

Report No. 19069-JM

Jamaica
Secondary Education:
Improving Quality and Extending Access
(In Two Volumes) Volume II: Appendices

December 17, 1999

Human Development Department
Caribbean Country Management Unit
Latin America and the Caribbean Region



Document of the World Bank

Acronyms and Abbreviations

ACT	Association of Caribbean Tertiary Institutions
All-Age Schools	Schools mostly in rural communities that provide schooling from Grades 1 to 9
Basic Schools	Community-operated schools for children between 4 and 5
CASE	College of Agriculture
CEE	Common Entrance Exam (for selection and placement in secondary schools before 1998)
Comprehensive Highs	Secondary Schools with mixed academic and vocational subjects
CXC	Caribbean Examination Council Examination (for Grades 11 and 13)
ECE	Early Childhood Education
GNAT	Grade Nine Achievement Test
GOJ	Government of Jamaica
GSAT	Grade Six Achievement Test, administered by NAP, replaced the older CEE
HEART	Human Employment and Resource Training Trust
Infant Schools	Classes for children between 4 and 5, usually attached to Primary Schools
JBTE	Joint-Board of Teacher Education
JHSC	Junior High School Certificate Examination
JSC	Jamaica School Certificate (Grade 9) for entry to training programs or Teachers Colleges
MOE&C	Ministry of Education and Culture
MOF	Ministry of Finance
NAP	National Assessment Program, assesses students at Grades 1, 3 and 6
New Secondary Highs	Prevocational High Schools which were upgraded to Comprehensives in September, 1999
NTA	National Training Agency
P&JH	Primary and Junior High Schools
PIOJ	Planning Institute of Jamaica
ROSE Project	15-year program of Reform of Secondary Education launched in 1993
Secondary Highs	Secondary schools which emphasize academic subjects, also known as Traditional Highs
SFP	School Feeding Program
SLC	Survey of Living Conditions, conducted annually by PIOJ since 1989
SSC	Secondary School Certificate, given after Grade 11
STATIN	Statistical Institute of Jamaica
T&F/C	Tuition and Fees/Contributions
TCs	Teachers' Colleges
Technical Highs	Secondary schools with mixed academic and vocational subjects
TRS	National Textbook Rental Scheme
UTech	University of Technology
UWI	University of the West Indies
WTO	World Trade Organization

Exchange Rates (1997): JA\$35.6 = US\$1
 Fiscal Year: April 1 to March 31
 School Year: September 1 to June 30 (190 days/year)

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Appendix 1. Student Enrollment Statistics

Appendix 1.1: Enrollment by Level for Public Educational Institutions (1986/87-1997/98)													
	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1986-1998 % change
Early Childhood	122,751	123,843	130,487	127,956	128,990	124,798	124,454	143,525	132,837	134,459	132,060	132,060*	7.58%
Primary	333,674	329,068	327,324	322,881	323,378	316,465	305,551	311,146	305,238	300,931	293,863	302,090	-9.47%
Secondary	238,730	233,309	226,822	225,708	224,509	222,348	221,731	218,061	217,011	221,831	214,313	227,222	-4.82%
Tertiary Education:-	18,337	17,920	18,979	21,307	21,056	23,233	23,580	22,740	23,716	26,377	26,988	28,144	53.48%
Community Colleges	6,977	5,661	5,851	6,660	6,653	6,874	7,377	6,580	5,723	7,336	6,803	6,967	-0.14%
Teachers' Colleges	3,044	2,825	2,780	2,865	2,610	4,005	3,365	3,480	3,490	3,046	3,065	3,512	15.37%
Other Tertiary	662	698	612	580	659	650	621	608	1,010	1,459	2,124	2,124*	220.85%
UTECH	3,654	3,854	4,527	5,776	5,472	5,611	5,894	5,945	6,386	6,832	7,129	7,129*	95.10%
U.W.I.	4,000	4,882	5,209	5,426	5,662	6,093	6,323	6,127	7,107	7,704	7,867	8,412	110.30%
Special Education	1,845	1,845	2,256	2,256	2,256	2,005	1,522	2,113	2,071	2,071	2,135	2,058	11.54%
Total	715,337	705,985	705,868	700,108	700,189	688,849	676,838	697,585	680,873	685,669	669,359	691,574	-3.32%

Source: MOE&C statistics; PIOJ, *Survey of Living Condition 1997*

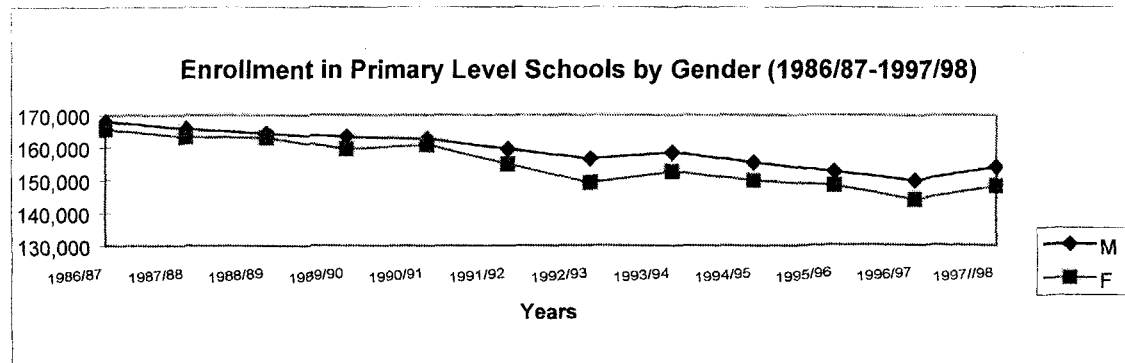
* Data from 1997/98 are not available. The figure presented was that for 1996/97.

Notes: Data supplied for the primary and secondary levels refer to enrollment in public schools only (independent schools cater for an additional 4% of total public primary level enrollment and 3% of public secondary level enrollment).

At the early childhood level, 87% of the 132,635 pupils (1996/97) enrolled are found in community operated basic schools which benefit from government funding in the form of subsidies for teachers salaries and instructional materials.

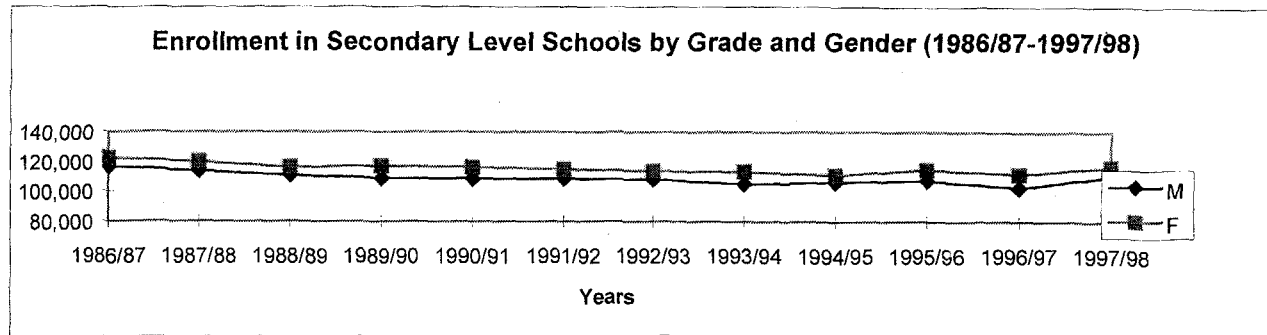
Appendix 1.2: Enrollment in Public Primary Schools by Grade and Gender (1986/87-1997/98)															
Year	Grade 1		Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Total		Grand Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
1986/87	29,385	27,416	28,784	27,337	28,798	27,657	28,260	28,187	27,567	26,774	25,310	28,199	168,104	165,570	333,674
1987/88	29,006	27,542	28,298	27,175	28,067	27,125	27,850	27,007	27,166	26,784	25,398	27,650	165,785	163,283	329,068
1988/89	28,905	27,351	28,303	27,313	27,448	27,169	27,794	27,631	26,868	26,054	24,965	27,523	164,283	163,041	327,324
1989/90	29,947	27,642	28,375	27,073	27,698	27,054	26,798	25,843	25,917	25,167	24,589	26,778	163,324	159,557	322,881
1990/91	28,864	26,652	28,747	27,576	27,649	26,846	26,998	27,051	25,744	25,685	24,571	26,995	162,573	160,805	323,378
1991/92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	316,456
1992/93	26,681	24,052	26,815	24,920	27,252	25,083	27,177	25,812	24,833	24,184	23,679	25,063	156,437	149,114	305,551
1993/94	26,925	24,700	26,553	24,649	26,714	25,494	27,356	25,927	26,592	25,695	24,343	26,198	158,483	152,663	311,146
1994/95	26,697	25,136	25,754	24,505	25,775	24,071	26,156	25,069	26,010	24,798	25,014	26,253	155,406	149,832	305,238
1995/96	27,005	25,433	25,764	24,870	25,325	24,681	25,365	23,910	25,241	24,185	23,882	25,270	152,582	148,349	300,931
1996/97	26,851	25,201	26,242	25,010	25,145	24,194	24,389	23,385	24,024	22,442	23,211	23,769	149,862	144,001	293,863
1997/98	27,749	25,829	26,951	25,786	26,868	25,817	25,177	24,483	24,309	23,028	22,918	23,175	153,972	148,118	302,090

Source: MOE&C



Year	Grade 7		Grade 8		Grade 9		Grade 10		Grade 11		Grade 12		Grade 13		Total		Grand Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
1986/87	27,600	27,547	27,566	28,169	26,485	28,295	17,989	20,026	15,394	16,548	799	1,054	604	654	116,437	122,293	238,730
1987/88	27,148	27,120	26,321	27,143	25,372	27,194	17,499	19,252	15,820	17,221	818	1,048	638	715	113,616	119,693	233,309
1988/89	28,804	27,019	24,977	26,491	23,665	25,694	16,962	18,398	15,014	16,711	735	1,134	499	719	110,656	116,166	226,822
1989/90	25,071	26,561	25,370	26,546	24,390	25,908	17,034	18,559	15,484	17,624	829	1,154	527	651	108,705	117,003	225,708
1990/91	24,982	25,209	25,412	26,987	24,452	26,147	17,116	18,996	15,188	17,045	740	1,115	494	626	108,384	116,125	224,509
1991/92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	222,348
1992/93	25,231	25,478	24,843	25,645	23,545	24,700	17,644	19,264	15,533	16,784	818	1,125	504	617	108,118	113,613	221,731
1993/94	24,923	25,932	24,550	25,454	23,312	25,018	16,622	18,908	14,446	16,883	758	613	268	374	104,879	113,182	218,061
1994/95	25,481	25,189	24,557	24,982	23,235	24,098	16,916	18,585	14,589	15,747	909	1,312	560	851	106,247	110,764	217,011
1995/96	26,373	26,332	25,050	26,100	23,776	25,014	16,261	18,485	14,308	16,254	846	1,428	612	992	107,226	114,605	221,831
1996/97	24,577	24,953	25,152	25,542	23,060	24,807	15,419	18,578	13,108	15,391	853	1,448	507	918	102,676	111,637	214,313
1997/98	25,623	24,963	25,444	25,640	25,094	26,128	16,827	19,903	15,402	17,184	1,213	1,780	871	1,150	110,474	116,748	227,222

Source: MOE&C



Appendix 1.4: Enrollment in Basic Schools, Infant Schools and Infant Departments (1986/87-1997/98)			
Year	M	F	Total
1986/87	59,700	63,051	122,751
1987/88	-	-	123,843
1988/89	64,680	65,807	130,487
1989/90	62,381	65,575	127,956
1990/91	64,379	64,611	128,990
1991/92	-	-	124,798
1992/93	61,791	62,663	124,454
1993/94	71,437	72,088	143,525
1994/95	66,114	66,723	132,837
1995/96	67,655	66,804	134,459
1996/97	65,909	66,151	132,060
1997/98	-	-	-

Source: MOE&C

Appendix 1.5: Enrollment in Public Primary Schools (1986/87-1997/98)			
Year	M	F	Total
1986/87	85,098	86,979	172,077
1987/88	84,712	86,133	170,845
1988/89	85,441	86,975	172,416
1989/90	86,368	87,342	173,710
1990/91	87,083	88,086	175,169
1991/92	-	-	175,793
1992/93	82,943	80,950	163,893
1993/94	84,947	84,167	169,114
1994/95	86,668	85,842	172,510
1995/96	85,620	85,777	171,397
1996/97	84,166	83,308	167,474
1997/98	87,557	87,044	174,601

Source: MOE&C

Appendix 1.6: Enrollment in Public All-Age Schools, Grades 1-6 (1986/87-1997/98)			
Year	M	F	Total
1986/87	83,006	78,591	161,597
1987/88	81,073	77,150	158,223
1988/89	78,842	76,066	154,908
1989/90	76,956	72,215	149,171
1990/91	75,500	72,719	148,219
1991/92	-	-	140,672
1992/93	73,494	68,164	141,658
1993/94	67,198	62,420	129,618
1994/95	61,966	57,572	119,538
1995/96	59,169	55,172	114,341
1996/97	55,426	51,071	106,497
1997/98	55,948	51,175	107,123

Source: MOE&C

Appendix 1.7: Enrollment in Public All-Age Schools, Grades 7-9/11 * (1986/87-1997/98)			
Year	M	F	Total
1986/87	33,896	33,660	67,556
1987/88	32,956	32,479	65,435
1988/89	31,504	31,267	62,771
1989/90	30,850	28,911	59,761
1990/91	30,194	28,427	58,621
1991/92	-	-	58,912
1992/93	28,262	25,485	53,747
1993/94	26,780	24,142	51,012
1994/95	25,885	22,247	48,132
1995/96	25,743	21,570	47,313
1996/97	24,831	20,492	45,323
1997/98	24,377	19,010	43,387

Source: MOE&C

Two All-Age Schools offer grades 10 and 11 to approximately 270 students annually

Appendix 1.8: Enrollment in Public Primary & Junior High Schools, Grades 1-6 (1993/94-1997/98)

Year	M	F	Total
1993/94	6,338	6,076	12,414
1994/95	6,772	6,418	13,190
1995/96	7,793	7,400	15,193
1996/97	10,270	9,622	19,892
1997/98	10,467	9,899	20,366

Source: MOE&C

Appendix 1.9: Enrollment in Public Primary & Junior High Schools, Grades 7-9/11 (1993/94-1997/98)

Year	M	F	Total
1993/94	2,192	2,037	4,229
1994/95	3,271	2,968	6,239
1995/96	4,077	3,592	7,669
1996/97	5,204	4,281	9,485
1997/98	5,349	4,357	9,706

Source: MOE&C

Appendix 1.10: Enrollment in Public Secondary High Schools (1986/87-1997/98)			
Year	M	F	Total
1986/87	23,990	33,056	57,046
1987/88	22,649	31,909	54,558
1988/89	29,146	39,061	68,207
1989/90	28,789	39,776	68,565
1990/91	28,872	40,316	69,188
1991/92	-	-	69,488
1992/93	30,483	41,546	72,029
1993/94	27,704	41,166	68,870
1994/95	30,357	40,256	70,613
1995/96	31,199	42,719	73,918
1996/97	25,881	39,838	65,719
1997/98	31,647	43,424	75,071

Source: MOE&C

Appendix 1.11: Enrollment in Public Comprehensive High Schools (1986/87-1997/98)			
Year	M	F	Total
1986/87	4,258	5,320	9,578
1987/88	4,459	5,290	9,749
1988/89	4,059	4,655	8,714
1989/90	3,660	4,801	8,461
1990/91	7,698	8,589	16,287
1991/92	-	-	8497
1992/93	7,971	9,743	17,714
1993/94	15,540	16,536	32,076
1994/95	21,702	23,630	45,332
1995/96	26,686	29,033	55,719
1996/97	31,527	33,255	64,782
1997/98	32,643	34,916	67,559

Source: MOE&C

Appendix 1.12: Enrollment in Public New Secondary Schools (1986/87-1997/98)			
Year	M	F	Total
1986/87	50,016	45,873	95,889
1987/88	49,233	45,551	94,784
1988/89	39,208	33,947	73,155
1989/90	38,693	35,315	74,008
1990/91	34,330	31,013	65,343
1991/92	-	-	73,339
1992/93	33,858	28,776	62,634
1993/94	24,873	21,205	46,078
1994/95	17,110	13,687	30,797
1995/96	12,022	9,658	21,680
1996/97	7,369	5,509	12,878
1997/98	7,954	5,976	13,930

Source: MOE&C

Appendix 1.13: Enrollment in Public Technical High Schools (1986/87-1997/98)			
Year	M	F	Total
1986/87	4,051	4,147	8,198
1987/88	4,105	4,421	8,526
1988/89	6,539	6,964	13,503
1989/90	6,634	7,367	14,001
1990/91	6,811	7,274	14,085
1991/92	-	-	14,014
1992/93	6,891	7,534	14,425
1993/94	6,977	7,483	14,460
1994/95	6,957	7,242	14,199
1995/96	7,089	7,581	14,670
1996/97	7,330	7,711	15,041
1997/98	7,888	8,435	16,323

Source: MOE&C

Appendix 1.14: Enrollment in Public Vocational/Agricultural High Schools (1986/87-1997/98)			
Year	M	F	Total
1986/87	226	237	463
1987/88	214	223	437
1988/89	200	272	472
1989/90	438	474	912
1990/91	479	506	985
1991/92	-	-	884
1992/93	653	539	1,192
1993/94	703	613	1,316
1994/95	965	734	1,699
1995/96	410	452	862
1996/97	534	551	1,085
1997/98	616	630	1,246

Source: MOE&C

Appendix 1.15: Enrollment in Community Colleges (1986/87-1997/98)			
Year	M	F	Total
1986/87	-	-	6,977
1987/88	-	-	5,661
1988/89	-	-	5,851
1989/90	-	-	6,660
1990/91	-	-	6,653
1991/92	-	-	6,874
1992/93	2,809	4,568	7,377
1993/94	-	-	6,580
1994/95	-	-	5,723
1995/96	2,881	4,455	7,336
1996/97	3,008	4,189	7,197
1997/98	-	-	-

Source: MOE&C

Appendix 1.16: Enrollment in Teachers' Colleges (1986/87-1997/98)			
Year	M	F	Total
1986/87	-	-	3,044
1987/88	-	-	2,825
1988/89	-	-	2,780
1989/90	-	-	2,865
1990/91	-	-	2,610
1991/92	-	-	4,005
1992/93	-	-	3,365
1993/94	-	-	3,480
1994/95	-	-	3,490
1995/96	364	2,682	3,046
1996/97	441	2,652	3,093
1997/98	-	-	-

Source: MOE&C

Appendix 1.17: Enrollment in Other Tertiary Institutions (1986/87-1996/97)			
Year	M	F	Total
1986/87	-	-	662
1987/88	-	-	698
1988/89	-	-	612
1989/90	-	-	580
1990/91	-	-	659
1991/92	-	-	650
1992/93	-	-	621
1993/94	-	-	608
1994/95	-	-	1,010
1995/96	-	-	1,459
1996/97	-	-	1820*

Source: MOE&C
 * = Provisional data

Appendix 1.18: Enrollment in the University of Technology (1986/87-1996/97)			
Year	M	F	Total
1986/87	-	-	3,654
1987/88	2,013	1,841	3,854
1988/89	2,340	2,187	4,527
1989/90	-	-	5,776
1990/91	2,657	2,815	5,472
1991/92	-	-	5,611
1992/93	2,733	3,161	5,894
1993/94	2,887	3,058	5,945
1994/95	2,141	4,245	6,386
1995/96	3,169	3,663	6,832
1996/97	3,192	3,937	7,129

Source: MOE&C

Appendix 1.19: Enrollment in the University of the West Indies (1986/87-1997/98)			
Year	M	F	Total
1986/87	-	-	4,000
1987/88	2,029	2,853	4,882
1988/89	2,107	3,102	5,209
1989/90	2,183	3,513	5,696
1990/91	2,657	2,815	5,472
1991/92	-	-	6,093
1992/93	2,733	3,961	6,323
1993/94	2,281	3,846	6,127
1994/95	2,533	4,666	7,107
1995/96	2,625	5,079	7,704
1996/97	2,469	4,828	7,297
1997/98	2,649	5,763	8,412

