a three fold increase) at TC and 114,000 (a 60% increase) by 2015.
- Most growth is assumed to be in government and libre subsidie schools as the costs of unsubsidised private education become an obstacle to the enrolment of those with low household incomes. The model assumes the sector grows at 5%.
- Teacher demand will be projected on the assumption that all new teachers will be qualified, and that unqualified teachers will be upgraded over time. This cannot be achieved at KIE training costs per trained teacher. It has therefore been assumed that KIE continues to recruit about 400 trainees a year (output after four years = 350), and that four Colleges of Education are established for secondary teacher training and staffed appropriately. This could take 3-5 years to come on stream before the period of high growth in Tronc Commun numbers, depending on recruitment of staff and availability of facilities. Without expanded capacity offering shorter (1+1 years) of training the proportion of untrained teachers will rise to over two thirds of all teachers at Tronc Commun, and class sizes will become excessive. 80% of secondary teachers are male and the proportion should be reduced.
- The costs of teacher training have been advanced over annual demand for new teachers to account for length of time it takes to produce a trained teacher (at least four years in KIE and 1+1 in a reformed TTC system).
- Attrition amongst secondary teachers is assumed at 5%, but may be higher and should be monitored.

- The Pupil Teacher Ratio at TC will remain at about 30:1 (class size 45); and 25:1 (class size 40) at upper secondary.
- The number of secondary administrators has been frozen at current levels
- 5000 RWf per secondary child has been budgeted for learning material over and above other costs in Scenarios 3 and 4. RWf 1500 is available for learning materials at primary in scenario 1 and RWf 3000 in scenario 2. Mechanisms have to be put in place to ensure the ratio of books per child in core subjects falls to acceptable levels
- The cost of fee free Tronc Commun has been separately estimated on the basis of a 11,000 RWf per child capitation to schools which would enable them to waive the equivalent of the day school fee. Boarding costs in excess of this would be met privately, though current food subsidies would continue for reduced numbers of boarders.
- Higher education expenditure has been stabilised between until 2015. This assumes that expansion will be financed off budget and that the number of publicly sponsored students will be restricted to an affordable level. Per student costs at University level appear to exceed those at school level by factor of 100 or more, making sustaining universal primary education expansion at lower secondary level contingent on budgetary restraint at higher education level.
- Classroom building and furnishing costs have been estimated at RWf RWf 3, 4 and 5 million in the base year for primary, Tronc Commun, and Upper Secondary. The procurement system needs to identify where additional classrooms are needed and where new schools need to be established on the basis of school mapping. Though some expansion may be accommodated in converted buildings this option will be exhausted in two or three years, and such building may not be located where they are needed. New build on a substantial scale is therefore needed in the medium term. A substantial number of primary classrooms will also need constructing.
- It is assumed that unit costs per child at secondary fall as a result of reduced boarding. In Tronc Commun the number of places is reduced by 2015 to about 25,000, and 14,000 at Upper Secondary. This should be sufficient to absorb essential boarding and accommodate vulnerable children.
- Expansion of Tron Commun should address the imbalance of boys and girls entering government and libre subsidie institutions though due attention to location, safety, and facilities including boarding.
- The model assumes repetition rates reduce to 5% or below in primary and secondary with minimal drop out. This requires attention to school management and learning quality if such reductions are not to result in lowered achievement.
- It is assumed that the resources available grow in line with macro economic projections and government priorities to increase the share of domestic resources allocated to education to 30% by 2015. This yields an envelop rising from about 25 billion RWf in 2004 to nearly RWf 70 billion by 2015. Additional expenditure would need to be met from external resources.

## Annex 2: Projection 2004-2015 Scenario 2

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Primary</b>												
Total Primary Enrolment	1752588	1725410	1682048	1655087	1658455	1699284	1673163	1646919	1629592	1615067	1605525	1614593
Primary Grade 6 Enrolment	110708	141707	155830	167534	182259	254301	256213	248550	247733	244982	232697	228963
Increase in Grade 6 Enrolment		28%	10%	8%	9%	40%	1%	-3%	0%	-1%	-5%	-2%
Repetition Rate	20%	17%	14%	11%	8%	5%	5%	5%	6%	6%	6%	6%
Drop Out Rate	16%	14%	12%	9%	7%	5%	5%	5%	5%	5%	5%	5%
Number of Teachers	28774	30612	32461	35011	38815	41538	40900	40258	39834	39479	39246	39468
Number of New Teachers Needed	2701	2767	3525	4854	3888	608	585	784	840	951	1399	1670
Pupil Teacher Ratio	67	62	57	52	47	45	45	45	45	45	45	45
Class Size	67	62	57	52	47	45	45	45	45	45	45	45
Primary Gross Enrolment Ratio	132	127	121	117	114	115	110	106	103	100	97	96
Primary Completion Rate (Std method)	36%	47%	53%	57%	61%	84%	83%	78%	76%	74%	69%	66%
Primary Completion Rate (alt. method)						53%	74%	74%	76%	78%	77%	75%
Number years schooling for a primary grad.						9.1	7.8	7.5	7.3	7.2	7.2	7.3
<b>Tronc Commun</b>												
Transition Rate Primary/TC		46%	44%	44%	45%	36%	40%	46%	51%	59%	69%	78%
Rate of increase in S1 Enrolments		7%	7%	8%	11%	11%	12%	12%	12%	12%	12%	13%
Repetition Rate	9%	8%	7%	6%	5%	4%	4%	3%	3%	3%	3%	3%
Drop Out Rate	9%	8%	8%	7%	6%	6%	5%	5%	4%	3%	3%	3%
Number of Teachers Gov+libsub	2600	2868	3175	3458	3846	4374	5042	5817	6729	7790	9023	10399
New teachers Needed		398	450	442	560	720	887	1027	1203	1397	1623	1827
Pupil Teacher Ratio	30	30	30	30	30	30	30	30	30	30	30	30
Class Size	45	45	45	45	45	45	45	45	45	45	45	45
Enrolment TC (incl private)	131427	143862	156928	168407	183117	202490	226326	253672	285536	322149	364205	410483
Rate of increase in S1 Enrolments		7%	7%	8%	11%	11%	12%	12%	12%	12%	12%	13%
Number of new TC pupils		12435	13066	11479	14710	19373	23836	27347	31864	36613	42056	46278
Number of New TC Classes needed		276	290	255	327	431	530	608	708	814	935	1028
% Private	41%	40%	39%	38%	37%	35%	33%	31%	29%	27%	26%	24%
% Boarding	76%	70%	65%	55%	45%	35%	25%	20%	15%	10%	9%	8%
Number of Subsidised C73Boarding (in govt+libsub)	59020	60228	61913	57063	51919	45922	37816	34904	30281	23370	24362	24957
TC Gross Enrolment Ratio	20%	21%	23%	24%	25%	27%	30%	33%	36%	40%	44%	48%
TC Completion Rate (Std method)	14%	15%	17%	19%	20%	21%	23%	25%	28%	31%	35%	39%