Source: MOE&C

Appendix 1.20: Enrollment in Special Education Institutions (1986/87-1997/98)			
Year	M	F	Total
1986/87	-	-	1,845
1987/88	-	-	1,845
1988/89	-	-	2,256
1989/90	-	-	2,256
1990/91	-	-	2,256
1991/92	-	-	2,005
1992/93	-	-	1,522
1993/94	1,266	487	2,113
1994/95	1,277	794	2,071
1995/96	1,277	794	2,071
1996/97	1,323	812	2,135
1997/98	1,193	865	2,058

Source: MOE&C

Appendix 1.21: Percentage Enrolled in Public and Private Institutions by Area, Consumption Quintile, Gender, and Age, 1998			
CATEGORY	School Sector		Total
	Public	Private	
Area			
KMA (N=1,394)	94.2	5.8	100.0
Other Towns (N=1,139)	96.0	4.0	100.0
Rural Areas (N=3,791)	97.2	2.8	100.0
Quintile			
1 Poorest (N=1,361)	99.3	0.7	100.0
2 (N=1,147)	97.9	2.1	100.0
3 (N=1,335)	97.2	2.8	100.0
4 (N=1,269)	96.6	3.4	100.0
5 (N=942)	89.9	10.1	100.0
Sex			
Male (N=3,203)	96.3	3.7	100.0
Female (N=3,121)	95.9	4.1	100.0
Age (Years)			
3-5 (N=43)	73.6	26.3	100.0
6-11 (N=3,427)	95.0	5.0	100.0
12-14 (N=1,690)	98.0	2.0	100.0
15-16 (N=861)	97.4	2.6	100.0
17-18 (N=280)	97.5	2.5	100.0
19-24 (N=23)	88.3	11.7	100.0
JAMAICA (N=6,324)	96.1	3.9	100.0

Source: MOE&C

Appendix 1. 22: Enrollment by Level by School Type for Public Educational Institutions (1992/93-1997/98)								
	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	Percentage Change	
							92/93-96/97	96/97-97/98
Recurrent Expenditure								
Early Childhood	124,454	143,525	132,837	134,459	132,060*	132,060	6.1%	0.0%
Primary	305,551	311,146	305,238	300,931	293,863	302,090	-3.8%	2.8%
Primary Schools	163,893	169,114	172,510	171,397	167,474	174,601	2.2%	4.3%
AA and P&JH Schools (1-6)	141,658	142,032	132,728	129,534	126,389	127,489	-10.8%	0.9%
Special Education	1,522	2,113	2,071	2,071	2,135	2,058	40.3%	-3.6%
Secondary	221,741	218,041	217,011	222,271	214,313	227,222	-3.3%	6.0%
AA and P&JH/JH Schools (7-9/11)	53,747	53,241	54,371	55,422	54,808	53,093	2.0%	-3.1%
Secondary High	72,029	68,870	70,613	73,918	65,719	75,071	-8.8%	14.2%
Comprehensive High	17,714	32,076	45,332	55,719	64,782	67,559	265.7%	4.3%
New Secondary	62,634	46,078	30,797	21,680	12,878	13,930	-79.4%	8.2%
Technical/Vocational/Agricultural	15,617	15,776	15,898	15,532	16,126	17,569	3.3%	8.9%
Tertiary	23,580	22,740	23,716	26,377	26,988	28,144	14.5%	4.3%
U.W.I.	6,323	6,127	7,107	7,704	7,867	8,412	24.4%	6.9%
UTECH.	5,894	5,945	6,386	6,832	7,129*	7,129	21.0%	0.0%
Teachers' Colleges	3,365	3,480	3,490	3,046	3,065	3,512	-8.9%	14.6%
Community Colleges	7,377	6,580	5,723	7,336	6,803	6,967	-7.8%	2.4%
Other Tertiary	621	608	1,010	1,459	2,124*	2,124	242.0%	0.0%
Total	676,848	697,565	680,873	686,109	669,359	691,574	-1.1%	3.3%

Source: MOE&C.

Note: Enrollment data for Early Childhood Education, UTech, and Other Tertiary Institutions are not available. Data from the previous years are used in this table.

Appendix 2. Statistics on Teachers

Appendix 2.1: Teachers in Infant Schools by Qualification and Gender (1986/87-1997/98)															
Qualifications Years	Trained Graduate			Pre-Trained Graduate			Trained Teacher			Pre-Trained Teacher			GRAND TOTAL		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
1986/87	0	7	7	0	0	0	0	232	232	0	11	11	0	250	250
1987/88	0	6	6	0	0	0	1	257	258	0	11	11	1	274	275
1988/89	0	4	4	0	0	0	1	272	273	0	13	13	1	289	290
1989/90	0	9	9	0	0	0	0	249	249	0	31	31	0	289	289
1990/91	0	4	4	0	1	1	1	244	245	1	37	38	3	286	289
1991/92*	0	3	3	0	1	1	1	235	236	1	45	46	3	284	287
1992/93	0	4	4	0	1	1	1	214	215	1	31	32	3	250	253
1993/94	0	7	7	0	2	2	0	207	207	2	39	41	4	255	259
1994/95	0	7	7	0	0	0	2	230	232	2	58	60	6	295	301
1995/96	0	20	20	0	0	0	0	233	233	1	44	45	2	297	299
1996/97	0	16	16	0	0	0	0	299	299	2	59	61	4	374	378
1997/98	-	24	24	-	1	1	1	240	241	3	55	58	4	220	324

Source: MOE&C

* Estimate

Appendix 2.2: Teachers in Primary Schools by Qualification and Gender (1986/87-1997/98)																
Qualifications	Trained Graduate			Pre-Trained Graduate			Trained Teacher			Pre-Trained Teacher			GRAND TOTAL			
Years	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	
1986/87	11	77	88	0	1	1	329	3464	3793	12	106	118	352	3648	4000	
1987/88	14	85	99	0	1	1	324	3534	3858	14	84	98	352	3704	4056	
1988/89	14	74	88	3	1	4	299	3514	3813	32	178	210	348	3767	4115	
1989/90	15	77	92	0	2	2	281	3517	3798	59	384	443	355	3980	4335	
1990/91	20	88	108	0	4	4	273	3393	3666	87	506	593	380	3991	4371	
1991/92*	21	94	115	0	2	2	271	3370	3641	96	558	654	388	4024	4412	
1992/93	13	44	57	0	2	2	258	3443	3701	91	563	654	362	4052	4414	
1993/94	29	113	142	0	0	0	262	3516	3778	120	732	852	411	4361	4772	
1994/95	43	155	198	0	0	0	295	3844	4139	172	890	1062	510	4889	5399	
1995/96	36	232	268	5	31	36	284	3595	3879	143	775	918	468	4633	5101	
1996/97	58	430	488	8	28	36	275	3460	3735	160	868	1028	501	4786	5287	
1997/98	63	419	482	12	55	67	36	3640	3676	177	854	1031	288	4968	5256	

Source: MOE&C

* Estimated

Appendix 2.3: Teachers in All-Age Schools, Grades 1-6, by Qualification and Gender (1986/87-1997/98)															
Qualifications	Trained Graduate			Pre-Trained Graduate			Trained Teacher			Pre-Trained Teacher			GRAND TOTAL		
Years	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
1986/87**	25	80	105	1	0	1	676	4301	4977	83	301	384	785	4682	5467
1987/88**	25	90	115	2	0	2	678	4536	5214	42	163	205	747	4789	5536
1988/89**	32	91	123	1	2	3	651	4290	4941	89	330	419	773	4713	5486
1989/90**	28	86	114	4	1	5	614	4174	4788	164	669	833	810	4930	5740
1990/91	12	60	72	2	3	5	235	2368	2603	125	725	850	374	3156	3530
1991/92*	19	43	62	1	4	5	235	2522	2757	133	770	903	388	3339	3727
1992/93	32	70	102	0	4	4	261	2805	3066	115	959	1074	408	3838	4246
1993/94	41	82	123	0	6	6	221	2537	2758	113	873	986	375	3498	3873
1994/95	21	64	85	0	2	2	170	2529	2699	121	969	1090	312	3564	3876
1995/96	35	95	130	0	8	8	180	2265	2445	113	834	947	328	3202	3530
1996/97	40	142	182	1	10	11	177	2141	2318	133	843	976	351	3136	3487
1997/98	42	152	194	15	26	41	185	2331	2516	148	843	991	390	3352	3742

Source: MOE&C

* Estimated

** During the period 1986/87-1989/90 data for All-Age Schools were not disaggregated. Data given for this period therefore includes teachers at Grade 1 through 9.

Appendix 2.4: Teachers in All-Age Schools, Grades 7-9, by Qualification and Gender (1990/91-1997/98)															
Qualifications	Trained Graduate			Pre-Trained Graduate			Trained Teacher			Pre-Trained Teacher			GRAND TOTAL		
Years	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
1990/91	21	51	72	1	4	5	365	1015	1380	120	215	335	507	1285	1792
1991/92*	26	62	88	1	2	3	383	1062	1445	98	175	273	508	1301	1809
1992/93	9	40	49	2	2	4	275	845	1120	135	178	314	421	1065	1486
1993/94	10	43	53	2	2	4	246	718	964	124	143	267	382	906	1288
1994/95	32	60	92	2	3	5	375	972	1347	170	225	395	579	1260	1839
1995/96	25	70	95	6	7	13	305	767	1072	135	189	324	471	1033	1504
1996/97	33	103	136	5	2	7	261	727	988	149	218	367	448	1050	1498
1997/98	39	104	143	32	14	46	301	781	1082	142	201	343	514	1100	1614

Source: MOE&C

* Estimated

** During the period 1986/87-1989/90 data for All-Age Schools were not disaggregated. Data given for this period therefore includes teachers at Grade 1 through 9.

Appendix 2.5: Teachers in Primary and Junior High Schools, Grades 1-6, by Qualification and Gender (1993/94-1997/98)																
Qualifications	Trained Graduate			Pre-Trained Graduate			Trained Teacher			Pre-Trained Teacher			GRAND TOTAL			
Years	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	
1993/94	0	6	6	0	0	0	30	236	266	11	64	75	41	306	347	
1994/95	0	9	9	0	0	0	18	315	333	20	75	95	38	399	437	
1995/96	3	8	11	0	3	3	23	319	342	11	110	121	37	440	477	
1996/97	10	20	30	0	4	4	27	407	434	17	142	159	54	573	627	
1997/98	9	31	40	4	16	20	20	427	447	18	137	155	51	611	662	

Source: MOE&C

Appendix 2.6: Teachers in Primary and Junior High Schools, Grades 7-9, by Qualification and Gender (1993/94-1997/98)															
Qualifications	Trained Graduate			Pre-Trained Graduate			Trained Teacher			Pre-Trained Teacher			GRAND TOTAL		
Years	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
1993/94	0	2	2	0	1	1	21	77	98	11	17	28	32	97	129
1994/95	4	7	11	0	2	2	59	149	208	21	30	51	84	188	272
1995/96	1	14	15	1	1	2	82	177	259	21	38	59	105	230	335
1996/97	8	23	31	3	5	8	90	235	325	31	54	85	132	317	449
1997/98	7	26	33	16	14	30	111	288	399	34	49	83	168	377	545

Source: MOE&C

Appendix 2.7: Teachers in New Secondary Schools by Qualification and Gender (1986/87-1997/98)															
Qualifications	Trained Graduate			Pre-Trained Graduate			Trained Teacher			Pre-Trained Teacher			GRAND TOTAL		
Years	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
1986/87	86	237	323	14	12	26	1025	2539	3564	365	189	554	1490	2977	4467
1987/88	99	251	350	9	10	19	1361	2693	3954	98	70	168	1567	3024	4591
1988/89	71	162	233	19	38	57	1021	2143	3164	46	33	79	1157	2376	3533
1989/90	81	199	280	28	31	59	957	2084	3041	128	85	213	1194	2399	3593
1990/91	55	177	232	28	25	53	892	1988	2880	125	124	249	1100	2314	3414
1991/92*	58	186	244	30	26	56	916	2041	2957	141	140	281	1145	2393	3538
1992/93	61	195	256	29	22	51	849	1884	2733	151	149	300	1090	2250	3340
1993/94	54	193	247	16	17	33	671	1392	2063	114	107	221	855	1709	2564
1994/95	46	142	188	9	3	12	431	976	1407	141	104	245	627	1225	1852
1995/96	27	96	123	11	12	23	238	580	818	52	67	119	328	755	1083
1996/97	17	68	85	7	8	15	129	341	470	44	38	82	197	455	652
1997/98	23	87	110	24	21	45	183	331	514	35	35	70	265	474	739

Source: MOE&C

* Estimate

Appendix 2.8: Teachers in Secondary High Schools by Qualification and Gender (1986/87-1997/98)															
Qualifications	Trained Graduate			Pre-Trained Graduate			Trained Teacher			Pre-Trained Teacher			GRAND TOTAL		
Years	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
1986/87	160	576	736	175	251	426	545	1105	1651	63	51	114	943	1983	2926
1987/88	167	604	771	151	232	385	534	1064	1598	48	35	83	900	1935	2835
1988/89	148	558	706	180	305	485	773	1620	2393	52	42	94	1153	2525	3678
1989/90	157	569	726	172	257	429	681	1656	2337	114	90	204	1124	2572	3696
1990/91	164	554	718	177	257	434	709	1676	2385	148	104	252	1198	2591	3789
1991/92*	167	566	733	174	252	426	708	1673	2381	158	111	269	1207	2602	3809
1992/93	179	558	737	156	232	388	686	1615	2301	173	102	275	1194	2507	3701
1993/94	186	563	754	154	217	371	610	1486	2096	269	274	543	1219	2540	3759
1994/95	159	553	712	97	147	244	753	1791	2544	331	301	632	1340	2792	4132
1995/96	162	633	795	180	261	441	720	1674	2394	111	95	206	1173	2663	3836
1996/97	191	741	932	178	296	474	608	1574	2182	110	104	214	1087	2715	3802
1997/98	187	807	994	293	430	723	665	1543	2208	113	93	206	1258	2873	4131

Source: MOE&C

* Estimate

Appendix 2.9: Teachers in Comprehensive Schools by Qualification and Gender (1986/87-1997/98)															
Qualifications	Trained Graduate			Pre-Trained Graduate			Trained Teacher			Pre-Trained Teacher			GRAND TOTAL		
Years	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
1986/87	22	50	72	7	26	23	104	207	316	47	33	80	180	316	496
1987/88	27	61	88	5	6	11	125	211	336	26	19	45	183	297	480
1988/89	13	22	35	5	7	12	109	223	332	7	1	8	134	253	387
1989/90	13	24	37	6	7	13	115	208	323	24	12	36	158	251	409
1990/91	22	43	65	6	9	15	209	472	681	39	19	58	276	543	819
1991/92*	26	51	77	3	4	7	222	502	724	39	19	58	290	576	866
1992/93	30	56	86	2	5	7	243	485	728	31	33	64	306	579	885
1993/94	38	85	123	12	10	22	406	863	1269	53	53	106	509	1011	1520
1994/95	45	162	207	16	13	29	615	1258	1873	139	145	284	815	1578	2393
1995/96	72	248	320	21	43	64	556	1365	1921	107	98	208	756	1754	2510
1996/97	114	363	477	40	61	101	572	1495	2067	118	100	218	844	2019	2863
1997/98**	114	363	477	40	61	101	572	1495	2067	118	100	218	844	2019	2863

Source: MOE&C

*Estimate

** Data for 1997/98 are unavailable. Data from previous year are used.

Appendix 2.10: Teachers in Technical High Schools by Qualification and Gender (1986/87-1997/98)															
Qualifications	Trained Graduate			Pre-Trained Graduate			Trained Teacher			Pre-Trained Teacher			GRAND TOTAL		
Years	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
1986/87	26	44	70	16	19	35	162	180	342	16	13	29	220	256	476
1987/88	22	49	71	12	17	29	162	167	329	23	15	38	219	248	467
1988/89	23	50	73	19	31	50	231	328	559	14	5	19	287	414	701
1989/90	23	63	86	22	21	43	217	323	540	26	12	38	288	419	707
1990/91	22	67	89	18	16	34	212	366	578	37	23	60	289	472	761
1991/92*	26	78	104	20	17	37	236	407	643	44	27	71	326	529	855
1992/93	26	78	104	16	14	30	230	316	591	32	22	54	304	430	734
1993/94	25	89	114	13	13	26	214	326	540	39	30	69	291	458	749
1994/95	7	53	60	1	2	3	170	342	512	143	113	256	321	510	831
1995/96	25	77	102	16	17	33	207	362	569	41	24	65	289	480	769
1996/97	35	100	135	23	12	35	181	345	526	31	27	58	270	484	754
1997/98	37	100	137	76	67	143	260	374	634	36	26	62	409	567	976

Source: MOE&C

* Estimate

Appendix 2.11: Teachers in Vocational/Agricultural Schools by Qualification and Gender (1986/87-1997/98)															
Qualifications	Trained Graduate			Pre-Trained Graduate			Trained Teacher			Pre-Trained Teacher			GRAND TOTAL		
Years	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
1986/87	3	5	8	0	0	0	19	20	39	4	4	8	26	29	55
1987/88	3	5	8	0	0	0	19	19	38	5	4	9	27	28	55
1988/89	1	4	5	1	0	1	25	23	48	2	0	2	29	27	56
1989/90	3	5	8	11	1	12	27	41	68	4	5	9	45	52	97
1990/91	3	1	4	2	2	4	30	85	115	8	0	8	43	88	131
1991/92*	2	4	6	2	3	5	37	103	140	7	5	12	48	115	163
1992/93	4	7	11	2	3	5	38	116	154	17	10	27	61	136	197
1993/94	3	8	11	3	2	5	40	74	114	12	6	18	58	90	148
1994/95	3	8	11	3	1	4	33	46	79	19	6	25	58	61	119
1995/96	4	11	15	0	0	0	16	39	55	11	9	20	31	59	90
1996/97	1	10	11	2	1	3	10	36	46	11	11	22	24	58	82
1997/98	3	18	21	18	4	22	23	40	63	16	11	27	60	73	133

Source: MOE&C

* Estimate

Appendix 2.12: Teachers in Infant Schools by Qualification (1986/87-1997/98) (Percentage)					
Qualifications	Trained Graduate	Pre-Trained Graduate	Trained Teacher	Pre-Trained Teacher	GRAND TOTAL
Years					
1986/87	2.80%	0.00%	92.80%	4.40%	100.00%
1987/88	2.18%	0.00%	93.82%	4.00%	100.00%
1988/89	1.38%	0.00%	94.14%	4.48%	100.00%
1989/90	3.11%	0.00%	86.16%	10.73%	100.00%
1990/91	1.38%	0.35%	84.78%	13.15%	100.00%
1991/92*	1.05%	0.35%	82.23%	16.03%	100.00%
1992/93	1.58%	0.40%	84.98%	12.65%	100.00%
1993/94	2.70%	0.77%	79.92%	15.83%	100.00%
1994/95	2.33%	0.00%	77.08%	19.93%	100.00%
1995/96	6.69%	0.00%	77.93%	15.05%	100.00%
1996/97	4.23%	0.00%	79.10%	16.14%	100.00%
1997/98	7.41%	0.31%	74.38%	17.90%	100.00%

Source: MOE&C

* Estimate

Appendix 2.13: Teachers in Primary Schools by Qualification (1986/87-1997/98) (Percentage)					
Qualifications	Trained Graduate	Pre-Trained Graduate	Trained Teacher	Pre-Trained Teacher	GRAND TOTAL
Years					
1986/87	2.20%	0.03%	94.83%	2.95%	100.00%
1987/88	2.44%	0.02%	95.12%	2.42%	100.00%
1988/89	2.14%	0.10%	92.66%	5.10%	100.00%
1989/90	2.12%	0.05%	87.61%	10.22%	100.00%
1990/91	2.47%	0.09%	83.87%	13.57%	100.00%
1991/92*	2.61%	0.05%	82.52%	14.82%	100.00%
1992/93	1.29%	0.05%	83.85%	14.82%	100.00%
1993/94	2.98%	0.00%	79.17%	17.85%	100.00%
1994/95	3.67%	0.00%	76.66%	19.67%	100.00%
1995/96	5.25%	0.71%	76.04%	18.00%	100.00%
1996/97	9.23%	0.68%	70.64%	19.44%	100.00%
1997/98	9.17%	1.27%	69.94%	19.62%	100.00%

Source: MOE&C

* Estimate

Appendix 2.14: Teachers in All-Age Schools, Grades 1-6, by Qualification (1986/87-1997/98) (Percentage)					
Qualifications	Trained Graduate	Pre-Trained Graduate	Trained Teacher	Pre-Trained Teacher	GRAND TOTAL
Years					
1986/87**	1.92%	0.02%	91.04%	7.02%	100.00%
1987/88**	2.08%	0.04%	94.18%	3.70%	100.00%
1988/89**	2.24%	0.05%	90.07%	7.64%	100.00%
1989/90**	1.99%	0.09%	83.41%	14.51%	100.00%
1990/91**	2.04%	0.14%	73.74%	24.08%	100.00%
1991/92*	1.66%	0.13%	73.97%	24.23%	100.00%
1992/93	2.40%	0.09%	72.21%	25.29%	100.00%
1993/94	3.18%	0.15%	71.21%	25.46%	100.00%
1994/95	2.19%	0.05%	69.63%	28.12%	100.00%
1995/96	3.68%	0.23%	69.26%	26.83%	100.00%
1996/97	5.22%	0.32%	66.48%	27.99%	100.00%
1997/98	5.18%	1.10%	67.24%	26.48%	100.00%

Source: MOE&C

* Estimate

** During the period 1986/87-1989/90 data for All-Age Schools were not disaggregated. Data given for this period therefore includes teachers at Grade 1 through 9.