<b>Annex 2 Projection 2004-2015 Scenario 2</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>Upper Secondary</b>												
Transition Rate TC/U.Sec		62%	58%	54%	50%	46%	42%	39%	36%	36%	36%	36%
Repetition Rate	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Drop Out Rate	7%	6%	6%	5%	5%	4%	4%	3%	3%	2%	2%	2%
Number of Teachers	1442	1576	1650	1764	1838	1927	1982	2068	2190	2355	2539	2821
Number of New Teachers Needed		207	152	197	162	181	152	185	225	275	302	408
Pupil Teacher Ratio	25	25	25	25	25	25	25	25	25	25	25	25
Class Size	40	40	40	40	40	40	40	40	40	40	40	40
Enrolment Upper Sec	72124	74856	76668	80336	84717	89463	92135	94866	97909	102045	106693	114302
% Private	50%	47%	46%	45%	46%	46%	46%	46%	44%	42%	40%	38%
% Boarding	75%	70%	65%	55%	50%	45%	40%	35%	30%	25%	20%	20%
Number of subsidised Boarding (in govt + libsub)	27031	27587	26806	24259	22971	21678	19823	18094	16425	14721	12697	14104
U Sec Gross Enrolment Ratio	11%	12%	12%	12%	12%	13%	13%	13%	13%	13%	13%	14%
<b>Expenditure</b>												
<b>Primary</b>												
Teachers Remuneration Mult.of GDP/capita	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	4.0	4.0	4.0	4.0
Unit Cost Mult.GDP/capita	0.08	0.11	0.12	0.13	0.14	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Overall Primary Unit Cost (RWf)	9472	13462	14795	16379	18295	19522	20108	20711	21332	21972	22632	23310
Recurrent Expenditure	16600	23227	24885	27109	30341	33174	33644	34109	34763	35487	36336	37637
<b>Tronc Commun</b>												
Teachers Remuneration Mult.of GDP/capita	4.7	4.7	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.9	4.9
Unit Cost Mult.GDP/capita	0.49	0.47	0.44	0.41	0.37	0.34	0.31	0.29	0.27	0.25	0.24	0.24
Overall Tronc Commun Unit Cost (RWf)	57418	55603	54019	51123	48188	45202	42151	40560	38971	37377	37112	36906
Recurrent Expenditure	5028	5351	5729	5905	6179	6568	7033	7755	8564	9453	10785	12274
Recurrent Expenditure if fee free (11,000/cap)	5886	6325	6840	7152	7607	8242	9020	10116	11377	12807	14787	17024
<b>Upper Secondary</b>												
Teachers Remuneration Mult.of GDP/capita	5.6	5.6	5.6	5.6	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.8
Unit Cost Mult.GDP/capita	0.61	0.58	0.55	0.51	0.48	0.46	0.44	0.41	0.39	0.37	0.35	0.35
Overall Upper Secondary Unit Cost (RWf)	70750	68907	67166	64147	62532	60981	59485	58032	56615	55222	53845	54205
Recurrent Expenditure	2907	3084	3149	3220	3275	3352	3375	3440	3552	3718	3899	4317

<b>Annex 2 Projection 2004-2015 Scenario 2 Teacher Training</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
KIE												
Number of Teachers produced per annum KIE	350	350	350	350	350	350	350	350	350	350	350	350
Overall Cost per Graduate available (RWf)	4000000	4120000	4243600	4370908	4502035	4637096	4776209	4919495	5067080	5219093	5375666	5536935
Recurrent Expenditure per year	1400	1442	1485	1530	1576	1623	1672	1722	1773	1827	1881	1938
Reformed Secondary Colleges of Education												
Number of Teachers needed/produced		547	594	757	960	1068	1232	1446	1708	1979	2317	2597
Overall Cost per Graduate available (RWf)	300000	315000	330750	347288	364652	382884	402029	422130	443237	465398	488668	513102
(1+1)												
Recurrent Expenditure		169	181	206	276	368	429	520	641	795	967	1189
<b>Finance</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
GDP	986092	1035396	1087166	1141524	1198601	1258531	1321457	1387530	1456907	1529752	1606240	1686552
GDP Growth	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Population	8490	8677	8868	9063	9262	9466	9674	9887	10105	10327	10554	10786
GDP/capita	116145	119328	122597	125956	129406	132952	136594	140337	144181	148132	152190	156360
Domestic revenue	126427	133858	141716	150025	158811	168101	177922	188306	199282	210886	223152	236117
Domestic Revenue as % GDP	12.8%	12.9%	13.0%	13.1%	13.2%	13.4%	13.5%	13.6%	13.7%	13.8%	13.9%	14.0%
Education Resources as % Domestic Res.	19.4%	20.1%	20.9%	21.7%	22.6%	23.5%	24.4%	25.4%	26.4%	27.4%	28.5%	29.6%
Education as % of GDP (including external)	4.8%	4.8%	4.9%	5.0%	5.1%	5.0%	4.9%	4.8%	4.7%	4.7%	4.8%	4.7%
<b>Recurrent Expenditure Only</b>												
Primary Education as % of Education	42%	50%	50%	51%	53%	54%	54%	53%	52%	51%	50%	49%
Tronc Commun as % of Education	13%	11%	12%	11%	11%	11%	11%	12%	13%	14%	15%	16%
U. Sec as % of Education	7%	7%	6%	6%	6%	6%	5%	5%	5%	5%	5%	6%
Higher Education as % of Education	30%	26%	25%	25%	23%	22%	21%	21%	20%	19%	19%	17%
Teacher Training KIE	4.0%	3.5%	3.4%	3.3%	3.1%	3.0%	3.0%	3.0%	3.0%	3.0%	2.9%	2.8%
Teacher Training Secondary TTC	0.4%	0.4%	0.4%	0.5%	0.6%	0.7%	0.8%	1.0%	1.2%	1.4%	1.6%	1.8%

<b>Annex 2 Projection 2004-2015 Scenario 2</b>												
<b>Projected Expenditure (Billions)</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Preschool	0.2	0.3	0.3	0.4	0.5	0.6	0.7	0.8	1.0	1.2	1.4	1.7
Primary recurrent	16.6	23.2	24.9	27.1	30.3	33.2	33.6	34.1	34.8	35.5	36.3	37.6
Lower secondary (Excl TTCs)	5.0	5.4	5.7	5.9	6.2	6.6	7.0	7.8	8.6	9.5	10.8	12.3
Upper secondary	2.9	3.1	3.1	3.2	3.3	3.4	3.4	3.4	3.6	3.7	3.9	4.3
Informal	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.7	0.8	0.9
S and T	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.6	1.8	2.1	2.4	2.8
HE (incl expat sals)	11.9	12.3	12.6	13.0	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
Teacher training KIE	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.1	2.1	2.2
Teacher Training Sec CoE	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.8	1.0	1.2	1.4
Total Ed Exp	39.2	46.9	49.7	52.9	57.2	60.9	62.4	64.2	66.5	69.1	72.4	76.7
Fee Free TC	40.1	47.9	50.8	54.1	58.6	62.6	64.4	66.6	69.3	72.4	76.4	81.4
Domestic Resources	24.5	27.0	29.6	32.6	35.9	39.5	43.4	47.7	52.5	57.8	63.5	69.9
Gap of Domestic Resources		20.0	20.0	20.2	21.3	21.5	19.0	16.5	14.0	11.3	8.8	6.8
Gap with Fee Free (day school costs)		20.9	21.1	21.5	22.8	23.1	21.0	18.9	16.8	14.7	12.8	11.5

<b>Annex 2 Projection 2004-2015 Scenario 2</b>												
<b>Development Costs</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>Primary School Classrooms/Schools</b>												
Total Classrooms needed @ target PTR		27549	28357	28690	29689	30835	32521	32688	32805	33039	33327	33729
Total Classrooms existing		24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000
Deficit in classrooms		3549	4357	4690	5689	6835	8521	8688	8805	9039	9327	9729
Total extra needed in 2015												1054
Average build per year to meet 2015 need		1054	1054	1054	1054	1054	1054	1054	1054	1054	1054	1054
Cost of Primary Classrooms		4218	4344	4475	4609	4747	4890	5036	5188	5343	5503	5669
Double shift rate Grades 1-3		85%	79%	72%	66%	59%	53%	46%	40%	33%	27%	20%
Av Class size target		45	45	45	45	45	45	45	45	45	45	45
<b>Tronc Commun Classroom and Schools</b>												
Number Classrooms		290	255	327	431	530	608	708	814	935	1028	1071
Cost of TC classrooms Gov and libsub		1054	1002	1411	1980	2584	3086	3738	4479	5363	6162	6653
Cost of private TC classrooms @10% subsidy		49	44	35	37	44	49	54	62	67	73	75
Ave class size target		45	45	45	45	45	45	45	45	45	45	45
<b>Upper Secondary</b>												
Number Classrooms		45	92	110	119	67	68	76	103	116	190	267
Cost of U Sec Classrooms		275	430	275	335	208	321	458	621	690	1055	1452
Cost of private U Sec classrooms @10% subsidy			0	13	42	42	22	11	0	0	1	12
Ave class size target		40	40	40	40	40	40	40	40	40	40	40
<b>Total Construction Expenditure (millions)</b>												
<b>Primary + TC + U Sec with no subsidy to Private</b>		5547	5777	6161	6924	7539	8296	9232	10287	11396	12721	13773