Appendix 2.15: Teachers in All-Age Schools, Grades 7-9, by Qualification (1990/91-1997/98) (Percentage)					
Qualifications	Trained Graduate	Pre-Trained Graduate	Trained Teacher	Pre-Trained Teacher	GRAND TOTAL
Years					
1990/91	4.02%	0.28%	77.01%	18.69%	100.00%
1991/92*	4.86%	0.17%	79.88%	15.09%	100.00%
1992/93	3.30%	0.27%	75.37%	21.13%	100.00%
1993/94	4.11%	0.31%	74.84%	20.73%	100.00%
1994/95	5.00%	0.27%	73.25%	21.48%	100.00%
1995/96	6.32%	0.86%	71.28%	21.54%	100.00%
1996/97	9.08%	0.47%	65.95%	24.50%	100.00%
1997/98	8.86%	2.85%	67.04%	21.25%	100.00%

Source: MOE&C

* Estimated

** During the period 1986/87-1989/90 data for All-Age Schools were not disaggregated by level. Data given for this period therefore includes teachers at Grade 1 through 9.

Appendix 2.16: Teachers in Primary and Junior High Schools, Grades 1-6, by Qualification (1993/94-1997/98) (Percentage)					
Qualifications	Trained Graduate	Pre-Trained Graduate	Trained Teacher	Pre-Trained Teacher	GRAND TOTAL
Years					
1993/94	1.73%	0.00%	76.66%	21.61%	100.00%
1994/95	2.06%	0.00%	76.20%	21.74%	100.00%
1995/96	2.31%	0.63%	71.70%	25.37%	100.00%
1996/97	4.78%	0.64%	69.22%	25.36%	100.00%
1997/98	6.04%	3.02%	67.52%	23.41%	100.00%

Source: MOE&C

Appendix 2.17: Teachers in Primary and Junior High Schools, Grades 7-9, by Qualification (1993/94-1997/98) (Percentage)					
Qualifications	Trained Graduate	Pre-Trained Graduate	Trained Teacher	Pre-Trained Teacher	GRAND TOTAL
Years					
1993/94	1.55%	0.78%	75.97%	21.71%	100.00%
1994/95	4.04%	0.74%	76.47%	18.75%	100.00%
1995/96	4.48%	0.60%	77.31%	17.61%	100.00%
1996/97	6.90%	1.78%	72.38%	18.93%	100.00%
1997/98	6.06%	5.50%	73.21%	15.23%	100.00%

Source: MOE&C

Appendix 2.18: Teachers in New Secondary Schools by Qualification, (1986/87-1997/98) (Percentage)					
Qualifications	Trained Graduate	Pre-Trained Graduate	Trained Teacher	Pre-Trained Teacher	GRAND TOTAL
Years					
1986/87	7.23%	0.58%	79.79%	12.40%	100.00%
1987/88	7.62%	0.41%	86.13%	3.66%	100.00%
1988/89	6.59%	1.61%	89.56%	2.24%	100.00%
1989/90	7.79%	1.64%	84.64%	5.93%	100.00%
1990/91	6.80%	1.55%	84.36%	7.29%	100.00%
1991/92*	6.90%	1.58%	83.58%	7.94%	100.00%
1992/93	7.66%	1.53%	81.83%	8.98%	100.00%
1993/94	9.63%	1.29%	80.46%	8.62%	100.00%
1994/95	10.15%	0.65%	75.97%	13.23%	100.00%
1995/96	11.36%	2.12%	75.53%	10.99%	100.00%
1996/97	13.04%	2.30%	72.09%	12.58%	100.00%
1997/98	14.88%	6.09%	69.55%	9.47%	100.00%

Source: MOE&C

* Estimate

Appendix 2.19: Teachers in Secondary High Schools by Qualification (1986/87-1997/98(percentage))					
Qualifications	Trained Graduate	Pre-Trained Graduate	Trained Teacher	Pre-Trained Teacher	GRAND TOTAL
Years					
1986/87	25.15%	14.56%	56.43%	3.90%	100.00%
1987/88	27.20%	13.58%	56.37%	2.93%	100.00%
1988/89	19.20%	13.19%	65.06%	2.56%	100.00%
1989/90	19.64%	11.61%	63.23%	5.52%	100.00%
1990/91	18.95%	11.45%	62.95%	6.65%	100.00%
1991/92*	19.24%	11.18%	62.51%	7.06%	100.00%
1992/93	19.91%	10.48%	62.17%	7.43%	100.00%
1993/94	20.06%	9.87%	55.76%	14.45%	100.00%
1994/95	17.23%	5.91%	61.57%	15.30%	100.00%
1995/96	20.72%	11.50%	62.41%	5.37%	100.00%
1996/97	24.51%	12.47%	57.39%	5.63%	100.00%
1997/98	24.06%	17.50%	53.45%	4.99%	100.00%

Source: MOE&C

* Estimate

Appendix 2.20: Teachers in Comprehensive Schools by Qualification (1986/87-1997/98) (Percentage)					
Qualifications	Trained Graduate	Pre-Trained Graduate	Trained Teacher	Pre-Trained Teacher	GRAND TOTAL
Years					
1986/87	14.52%	4.64%	63.71%	16.13%	100.00%
1987/88	18.33%	2.29%	70.00%	9.38%	100.00%
1988/89	9.04%	3.10%	85.79%	2.07%	100.00%
1989/90	9.05%	3.18%	78.97%	8.80%	100.00%
1990/91	7.94%	1.83%	83.15%	7.08%	100.00%
1991/92*	8.89%	0.81%	83.60%	6.70%	100.00%
1992/93	9.72%	0.79%	82.26%	7.23%	100.00%
1993/94	8.09%	1.45%	83.49%	6.97%	100.00%
1994/95	8.65%	1.21%	78.27%	11.87%	100.00%
1995/96	12.75%	2.55%	76.53%	8.29%	100.00%
1996/97	16.66%	3.53%	72.20%	7.61%	100.00%
1997/98**	16.66%	3.53%	72.20%	7.61%	100.00%

Source: MOE&C

* Estimate

** Data for 1997/98 are unavailable. Data from previous year are used

Appendix 2.21: Teachers in Technical High Schools by Qualification (1986/87-1997/98) (Percentage)					
Qualifications	Trained Graduate	Pre-Trained Graduate	Trained Teacher	Pre-Trained Teacher	GRAND TOTAL
Years					
1986/87	14.71%	7.35%	71.85%	6.09%	100.00%
1987/88	15.20%	6.21%	70.45%	8.14%	100.00%
1988/89	10.41%	7.13%	79.74%	2.71%	100.00%
1989/90	12.16%	6.08%	76.38%	5.37%	100.00%
1990/91	11.70%	4.47%	75.95%	7.88%	100.00%
1991/92*	12.16%	4.33%	75.20%	8.30%	100.00%
1992/93	14.17%	4.09%	80.52%	7.36%	100.00%
1993/94	15.22%	3.47%	72.10%	9.21%	100.00%
1994/95	7.22%	0.36%	61.61%	30.81%	100.00%
1995/96	13.26%	4.29%	73.99%	8.45%	100.00%
1996/97	17.90%	4.64%	69.76%	7.69%	100.00%
1997/98	14.04%	14.65%	64.96%	6.35%	100.00%

Source: MOE&C

* Estimate

Appendix 2.22: Teachers in Vocational/Agricultural Schools by Qualification (1986/87-1997/98) (Percentage)					
Qualifications	Trained Graduate	Pre-Trained Graduate	Trained Teacher	Pre-Trained Teacher	GRAND TOTAL
Years					
1986/87	14.55%	0.00%	70.91%	14.55%	100.00%
1987/88	14.55%	0.00%	69.09%	16.36%	100.00%
1988/89	8.93%	1.79%	85.71%	3.57%	100.00%
1989/90	8.25%	12.37%	70.10%	9.28%	100.00%
1990/91	3.05%	3.05%	87.79%	6.11%	100.00%
1991/92*	3.68%	3.07%	85.89%	7.36%	100.00%
1992/93	5.58%	2.54%	78.17%	13.71%	100.00%
1993/94	7.43%	3.38%	77.03%	12.16%	100.00%
1994/95	9.24%	3.36%	66.39%	21.01%	100.00%
1995/96	16.67%	0.00%	61.11%	22.22%	100.00%
1996/97	13.41%	3.66%	56.10%	26.83%	100.00%
1997/98	15.79%	16.54%	47.37%	20.30%	100.00%

Source: MOE&C

* Estimate

Appendix 2.23: Student-to-Teacher Ratio in Primary, All-Age and Primary and Junior High Schools, Grades 1-6 (1986/87-1997/98)				
Year	Primary Schools	All-Age Schools Grades 1-6	Primary & Junior High, Grades 1-6	Total
1986/87	43:1	NA		NA
1987/88	42:1	NA		NA
1988/89	42:1	NA		NA
1989/90	40:1	NA		NA
1990/91	40:1	42:1		41:1
1991/92	40:1	38:1		39:1
1992/93	37:1	33:1		35:1
1993/94	35:1	33:1	36:1	35:1
1994/95	32:1	31:1	30:1	31:1
1995/96	34:1	32:1	32:1	33:1
1996/97	32:1	31:1	32:1	31:1
1997/98	33:1	29:1	38:1	31:1

Source: MOE&C

Note: During the period 1986/87-1989/90, data for All-Age Schools were not disaggregated. All-Age Schools data for this period includes teachers at Grade 1 through 9. Therefore it is not possible to compute, for those years, the student-to-teacher ratio for All-Age Schools, grades 1-6.

Appendix 2.24: Student-to-Teacher Ratio in Grades 7-9/11 in All-Age and Primary and Junior High Schools, Secondary Highs, Comprehensive Highs, New Secondaries, Technical Highs, and Vocational/Agricultural Schools (1986/87-1997/98)							
Year	All-Age Schools Grades 7-9/11	Primary & Junior High Grades 7-9/11	Secondary High Schools	Comprehensive High Schools	New Secondary	Technical High Schools	Vocational/Agricultural High
1986/87	NA		19:1	19:1	21:1	17:1	8:1
1987/88	NA		19:1	20:1	21:1	18:1	8:1
1988/89	NA		19:1	23:1	21:1	19:1	8:1
1989/90	NA		19:1	21:1	21:1	20:1	9:1
1990/91	33:1		18:1	20:1	19:1	19:1	8:1
1991/92	33:1		18:1	10:1	21:1	16:1	5:1
1992/93	36:1		19:1	20:1	19:1	20:1	6:1
1993/94	40:1	33:1	18:1	21:1	18:1	19:1	9:1
1994/95	26:1	23:1	17:1	19:1	17:1	17:1	14:1
1995/96	31:1	23:1	19:1	22:1	20:1	19:1	10:1
1996/97	30:1	21:1	17:1	23:1	20:1	20:1	13:1
1997/98	27:1	18:1	18:1	24:1	19:1	17:1	9:1

Source: MOE&C

Note: During the period 1986/87-1989/90, data for All-Age Schools were not disaggregated. All-Age Schools data for this period includes teachers at Grades 1 through 9. Therefore it is not possible to compute, for those years, the student-to-teacher ratio for All-Age Schools, grades 7-9/11.

Appendix 2.25: Changes in Various Categories of Teachers, 1990/91-1997/98												
	Trained Graduates			Pre-trained Graduates			Trained Teachers			Pre-trained Teachers		
	1990/91	1997/98	% Change	1990/91	1997/98	% Change	1990/91	1997/98	% Change	1990/91	1997/98	% Change
Primary	108	482	346.30%	4	67	1575.00%	3,666	3676	0%	593	1031	73.86%
All-Ages (Grades 1-6)	72	194	169.44%	5	41	720.00%	2,603	2516	-3%	850	991	16.59%
All-Ages (Grades 7-9)	72	143	98.61%	5	46	820.00%	1,380	1082	-22%	335	343	2.39%
P&JHs (Grades 1-6)*	6	40	566.67%	-	20	-	266	447	68%	75	155	106.67%
P&JHs (Grades 7-9)*	2	33	1550.00%	1	30	2900.00%	98	399	307%	28	83	196.43%
New Secondaries	232	110	-52.59%	53	45	-15.09%	2,880	514	-82%	249	70	-71.89%
Comprehensives	65	477	634%	15	101	573%	681	2067	204%	58	218	275.86%
Secondary Highs	718	994	38.4%	434	723	66.6%	2,385	2208	-7%	252	206	-18.25%
Technical Highs	89	137	53.93%	34	143	320.59%	578	634	10%	60	62	3.33%
Vocational Highs	4	21	425.00%	4	22	450.00%	115	63	-45%	8	27	237.50%
Total	1,368	2631	92.32%	555	1238	124.28%	14,652	13606	-7%	2,508	3186	27.03%

Source: Based on Appendices 2.1 to 2.11

* Figures for P&JHs are based on 1993/94 and 1996/97 because they were upgraded from All-Age Schools.

Appendix 3. Student Welfare and Performance Indicators

Appendix 3.1: School Enrollment of 3-24-year-olds by Consumption Quintile, 1989-1998										
AGE, QUINTILE	1989(2)	1990	1991	1992	1993	1994	1995	1996	1997	1998
3-5 Years										
Poorest	74.0	72.0	75.0	63.0	76.0	82.0	78.0	78.8	76.3	79.5
2	83.0	75.0	77.0	69.0	86.0	82.0	85.0	80.2	81.4	86.3
3	84.0	78.0	83.0	82.0	87.0	80.0	86.0	81.0	85.9	89.3
4	87.0	83.0	91.0	79.0	93.0	87.0	89.0	86.6	94.0	89.6
5	89.0	83.0	93.0	81.0	95.0	95.0	91.0	94.1	94.6	91.0
6-11 Years										
Poorest	98.0	99.0	99.0	97.0	99.0	98.0	99.0	99.6	98.2	98.5
2	100.0	99.0	98.0	98.0	100.0	100.0	99.0	99.1	98.4	99.3
3	99.0	100.0	98.0	99.0	100.0	100.0	100.0	100.0	99.5	99.2
4	98.0	100.0	99.0	98.0	100.0	100.0	99.0	99.4	99.4	99.4
5	99.0	98.0	99.0	99.0	100.0	100.0	99.0	100.0	100.0	99.6
12-14 Years										
Poorest	95.0	95.0	95.0	93.0	93.0	93.0	98.0	95.6	93.9	93.8
2	98.0	97.0	95.0	95.0	97.0	91.0	98.0	96.6	96.5	97.5
3	98.0	98.0	96.0	98.0	99.0	96.0	97.0	100.0	96.2	98.7
4	98.0	96.0	100.0	99.0	99.0	98.0	100.0	98.0	98.9	97.9
5	97.0	100.0	98.0	98.0	100.0	95.0	98.0	100.0	100.0	100.0
15-16 Years										
Poorest	59.0	75.0	65.0	65.0	71.0	73.0	58.0	68.2	71.4	65.2
2	73.0	73.0	74.0	72.0	73.0	60.0	78.0	86.8	83.3	79.2
3	75.0	71.0	73.0	80.0	80.0	91.0	83.0	92.7	88.5	84.9
4	83.0	87.0	99.0	89.0	82.0	89.0	84.0	84.5	87.5	91.8
5	84.0	88.0	92.0	92.0	93.0	93.0	92.0	97.4	92.3	94.3
17-19 Years									*17-18	
Poorest	9.0	11.0	17.0	11.0	16.0	12.0	12.0	25.9	22.9	17.8
2	14.0	6.0	12.0	19.0	15.0	9.0	21.0	14.3	34.6	30.2
3	19.0	13.0	18.0	26.0	25.0	18.0	28.0	32.1	28.6	33.2
4	14.0	15.0	31.0	26.0	33.0	18.0	39.0	47.5	49.1	47.2
5	19.0	29.0	31.0	40.0	37.0	37.0	43.0	53.5	66.7	62.7
20-24 Years^b									*19-24	
Poorest	0.0	-	4.0	1.0	3.0	0.0	0.0	1.6	2.5	1.9
2	1.0	-	0.0	1.0	2.0	4.0	1.0	2.2	1.5	2.7
3	2.0	-	3.0	2.0	7.0	2.0	1.0	4.9	0.7	5.2
4	3.0	-	5.0	3.0	7.0	3.0	3.0	7.1	5.8	6.5
5	5.0	-	8.0	5.0	12.0	8.0	7.0	12.9	19.2	13

Source: PIOJ 1999. *Jamaica Survey of Living Conditions, 1998*. P.39 Table3.2

a - Second Round of the SLC.

b - Data not available for this age group for 1990.

* Age group disaggregations not consistent with previous years.

APPENDIX 3.2: Percentage Enrollment by Age, Education Level, Region and Gender, 1998						
Age and Education level	Jamaica	KMA	Other Towns	Rural Areas	Male	Female
3-5 Years	(N=1,855)	(N=378)	(N=313)	(N=1,164)	(N=893)	(N=962)
Early Childhood	84.2	89.4	87.2	81.7	83.2	85.1
Primary	1.9	2.1	1.6	1.9	2.1	1.7
None	13.9	8.5	11.2	16.4	14.7	13.2
Total	100	100	100	100	100	100
6-11 Years	(N=3,602)	(N=760)	(N=661)	(N=2,181)	(N=1,852)	(N=1,750)
Early Childhood	3.2	3.2	3.0	3.3	2.6	3.8
Primary	93.2	93.4	93.3	93.1	93.8	92.6
Secondary	2.7	2.6	3.0	2.7	2.6	2.8
None	0.9	0.8	0.7	1.0	1.0	0.7
Total	100	100	100	100	100	100
12-14 Years	(N=1,751)	(N=367)	(N=314)	(N=1,070)	(N=863)	(N=888)
Primary	22.6	20.4	19.4	24.3	23.2	22.1
Secondary	74.8	78.2	78.7	72.4	73.5	76.1
None	2.6	1.4	1.9	3.2	3.4	1.8
Total	100	100	100	100	100	100
15-16 Years	(N=1,081)	(N=228)	(N=185)	(N=668)	(N=579)	(N=502)
Primary	0.3	0	0.5	0.3	0	0.6
Secondary	81.6	93.4	76.8	78.9	77.6	86.3
Tertiary	0.6	0.4	1.1	0.5	0.4	0.8
None	17.5	6.1	21.6	20.4	22.1	12.3
Total	100	100	100	100	100	100
17-18 Years	(N=966)	(N=240)	(N=181)	(N=545)	(N=476)	(N=490)
Secondary	32.3	42.3	29.8	28.6	29.6	34.9
Tertiary	5.2	6.7	7.7	3.7	3.8	6.5
None	62.5	50.8	62.4	67.7	66.6	58.6
Total	100	100	100	100	100	100
19-24 Years	(N=2,574)	(N=645)	(N=490)	(N=1,439)	(N=1,288)	(N=1,286)
Secondary	2.2	2.6	3.0	1.6	2.2	2.1
Tertiary	3.9	7.9	3.9	2.2	2.6	5.2
None	93.9	89.5	93.1	96.2	95.2	92.7
Total	100	100	100	100	100	100

Source: PIOJ 1999. *Jamaica Survey of Living Conditions, 1998*. P.181 Table E-10

Note: Figures adjusted for non-response

Appendix 3.3: Percentage distribution of Last School Level Attained by 12-18-Year-Olds Out-of-School Youth by Quintile and Gender, 1998				
CATEGORY	PRIMARY	SECONDARY	TERTIARY	TOTAL
Quintiles				
Poorest (N=241)	44.2	55.4	0.4	100
2 (N=204)	20.4	78.4	1.2	100
3 (N=162)	18.3	81.7	0	100
4 (N=123)	19.3	80.0	0.7	100
5 (N=69)	18.0	77.0	5	100
Gender				
Male (N=449)	30.6	69.2	0.2	100
Female (N=350)	20.7	77.3	2.0	100
Jamaica (N=799)	26.2	72.7	1	100

Source: PIOJ 1999. *Jamaica Survey of Living Conditions, 1998*. P.178 Table E-7

Note: Figures adjusted for non-response

PARISH	1 DAY	2-5 DAYS	6-10 DAYS	11-20 DAYS	TOTAL
Kingston (N=36)	27.8	55.5	11.1	5.6	100
St. Andrew (N=63)	17.4	66.7	12.7	3.2	100
St. Thomas (N=87)	12.6	66.7	13.8	6.9	100
Portland (N=87)	6.9	54.0	25.3	13.8	100
St. Mary (N=149)	22.8	60.4	11.4	5.4	100
St. Anne (N=91)	16.5	52.7	23.1	7.7	100
Trelawny (N=100)	9.0	52.0	27.0	12.0	100
St. James (N=64)	9.4	50.0	35.9	4.7	100
Hanover (N=96)	9.4	72.9	11.5	6.2	100
Westmoreland (N=56)	10.7	73.2	7.1	8.9	100
St. Elizabeth (N=122)	18.9	58.2	14.7	8.2	100
Manchester (N=155)	5.8	67.7	20.0	6.5	100
Clarendon (N=189)	6.4	60.3	23.8	9.5	100
St. Catherine (N=192)	13.0	53.1	30.2	3.7	100
Jamaica (N=1,487)	13.3	60.3	19.1	7.3	100

Source: PIOJ, 1999, p. 178

Quintiles	Illness	Truancy	Working, market or Needed at home	Transport problems	School closed	Uni-form unavailab le	Rain	Money Pro- blems	Others
Q1	13	1	5	1	1	2	4	70	3
Q2	20	1	5	1	2	1	4	62	5
Q3	25	3	6	0	3	2	1	45	14
Q4	28	2	8	1	1	3	3	42	14
Q5	41	1	4	3	6	2	0	21	22

Source: PIOJ, *Survey of Living Conditions 1998*. P. 47.

Appendix 3.5a: Promotion, Repetition, and Dropout Rates at the Primary Level						
Internal Efficiency Indicators	1-2	2-3	3-4	4-5	5-6	6*
Promotion Rates	94.9	97.5	97.4	98.8	90.4	-
Repetition Rates	4.7	1.7	1.3	1.2	1.5	9.1
Dropout Rates	0.4	0.8	1.4	0.0	8.1	-

Source: MOE&C

* Promotion and dropout rates from Grade 6 to 7 are not calculated as Grade 6 marks the end of the primary level.

Appendix 3.5b: Promotion, Repetition, and Dropout Rates at the Secondary Level						
Internal Efficiency Indicators	7-8	8-9	9-10*	10-11	11-12*	12-13
Promotion Rates	96.4	93.6	-	84.8	-	70.5
Repetition Rates	0.7	0.7	1.9	1.3	3.6	0.8
Dropout rates	3.0	5.7	-	13.9	-	28.7

Source: MOE&C

* Promotion and dropout rates from Grade 9 to 10 and Grade 11 to 12 cannot be calculated as most students in All-Age and Primary and Junior High schools complete the secondary level at Grade 9. For other secondary schools, students terminate at Grade 11.

Appendix 3.6: Percentage Participation in School-Based Feeding Programs by School Type, Consumption Quintile, and Area, 1991-97								
GROUP	1991	1992	1993	1994	1995	1996	1997	1998
School Type								
Primary	63.5	67.9	58.4	34.4	55.5	72.8	53.2	53.9
All-Age/Pr. & Jr. High (1-6)		68.5	52.2	39.4	53.8	70.6**	52.6**	59.9
All-Age (7-9)	65.8*	62.7	48.0	42.5	40.5	68.0	59.5	51.2
Pr. & Jr. High/Jr. High (7-9)	-	-	-	-	-	63.1***	59.4***	48.7
New Secondary	39.9	40.4	40.9	19.4	24.7	58.2	51.2	50.3
Comprehensive High	34.5	44.9	17.2	19.2	21.3	59.2	47.3	52.1
Secondary High	31.1	41.5	29.6	16.7	25.8	53.9	53.3	53.0
Technical High	58.6	52.2	18.9	21.5	33.4	45.5	29.7	64.8
Quintile								
Poorest	62.8	53.8	52.7	39.0	57.4	63.0	54.7	64.5
2	60.9	65.3	51.8	32.2	51.4	71.8	55.2	53.5
3	51.7	61.1	48.3	35.0	37.2	70.1	51.7	54.3
4	54.7	59.1	46.0	24.8	38.8	69.6	44.4	49.7
5	52.3	54.4	38.3	24.4	33.1	58.7	58.5	52.1
Area								
KMA	50.0	54.1	47.0	29.7	42.1	68.2	55.7	54.6
Other Towns	55.6	34.2	43.6	25.6	35.8	71.1	51.0	42.0
Rural Area	60.3	61.6	40.4	34.1	48.2	63.6	52.2	58.6
Jamaica	56.9	59.1	48.0	31.8	44.3	66.4	52.9	54.8

Source: PIOJ 1999, *Jamaica Survey of Living Conditions, 1998*, P.50

* Primary and Secondary level All-Age Schools, combined.

** Combined average of Primary and Junior High and All-Age (1-6.)

*** Combined average of Primary and Junior High and Junior High (7-9).

Appendix 3.7: Placement of Primary and Junior High School Graduates, 1994-97			
YEAR	No. Sitting JHSC Exam	Number Placed	Percentage Placed
1994	126.0	80.0	63.5
1995	375.0	156.0	44.9
1996	957.0	347.0	36.2
1997	1367.0	608.0	44.4

Source: ROSE Project J.H.S.E., 1994-97, p. 8.

Note: 1994 and 1995 were the pilot years.

Appendix 3.8: Number of CXC Courses Taken and Passed in 4 ROSE Pilot Schools and 2 Schools in the Control Group, 1995-97						
Courses	ROSE Pilot Schools				Control Group	
	Compre- hensive	Compre- hensive	Secondary High	Secondary High	Secondary High	Compre- hensive
1995 Course Taken						
Academic	63	249	890	840	-	-
Vocational	7	6	77	64	-	-
Business	67	104	198	399	-	-
Technical	1	37	227	85	-	-
1995 Courses Passed						
Academic	25	139	799	783	-	-
Vocational	7	6	74	61	-	-
Business	59	79	174	379	-	-
Technical	1	37	210	85	-	-
1995 Pass Rates						
Academic	40%	56%	90%	93%	-	-
Vocational	100%	100%	96%	95%	-	-
Business	88%	76%	88%	95%	-	-
Technical	100%	100%	93%	100%	-	-
1996 Course Taken						
Academic	61	382	701	633	805	307
Vocational	5	33	63	54	36	4
Business	72	254	188	764	195	131
Technical	0	75	213	99	235	48
1996 Courses Passed						
Academic	42	214	650	598	729	143
Vocational	5	31	61	53	35	4
Business	67	187	179	316	172	95
Technical	0	70	188	98	215	41
1996 Pass Rates						
Academic	69%	56%	93%	94%	91%	47%
Vocational	100%	94%	97%	98%	97%	100%
Business	93%	74%	95%	41%	88%	73%
Technical	-	93%	88%	99%	91%	85%
1997 Course Taken						
Academic	132	230	712	680	1010	258
Vocational	20	23	56	51	37	19
Business	89	154	193	271	268	174
Technical	2	37	167	66	272	51

Appendix 3.8 (Continued)						
Courses	ROSE Pilot Schools				Control Group	
	Compre- hensive	Compre- hensive	Secondary High	Secondary High	Secondary High	Compre- hensive
1997 Courses Passed						
Academic	36	166	602	532	914	129
Vocational	18	21	52	48	36	19
Business	64	124	187	264	247	94
Technical	2	35	155	62	242	40
1997 Pass Rates						
Academic	27%	72%	85%	78%	90%	50%
Vocational	90%	91%	93%	94%	97%	100%
Business	72%	81%	97%	97%	92%	54%
Technical	-	95%	93%	94%	89%	78%

Source: *Rose Project, Performance Review*, p. 15, 17, 34, 36, 53, 55, and 72.

Note: CXC has five grades. Grades 1 and 2 are considered by universities for admission; Grade 3 is acceptable as a "pass" by the GO; Grades 4 and 5 are considered to be failure.

Appendix 3.9: Performance in CXC by Teacher Qualification from a sample of Two Secondary High and Two Comprehensive Schools, 1995 - 1997												
Teacher Qualification	Student Performance in English					Total # of Students	Student Performance in Math					Total # of Students
	1 (Top)	2	3	4	5		1 (Top)	2	3	4	5	
1995												
Trained Teachers	11	120	87	20	-	238	13	34	48	38	7	140
Trained Graduates	19	96	98	69	4	286	44	74	54	53	10	235
Pre-trained Graduates	3	8	9	8	1	29	17	51	20	9	-	97
Pre-trained Teachers	-	-	-	-	-	-	-	-	-	3	-	3
Total # of Students	33	224	194	97	5	553	74	159	122	103	17	475
<u>% of students within each grade</u>												
Trained Teachers	33%	54%	45%	21%	-	43%	18%	21%	39%	37%	41%	29%
Trained Graduates	58%	43%	51%	71%	80%	52%	59%	47%	44%	51%	59%	49%
Pre-trained Graduates	9%	4%	5%	8%	20%	5%	23%	32%	16%	9%	-	20%
Pre-trained Teachers	-	-	-	-	-	-	-	-	-	3%	-	1%
% of Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<u>% of students across grades</u>												
Trained Teachers	5%	50%	37%	8%	-	100%	9%	24%	34%	27%	5%	100%
Trained Graduates	7%	34%	34%	24%	1%	100%	19%	31%	23%	23%	4%	100%
Pre-trained Graduates	10%	28%	31%	28%	3%	100%	18%	53%	21%	9%	-	100%
Pre-trained Teachers	-	-	-	-	-	-	-	-	-	100%	-	100%
% of Total	6%	41%	35%	18%	1%	100%	16%	33%	26%	22%	4%	100%

Source: MOE&C's ROSE Project Evaluation data

Appendix 3.9 (Continued)												
1996												
Trained Teachers	24	76	65	4	-	169	8	29	29	75	21	162
Trained Graduates	42	87	86	32	1	248	40	71	71	37	3	222
Pre-trained Graduates	25	36	9	2	1	73	6	25	25	9	-	65
Pre-trained Teachers	-	-	-	-	-	0	-	-	-	1	-	1
UTech trained Teachers	-	-	-	-	-	-	-	-	-	2	-	2
Total # of Students	91	199	160	38	2	490	54	125	128	124	24	455
<u>% of students within each grade</u>												
Trained Teachers	26%	38%	41%	11%	-	34%	15%	23%	23%	60%	88%	36%
Trained Graduates	46%	44%	54%	84%	50%	51%	74%	57%	55%	30%	13%	49%
Pre-trained Graduates	27%	18%	6%	5%	50%	15%	11%	20%	20%	7%	-	14%
Pre-trained Teachers	-	-	-	-	-	-	-	-	-	1%	-	0%
UTech trained Teachers	-	-	-	-	-	-	-	-	-	-	-	-
% of Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<u>% of students across grades</u>												
Trained Teachers	14%	45%	38%	2%	-	100%	5%	18%	18%	46%	13%	100%
Trained Graduates	17%	35%	35%	13%	-	100%	18%	32%	32%	17%	1%	100%
Pre-trained Graduates	34%	49%	12%	3%	1%	100%	9%	38%	38%	14%	-	100%
Pre-trained Teachers	-	-	-	-	-	-	-	-	-	1%	-	100%
UTech trained Teachers	-	-	-	-	-	-	-	-	-	1%	-	100%
% of Total	19%	41%	33%	8%	0%	100%	12%	27%	28%	27%	5%	100%

Appendix 3.9 (Continued)												
1997												
Trained Teachers	17	101	45	15	2	180	12	59	76	86	19	252
Trained Graduates	39	94	64	32	2	231	10	42	30	22	3	107
Pre-trained Graduates	18	25	10	8	1	62	7	21	16	23	-	67
Pre-trained Teachers	-	-	-	-	-	-	-	-	-	3	8	11
UTech trained Teachers	-	-	-	-	-	-	-	-	1	4	4	9
Total # of Students	74	220	119	55	5	473	29	122	123	138	34	446
<u>% of students within each grade</u>												
Trained Teachers	23%	46%	38%	27%	40%	38%	41%	48%	62%	62%	56%	57%
Trained Graduates	53%	43%	54%	58%	40%	49%	34%	34%	24%	16%	9%	24%
Pre-trained Graduates	24%	11%	8%	15%	20%	13%	24%	17%	13%	17%	-	15%
Pre-trained Teachers	-	-	-	-	-	-	-	-	-	2%	24%	2%
UTech trained Teachers	-	-	-	-	-	-	-	-	1%	3%	12%	2%
% of Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<u>% of students across grades</u>												
Trained Teachers	9%	56%	25%	8%	1%	100%	5%	23%	30%	34%	8%	100%
Trained Graduates	17%	41%	28%	14%	1%	100%	9%	39%	28%	21%	3%	100%
Pre-trained Graduates	29%	40%	16%	13%	2%	100%	10%	31%	24%	34%	-	100%
Pre-trained Teachers	-	-	-	-	-	-	-	-	-	27%	73%	100%
UTech trained Teachers	-	-	-	-	-	-	-	-	-	1%	44%	100%
% of Total	16%	47%	25%	12%	1%	100%	7%	27%	28%	31%	8%	100%

Source: MOE&C, Performance of the 1991 Batch of ROSE Student Pilot, p. 21, 24, 27, 30, 34, and 37.

Appendix 3.10: Average Score of CXC Examination by Country, 1997																						
Country	GNP per capita	Total # in Exams	Number of Candidates in Each Exam					Percentage of Candidates in Each Exam					Number of Candidates with Passing Grades (grade 1+2) by Exam					Percentage of Candidates with Passing Grade (1+2) by Exam				
			Biolog.	Chem.	Eng. A	Eng. B	Math	Biolog.	Chem.	Eng. A	Eng. B	Math	Biolog.	Chem.	Eng. A	Eng. B	Math	Biolog.	Chem.	Eng. A	Eng. B	Math
Antigua & Barbuda	7,330	1,108	176	115	686	201	454	15.9	10.4	61.9	61.9	41.0	84	59	338	125	126	47.7	51.3	49.3	62.2	27.8
Barbados	6,600	7,167	602	513	3,370	1,313	2,508	8.4	7.2	47.0	47.0	35.0	321	264	1834	782	826	53.3	51.5	54.4	59.6	32.9
Belize	2,700	1,813	252	164	1,142	308	891	13.9	9.0	63.0	63.0	49.1	84	56	452	155	281	33.3	34.1	39.6	50.3	31.5
Dominica	3,090	1,362	142	111	791	75	756	10.4	8.1	58.1	58.1	55.5	103	58	400	44	177	72.5	52.3	50.6	58.7	23.4
Grenada	2,880	2,458	298	224	1,344	314	937	12.1	9.1	54.7	54.7	38.1	142	102	442	158	166	47.7	45.5	32.9	50.3	17.7
Guyana	690	8,127	693	595	6,577	950	5,851	8.5	7.3	80.9	80.9	72.0	174	151	850	330	737	25.1	25.4	12.9	34.7	12.6
Jamaica	1,600	44,028	2,856	1,951	24,167	6,493	23,908	6.5	4.4	54.9	54.9	54.3	1024	717	7291	3239	4117	35.9	36.8	30.2	49.9	17.2
St Kitts/Nevis	5,870	1,067	86	59	483	180	337	8.1	5.5	45.3	45.3	31.6	35	23	229	108	102	40.7	39.0	47.4	60.0	30.3
St Lucia	3,500	3,205	445	230	2,174	338	1,965	13.9	7.2	67.8	67.8	61.3	175	99	837	213	447	39.3	43.0	38.5	63.0	22.7
St Vincent	2,370	2,143	207	133	722	290	795	9.7	6.2	33.7	33.7	37.1	69	60	312	202	157	33.3	45.1	43.2	69.7	19.7
Trinidad and Tobago	3,870	35,877	4,849	3,785	22,776	4,459	22,030	13.5	10.5	63.5	63.5	61.4	2439	1846	9317	2926	5998	50.3	48.8	40.9	65.6	27.2

Source: Caribbean Examinations Council *Report on the Administration of the 1997 Examinations.*

Note: GNP per capita is in US\$ for 1996, except for Barbados, where the figure is for 1995.

Number of Candidates in Each Exam is the number of candidates writing the examination, including private candidates (general proficiency).

Number of Candidates with Passing Grades by Exam is the number of candidates, including private candidates, who obtained grades I or II.

The subjects administered were Biology, Chemistry, English A, English B, and Math.

Appendix 4. Public Expenditure on Education

Appendix 4.1: Public Expenditure on Education as a Percentage of GDP and Government Expenditure, 1987/88-1998/99												
	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98p	1998/99e
(Million JAS in Current Prices and in 1996/97 Prices)												
GDP	17,345	20,444	25,179	34,115	51,993	79,901	107,977	141,816	178,377	207,471	225,417	231,778
Public Exp. on Education *	733.5	1031.3	1255.2	1476.6	2041.6	2647.5	5528.5	6225.7	9163.8	12531.4	17075.1	17162.2
Constant Public Exp. on Educ.*	7447.8	9634.9	10168.6	9633.7	8222.4	6471.5	10975.4	9284.6	11306.8	12531.4	15644.4	14453.7
Total Government Exp including interest and amortization costs (1)	6509.30	8199.00	9546.00	10733.30	17112.10	28373.20	36205.40	57837.60	69876.40	102127.20	NA	N.A.
Total Government Exp including interest cost and excluding amortization cost (2)	5423.10	6726.00	7653.90	8841.80	13018.30	20386.00	29997.10	39803.00	54717.50	78051.50	NA	N.A.
Total Government Exp excluding interest and amortization costs (3)	3819.40	4935.60	5508.40	5915.80	8877.70	13513.10	20120.90	24787.90	36746.40	50771.10	NA	N.A.
Public Exp. on Educ.*/GDP	4.23%	5.04%	4.98%	4.33%	3.93%	3.31%	5.12%	4.39%	5.14%	6.04%	7.57%	7.40%
Public Exp. on Educ.*/(1)	11.27%	12.58%	13.15%	13.76%	11.93%	9.33%	15.27%	10.76%	13.11%	12.27%	NA	N.A.
Public Exp. on Educ.*/(2)	13.53%	15.33%	16.40%	16.70%	15.68%	12.99%	18.43%	15.64%	16.75%	16.06%	NA	N.A.
Public Exp. on Educ.*/(3)	19.20%	20.90%	22.79%	24.96%	23.00%	19.59%	27.48%	25.12%	24.94%	24.68%	NA	N.A.
CPI (average over the fiscal year)	96.7	105.10	121.20	150.50	243.80	401.70	494.60	658.40	795.80	981.90	1071.70	1165.90
Inflation index 1996/97=1	0.10	0.11	0.12	0.15	0.25	0.41	0.50	0.67	0.81	1.00	1.09	1.19
Inflation rate		8.70%	15.30%	24.20%	62.00%	64.80%	23.20%	33.10%	20.90%	23.40%	9.10%	8.90%

Sources: MOF, various years. *Estimates of Expenditure; Bank of Jamaica, various years. Statistical Digest*; PIOJ, various years. *Economic and Social Survey*.

* Public expenditure on education in this review excludes the components Arts & Culture (A&C), Information & Broadcasting (I&B), and Youth Development Services (YDS). See footnotes under Appendix 4.4 for the reasons of the exclusion.

p stands for provisional expenditure for 1997/98.

e stands for estimates for 1998/99.