### Annex 3 Projection 2004-2015 Scenario 3

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Primary</b>												
Total Primary Enrolment	1752588	1752058	1741488	1740244	1756337	1794161	1769242	1728243	1692590	1663621	1643035	1641440
Primary Grade 6 Enrolment	110708	142782	159701	174194	190757	254838	270543	265126	260088	254556	242489	237017
Increase in Grade 6 Enrolment		29%	12%	9%	10%	34%	6%	-2%	-2%	-2%	-5%	-2%
Repetition Rate	20%	18%	16%	14%	12%	10%	9%	8%	8%	7%	6%	6%
Drop Out Rate	16%	14%	12%	9%	7%	5%	5%	5%	5%	5%	5%	5%
Number of Teachers	28774	30113	31404	33005	35127	37953	39718	41328	41374	40666	40163	40124
Number of New Teachers Needed	2203	2194	2543	3112	3880	2903	2801	1287	533	717	1166	1479
Pupil Teacher Ratio	67	64	61	58	55	52	49	46	45	45	45	45
Class Size	67	64	61	58	55	52	49	46	45	45	45	45
Primary Gross Enrolment Ratio	132	129	125	123	121	121	117	112	107	103	99	97
Primary Completion Rate (Std method)	35%	46%	51%	56%	61%	81%	85%	82%	80%	77%	72%	69%
Primary Completion Rate (alt. method)						51%	76%	78%	80%	81%	80%	78%
Number years schooling for a primary grad.						9.6	8.0	7.6	7.4	7.3	7.3	7.3
<b>Tronc Commun</b>												
Transition Rate Primary/TC		48%	45%	45%	45%	37%	39%	44%	49%	56%	67%	75%
Rate of increase in S1 Enrolments		7%	7%	8%	11%	11%	12%	12%	12%	12%	12%	13%
Repetition Rate	9%	8%	7%	6%	5%	4%	4%	3%	3%	3%	3%	3%
Drop Out Rate	9%	8%	8%	7%	6%	6%	5%	5%	4%	3%	3%	3%
Number of Teachers Gov+libsub	2600	2868	3175	3458	3846	4374	5042	5817	6729	7790	9023	10399
New teachers Needed		398	450	442	560	720	887	1027	1203	1397	1623	1827
Pupil Teacher Ratio	30	30	30	30	30	30	30	30	30	30	30	30
Class Size	45	45	45	45	45	45	45	45	45	45	45	45
Enrolment TC (incl private)	131427	143862	156928	168407	183117	202490	226326	253672	285536	322149	364205	410483
Rate of increase in S1 Enrolments		7%	7%	8%	11%	11%	12%	12%	12%	12%	12%	13%
Number of new TC pupils		12435	13066	11479	14710	19373	23836	27347	31864	36613	42056	46278
Number of New TC Classes needed		276	290	255	327	431	530	608	708	814	935	1028
% Private	41%	40%	39%	38%	37%	35%	33%	31%	29%	27%	26%	24%
% Boarding	76%	70%	65%	55%	45%	35%	25%	20%	15%	10%	9%	8%
Number of Subsidised C73Boarding (in govt+libsub)	59020	60228	61913	57063	51919	45922	37816	34904	30281	23370	24362	24957
TC Gross Enrolment Ratio	20%	21%	23%	24%	25%	27%	30%	33%	36%	40%	44%	48%
TC Completion Rate (Std method)	14%	15%	17%	19%	20%	21%	23%	25%	28%	31%	35%	39%



<b>Annex 3 Projection 2004-2015 Scenario 3</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>Upper Secondary</b>												
Transition Rate TC/U.Sec		62%	58%	54%	50%	46%	42%	39%	36%	36%	36%	36%
Repetition Rate	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Drop Out Rate	7%	6%	6%	5%	5%	4%	4%	3%	3%	2%	2%	2%
Number of Teachers	1442	1576	1650	1764	1838	1927	1982	2068	2190	2355	2539	2821
Number of New Teachers Needed		207	152	197	162	181	152	185	225	275	302	408
Pupil Teacher Ratio	25	25	25	25	25	25	25	25	25	25	25	25
Class Size	40	40	40	40	40	40	40	40	40	40	40	40
Enrolment Upper Sec	72124	74856	76668	80336	84717	89463	92135	94866	97909	102045	106693	114302
% Private	50%	47%	46%	45%	46%	46%	46%	46%	44%	42%	40%	38%
% Boarding	75%	70%	65%	55%	50%	45%	40%	35%	30%	25%	20%	20%
Number of subsidised Boarding (in govt + libsub)	27031	27587	26806	24259	22971	21678	19823	18094	16425	14721	12697	14104
U Sec Gross Enrolment Ratio	11%	12%	12%	12%	12%	13%	13%	13%	13%	13%	13%	14%
<b>Expenditure</b>												
<b>Primary</b>												
Teachers Remuneration Mult.of GDP/capita	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	4.0	4.0	4.0	4.0
Unit Cost Mult.GDP/capita	0.08	0.10	0.10	0.11	0.11	0.12	0.12	0.13	0.13	0.13	0.14	0.14
Overall Primary Unit Cost (RWf)	9472	11549	12400	13346	14401	15585	16923	18443	19375	19957	20555	21172
Recurrent Expenditure	16600	20235	21595	23225	25293	27963	29940	31874	32794	33200	33773	34752
<b>Tronc Commun</b>												
Teachers Remuneration Mult.of GDP/capita	4.7	4.8	4.9	5.1	5.2	5.3	5.4	5.5	5.6	5.8	5.9	6.0
Unit Cost Mult.GDP/capita	0.49	0.47	0.45	0.42	0.39	0.37	0.34	0.32	0.31	0.30	0.29	0.29
Overall Tronc Commun Unit Cost (RWf)	57418	56333	55461	53267	51029	48740	46394	45519	44663	43823	44341	44949
Recurrent Expenditure	5418	5876	6414	6764	7257	7934	8768	9946	11320	12907	15103	17630
Recurrent Expenditure if fee free (11,000/cap)	6276	6851	7526	8011	8686	9607	10755	12307	14133	16262	19105	22380