Appendix 4.2: Total Government Revenue and Expenditure, 1990/91-1996/97 (Million JAS in Current Prices and in 1996/97 Prices)							
	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97e
(In Current Prices)							
Revenue & Grants	9,648.90	15,075.40	23,557.50	33,614.20	44,596.30	58,523.80	63,085.40
Expenditure	8,841.80	13,018.30	20,386.00	29,997.10	39,803.00	54,717.50	78,051.50
Recurrent Expenditure	7,470.00	10,638.90	16,321.90	25,369.30	34,454.70	44,441.70	64,225.10
Interest Payment	2,926.00	4,140.60	6,872.90	9,876.20	15,015.10	17,971.10	27,280.40
Capital Expenditure	1,371.80	2,379.40	4,059.80	4,627.40	5,882.00	7,908.00	11,156.10
IMF #1 Account						3,293.20	2,341.90
Unallocated	0.00	0.00	4.30	0.40	-533.70	-925.40	-328.30
Amortization	1,891.50	4,093.80	7,987.20	6,208.30	18,034.60	15,158.90	24,075.70
Total Exp. (including Amort.)	10,733.30	17,112.10	28,373.20	36,205.40	57,837.60	69,876.40	102,127.20
Fiscal Balance*	807.10	2,057.10	3,171.50	3,617.10	4,793.30	3,806.30	-14,966.10
Fiscal Balance**	-1,084.40	-2,036.70	-4,815.70	-2,591.20	-13,241.30	-11,352.60	-39,041.80
Loan Receipts	1,644.80	4,150.60	8,072.50	9,729.10	26,889.20	11,320.40	48,966.90
Overall Balance	560.40	2,113.90	3,256.80	7,137.90	13,647.90	-32.20	9,925.10
Debt Service (interest payment + amortization)	4,817.50	8,234.40	14,860.10	16,084.50	33,049.70	33,130.00	51,356.10
(In Constant 1996/97 Prices)							
Revenue & Grants	62951.86	60715.90	57583.05	66732.27	66508.36	72209.75	63085.40
Expenditure	57686.14	52430.96	49830.75	59551.46	59359.91	67513.34	78051.50
Recurrent Expenditure	48736.17	42847.97	39896.62	50364.16	51383.76	54834.51	64225.10
Interest Payment	19089.96	16676.19	16799.85	19606.63	22392.66	22173.69	27280.40
Capital Expenditure	8949.97	9582.99	9923.62	9186.50	8772.08	9757.31	11156.10
IMF #1 Account						4063.32	2341.90
Unallocated	0.00	0.00	10.51	0.79	-795.93	-1141.81	-328.30

Appendix 4.2 (Continued)							
	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
Amortization	12340.62	16487.70	19523.60	12324.97	26895.77	18703.85	24075.70
Total Exp. (including Amort.)	70026.76	68918.67	69354.36	71876.43	86255.68	86217.19	102127.20
Fiscal Balance*	5265.72	8284.93	7752.29	7180.81	7148.45	4696.41	-14966.10
Fiscal Balance**	-7074.90	-8202.77	-11771.31	-5144.16	-19747.32	-14007.44	-39041.80
Loan Receipts	10731.09	16716.46	19732.11	19314.60	40101.01	13967.71	48966.90
Overall Balance	3656.19	8513.69	7960.80	14170.45	20353.70	-39.73	9925.10
Debt Service (interest payment + amortization)	31430.59	33163.89	36323.46	31931.60	49288.43	40877.54	51356.10
Debt Service/Tot. Exp.	44.88%	48.12%	52.37%	44.43%	57.14%	47.41%	50.29%

Sources: MOF, various years. *Estimates of Expenditure*; Bank of Jamaica, various years. *Statistical Digest*; PIOJ, various years. *Economic and Social Survey*.

* The Fiscal Balance is here computed without Amortization.

** The Fiscal Balance is here computed including Amortization.

e stands for estimates for 1997/98.

Appendix 4.3: Functional Classification of Recurrent and Capital Expenditure (Million JAS) in the Government of Jamaica, 1993/94-1997/98					
	1993/94a	1994/95r	1995/96a	1996/97r	1997/98e
A. GENERAL SERVICES					
i) GENERAL ADMINISTRATION					
State Services	0.40%	0.29%	0.31%	0.30%	0.29%
Public Debt Management	38.65%	52.84%	45.83%	43.11%	45.88%
Foreign Services	1.25%	0.92%	1.03%	0.79%	0.92%
Personnel Administration	0.30%	0.34%	0.28%	0.35%	0.61%
Economic and Fiscal Management	12.17%	7.35%	10.68%	15.33%	4.04%
Other General Services	2.31%	2.55%	2.65%	2.50%	3.49%
Total General Administration	55.08%	64.29%	60.78%	62.37%	55.22%
ii) SECURITY SERVICES					
Defense	2.46%	1.67%	1.57%	1.39%	1.64%
Justice	0.69%	0.69%	0.64%	0.65%	0.63%
Police	5.80%	3.27%	3.53%	3.06%	3.83%
Correctional Services	0.84%	0.56%	0.73%	0.53%	0.59%
Total security services	9.79%	6.19%	6.46%	5.63%	6.68%
	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL GENERAL SERVICES	64.87%	70.48%	67.24%	68.01%	61.91%
B. SOCIAL AND COMMUNITY SERVICES					
Education and Culture	12.76%	9.18%	11.09%	10.40%	15.23%
Health	7.09%	6.09%	4.70%	5.01%	5.75%
Social Security and Welfare	1.39%	1.00%	0.94%	0.72%	0.99%
Housing	0.61%	1.57%	0.28%	0.09%	0.08%
Water Supplies	0.82%	0.21%	0.39%	0.32%	0.40%
Social and Community Services	2.30%	2.34%	3.34%	2.68%	2.65%
TOTAL SOCIAL & COMMUNITY SERVICES	24.97%	20.39%	20.75%	19.22%	25.11%

Appendix 4.3 (Continued)					
	1993/94a	1994/95r	1995/96a	1996/97r	1997/98e
C. ECONOMIC SERVICES					
Agriculture	1.85%	1.63%	1.55%	1.31%	1.86%
Industry and Commerce	2.12%	2.63%	2.64%	2.17%	2.63%
Transport and Communication	1.29%	1.20%	1.20%	1.36%	1.07%
Roads	2.44%	2.11%	3.07%	2.11%	2.63%
Fuel and Power	0.26%	0.08%	0.10%	0.06%	0.09%
Environmental Protection	0.22%	0.27%	0.27%	0.23%	0.37%
Other Economic Services	1.33%	0.85%	0.62%	0.40%	0.71%
Total Economic Services	9.51%	8.77%	9.44%	7.64%	9.36%
D. MISCELLANEOUS SERVICES					
Miscellaneous	0.66%	0.36%	0.00%	0.82%	0.00%
Other Unallocated Expenditure	0.00%	0.00%	0.41%	4.32%	3.62%
Total Miscellaneous Services	0.66%	0.36%	2.57%	5.14%	3.62%
GROSS TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%
GROSS TOTAL (in current prices)	43,511.7	68,433.8	83,105.8	120,945.4	106,620.0
Less Appropriation-in-Aid	0.44%	0.10%	0.12%	0.10%	0.36%
NET TOTAL	100.00%	100.00%	97.72%	95.15%	99.97%

Source: Ministry of Finance and Planning
a-actual; r-revised; e-estimated

Appendix 4.4: Public Expenditure on Education* by Level in Current Prices, 1987/88-1998/99 (Million JAS in current prices)												
	1987/88	1988/89	1989/90	1990/91 **	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98***	1998/99***
	(actual exp.)	(actual exp.)	(actual exp.)	(revised est.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(prov. exp.)	(revised est.)
Recurrent Expenditure												
Admin. & Services ¹⁾	27.6	38.5	42.5	55.0	71.3	104.9	170.3	201.9	257.9	455.0	685.7	848.7
Early Childhood ²⁾	14.5	16.3	18.7	32.3	48.7	54.4	156.3	173.2	238.4	366.7	515.3	524.6
Primary ³⁾	229.1	274.2	362.0	438.4	622.7	768.8	1755.7	1721.4	2944.3	3913.6	5743.8	5425.0
Special Education	8.2	10.1	12.3	14.6	20.6	27.8	66.0	73.2	102.5	151.9	205.1	203.8
Secondary ⁴⁾	239.7	282.4	360.4	432.5	624.4	756.5	1816.4	1856.0	2781.6	3720.1	5082.0	5130.6
Tertiary ⁵⁾	150.0	184.1	227.2	271.7	411.4	629.0	1033.2	1427.0	1886.3	2547.5	3532.2	3282.3
Adult Education	3.4	4.1	4.8	6.4	8.5	7.5	12.3	19.2	23.0	35.9	49.2	54.8
Library Services	14.5	16.1	18.0	24.5	29.4	34.5	71.0	78.8	100.9	178.1	195.4	246.2
Total Recurrent	687.0	825.9	1045.8	1275.5	1837.0	2383.4	5081.3	5550.8	8334.8	11368.8	16008.7	15715.9
Capital A Expenditure												
General Expenditure ⁶⁾	0.3	1.7	3.4	9.7	4.8	4.3	8.1	7.5	8.6	7.4	20.8	23.0
Early Childhood	0.0	2.7	3.0	2.8	3.8	6.4	3.8	20.0	19.2	5.3	5.3	15.3
Primary	3.6	11.5	6.9	9.1	16.0	20.0	24.5	28.2	23.0	59.3	102.1	371.4
Special Education	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.2	0.2	0.0	1.2	0.4
Secondary ⁷⁾	3.3	19.3	12.1	18.8	71.8	39.2	46.4	91.4	34.3	46.4	74.2	124.0
Tertiary ⁸⁾	0.1	1.0	11.5	5.8	5.8	1.8	0.1	2.5	0.3	2.8	36.8	37.8
Adult Education	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.0	0.0	0.0	0.0
Library Services	0.0	0.0	0.0	0.0	0.5	1.5	0.2	0.5	3.5	0.0	7.8	0.0
Total Capital A	7.3	36.3	36.8	46.2	102.8	73.6	83.2	150.4	90.0	121.2	248.0	575.2
Capital B Expenditure												
General Expenditure ⁹⁾	0.4	62.2	71.7	72.0	9.6	18.6	41.0	63.1	179.7	104.5	83.7	42.8
Early Childhood	0.0	0.0	0.0	0.0	3.3	5.8	22.9	56.6	24.6	6.4	2.0	0.0
Primary	35.7	59.1	47.6	36.5	22.9	53.6	166.0	212.6	193.5	381.0	394.9	145.6
Secondary ¹⁰⁾	2.1	32.3	28.6	23.1	39.6	81.5	91.3	160.1	160.8	208.0	179.4	458.8
Tertiary ¹¹⁾	1.0	15.6	24.6	23.3	26.4	31.1	42.7	32.1	180.4	344.2	170.1	226.4
Total Capital B	39.2	169.2	172.5	154.9	101.8	190.6	364.0	524.5	739.0	1044.1	830.0	873.6

Appendix 4.4 (Continued)												
	1987/88	1988/89	1989/90	1990/91 **	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98***	1998/99***
	(actual exp.)	(actual exp.)	(actual exp.)	(revised est.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(prov. exp.)	(revised est.)
Capital A & B Expenditure												
General Expenditure	0.7	63.8	75.1	81.7	14.3	22.8	49.1	70.6	188.2	111.9	104.4	65.8
Early Childhood	0.0	2.7	3.0	2.8	7.1	12.2	26.6	76.6	43.8	11.7	7.3	15.3
Primary	39.3	70.6	54.5	45.6	38.9	73.6	190.5	240.8	216.5	440.3	496.9	517.0
Special Education	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.2	0.2	0.0	1.2	0.4
Secondary	5.4	51.6	40.7	41.9	111.4	120.6	137.7	251.6	195.1	254.4	253.6	585.5
Tertiary	1.1	16.6	36.1	29.1	32.2	32.9	42.8	34.6	180.7	347.0	206.8	264.2
Adult Education	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	1.0	0.0	0.0	0.0
Library Services	0.0	0.0	0.0	0.0	0.5	1.5	0.2	0.5	3.5	0.0	7.8	0.0
Total Capital A & B Exp.	46.5	205.4	209.4	201.1	204.6	264.1	447.2	674.9	829.0	1165.3	1078.0	1448.3
Total Public Expenditure on Education												
Administration & Services	28.3	102.3	117.6	136.7	85.7	127.7	219.4	272.5	446.1	566.8	790.1	914.4
Early Childhood	14.5	19.1	21.7	35.1	55.8	66.5	182.9	249.8	282.2	378.4	522.6	539.9
Primary	268.4	344.8	416.5	484.1	661.6	842.4	1946.3	1962.2	3160.7	4353.9	6240.7	5942.0
Special Education	8.2	10.1	12.3	14.6	20.7	28.1	66.3	73.4	102.7	151.9	206.3	204.2
Secondary	245.1	334.0	401.1	474.4	735.8	877.1	1954.1	2107.6	2976.7	3974.6	5335.6	5716.4
Tertiary	151.1	200.7	263.3	300.8	443.6	661.9	1076.0	1461.6	2067.0	2894.5	3739.0	3546.5
Adult Education	3.4	4.1	4.8	6.4	8.5	7.7	12.3	19.2	24.0	35.9	49.2	54.8
Library Services	14.5	16.1	18.0	24.5	29.9	36.0	71.2	79.3	104.4	178.1	203.2	246.2
Total Education Expend.	733.5	1031.3	1255.2	1476.6	2041.6	2647.5	5528.5	6225.7	9163.8	12534.1	17086.6	17164.5

Source: MOF, various years. *Estimates of Expenditure.*

* The public expenditure reviewed in this report covers both the expenditure of the Ministry of Education and the Ministry of Finance (ROSE and Student Loan Projects' Capital B). Between 1987/88 and 1997/98, the Ministry of Education has acquired or lost some expense components. Its name has been changed to reflect changes in its responsibilities: it was at first known as Ministry of Education; then, it became Ministry of Education and Culture; later on, it was known as Ministry of Education, Youth and Culture. In 1998, it was renamed as Ministry of Education and Culture (MOE&C) again. Because of the changes, the components Arts & Culture, Information & Broadcasting, and Youth Development Services have been excluded in this review to allow comparisons on direct educational spending throughout years. The expenditure reported in most years are actual expenditure.

** The actual expenditure for the year 1990/91, is unavailable in the MOF's *Estimates of Expenditure* of 1992/9; Only the revised estimates are reported.

*** For 1997/98, only provisional expenditure data are available. For 1998/99, only revised estimates are available.

Notes on Recurrent Expenditure:

- 1) Administration and Services include: Executive Direction & Administration; Regional Direction & Administration; Regional & International Cooperation; Training; Other Common Services. In 1987/88, 1988/89, 1989/90, 1990/91, the following components are covered: Central Administration; Planning; Curriculum Development/Support & Evaluation/ Counseling Unit (Education Programs); Schools Services Division, and Project Implementation and Material Resources (Schools Resources); National Council on Education.
- 2) In 1987/88, 1988/89, 1989/90 and 1990/91 Early Childhood Education was referred to as Pre-Primary Education [0302]-Training of Basic School Teachers.
- 3) Allocations to Grades 7-9 of All-Age and Primary and Junior High Schools are included in Primary Education in the GOJ budget. This appendix adheres to the government's category, but Appendix 4.6 reclassifies them under Secondary Education. Allocations to supervision of Early Childhood, Primary, Secondary, and Technical/Vocational Education are covered under their respective levels, not under Administration and Services. Nutrition and School Feeding expenditure has been subdivided among the three levels of education (Infant, Primary, and Secondary) in the following proportion: 2 percent to Infant, 82 percent to Primary, and 16 percent to Secondary. In 1987/88, 1988/89, 1989/90, 1990/91, Nutrition of Students includes Nutrition Products Limited and School Feeding Program in School Resources. Allocations to Agricultural Education have been subdivided and included under Secondary and Tertiary expenditure. Allocations to the Edna Manley College of Visual and Performing Arts were included in the tertiary education budget.
- 4) Expenditure on Secondary Education is collapsed with spending on Technical and Vocational Education in this review because they both are at the secondary level.
- 5) Allocations to Teacher Education and Tertiary Education have been merged under Tertiary Education in this review. Tertiary expenditure in 1987/88, 1988/89, 1989/90, 1990/91 covers Tertiary Education [0307]+University Council of Jamaica-Teachers Colleges-Scholarships for Teachers. Teacher Education in 1987/88, 1988/89, 1989/90, 1990/91 covers Teachers Colleges +Scholarships for Teachers +Training of Basic School Teachers.

Notes on Capital A Expenditure

- 6) General Expenditure and CS include: Executive Direction and Administration; General Expenses-Ministry Headquarters (1990/91, 1989/90, 1988/89, 1987/88); Training; Local Development Program; Common Services; Other.
- 7) Secondary Education includes Technical and Vocational Education, Social and Economic Support Program. Nutrition and School Feeding budget has been subdivided among the three levels of education (Infant, primary and Secondary) in the following apportionment: 2% to Infant, 82% to Primary and 16% to Secondary.
- 8) Allocations to Agricultural Education have been subdivided and included under secondary and tertiary budgets. Allocations to the Edna Manley College of Visual and Performing Arts were included in the tertiary education budget. Allocations to Teacher Education have been included under Tertiary Education.

Notes on Capital B Expenditure

- 9) General Expenditure includes: Executive Direction and Administration; Disaster Management; Regional Direction and Administration; Other.
- 10) Secondary Education includes Technical and Vocational Education
- 11) Tertiary Education includes Capital B Public Expenditure on Education of Ministry of Finance and Planning (Source: Jamaica Budgets, Ministry of Finance and Planning, Budget 3-Capital (B), 1987/88 to 1997/98, *Estimates of Expenditure*, Ministry of Finance and Planning). Allocations to Agricultural Education have been subdivided and included under secondary and tertiary budgets. In 1987/88, 1988/89, 1989/90, 1990/91 data on Agricultural Education (Agricultural Education Project-USAID) are not available subdivided under secondary and tertiary education: they have therefore been included here under tertiary education. Allocations to Teacher Education have been included under Tertiary Education. The two values for Total Capital B Exp. in 1987/88 (39.2 by Level and 39.3 by Function) are different in the Budget itself.

Appendix 4.5 (Continued)												
	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99
	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(revised est.)	(revised est.)
Capital A & B Expenditure												
General Expenditure and CS	1.6%	31.1%	35.9%	40.6%	7.0%	8.6%	11.0%	10.5%	22.7%	9.6%	9.7%	4.5%
Early Childhood	0.0%	1.3%	1.4%	1.4%	3.5%	4.6%	6.0%	11.4%	5.3%	1.0%	0.7%	1.1%
Primary	84.5%	34.4%	26.0%	22.7%	19.0%	27.9%	42.6%	35.7%	26.1%	37.8%	46.1%	35.7%
Special Education	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%
Secondary	11.6%	25.1%	19.4%	20.8%	54.4%	45.7%	30.8%	37.3%	23.5%	21.8%	23.5%	40.3%
Tertiary	2.3%	8.1%	17.2%	14.5%	15.7%	12.5%	9.6%	5.1%	21.8%	29.8%	19.2%	18.3%
Adult Education	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Library Services	0.0%	0.0%	0.0%	0.0%	0.2%	0.6%	0.0%	0.1%	0.4%	0.0%	0.7%	0.0%
Total Capital A & B	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Public Expenditure on Education												
Administration & Services	3.86%	9.92%	9.37%	9.26%	4.20%	4.82%	3.97%	4.38%	4.87%	4.52%	4.63%	5.33%
Early Childhood	1.98%	1.85%	1.73%	2.38%	2.73%	2.51%	3.31%	4.01%	3.08%	3.02%	3.06%	3.15%
Primary	36.59%	33.43%	33.18%	32.78%	32.40%	31.82%	35.20%	31.52%	34.49%	34.74%	36.52%	34.62%
Special Education	1.11%	0.98%	0.98%	0.99%	1.01%	1.06%	1.20%	1.18%	1.12%	1.21%	1.21%	1.19%
Secondary	33.42%	32.39%	31.95%	32.12%	36.04%	33.13%	35.35%	33.85%	32.48%	31.71%	31.23%	33.29%
Tertiary	20.60%	19.46%	20.98%	20.37%	21.73%	25.00%	19.46%	23.48%	22.56%	23.09%	21.88%	20.66%
Adult Education	0.47%	0.40%	0.38%	0.44%	0.42%	0.29%	0.22%	0.31%	0.26%	0.29%	0.29%	0.32%
Library Services	1.97%	1.56%	1.43%	1.66%	1.46%	1.36%	1.29%	1.27%	1.14%	1.42%	1.19%	1.43%
Total Public Exp. on Education*	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source: MOF, various years. *Estimates of Expenditure*

For an explanation of the content of each component, refer to footnotes of Appendix 4.4.

Appendix 4.6: Public Expenditure on Education by Level, 1987/88-1998/99												
(Million JAS in Constant 1996/97 Prices)												
	1987/88	1988/89	1989/90	1990/91 **	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99
	(actual exp.)	(actual exp.)	(actual exp.)	(revised est.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(provi. exp.)	(revised est.)
Recurrent Expenditure												
Administration and Services	280.2	359.7	344.0	358.9	287.2	256.3	338.2	301.2	318.2	455.0	628.2	715.0
Early Childhood	147.2	152.5	151.2	210.9	196.1	132.9	310.2	258.4	294.1	366.7	472.1	442.0
Primary	2326.2	2561.8	2932.9	2860.5	2507.7	1879.2	3485.6	2567.2	3632.8	3913.6	5262.5	4570.4
Special Education	82.9	94.5	99.3	95.2	83.0	68.0	131.1	109.2	126.5	151.9	187.9	171.7
Secondary	2434.2	2638.4	2919.5	2821.5	2514.7	1849.2	3606.0	2768.0	3432.1	3720.1	4656.1	4322.3
Tertiary	1523.4	1719.7	1840.6	1772.5	1657.0	1537.5	2051.1	2128.2	2327.4	2547.5	3236.2	2765.2
Adult Education	34.6	38.7	39.1	42.1	34.2	18.3	24.5	28.6	28.4	35.9	45.0	46.2
Library Services	146.8	150.6	145.8	160.1	118.4	84.4	141.0	117.5	124.4	178.1	179.0	207.4
Total Recurrent	6975.6	7715.9	8472.4	8321.7	7398.4	5825.8	10087.6	8278.2	10283.9	11368.8	14667.2	13240.0
Capital A Expenditure												
General Expenditure and CS	3.4	15.6	27.3	63.1	19.2	10.4	16.0	11.2	10.5	7.4	19.0	19.4
Early Childhood	0.0	25.6	24.4	18.4	15.5	15.5	7.4	29.8	23.7	5.3	4.8	12.9
Primary	36.2	107.6	55.7	59.2	64.4	48.9	48.6	42.1	28.4	59.3	93.5	312.9
Special Education	0.0	0.0	0.0	0.0	0.5	0.7	0.5	0.3	0.3	0.0	1.1	0.4
Secondary	33.7	180.5	97.9	122.9	289.1	95.7	92.1	136.4	42.4	46.4	57.0	105.1
Tertiary	1.0	9.3	93.2	37.8	23.3	4.4	0.2	3.7	0.4	2.8	34.0	31.8
Adult Education	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	1.2	0.0	0.0	0.0
Library Services	0.0	0.0	0.0	0.0	2.0	3.7	0.3	0.7	4.3	0.0	7.1	0.0
Total Capital A	74.3	338.7	298.4	301.5	414.0	179.8	165.2	224.3	111.1	121.2	216.6	482.5
Capital B Expenditure												
General Expenditure	4.1	580.8	581.3	469.9	38.5	45.4	81.4	94.1	221.7	104.5	76.7	36.1
Early Childhood	0.0	0.0	0.0	0.0	13.2	14.2	45.4	84.4	30.4	6.4	1.8	0.0
Primary	362.6	551.9	385.5	238.4	92.3	131.0	329.6	317.1	238.8	381.0	361.8	122.7
Secondary	21.3	301.8	231.9	150.4	159.5	199.1	181.3	238.8	198.3	208.0	164.3	386.5
Tertiary	9.9	145.8	199.2	151.8	106.5	76.1	84.9	47.8	222.6	344.2	155.8	190.8
Total Capital B	397.9	1580.4	1397.8	1010.5	410.0	465.9	722.6	782.2	911.8	1044.1	760.5	736.0

Appendix 4.6 (Continued)												
	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99
	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(revised est.)	(revised est.)
Capital A & B Expenditure												
General Expenditure and CS	7.5	596.4	608.5	533.0	57.8	55.8	97.4	105.3	232.2	111.9	95.7	55.4
Early Childhood	0.0	25.6	24.4	18.4	28.7	29.7	52.9	114.2	54.1	11.7	6.6	12.9
Primary	398.8	659.6	441.2	297.6	156.7	179.9	378.2	359.2	267.1	440.3	455.3	435.6
Special Education	0.0	0.0	0.0	0.0	0.5	0.7	0.5	0.3	0.3	0.0	1.1	0.4
Secondary	55.0	482.3	329.8	273.3	448.6	294.8	273.4	375.2	240.7	254.4	232.4	491.6
Tertiary	10.9	155.2	292.3	189.6	129.7	80.5	85.1	51.5	223.0	347.0	189.5	222.6
Adult Education	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	1.2	0.0	0.0	0.0
Library Services	0.0	0.0	0.0	0.0	2.0	3.7	0.3	0.7	4.3	0.0	7.1	0.0
Total Capital A & B	472.2	1919.0	1696.2	1312.0	824.0	645.7	887.8	1006.5	1022.9	1165.3	987.7	1218.5
Total Public Expenditure on Education												
Central Administration and CS	287.7	956.0	952.6	891.9	345.0	312.1	435.6	406.4	550.5	566.8	723.9	770.4
Early Childhood	147.2	178.1	175.6	229.3	224.8	162.6	363.1	372.6	348.2	378.4	478.8	454.9
Primary	2725.1	3221.3	3374.1	3158.1	2664.4	2059.1	3863.8	2926.4	3899.9	4353.9	5717.8	5005.9
Special Education	82.9	94.5	99.3	95.2	83.5	68.7	131.6	109.5	126.7	151.9	189.0	172.0
Secondary	2489.2	3120.7	3249.2	3094.8	2963.4	2144.0	3879.4	3143.2	3672.8	3974.6	4888.5	4813.9
Tertiary	1534.3	1874.9	2132.9	1962.2	1786.7	1618.0	2136.1	2179.7	2550.4	2894.5	3425.7	2987.8
Adult Education	34.6	38.7	39.1	42.1	34.2	18.8	24.5	28.6	29.6	35.9	45.0	46.2
Library Services	146.8	150.6	145.8	160.1	120.4	88.1	141.3	118.2	128.8	178.1	186.2	207.4
Total Public Exp. On Education	7447.8	9634.9	10168.6	9633.7	8222.4	6471.5	10975.4	9284.6	11306.8	12534.1	15654.9	14458.5

Source: MOF, various years. Estimates of Expenditure.

Appendix 4.7: Reclassified Recurrent Public Expenditure on Education by Level, by Grouping Grades 7 to 9 in All-Age and Primary and Junior High Schools with Secondary Education, 1992/93-1997/98 (in Current Prices)												
	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(Prov. exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(Provi. exp.)
Recurrent Expenditure	JAS Million in Current Prices						Percentage of Total					
Administration & Services	104.9	170.3	201.9	257.9	455.0	685.7	4.4%	3.4%	3.6%	3.1%	4.0%	4.3%
Early Childhood	54.4	156.3	173.2	238.4	366.7	515.3	2.3%	3.1%	3.1%	2.9%	3.2%	3.2%
Primary	662.1	1494.8	1485.9	2523.1	3339.6	4780.0	27.8%	29.4%	26.8%	30.3%	29.4%	30.0%
Primary Schools	348.1	792.5	857.5	1463.2	1933.1	2,645	14.6%	15.6%	15.4%	17.6%	17.0%	16.6%
All-Age & P&JH (1-6)	314.0	702.3	628.4	1059.8	1406.5	2,135	13.2%	13.8%	11.3%	12.7%	12.4%	13.4%
Special Education	27.8	66.0	73.2	102.5	151.9	205.1	1.2%	1.3%	1.3%	1.2%	1.3%	1.3%
Secondary	863.3	2077.4	2091.5	3202.8	4294.2	5986.5	36.2%	40.9%	37.7%	38.4%	37.8%	37.5%
All-Age & P&JH (7-9/11)	110.2	265.9	242.3	430.4	586.0	889	4.6%	5.2%	4.4%	5.2%	5.2%	5.6%
Secondary High	342.3	796.3	717.7	1164.1	1520.6	2001.2	14.4%	15.7%	12.9%	14.0%	13.4%	12.5%
Comprehensive High	64.9	243.8	353.3	667.7	1105.8	1657.2	2.7%	4.8%	6.4%	8.0%	9.7%	10.4%
New Secondary	239.7	528.4	546.9	594.1	574.9	786.2	10.1%	10.4%	9.9%	7.1%	5.1%	4.9%
Technical/Vocational/Agricultural	106.0	243.1	231.4	346.6	506.8	652.7	4.4%	4.8%	4.2%	4.2%	4.5%	4.1%
Tertiary	629.0	1033.2	1427.0	1886.3	2547.5	3532.2	26.4%	20.3%	25.7%	22.6%	22.4%	22.1%
U.W.I.	437.9	643.4	1009.5	1206.9	1510.1	1996.8	18.4%	12.7%	18.2%	14.5%	13.3%	12.5%
UTECH.	48.7	102.2	108.2	167.5	300.0	550.9	2.0%	2.0%	2.0%	2.0%	2.6%	3.5%
Teachers' Colleges	92.9	164.1	177.7	244.2	304.2	384.3	3.9%	3.2%	3.2%	2.9%	2.7%	2.4%
Community Colleges	26.0	66.9	70.5	149.7	263.8	355.2	1.1%	1.3%	1.3%	1.8%	2.3%	2.2%
Other Tertiary	23.5	56.5	61.0	117.9	169.5	245.0	1.0%	1.1%	1.1%	1.4%	1.5%	1.5%
Adult Education	7.5	12.3	19.2	23.0	35.9	49.2	0.3%	0.2%	0.3%	0.3%	0.3%	0.3%
Library Services	34.5	71.0	78.8	100.9	178.1	195.4	1.4%	1.4%	1.4%	1.2%	1.6%	1.2%
Total	2383.4	5081.3	5550.8	8334.8	11368.8	15949.4	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: MOF, various years. *Estimates of Expenditure.*

Note: 1. In GOJ classification, primary education expenditure includes allocation to Grades 7 to 9 in All-Age and P&JH Schools. This table reclassifies recurrent expenditure for Grades 7 to 9 in these schools under Secondary Education as follows: (a) The component known as "Other Grants" (which was targeted to Grades 7 to 9 in All-Age and P&JH schools) was subtracted from the expenditure from these schools, and the amount obtained was divided by the total enrollment in Grades 1-9 (or 11 in a few rare cases) in All-Age and P&JH schools to obtain per student expenditure. (b) This per capita expenditure was then multiplied by enrollment in Grades 1-6 in All-Age and P&JHs to obtain the public recurrent expenditure for primary education. (c) As for the public recurrent expenditure for Grades 7-9 in All-Age and P&JH schools, the per capita expenditure was multiplied by enrollment in Grades 7-9 in All-Age and P&JH schools and then "Other Grants" were added to this amount.

2. The fiscal year begins on April 1 and ends on March 31, but the school year begins on September 1 and ends on June 30. Straightly speaking, calculation of per student spending should prorate the months of the fiscal year to coincide with the months of the school year. However, given that this study wants the figures to be close to the MOE&C's own calculation, it divides the expenditure of a fiscal year (e.g. 1996/97) by the number of students in a school year (e.g. 1996/98) to derive the per student spending.

3. Because New Secondary Highs were in the process of being phased out as a category from 1996/97 onwards, the declining enrollment in the 1990s in this school type distorted the actual amount spent per student. The data from 1996/97 onward presented above are not reliable.

Appendix 4.8: Reclassified Total Public Expenditure on Education by Level in Current and Constant Prices and in Percentages, 1987/88-1997/98											
	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
	(actual exp.)	(actual exp.)	(actual exp.)	(revised est.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(Provi. exp.)
(Million JAS in Current Prices)											
Administration & Services	28.3	102.3	117.6	136.7	85.7	127.7	219.4	272.5	446.1	566.8	790.2
Early Childhood	14.5	19.1	21.7	35.1	55.8	66.5	182.9	249.8	282.2	378.4	522.5
Primary	268.4	344.8	416.5	484.1	661.6	735.7	1685.3	1726.7	2739.6	3779.9	5276.9
Special Education	8.2	10.1	12.3	14.6	20.7	28.1	66.3	73.4	102.7	151.9	206.3
Secondary	245.1	334.0	401.1	474.4	735.8	983.9	2215.1	2343.1	3397.9	4548.6	6240.1
Tertiary	151.1	200.7	263.3	300.8	443.6	661.9	1076.0	1461.6	2067.0	2894.5	3739.0
Adult Education	3.4	4.1	4.8	6.4	8.5	7.7	12.3	19.2	24.0	35.9	49.2
Library Services	14.5	16.1	18.0	24.5	29.9	36.0	71.2	79.3	104.4	178.1	203.2
Total	733.5	1031.3	1255.2	1476.6	2041.6	2647.5	5528.5	6225.7	9163.8	12534.1	17027.4
(Million JAS in Constant 1996/97 Prices)											
Administration & Services	287.7	956.0	952.6	891.9	345.0	312.1	435.6	406.4	550.5	566.8	723.9
Early Childhood	147.2	178.1	175.6	229.3	224.8	162.6	363.1	372.6	348.2	378.4	478.7
Primary	2725.1	3221.3	3374.1	3158.1	2664.4	1798.2	3345.7	2575.1	3380.2	3779.9	4834.8
Special Education	82.9	94.5	99.3	95.2	83.5	68.7	131.6	109.5	126.7	151.9	189.0
Secondary	2489.2	3120.7	3249.2	3094.8	2963.4	2405.0	4397.5	3494.4	4192.5	4548.6	5717.2
Tertiary	1534.3	1874.9	2132.9	1962.2	1786.7	1618.0	2136.1	2179.7	2550.4	2894.5	3425.7
Adult Education	34.6	38.7	39.1	42.1	34.2	18.8	24.5	28.6	29.6	35.9	45.1
Library Services	146.8	150.6	145.8	160.1	120.4	88.1	141.3	118.2	128.8	178.1	186.2
Total	7447.8	9634.9	10168.6	9633.7	8222.4	6471.5	10975.4	9284.6	11306.8	12534.1	15600.6
(Percentage of Total)											
Administration & Services	3.9%	9.9%	9.4%	9.3%	4.2%	4.8%	4.0%	4.4%	4.9%	4.5%	4.6%
Early Childhood	2.0%	1.8%	1.7%	2.4%	2.7%	2.5%	3.3%	4.0%	3.1%	3.0%	3.1%
Primary	36.6%	33.4%	33.2%	32.8%	32.4%	27.8%	30.5%	27.7%	29.9%	30.2%	31.0%
Special Education	1.1%	1.0%	1.0%	1.0%	1.0%	1.1%	1.2%	1.2%	1.1%	1.2%	1.2%
Secondary	33.4%	32.4%	32.0%	32.1%	36.0%	37.2%	40.1%	37.6%	37.1%	36.3%	36.6%
Tertiary	20.6%	19.5%	21.0%	20.4%	21.7%	25.0%	19.5%	23.5%	22.6%	23.1%	22.0%
Adult Education	0.5%	0.4%	0.4%	0.4%	0.4%	0.3%	0.2%	0.3%	0.3%	0.3%	0.3%
Library Services	2.0%	1.6%	1.4%	1.7%	1.5%	1.4%	1.3%	1.3%	1.1%	1.4%	1.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sources: MOF, various years. *Estimates of Expenditure.*

Appendix 4.9: Per Student Reclassified Recurrent Public Expenditure on Education by Level in Current and Constant Prices, 1992/93 – 1997/98													
	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	92/93-97/98
	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(prov. exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(prov. exp.)	% Change
Recurrent Expenditure	(JAS in Current Prices), 1992/93-1997/98						(JAS in Constant 1996/97 Prices), 1992/93-1997/98						
Early Childhood	437	1,089	1,304	1,773	2,777	3,902	1,068	2,161	1,945	2,188	2,777	3,575	235%
Primary	2,167	4,804	4,868	8,384	11,364	15,823	5,296	9,537	7,260	10,345	11,364	14,497	174%
Primary Schools	2,124	4,686	4,971	8,537	11,543	15,151	5,192	9,303	7,413	10,533	11,543	13,882	167%
All-Ages & P&JHs (1-6)	2,216	4,945	4,734	8,182	11,129	16,743	5,418	9,817	7,061	10,095	11,129	15,340	183%
Special Education	18,281	31,249	35,363	49,492	71,162	99,660	44,686	62,038	52,738	61,066	71,162	91,309	104%
Secondary	3,893	9,527	9,638	14,409	20,037	26,346	9,516	18,914	14,374	17,779	20,037	24,139	154%
All-Ages & P&JHs (7-9)	2,050	4,813	4,456	7,766	10,691	16,748	5,012	9,554	6,646	9,582	10,691	15,345	206%
Secondary Highs	4,752	11,562	10,164	15,748	23,138	26,657	11,617	22,953	15,158	19,431	23,138	24,424	110%
Comprehensive Highs	3,665	7,600	7,793	11,984	17,069	24,529	8,960	15,088	11,623	14,786	17,069	22,474	151%
New Secondary Highs	3,827	11,467	17,758	27,401	44,645	56,442	9,355	22,766	26,483	33,809	44,645	51,713	453%
Technical/Vocational/Agricultural	6,789	15,410	14,554	22,314	31,430	37,149	16,595	30,593	21,706	27,533	31,430	34,037	105%
Tertiary	26,675	45,434	60,171	71,512	94,394	125,505	65,203	90,196	89,736	88,235	94,394	114,988	76%
U.W.I.	69,255	105,018	142,045	156,656	191,949	237,375	169,285	208,485	211,838	193,291	191,949	217,485	28%
UTECH.	8,262	17,191	16,950	24,520	42,076	77,276	20,195	34,128	25,279	30,255	42,076	70,801	251%
Teachers' Colleges	27,608	47,155	50,917	80,171	99,241	109,425	67,483	93,614	75,935	98,919	99,241	100,256	49%
Community Colleges	3,526	10,168	12,327	20,410	38,784	50,983	8,619	20,185	18,384	25,183	38,784	46,711	442%
Other Tertiary	37,858	92,845	60,413	80,836	79,782	115,348	92,539	184,320	90,096	99,740	79,782	105,683	14%

Source: MOEYC statistics; MOF, various years. *Estimates of Expenditure.*

Appendix 4.10: Reclassified Per Student Public Expenditure on Education by Level, 1987/88-1996/97										
(JAS in Constant 1996/97 Prices)										
	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
	(actual exp.)	(actual exp.)	(actual exp.)	(revised est.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)	(actual exp.)
Reclassified Recurrent Exp.										
Early Childhood	1,188	1,169	1,182	1,635	1,572	1,068	2,161	1,945	2,188	2,777
Primary	7,069	7,826	8,962	8,846	7,924	5,296	9,537	7,260	10,345	11,364
Special Education	44,920	41,909	44,027	42,205	41,380	44,686	62,038	52,738	61,066	71,162
Secondary	10,433	11,632	12,188	12,567	11,310	9,516	18,914	14,374	17,779	20,037
Tertiary	85,010	90,610	86,383	84,182	71,320	65,203	90,196	89,736	88,235	94,394
Capital (A and B) Exp.										
Early Childhood	-	197	190	143	230	239	368	860	402	88
Primary	1,212	2,015	1,348	920	495	589	1,216	1,177	888	1,495
Special Education	-	-	-	-	243	474	230	150	124	-
Secondary	236	2,126	1,377	1,217	2,018	1,330	1,254	1,729	1,085	1,183
Tertiary	608	8,177	13,719	9,006	5,584	3,414	3,741	2,173	8,435	12,841
Reclassified Total Public Exp.										
Early Childhood	1,188	1,365	1,372	1,778	1,801	1,307	2,530	2,805	2,590	2,853
Primary	8,281	9,841	10,310	9,766	8,419	5,885	10,753	8,436	11,233	12,860
Special Education	44,920	41,909	44,027	42,205	41,623	45,160	62,268	52,888	61,190	69,059
Secondary	10,669	13,758	13,564	13,785	13,328	10,846	20,166	16,102	18,899	21,283
Tertiary	85,618	98,786	100,102	93,188	76,905	68,617	93,937	91,910	96,477	107,123

Source: MOF, various years. *Estimates of Expenditure.*

Appendix 4.11: Distribution of Recurrent Public Expenditure on Education by Level and by Consumption Quintiles, 1998						
	Quintile 1 (poorest)	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Percentage of Recurrent Expenditure Accrued to Each Quintile						
Early Childhood Education (N=1677)	26%	23%	22%	18%	11%	100%
Primary Education (N=3789)	25%	24%	21%	19%	12%	100%
Secondary Education (N=2814)	16%	21%	22%	22%	19%	100%
Tertiary Education (N=158)	3%	11%	8%	24%	54%	100%
Total (N=8280)	22%	22%	21%	20%	15%	100%
Estimated Amount Spent						
Early Childhood Education	96,419,322	83,439,569	80,985,994	66,562,730	40,822,585	368,230,200
Primary Education	835,386,103	787,191,955	686,585,501	618,919,619	411,375,954	3,339,459,132
All-Age (7-9)	119,289,412	140,955,240	109,275,244	82,398,556	32,629,741	484,548,193
P&JH (7-9)	18,260,164	21,543,971	25,861,314	24,966,702	10,771,985	101,404,135
New Secondary	38,274,414	68,663,622	40,421,245	46,089,625	26,365,676	219,814,582
Comprehensive	197,048,571	228,257,701	277,985,271	236,034,508	166,437,907	1,105,763,958
Secondary High	293,441,912	439,805,566	574,869,312	747,092,556	878,749,689	2,933,959,036
Technical High	67,774,486	49,434,366	119,526,088	119,701,467	116,287,182	472,723,589
Voc/Agricultural	5,038,488	7,279,079	8,822,514	5,034,275	7,926,109	34,100,465
Total Secondary Education	739,127,447	955,939,545	1,156,760,989	1,261,317,689	1,239,168,288	5,352,313,958
Tertiary Education	80,390,395	285,069,981	213,406,556	622,600,758	1,396,842,909	2,598,310,599
Total	1,751,323,267	2,111,641,050	2,137,739,040	2,569,400,796	3,088,209,736	11,658,313,889

Source: Constructed from findings from PIOJ's *Survey of Living Conditions*, 1998.