<b>Annex 3 Projection 2004-2015 Scenario 3</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>Upper Secondary</b>												
Teachers Remuneration Mult.of GDP/capita	5.6	5.7	5.8	6.0	6.1	6.2	6.4	6.5	6.7	6.8	7.0	7.1
Unit Cost Mult.GDP/capita	0.61	0.59	0.56	0.53	0.51	0.50	0.48	0.46	0.45	0.43	0.42	0.42
Overall Upper Secondary Unit Cost (RWf)	70750	69895	69123	67065	66407	65820	65300	64844	64451	64116	63838	65345
Recurrent Expenditure	3088	3337	3472	3627	3765	3934	4047	4219	4461	4787	5152	5823
<b>Teacher Training</b>												
KIE												
Number of Teachers produced per annum	350	350	350	350	350	350	350	350	350	350	350	350
KIE												
Overall Cost per Graduate available (RWf)	4000000	4120000	4243600	4370908	4502035	4637096	4776209	4919495	5067080	5219093	5375666	5536935
Recurrent Expenditure per year	1400	1442	1485	1530	1576	1623	1672	1722	1773	1827	1881	1938
Reformed Secondary Colleges of Education												
Number of Teachers needed/produced		547	594	757	960	1068	1232	1446	1708	1979	2317	2597
Overall Cost per Graduate available (RWf) (1+1)	300000	315000	330750	347288	364652	382884	402029	422130	443237	465398	488668	513102
Recurrent Expenditure		169	181	206	276	368	429	520	641	795	967	1189
<b>Finance</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
GDP	986092	1035396	1087166	1141524	1198601	1258531	1321457	1387530	1456907	1529752	1606240	1686552
GDP Growth	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Population	8490	8677	8868	9063	9262	9466	9674	9887	10105	10327	10554	10786
GDP/capita	116145	119328	122597	125956	129406	132952	136594	140337	144181	148132	152190	156360
Domestic revenue	126427	133858	141716	150025	158811	168101	177922	188306	199282	210886	223152	236117
Domestic Revenue as % GDP	12.8%	12.9%	13.0%	13.1%	13.2%	13.4%	13.5%	13.6%	13.7%	13.8%	13.9%	14.0%
Education Resources as % Domestic Res.	19.4%	20.1%	20.9%	21.7%	22.6%	23.5%	24.4%	25.4%	26.4%	27.4%	28.5%	29.6%
Education as % of GDP (including external)	4.5%	4.6%	4.6%	4.7%	4.8%	4.9%	4.9%	4.9%	4.9%	4.9%	5.0%	5.0%

<b>Annex 3 Projection 2004-2015 Scenario 3 Recurrent Expenditure Only</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Primary Education as % of Education	42%	45%	46%	46%	47%	48%	49%	49%	48%	47%	45%	43%
Tronc Commun as % of Education	14%	13%	14%	13%	14%	14%	14%	15%	17%	18%	20%	22%
U. Sec as % of Education	8%	7%	7%	7%	7%	7%	7%	6%	7%	7%	7%	7%
Higher Education as % of Education	30%	27%	27%	26%	25%	23%	22%	21%	20%	19%	18%	17%
Teacher Training KIE	4.0%	3.6%	3.5%	3.4%	3.3%	3.2%	3.1%	3.0%	2.9%	2.9%	2.8%	2.7%
Teacher Training Secondary TTC	0.4%	0.4%	0.4%	0.5%	0.7%	0.7%	0.9%	1.0%	1.2%	1.4%	1.6%	1.7%
<b>Projected Expenditure (Billions)</b>												
Preschool	0.2	0.3	0.3	0.4	0.5	0.6	0.7	0.8	1.0	1.2	1.4	1.7
Primary recurrent	16.6	20.2	21.6	23.2	25.3	28.0	29.9	31.9	32.8	33.2	33.8	34.8
Lower secondary (Excl TTCs)	5.4	5.9	6.4	6.8	7.3	7.9	8.8	9.9	11.3	12.9	15.1	17.6
Upper secondary	3.1	3.3	3.5	3.6	3.8	3.9	4.0	4.2	4.5	4.8	5.2	5.8
Informal	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.7	0.8	0.9
S and T	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.6	1.8	2.1	2.4	2.8
HE (incl expat sals)	11.9	12.3	12.6	13.0	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
Teacher training KIE	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.1	2.1	2.2
Teacher Training Sec CoE	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.8	1.0	1.2	1.4
Total Ed Exp	39.8	44.7	47.4	50.2	53.7	57.7	61.1	65.0	68.2	71.3	75.4	80.6
Fee Free TC	40.6	45.7	48.5	51.5	55.2	59.3	63.1	67.3	71.0	74.7	79.4	85.4
Domestic Resources	24.5	27.0	29.6	32.6	35.9	39.5	43.4	47.7	52.5	57.8	63.5	69.9
Gap of Domestic Resources		17.8	17.7	17.6	17.9	18.2	17.7	17.2	15.7	13.6	11.9	10.7
Gap with Fee Free (day school costs)		18.7	18.8	18.9	19.3	19.9	19.7	19.6	18.5	16.9	15.9	15.5

### Annex 3 Projection 2004-2015 Scenario 3

#### Development Costs

##### Primary School Classrooms/Schools

Total Classrooms needed @ target PTR	27549	28774	29672	31124	32599	34314	34590	34447	34336	34348	34537
Total Classrooms existing	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000
Deficit in classrooms	3549	4774	5672	7124	8599	10314	10590	10447	10336	10348	10537
Total extra needed in 2015											1113
Average build per year to meet 2015 need	1113	1113	1113	1113	1113	1113	1113	1113	1113	1113	1113
Cost of Primary Classrooms	4454	4587	4725	4866	5012	5163	5318	5477	5642	5811	5985
Double shift rate Grades 1-3	85%	79%	72%	66%	59%	53%	46%	40%	33%	27%	20%
Av Class size target	45	45	45	45	45	45	45	45	45	45	45

##### Tronc Commun Classroom and Schools

Number Classrooms	290	255	327	431	530	608	708	814	935	1028	1071
Cost of TC classrooms Gov and libsub	1054	1002	1411	1980	2584	3086	3738	4479	5363	6162	6653
Cost of private TC classrooms @10% subsidy	49	44	35	37	44	49	54	62	67	73	75
Ave class size target	45	45	45	45	45	45	45	45	45	45	45

##### Upper Secondary

Number Classrooms	45	92	110	119	67	68	76	103	116	190	267
Cost of U Sec Classrooms	275	430	275	335	208	321	458	621	690	1055	1452
Cost of private U Sec classrooms @10% subsidy		0	13	42	42	22	11	0	0	1	12
Ave class size target	40	40	40	40	40	40	40	40	40	40	40

##### Total Construction Expenditure (millions)

Primary + TC + U Sec with no subsidy to Private	5782	6019	6411	7181	7804	8569	9513	10577	11694	13028	14090
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#### Annex 4 Projection 2004-2015 Scenario 4

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Primary</b>												
Total Primary Enrolment	1752588	1752058	1741488	1740244	1756337	1794161	1769242	1728243	1692590	1663621	1643035	1641440
Primary Grade 6 Enrolment	110708	142782	159701	174194	190757	254838	270543	265126	260088	254556	242489	237017
Increase in Grade 6 Enrolment		29%	12%	9%	10%	34%	6%	-2%	-2%	-2%	-5%	-2%
Repetition Rate	20%	18%	16%	14%	12%	10%	9%	8%	8%	7%	6%	6%
Drop Out Rate	16%	14%	12%	9%	7%	5%	5%	5%	5%	5%	5%	5%
Number of Teachers	28774	30113	31404	33005	35127	37953	39718	41328	41374	40666	40163	40124
Number of New Teachers Needed	2203	2194	2543	3112	3880	2903	2801	1287	533	717	1166	1479
Pupil Teacher Ratio	67	64	61	58	55	52	49	46	45	45	45	45
Class Size	67	64	61	58	55	52	49	46	45	45	45	45
Primary Gross Enrolment Ratio	132	129	125	123	121	121	117	112	107	103	99	97
Primary Completion Rate (Std method)	35%	46%	51%	56%	61%	81%	85%	82%	80%	77%	72%	69%
Primary Completion Rate (alt. method)						51%	76%	78%	80%	81%	80%	78%
Number years schooling for a primary grad.						9.6	8.0	7.6	7.4	7.3	7.3	7.3
<b>Tronc Commun</b>												
Transition Rate Primary/TC		61%	65%	72%	82%	75%	80%	84%	87%	89%	95%	99%
Rate of increase in S1 Enrolments		20%	21%	22%	24%	26%	25%	13%	5%	2%	2%	2%
Repetition Rate	9%	8%	7%	6%	5%	4%	4%	3%	3%	3%	3%	3%
Drop Out Rate	9%	8%	8%	7%	6%	6%	5%	5%	4%	3%	3%	3%
Number of Teachers Gov+libsub	2600	3090	3904	5050	6569	8631	11322	14083	16285	17518	18102	18347
New teachers Needed		620	968	1341	1772	2390	3123	3327	2907	2047	1460	1149
Pupil Teacher Ratio	30	30	30	30	30	30	30	30	30	30	30	30
Class Size	45	45	45	45	45	45	45	45	45	45	45	45
Enrolment TC (incl private)	131427	150532	178805	216142	264812	330204	414724	501631	572224	614002	636591	648922
Rate of increase in S1 Enrolments		20%	21%	22%	24%	26%	25%	13%	5%	2%	2%	2%
Number of new TC pupils		19105	28274	37337	48670	65391	84520	86908	70592	41778	22589	12331
Number of New TC Classes needed		425	628	830	1082	1453	1878	1931	1569	928	502	274
% Private	41%	38%	34%	30%	26%	22%	18%	16%	15%	14%	15%	15%
% Boarding	76%	70%	65%	55%	45%	35%	25%	20%	15%	10%	9%	8%
Number of Subsidised C73Boarding (in govt+libsub)	59020	64896	76133	83318	88682	90622	84916	84496	73284	52555	48877	44032
TC Gross Enrolment Ratio	20%	22%	26%	30%	36%	44%	55%	65%	72%	76%	77%	77%
TC Completion Rate (Std method)	14%	15%	17%	21%	25%	30%	37%	46%	57%	65%	68%	68%