Appendix 4.12: Estimates of Recurrent Public Expenditure on Education by Level and by Function (JAS Million in Current Prices and Percentage), 1995/96-1997/98						
	1995/96		1996/97		1997/98	
Basic Schools 1)						
Salary subsidies for teachers	NA		NA		210.0	92.8%
Nutrition subsidies	NA		NA		14.8	6.5%
Other grants	NA		NA		1.5	0.7%
Subtotal	105.2		157.92		226.2	100.0%
Infant Schools 2)						
Teachers' salaries	48.0	77.2%	79.4	85.8%	179.6	89.3%
Teachers' travel	3.3	5.4%	3.0	3.3%	6.7	3.3%
Instructional and class materials	3.8	6.1%	3.8	4.1%	1.9	0.9%
Salaries for Ancillary staff	2.4	3.9%	2.4	2.6%	5.2	2.6%
Public utilities	1.5	2.5%	2.4	2.6%	2.9	1.4%
Supplies and materials	0.0	0.0%	0.0	0.0%	1.9	0.9%
Maintenance	1.9	3.1%	0.0	0.0%	3.0	1.5%
Blue Cross Contributions	1.2	1.9%	1.5	1.6%	0.0	0.0%
Subtotal	62.2	100.0%	92.5	100.0%	201.1	100.0%
Early Childhood Education (Basic and Infant Schools)						
Teachers' salaries	NA		NA		389.5	91.2%
Nutrition subsidies	NA		NA		14.8	3.5%
Other grants	NA		NA		1.5	0.3%
Teachers' travel	3.3		3.0		6.7	1.6%
Instructional materials	3.8		3.8		1.9	0.4%
Salaries for Ancillary staff	2.4		2.4		5.2	1.2%
Public utilities	1.5		2.4		2.9	0.7%
Supplies and materials	0.0		0.0		1.9	0.4%

Appendix 4.12 (Continued)						
	1995/96		1996/97		1997/98	
Maintenance	1.9		0.0		3.0	0.7%
Blue Cross Contributions	1.2		1.5		0.0	0.0%
Subtotal	167.4		252.3		427.3	100.0%
Primary Schools 3)						
Teachers' Salaries	711.3	86.5%	1557.5	90.8%	2134.1	87.3%
Teachers' travel allowances	46.5	5.6%	43.8	2.6%	123.2	5.0%
Instructional Materials	8.6	1.0%	22.4	1.3%	48.4	2.0%
Administrative and Ancillary Salaries	23.7	2.9%	37.1	2.2%	36.1	1.5%
Rental of Buildings	0.0	0.0%	0.0	0.0%	0.0	0.0%
Public Utilities	19.6	2.4%	19.6	1.1%	29.7	1.2%
Supplies and Materials	8.6	1.0%	23.0	1.3%	50.2	2.1%
Maintenance of Buildings	4.3	0.5%	11.2	0.7%	24.1	1.0%
Subtotal	822.6	100.0%	1714.7	100.0%	2445.8	100.0%
All-Age Schools 4)						
Teachers' Salaries	711.0	84.6%	1587.4	90.0%	2285.4	87.6%
Teachers' travel allowances	54.9	6.5%	53.5	3.0%	130.4	5.0%
Instructional Materials	8.5	1.0%	22.1	1.3%	51.8	2.0%
Administrative and Ancillary Salaries	24.5	2.9%	36.9	2.1%	25.7	1.0%
Rental of Buildings and Property	0.0	0.0%	0.0	0.0%	0.0	0.0%
Public Utilities	21.7	2.6%	21.7	1.2%	24.3	0.9%
Supplies and Materials	9.5	1.1%	22.6	1.3%	53.0	2.0%
Maintenance of Buildings	4.3	0.5%	11.2	0.6%	31.7	1.2%
Other Grants (facilities for subjects)	5.7	0.7%	8.8	0.5%	7.0	0.3%
Subtotal	840.3	100.0%	1764.1	100.0%	2609.4	100.0%

Appendix 4.12 (Continued)						
	1995/96		1996/97		1997/98	
Primary Education (Primary & All-Age Schools)						
Teachers' Salaries	1422.4	85.5%	3144.9	90.4%	4419.5	87.4%
Teachers' travel allowances	101.4	6.1%	97.2	2.8%	253.6	5.0%
Instructional Materials	17.1	1.0%	44.5	1.3%	100.2	2.0%
Administrative and Ancillary Salaries	48.3	2.9%	74.0	2.1%	61.8	1.2%
Rental of Buildings and Property	0.0	0.0%	0.0	0.0%	0.1	0.0%
Public Utilities	41.4	2.5%	41.4	1.2%	54.0	1.1%
Supplies and Materials	18.1	1.1%	45.6	1.3%	103.1	2.0%
Maintenance of Buildings	8.6	0.5%	22.4	0.6%	55.9	1.1%
Other Grants	5.7	0.3%	8.75	0.3%	7.0	0.1%
Subtotal	1662.9	100.0%	3478.8	100.0%	5055.2	100.0%
High Schools 5)						
Teachers' Salaries	543.7	77.7%	1119.3	84.2%	1599.3	85.9%
Teachers' travel allowances	20.7	3.0%	20.7	1.6%	58.4	3.1%
Administrative and Ancillary Salaries	103.2	14.8%	158.1	11.9%	151.5	8.1%
Administrative and Ancillary Travel allowance	5.8	0.8%	7.9	0.6%	11.2	0.3%
Other Operating Expenses	2.0	0.3%	2.1	0.2%	5.7	0.3%
Boarding Grants	12.5	1.8%	12.5	0.9%	15.0	0.8%
Student Assistance	9.3	1.3%	9.3	0.7%	19.8	1.1%
School Bus Subsidy	2.1	0.3%	0.0	0.0%	0.0	0.0%
Subtotal	699.4	100.0%	1329.9	100.0%	1860.8	100.0%
Comprehensive High Schools 6)						
Teachers' salaries	300.632	75.1%	762.6	82.9%	1284.2	86.2%
Teachers' travel allowances	21.428	5.4%	21.5	2.3%	37.2	2.5%
Administrative & ancillary staff salaries	57.372	14.3%	109.0	11.8%	121.6	8.2%

Appendix 4.12 (Continued)						
	1995/96		1996/97		1997/98	
Administrative & ancillary staff travel allowances	3.973	1.0%	4.9	0.5%	7.5	0.5%
Other operating expenses	0.756	0.2%	1.1	0.1%	3.8	0.3%
Boarding grants	0.5	0.1%	0.5	0.1%	0.6	0.0%
Student assistance	7.257	1.8%	7.3	0.8%	35.0	2.3%
Blue Cross Contributions	8.571	2.1%	13.5	1.5%	0.0	0.0%
Subtotal	400.489	100.0%	920.4	100.0%	1489.9	100.0%
New Secondary Schools 7)						
Teachers' salaries	274.753	72.4%	350.5	71.1%	545.6	78.7%
Teachers' travel allowances	18.554	4.9%	19.3	3.9%	35.9	5.2%
Instructional Materials	0	0.0%	0.0	0.0%	1.6	0.2%
Supplies and Materials	0.472	0.1%	1.2	0.2%	0.0	0.0%
Administrative & ancillary staff salaries	54.382	14.3%	90.2	18.3%	80.7	11.6%
Administrative & ancillary staff travel allowances	3.979	1.0%	3.9	0.8%	8.2	1.2%
Utilities and other operating expenses	7.653	2.0%	7.7	1.6%	12.6	1.8%
Maintenance	0.472	0.1%	0.6	0.1%	1.1	0.2%
Student assistance	19.435	5.1%	19.4	3.9%	7.5	1.1%
Subtotal	379.7	100.0%	492.8	100.0%	693.1	100.0%
Secondary Education (High Schools, Comprehensive High Schools, Secondary Schools)						
Teachers' salaries	1119.1	75.6%	2232.5	81.4%	3429.1	84.8%
Teachers' travel allowances	60.7	4.1%	61.5	2.2%	131.5	3.3%
Instructional Materials	0.0	0.0%	0.0	0.0%	1.6	0.0%
Administrative & ancillary staff salaries	214.9	14.5%	357.3	13.0%	353.7	8.7%
Administrative & ancillary staff travel allowances	13.7	0.9%	16.7	0.6%	26.9	0.7%
Utilities and other operating expenses	10.4	0.7%	10.9	0.4%	22.1	0.5%
Maintenance	0.5	0.0%	0.6	0.0%	1.1	0.0%

Appendix 4.12 (Continued)						
	1995/96		1996/97		1997/98	
Student assistance	36.0	2.4%	36.0	1.3%	62.3	1.5%
Boarding grants	13.0	0.9%	13.0	0.5%	15.6	0.4%
Blue Cross Contributions	8.6	0.6%	13.5	0.5%	0.0	0.0%
Supplies and Materials	0.5	0.0%	1.2	0.0%	0.0	0.0%
School bus subsidy	2.1	0.1%	0.0	0.0%	0.0	0.0%
Subtotal	1479.5	100.0%	2743.2	100.0%	4043.9	100.0%
Teacher Education Unit (MOE&C) 8)	15.261		11.693			
UWI	1,206.88		1,210.06			
University of Technology						
Salaries	NA		NA		170.5	66.6%
Travelling	NA		NA		19.5	7.6%
Utilities	NA		NA		18.6	7.3%
Other Operating Expenses	NA		NA		47.4	18.5%
Subtotal	113.272		193.343		255.9	100.0%
Multi Disciplinary Colleges 9)						
Teachers' Salaries	60.508	72.7%	149.494	83.6%	262.2	86.9%
Teachers' Travel Allowances	5.104	6.1%	5.731	3.2%	10.4	3.5%
Administrative/Ancillary Staff Salaries	10.307	12.4%	15.902	8.9%	19.2	6.4%
Administrative/Ancillary Staff Travel Allowances	0.476	0.6%	0.512	0.3%	0.8	0.3%
Public Utilities	2.412	2.9%	2.516	1.4%	3.0	1.0%
Other Operating Expenses	4.457	5.4%	4.739	2.6%	5.9	2.0%
Subtotal	83.264	100.0%	178.894	100.0%	301.6	100.0%

Appendix 4.12 (Continued)				
	1995/96	1996/97	1997/98	
University Council of Jamaica				
Salaries	NA	NA	4.1	56.8%
Travelling	NA	NA	1.0	13.7%
Rental	NA	NA	1.3	17.8%
Utilities	NA	NA	0.1	1.0%
Other Operating Expenses	NA	NA	0.6	8.4%
Equipment	NA	NA	0.2	2.3%
Subtotal	3.669	6.038	7.2	100.0%
Tertiary Education (Total)				
Salaries			174.6	30.9%
Travelling			20.5	3.6%
Rental			1.3	0.2%
Utilities			18.6	3.3%
Equipment			0.2	0.0%
Teachers' Salaries			262.2	46.4%
Teachers' Travel Allowances			10.4	1.8%
Administrative/Ancillary Staff Salaries			19.2	3.4%
Administrative/Ancillary Staff Travel Allowances			0.8	0.2%
Public Utilities			3.0	0.5%
Other Operating Expenses			54.0	9.6%
Subtotal *			564.8	100.0%

Source: MOF, various years. *Estimates of Expenditure.*

* The subtotal of Tertiary Education doesn't coincide with Total Program 253-Tertiary Education since the data are missing for Tertiary Education Unit and University Education.
1) 1,674 (in 1995/96 and 1996/97), 1547 (in 1994/95) Recognized Basic Schools (age 4-6, 4,000 teachers).

2) 29 Infant schools (10,500 [in 1994/95], 9,710 [in 1995/96 and 1996/97] students, 257 teachers); 88 (in 1994/95), 95 (in 1995/96, 1996/97) Infant Departments (their budget is included in Primary Education).

3) 332 (in 1994/95), 340 (in 1995/96), 344 (1996/97) Primary Schools (174,000 [in 1994/95], 172,510 [in 1995/96, 1996/97] students).

4) 478 (1994/95), 413 (1995/96) and 396 (1996/97) All-Age Schools (200,000 primary students)

5) 57 (in 1994/95), 56 (in 1995/96 and 1996/97) High Schools (78,000 [1994/95], 70,613 [1995/96 and 1996/97] students).

6) 33 (in 1994/95), 44 (in 1995/96) and 52 (in 1996/97) Comprehensive High Schools.

7) 38 (in 1994/95), 27 (in 1995/96), 18 (in 1996/97) Secondary Schools.

8) Tertiary Education Unit includes 7 Teachers' Colleges, 6 Multi-Disciplinary Colleges, CASE, the University of Technology, the University of the West Indies)

9) Multi Disciplinary Colleges (EXED, Brown's Town, Knox, Portmore, Montego Bay, Moncague).

The funds provided in **Grants for Student Assistance** will assist students who are unable to pay fees charged by schools.

Appendix 4.13: Recurrent Public Expenditure on Education: Approved Budget as a Percentage of Actual Expenditure (Percentage)				
	1993/94	1994/95	1995/96	1996/97
Recurrent Expenditure				
Early Childhood	84.50%	85.10%	83.70%	81.37%
Primary	102.29%	97.12%	59.76%	93.82%
Secondary	96.85%	93.68%	61.69%	86.66%
Tertiary ¹⁾	78.95%	77.91%	92.04%	77.74%
Technical/Vocational	93.09%	92.04%	61.57%	80.17%
Special Education	87.81%	92.14%	69.05%	77.70%
Teacher Education ²⁾	90.11%	88.33%	71.46%	81.21%
Adult Education	55.74%	65.11%	91.60%	79.50%
ED&A, RD&A, CS and R&IC ³⁾	60.10%	86.36%	82.52%	75.33%
Training	17.13%	118.43%	100.00%	100.00%
Library Services	56.04%	81.59%	88.98%	72.30%
Nutrition of Students ⁴⁾	99.18%	99.72%	99.95%	99.50%
A&C, I&B, YDS, AE ⁵⁾	61.70%	85.85%	85.19%	84.09%
Total Recurrent Exp.	91.78%	90.16%	70.36%	85.95%

Source: MOF, various years. *Estimates of Expenditure.*

1) Tertiary in 1987/88, 1988/89, 1989/90, 1990/91 equals: Tertiary Education (42*-0307)+University Council of Jamaica-Teachers' Colleges-Scholarships for Teachers

2) Teacher Education in 1987/88, 1988/89, 1989/90, 1990/91 equals: Teachers' Colleges + Scholarships for Teachers.

3) ED&A, RD&A, CS and R&IC include: Executive Direction and Administration; Regional Direction and Administration; Common Services; Regional and International Cooperation.

4) In 1987/88, 1988/89, 1989/90, 1990/91, Nutrition of Students includes Nutrition Products Limited and School Feeding Program in School Resources

5) A&C, I&B, YDS, AE include: Arts and Culture, Information and Broadcasting, Youth Development Services and Agricultural Education.

Appendix 5. Private Expenditure on Education and Private School Fees

Appendix 5.1: Mean Annual expenditure on School and School Related Items, by Region, Quintile, and School Type, 1998												
	T&F& Books	T&F, Books % of TOTAL	Extra lessons	Extra Lessons % of TOTAL	Transport	Transport % of TOTAL	Lunch & Snacks	Lunch & Snacks % of TOTAL	Uniforms	Other Supplies and Board	Board (\$)	TOTAL
Region												
KMA (N=1,408)	2,560	7.1%	7,461	20.8%	4,778	13.3%	11,458	32%	2,030	874	6,650	35,811
Other Towns (N=1,146)	2,002	7.4%	4,464	16.4%	5,898	21.7%	10,005	36.9%	1,800	793	2,181	27,140
Rural Areas (N=3,816)	1,490	5.9%	3,225	12.7%	5,809	22.8%	8,240	32.4%	1,549	794	4,346	25,453
Quintile												
Poorest (N=1,367)	1,065	6.2%	3,029	17.6%	4,415	25.6%	5,740	33.3%	1,288	539	1,176	17,252
2 (N=1,430)	1,348	6.3%	3,962	18.6%	4,560	21.4%	7,927	37.1%	1,482	648	1,429	21,356
3 (N=1,352)	1,944	7.9%	4,468	18.1%	4,960	20.1%	9,064	36.8%	1,672	756	1,794	24,658
4 (N=1,275)	2,057	5.8%	4,662	13.1%	5,802	16.3%	11,347	31.9%	1,873	932	8,931	35,604
5 (N=946)	3,128	7.3%	7,049	16.4%	7,280	17%	13,491	31.5%	2,422	1,216	8,277	42,863
School Type												
Primary (N=627)	1,516	7%	4,910	22.5%	4,328	19.9%	8,123	37.3%	1,644	670	598	21,789
All Age/Pr. Jr. High (1-6) (N=426)	1,130	6.2%	3,893	21.4%	3,711	20.4%	7,066	38.9%	1,410	588	371	18,169
All Age (7-9) (N=160)	1,239	6.2%	3,087	15.5%	4,743	23.8%	8,275	41.4%	1,424	705	496	19,969
Pr. Jr. High/Jr. High (7-9) (N=52)	2,423	9.6%	4,448	17.6%	6,000	23.7%	9,602	38%	1,826	976	3,800	25,275
New Second. (N=88)	2,410	8.6%	3,275	11.7%	6,999	25%	10,967	39.2%	1,902	935	1,500	27,993
Comprehensive (N=177)	2,592	8.1	6,917	21.5%	6,076	18.9%	11,896	37%	1,923	1,083	1,647	32,134
Secondary High (N=219)	3,608	7%	9,377	18.2%	7,111	13.8	13,901	27%	2,436	1,300	13,664	51,397
Technical High (N=44)	2,802	7.5%	4,960	13.3%	8,179	21.9%	14,654	39.3%	1,894	1,205	3,636	37,330
Jamaica (N=6,370)	1,920	6.6%	5,101	17.6%	5,506	18.9%	9,515	32.7%	1,741	816	4,455	29,054

Source: Jamaica Survey of Living Conditions, 1998

Appendix 5.2: Secondary School Fees, and Assistance Given Through the Government's Financial Assistance Programme (FAP), by Region, Quintile and School type (Mean \$ Values)1998			
COUNTRY	SECONDARY SCHOOL FEES/BOOKS (\$)	ASSISTANCE FROM FAP (\$)	% SHARE OF SCHOOL FEES
Region			
KMA (N=452)	5,695	2,221	39
Other Towns (N=320)	6,319	2,154	34
Rural (N=903)	4,438	2,024	46
Quintile			
Poorest (N=223)	2,990	1,845	62
2 (N=309)	4,205	2,461	59
3 (N=358)	4,116	1,824	44
4 (N=392)	4,982	2,252	45
5 (N=393)	7,989	1,727	22
School Type			
New Secondary (N=68)	2,999	1,966	66
Comprehensive High (N=139)	3,014	1,959	65
Secondary High (N=169)	5,908	2,164	37
Technical High (N=37)	0	2,416	
Jamaica (N=1,675)	5,072	2,064	41

Appendix 5.3: Student Compliance with Cost Sharing Scheme, 1995/96 and 1996/97				
	Dec. 1995	% Complied	Dec. 1996	% Complied
# of school reporting	137		120	
Enrollment	165,061	100.0%	144,412	100.0%
# of students who paid in full	100,126	60.7%	77,533	53.7%
# of students who paid in part	25,619	15.5%	20,356	14.1%
# of students who sought full support	5,057	3.1%	5,887	4.1%
# of students who sought partial support	8,806	5.3%	17,874	12.4%
# of students who did not pay nor seek support	29,568	17.9%	24,958	17.3%
Fees collected (JA\$ million in current prices)	321		331	

Sources: MOE&C, "Financing Secondary Education: The Cost Sharing Scheme," 1996; "Cost Sharing," 1997.