<b>Annex 4 Projection 2004-2015 Scenario 4</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>Upper Secondary</b>												
Transition Rate TC/U.Sec		62%	58%	54%	50%	46%	42%	39%	36%	36%	36%	36%
Repetition Rate	4%	4%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Drop Out Rate	7%	6%	6%	5%	5%	4%	4%	3%	3%	2%	2%	2%
Number of Teachers	1442	1576	1650	1764	1948	2306	2808	3442	4225	5183	6078	6825
Number of New Teachers Needed		207	152	197	272	456	617	775	955	1170	1154	1051
Pupil Teacher Ratio	25	25	25	25	25	25	25	25	25	25	25	25
Class Size	40	40	40	40	40	40	40	40	40	40	40	40
Enrolment Upper Sec	72124	74856	76668	80336	87468	98935	112776	129226	148778	172738	195158	214400
% Private	50%	47%	46%	45%	44%	42%	38%	33%	29%	25%	22%	20%
% Boarding	75%	70%	65%	55%	50%	45%	40%	35%	30%	25%	20%	20%
Number of subsidised Boarding (in govt + libsub)	27031	27587	26806	24259	24346	25941	28079	30120	31685	32395	30390	34123
U Sec Gross Enrolment Ratio	11%	12%	12%	12%	13%	14%	16%	17%	20%	22%	25%	27%
<b>Expenditure</b>												
<b>Primary</b>												
Teachers Remuneration Mult.of GDP/capita	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	4.0	4.0	4.0	4.0
Unit Cost Mult.GDP/capita	0.08	0.10	0.10	0.11	0.11	0.12	0.12	0.13	0.13	0.13	0.14	0.14
Overall Primary Unit Cost (RWf)	9472	11549	12400	13346	14401	15585	16923	18443	19375	19957	20555	21172
Recurrent Expenditure	16600	20235	21595	23225	25293	27963	29940	31874	32794	33200	33773	34752
<b>Tronc Commun</b>												
Teachers Remuneration Mult.of GDP/capita	4.7	4.8	4.9	5.1	5.2	5.3	5.4	5.5	5.6	5.8	5.9	6.0
Unit Cost Mult.GDP/capita	0.49	0.47	0.45	0.42	0.39	0.37	0.34	0.32	0.31	0.30	0.29	0.29
Overall Tronc Commun Unit Cost (RWf)	57418	56333	55461	53267	51029	48740	46394	45519	44663	43823	44341	44949
Recurrent Expenditure	5418	6287	7748	9583	11923	14974	18771	22977	26242	27961	29399	30387
Recurrent Expenditure if fee free (11,000/cap)	6276	7337	9115	11404	14363	18276	23232	28693	33050	35504	37428	38768

<b>Annex 4 Projection 2004-2015 Scenario 4</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>Upper Secondary</b>												
Teachers Remuneration Mult.of GDP/capita	5.6	5.7	5.8	6.0	6.1	6.2	6.4	6.5	6.7	6.8	7.0	7.1
Unit Cost Mult.GDP/capita	0.61	0.59	0.56	0.53	0.51	0.50	0.48	0.46	0.45	0.43	0.42	0.42
Overall Upper Secondary Unit Cost (RWf)	70750	69895	69123	67065	66407	65820	65300	64844	64451	64116	63838	65345
Recurrent Expenditure	3088	3337	3472	3627	3964	4618	5533	6689	8116	9868	11520	13219
<b>Teacher Training</b>												
KIE												
Number of Teachers produced per annum	350	350	350	350	350	350	350	350	350	350	350	350
KIE												
Overall Cost per Graduate available (RWf)	4000000	4120000	4243600	4370908	4502035	4637096	4776209	4919495	5067080	5219093	5375666	5536935
Recurrent Expenditure per year	1400	1442	1485	1530	1576	1623	1672	1722	1773	1827	1881	1938
Reformed Secondary Colleges of Education												
Number of Teachers needed/produced		1066	1493	2079	2905	3769	4122	3880	3252	2669	2282	1986
Overall Cost per Graduate available (RWf) (1+1)	300000	315000	330750	347288	364652	382884	402029	422130	443237	465398	488668	513102
Recurrent Expenditure		239	352	518	758	1112	1515	1740	1720	1514	1304	1171
<b>Finance</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
GDP	986092	1035396	1087166	1141524	1198601	1258531	1321457	1387530	1456907	1529752	1606240	1686552
GDP Growth	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Population	8490	8677	8868	9063	9262	9466	9674	9887	10105	10327	10554	10786
GDP/capita	116145	119328	122597	125956	129406	132952	136594	140337	144181	148132	152190	156360
Domestic revenue	126427	133858	141716	150025	158811	168101	177922	188306	199282	210886	223152	236117
Domestic Revenue as % GDP	12.8%	12.9%	13.0%	13.1%	13.2%	13.4%	13.5%	13.6%	13.7%	13.8%	13.9%	14.0%
Education Resources as % Domestic Res.	19.4%	20.1%	20.9%	21.7%	22.6%	23.5%	24.4%	25.4%	26.4%	27.4%	28.5%	29.6%
Education as % of GDP (including external)	4.6%	4.7%	4.9%	5.2%	5.5%	5.9%	6.2%	6.3%	6.3%	6.3%	6.3%	6.1%

<b>Annex 4 Projection 2004-2015 Scenario 4</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>Recurrent Expenditure Only</b>												
Primary Education as % of Education	42%	45%	44%	43%	43%	42%	41%	39%	37%	36%	35%	35%
Tronc Commun as % of Education	14%	14%	16%	18%	20%	23%	25%	28%	30%	30%	31%	30%
U. Sec as % of Education	8%	7%	7%	7%	7%	7%	7%	8%	9%	11%	12%	13%
Higher Education as % of Education	30%	27%	26%	24%	23%	20%	18%	16%	15%	15%	14%	13%
Teacher Training KIE	4.0%	3.6%	3.4%	3.2%	3.0%	2.7%	2.5%	2.4%	2.3%	2.2%	2.2%	2.2%
Teacher Training Secondary TTC	0.6%	0.8%	1.1%	1.4%	1.9%	2.3%	2.4%	2.1%	1.7%	1.4%	1.2%	1.1%
<b>Projected Expenditure (Billions)</b>												
Preschool	0.2	0.3	0.3	0.4	0.5	0.6	0.7	0.8	1.0	1.2	1.4	1.7
Primary recurrent	16.6	20.2	21.6	23.2	25.3	28.0	29.9	31.9	32.8	33.2	33.8	34.8
Lower secondary (Excl TTCs)	5.4	6.3	7.7	9.6	11.9	15.0	18.8	23.0	26.2	28.0	29.4	30.4
Upper secondary	3.1	3.3	3.5	3.6	4.0	4.6	5.5	6.7	8.1	9.9	11.5	13.2
Informal	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.7	0.8	0.9
S and T	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.6	1.8	2.1	2.4	2.8
HE (incl expat sals)	11.9	12.3	12.6	13.0	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
Teacher training KIE	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.1	2.1	2.2
Teacher Training Sec CoE	0.2	0.4	0.5	0.8	1.1	1.5	1.7	1.7	1.5	1.3	1.2	1.1
Total Ed Exp	39.9	45.3	49.0	53.5	59.3	66.5	73.8	81.6	87.5	91.8	96.0	100.5
Fee Free TC	40.7	46.3	50.4	55.4	61.8	69.8	78.3	87.3	94.3	99.3	104.1	108.8
Domestic Resources	24.5	27.0	29.6	32.6	35.9	39.5	43.4	47.7	52.5	57.8	63.5	69.9
Gap of Domestic Resources		18.3	19.4	20.9	23.5	27.0	30.4	33.8	35.0	34.0	32.5	30.6
Gap with Fee Free (day school costs)		19.4	20.7	22.7	25.9	30.3	34.9	39.5	41.8	41.6	40.5	38.9



<b>Annex 4 Projection 2004-2015 Scenario 4</b>												2015
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
<b>Development Costs</b>												
<b>Primary School Classrooms/Schools</b>												
Total Classrooms needed @ target PTR	27549	28774	29672	31124	32599	34314	34590	34447	34336	34348	34537	
Total Classrooms existing	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	
Deficit in classrooms	3549	4774	5672	7124	8599	10314	10590	10447	10336	10348	10537	
Total extra needed in 2015											1113	
Average build per year to meet 2015 need	1113	1113	1113	1113	1113	1113	1113	1113	1113	1113	1113	
Cost of Primary Classrooms	4454	4587	4725	4866	5012	5163	5318	5477	5642	5811	5985	
Double shift rate Grades 1-3	85%	79%	72%	66%	59%	53%	46%	40%	33%	27%	20%	
Av Class size target	45	45	45	45	45	45	45	45	45	45	45	
<b>Tronc Commun Classroom and Schools</b>												
Number Classrooms	628	830	1082	1453	1878	1931	1569	928	502	274	234	
Cost of TC classrooms Gov and libsub	2795	4050	5535	7735	10400	10988	9030	5206	2540	1093	861	
Cost of private TC classrooms @10% subsidy	49	44	35	37	44	49	54	62	67	73	75	
Ave class size target	45	45	45	45	45	45	45	45	45	45	45	
<b>Upper Secondary</b>												
Number Classrooms	45	92	178	287	346	411	489	599	560	481	296	
Cost of U Sec Classrooms	275	430	688	1343	1883	2379	2934	3594	3356	2800	1625	
Cost of private U Sec classrooms @10% subsidy		0	13	42	42	22	11	0	0	1	12	
Ave class size target	40	40	40	40	40	40	40	40	40	40	40	
<b>Total Construction Expenditure (millions)</b>												
<b>Primary + TC + U Sec with no subsidy to Private</b>	7523	9067	10947	13944	17296	18529	17282	14278	11538	9704	8471	

## Annex 5 Double Shifting Reduction

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Enrol 1-3</b>	1206755	1164870	1128420	1037088	981003	952544	924806	901869	893665	890312	888697	895122
<b>Enrol 4-6</b>	545833	587188	613068	703156	775334	841617	844436	826374	798926	773309	754338	746318
<b>Total</b>	1752588	1752058	1741488	1740244	1756337	1794161	1769242	1728243	1692590	1663621	1643035	1641440
<b>% Double shift</b>	85%	79%	72%	66%	59%	53%	46%	40%	33%	27%	20%	14%
<b>Number pupils</b>												
<b>Grade 1-3 double</b>	1025742	914423	812462	679293	578792	500086	425411	356238	294909	235933	177739	120841
<b>Grade 1-3 single shift</b>	181013	250447	315958	357795	402211	452458	499395	545631	598755	654380	710957	774281
<b>Number of classes</b>												
<b>Class size</b>	45	45	45	45	45	45	45	45	45	45	45	45
<b>Grade 1-3 double</b>	11397	10160	9027	7548	6431	5557	4727	3958	3277	2621	1975	1343
<b>Grade 1-3 single</b>	4023	5565	7021	7951	8938	10055	11098	12125	13306	14542	15799	17206
<b>Grade 4-6</b>												
<b>Class size</b>	45	45	45	45	45	45	45	45	45	45	45	45
<b>Grade 4-6</b>	12130	13049	13624	15626	17230	18703	18765	18364	17754	17185	16763	16585
<b>Total Classes needed @ target PTR</b>	27549	28774	29672	31124	32599	34314	34590	34447	34336	34348	34537	35134
<b>Stock</b>	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000
<b>Additional</b>	3549	4774	5672	7124	8599	10314	10590	10447	10336	10348	10537	11134
<b>Build per year</b>	1113	1113	1113	1113	1113	1113	1113	1113	1113	1113	1113	1113
<b>Cost inflator</b>	0.03											
<b>Cost per classroom</b>	4000000	4120000	4243600	4370908	4502035	4637096	4776209	4919495	5067080	5219093	5375666	5536935
<b>Cost (Millions Rwf)</b>	4454	4587	4725	4866	5012	5163	5318	5477	5642	5811	5985	6165