Appendix 5.4: Compliance Rates by School Type (Percentage), 1995/96 and 1996/97								
School Type	December 1995				December 1996			
	# of Schools	Minimum	Maximum	Average	# of Schools	Minimum	Maximum	Average
New Secondary	27	40	98.8	74.5	17	45.9	99.5	72.5
Comprehensive	43	44.4	100	80	45	45.4	100	80.3
Secondary High	56	59.8	100	87.5	45	36.5	100	86.3
Technical High	13	65.4	100	87.4	11	47.2	100	84.3
Vocational/Agricult.		-	-	-	2	82.2	97.3	98.3
All Schools	139	40	100	82.6	120	36.5	100	82.5

Sources: MOE&C, "Financing Secondary Education: The Cost Sharing Scheme," 1996; "Cost Sharing," 1997.

Appendix 5.5: Actual Fees by School Type, 1995/96 and 1996/97 (J\$ in Current Prices)									
School Type	December 1995 (nominal terms)			December 1996 (nominal terms)			% Change in Real Terms after adjusted for inflation		
	Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average
New Secondary	850	2,000	1,217	2,000	3,200	2,457	90.7%	29.7%	63.6%
Comprehensive High	1,000	3,000	1,731	2,300	4,200	2,854	86.4%	13.5%	33.6%
Secondary High	1,500	7,000	3,641	2,500	7,000	4,661	35.1%	-18.9%	3.8%
Technical High	1,580	4,600	3,415	3,100	5,500	4,197	59.0%	-3.1%	-0.4%
Vocational/Agricultural	-	-	-	2,500	4,772	3,636	-	-	-
All Schools	850	7,000	2,558	2,000	7,000	3,611	90.7%	-18.9%	14.4%

Sources: MOE&C, "Financing Secondary Education: The Cost Sharing Scheme," 1996; "Cost Sharing," 1997.

Note: The fees reported were in current prices, but the percentage change between 1995/96 and 1996/97 was calculated based on adjustment for inflation (23.38 percent in 1995/96).

Appendix 5.6: Per Capita Expenditure by School Type, 1995/96 and 1996/97						
	Instruction Materials	Materials & Equipment	Minor Repairs	Public Utilities	Others	Total
December 1995						
<u>Per Capital Expenditure in JA\$</u>						
New Secondary	128	32	74	90	34	359
Comprehensive High	199	47	152	88	68	554
Secondary High	274	305	316	152	111	1158
Technical High	180	191	127	147	12	657
All Schools	222	173	213	122	78	808
<u>Percentage Distribution of Per Capital Expenditure</u>						
New Secondary	36%	9%	21%	25%	9%	100%
Comprehensive High	36%	9%	27%	15%	12%	100%
Secondary High	24%	26%	27%	13%	10%	100%
Technical High	27%	29%	19%	22%	2%	100%
All Schools	27%	21%	26%	15%	10%	100%
December 1996						
<u>Per Capital Expenditure in JA\$</u>						
New Secondary	305	187	142	72	140	846
Comprehensive High	293	138	143	89	317	980
Secondary High	371	250	360	153	581	1715
Technical High	470	141	200	198	699	1708
Vocational/Agricultural	416	500	425	155	4505	6001
All Schools	1855	1216	1270	667	6242	11250
<u>Percentage Distribution of Per Capital Expenditure</u>						
New Secondary	36%	22%	17%	9%	17%	100%
Comprehensive High	30%	14%	15%	9%	32%	100%
Secondary High	22%	15%	21%	9%	34%	100%
Technical High	28%	8%	12%	12%	41%	100%
Vocational/Agricultural	7%	8%	7%	3%	75%	100%
All Schools	16%	11%	11%	6%	55%	100%

Sources: MOE&C, "Financing Secondary Education: The Cost Sharing Scheme," 1996; "Cost Sharing," 1997.

Appendix 6. Population Projection

Appendix 6.1: Projected School-Age Population by Selected Age Range, 1995-2014 (in Thousands) with NRR=1 by 2000																				
Age Group	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Males																				
3 to 5	86	86	88	89	88	88	88	88	88	88	85	81	72	66	64	65	68	70	71	72
6 to 11	160	161	162	163	165	166	169	170	172	173	174	173	173	170	165	158	149	142	137	133
12 to 14	77	77	77	77	78	78	78	79	80	82	82	83	85	85	85	85	86	87	86	83
15 to 16	50	50	50	50	50	50	51	51	52	52	53	53	54	55	56	57	57	56	57	57
17 to 19	78	75	75	75	75	74	74	75	75	76	76	77	78	79	80	82	83	85	85	85
20 to 24	132	130	127	125	121	120	120	119	119	120	120	121	122	123	124	126	128	129	131	134
TOTAL	583	579	579	579	577	576	580	582	586	591	590	588	584	578	574	573	571	569	567	564
Females																				
3 to 5	82	84	84	87	88	87	86	86	87	86	85	81	72	66	64	65	68	70	71	72
6 to 11	156	154	154	156	157	161	165	165	167	168	170	170	169	167	162	156	148	141	131	128
12 to 14	77	77	75	75	75	75	75	75	76	77	79	81	84	85	85	84	84	84	83	80
15 to 16	50	50	50	50	50	50	50	50	50	50	50	51	52	53	55	57	57	55	56	56
17 to 19	73	72	72	72	73	73	74	74	74	72	72	73	74	74	76	78	81	84	84	84
20 to 24	125	123	120	117	115	113	114	114	116	116	118	118	119	119	119	119	121	123	126	130
TOTAL	563	560	555	557	558	559	564	564	570	569	574	574	570	564	561	559	559	557	551	550
M+F																				
3 to 5	168	170	172	176	176	175	174	174	175	174	170	162	144	132	128	130	136	140	142	144
6 to 11	316	315	316	319	322	327	334	335	339	341	344	343	342	337	327	314	297	283	268	261
12 to 14	154	154	152	152	153	153	153	154	156	159	161	164	169	170	170	169	170	171	169	163
15 to 16	100	100	100	100	100	100	101	101	102	102	103	104	106	108	111	114	114	111	113	113
17 to 19	151	147	147	147	148	147	148	149	149	148	148	150	152	153	156	160	164	169	169	169
20 to 24	257	253	247	242	236	233	234	233	235	236	238	239	241	242	243	245	249	252	257	264
TOTAL	1146	1139	1134	1136	1135	1135	1144	1146	1156	1160	1164	1162	1154	1142	1135	1132	1130	1126	1118	1114

Source: World Bank Projection

Appendix 6.1 Addendum: Assumptions of the Population Projection							
	1990	1995	2000	2005	2010	2015	2020
Birth Rate	23.8	18.70	16.7	16.5	16.4	16.2	
Death Rate	6.45.6	5.2	5.2	5.2	5.5	5.4	
Rate of National Increase	1.82	1.34	1.15	1.12	1.09	1.08	
Net Migration Rate	-9.3	-4.4	-2.8	-1.4	-0.6	0	
Growth Rate	0.89	0.90	0.87	0.99	1.03	1.08	
Total Fertility	2.700	2.242	2.081	2.075	2.072	2.062	
NRR	1.287	1.073	1.000	1.000	1.000	1.000	
e(0) – Both Sexes	74.82	75.88	76.84	76.74	78.07	77.83	
e(15) – Both Sexes	62.11	62.83	63.51	64.18	64.41	63.67	
IMR – Both Sexes	22.0	18.3	15.3	12.7	11.8	7.1	
q(5) – Both Sexes	0.0264	0.0221	0.0185	0.0155	0.0145	0.0091	
DEP. RAT	63.3	61.4	56.3	49.8	44.6	44.8	45.1

**Appendix 7. Historical Development of the
Education System in Jamaica**

Historical Development of the Education System in Jamaica

Historically, the church has played a major role in education in Jamaica. Through its leadership, education developed and grew into the elementary school system, which the Government took over later. The present All-Age School is a true descendant of the this elementary school and the High School has as its ancestor the classical-oriented, academic fee paying school. Secondary fee paying private schools grew from the need to educate the upper and middle class. This dual system of education still exists today Originally, many schools were run by churches and trusts, and were first aided by grants from the Government, which later moved to completely fund schools.

The Jamaican education system has much of its roots in the traditional British education system. From the period of internal independence in 1953, and full independence in 1962, basic institutional and operational patterns were formed. In 1953 various ministries of Government including Education were established as a part of the process of gradual internal autonomy. A policy for education was then developed for all levels of schooling. The system expanded and began to shift from the British colonial school programs to a more national orientation. The role of the Ministry of Education was defined and its power and responsibility were developed in this period.

Although Jamaica achieved full independence in 1962, the Education Act was not passed until 1965. This Act aimed at meeting the needs for self-financing and expansion. Prior to 1957 Secondary education was inaccessible to the poor and rural dwellers. Secondary education was concentrated in the urban areas of Kingston and St. Andrew. Primary education was not fully developed and operated. It needed expansion in quantity and range, as no expansion had taken place in 50 years. The neglect had caused the problems of overcrowding, lack of qualified teachers, old buildings, and insufficient support. Early Childhood education also needed restructuring, and it was only after major pilot projects were launched in the 1960s and 1970s, with support from the Bernard Van Leer Foundation and overseas donors, that a comprehensive Early Childhood Program evolved.¹

In 1964 a major post-independence evaluation to improve the education system was conducted by an invited UNESCO team. The evaluation led to an education plan that became the basis of various Government programs. It emphasized post-primary opportunity and quality of institutions. Another major area of concentration was to make primary school accessible to all. The 1972 elections brought into power the first new party after independence. The new party put major emphasis on improving the education system and recognized the need to bring the school system up to higher quantitative and qualitative levels. This led to a call for a joint effort of USAID, the World Bank, and CIDA to work with the Educational Planning Unit of the Ministry to prepare a systematic analysis of the problems and recommend project alternatives. The current structure of the

¹ *Internal Document*, Paper on Early Childhood Education Program 1995-2000, 1994:4.

education system is divided along the following lines: ages, grades, and institutions for both public and private education.

(a) **Pre-Primary.** The Bernard Van Leer Foundation, in cooperation with the Ministry of Education and the University of the West Indies, has since 1966 assisted the Government in training teachers and designing and supplying material in this area of education. In 1971/72, there were 26 infant schools and 9 infant departments within the public sector with an enrollment of 1,705 and 1,983 respectively. Prior to 1970, Infant Centers (now Basic schools) as they were then called started, mainly in churches, which administered ad hoc programs centered around custodial type care but lacked emphasis on stimulation and child centered approaches. With the help of the Dudley Grant Memorial Trust and financial assistance from the Bernard Van Leer Foundation and the Government's Hurricane Rehabilitation Fund, more than 900 schools benefited from repair or rebuilding/refurbishing grants, which helped also to improve the teaching/learning environment.²

(b) **Primary.** Education is provided free in primary (grades 1-6). In September of 1973 free tuition began to be provided in all Government owned or aided schools at all levels. In 1971/72 within the formal public education system under the Ministry of Education there were 778 primary schools. There is great variation in the sizes of the schools at each level of education, and primary schools themselves vary greatly. In the 1950s, in order to expand secondary education, the Government introduced the Common Entrance Examination.³ This gave more children at the primary level, aged 11+, the opportunity for post-primary education.

(c) **High Schools.** The curriculum of high schools originally followed the school system in England with Latin, French, English, History, Geography, and some Science. After independence, the curriculum changed slightly, Spanish replaced French. History and Geography became more West Indian oriented; Latin was later dropped. As schools evolved, the principals and staff formulated their own curricula. The curriculum was highly influenced by the examination taken at the end of the five-year course. This examination was the Cambridge School Certificate, later changed to the General Certificate of Education, and now replaced by the Caribbean Examination Council Certificate. As the demand for secondary schools grew, the Government began to take

² Errol Miller, *Education for All* (Washington, DC: Inter-American Development Bank), p. 81.

³ In 1958 the CEE was awarded on straight merit. However, preparatory school students were gaining most of the free places. Weary that the free place system was not serving its purpose, in 1963, the government allocated 70 percent of the places to students from public primary schools and 30 percent to prep school children. With the introduction of free education in 1973 the 70:30 system was abolished and the policy of straight merit again became the basis of award. The difference was that in 1958 the merit list was constructed on an all-island basis. Since 1973, merit lists are created on a parish basis with Kingston and St. Andrew serving as one unit. Other aspects of the 1973 policies were that as a rule children would be selected to attend schools in their parish of residence, that the CEE would select 95 percent of the students assigned to each high school, and the principals of schools are allowed to admit 5 percent of the entries each year on their discretion. By 1998, about 18,000 out of some 55,000 students who took it were placed.

over private schools and assist financially. The continued demand for more secondary schools influenced some of the existing high schools to become "extension schools."⁴ This amounted to schools having morning and afternoon shifts of classes. At present, high schools are the prestigious institutions of secondary schools, and ones without shifts are the coveted. The curriculum is principally oriented toward academic subjects. There has been some introduction of practical and vocational subjects but this has remained relatively minor in terms of numbers of students.

(d) **Comprehensive High Schools.** In the 1950s there were not enough places in the high schools to accommodate all those who aspired to the more academic type of education. Some educators felt that there were children not selected by the CEE who could benefit from a secondary education that would not be strictly academic and would include some practical subjects. There was also the opinion that the pattern of comprehensive schools as developed in Britain and the United States would be suitable for Jamaica.⁵ In this context the comprehensive school idea came into being.

(e) **New Secondary Schools.** In 1974 Junior Secondary Schools (Grades 7-9) were converted into New Secondary Schools and Grades 10 and 11 were added. It was intended that these schools would place emphasis on technical/prevocational education to the extent that all students would choose an option at the end of Grade 9, and pursue it at prevocational level in grades 10 and 11.

(f) **All-Age Schools.** As early as the nineteenth century, the church and private groups had started schools for the children of the slaves. These schools were later taken over by the Government and have since increased. The present Primary and All-Age Schools for children from 6 to 15 years developed from the preceding Elementary Schools. The All-Age Schools are basically evolutionary extensions of the Elementary Schools. They go from Grades 1 to 9. At age 13+ All-Age School students may sit for the Technical High School Entrance Examination.

(g) **Technical High Schools.** The curriculum in these schools is oriented toward technical and vocational training that includes applied science, craft skills, and industrial and agriculture. In recent years, some Technical High Schools have not only added Grade 7, thus offering a complete 5 year secondary cycle, but also extended into Grade 12. This is to help prepare students in one year for the "A" level examination.

Table A7.1 gives a summary of major characteristics in secondary education by School Type.

⁴ William Houston Miller and Ross Murray, eds., *Jamaica Education Sector Survey* (Jamaica: Ministry of Education, 1977), p. 20.

⁵ Jamaica-Development of Secondary Education, UNESCO, 1983, p. 45.

Table A7.1. Summary of Major Characteristics in Secondary Education by School Type

	High Schools	Comprehensive	New Secondary	All-Age (Grades 7, 8, 9)	Technical High Schools
1. Entrance requirements	95% of students selected by the CEE; 5% selected at discretion of principals	Age promotion from feeder schools and some selected by CEE	Age promotion from feeder schools	Age promotion from primary school	In principle, selected from 13+ exams; but apparently many exceptions
2. Transition rate from 6th grade to 7th grade: 1975/76-1980/81.	22% average and <u>stable</u> over the years	2.6% average and <u>stable</u> over the years	36% average and <u>declining</u> over the years	55% average and <u>declining</u> over the years	Officially start at 8th grade but fluctuating enrollment in 7th. Source of 7th grade recruitment not known
3. Trends in total enrollment: 1975/76-1980/81 (Total in 1980/81), (Total in Grades 7-9)	Regular yearly <u>increases</u> for a total of 13%. (62,155), (35,300)	Overall increase of 25%, irregular from year to year. (7,421), (4, 357)	+19%, 1975 to 1979 -5%, 1979 to 1980. (94,788), (57,534)	+7%, 1975 to 1979 -6%, 1979 to 1980. (68,908)	Steady <u>increase</u> of about 10% per year, 1975/76 to 1980/81. (7,691), (3,649)
4. Trends in Grade 7 enrollment: 1975/76-1980/81	35% overall <u>increase</u>	+23%, 1975 to 1978 -6%, 1978 to 1980	+10%, 1975 to 1976 -10%, 1976 to 1980	<u>Stable</u> , 1975 to 1979 -7%, 1979 to 1980	Overall increase of grade 8 enrollment
5. Trends in student flow: 1975/76-1980/81	Enrollments stable from Grades 7-11; an increase of 5-10% in Grade 9; Grade 11 enrollment is 15-25% higher than Grade 10; transition rate of 15% into Grade 12.	Steady increase in enrollments from Grade 7-10 followed by decline of up to 28% for Grade 11	Enrollment increases from 2-14% from Grade 7-8; remains stable through Grade 10; decline of 15-22% from Grade 10-11	Average decline of 19% per year in enrollment	Since 1974/75, Grade 9 enrollments have been from 17% to 66% higher than Grade 8. Otherwise students follow a regular pattern
6. Curriculum (as applied by schools)	Largely academic and oriented towards postsecondary studies	Mixed academic and prevocational; oriented towards labor market as much as to continuation in Grade 12	Strong prevocational bias with academic subjects; oriented towards the labor market	Extended primary school curriculum	Technical vocational, oriented towards labor market, but strongly aims to prepare students for tertiary level studies
7. Prospects for graduates	Tertiary education and the relatively better paid positions in the labor market	Limited access to tertiary education; mainly vocational training and labor market.	Mainly vocational training or labor market (exceptionally, tertiary education)	Mainly labor market or vocational training; exceptionally, further education in a genuine secondary school if successful in GNAT examination	Technical vocational positions in the labor market and limited access to tertiary education
8. Social currency or prestige	High	Mixed	Mixed with a tendency towards declining	Low	High
9. Per-pupil recurrent public expenditure: (1982/83 budget est.)	J\$ 826	J\$ 820	J\$ 580	J\$ 273	J\$ 1,288

Source: Jamaica-Development of Secondary Education, UNESCO, 1983, p. 4.

**The total of the percentage figures exceeds 100 for two reasons: (i) the percentage for each type of school is an average for the 1975/76-1980/81 period, and (ii) many Grade 7 entrants are Grade 5 or Grade 4 leavers.

**Appendix 8: Projected Cost of
Compensatory Education Program**

Projected Cost of Compensatory Education Program

Description of Projection and Assumptions

The program consists of remedial learning during the school year plus a summer program. Remedial learning will take place on weekends for needy students in grades 1 to 11. Summer program is provided to needy students in grades 1 to 10 only. It is assumed that about one-third of students in grades 1-6 need both the remedial learning and summer program; that one-fifth of students in grades 7-11 need remedial learning and that one-fifth of students in grades 7-10 need the summer program. Students will take a test after the completion of the summer program; they will be promoted to the next grade if they pass the test. Otherwise, they have to repeat their grade. Teachers assisting students will be paid one-month basic salary for remedial learning and one-month basic salary for the summer program. Non-teacher related expenses are estimated to be about 5% of the teachers' cost. The program will begin in fall 2000. The net cost of the compensatory program depends on the assumption regarding the likely change in repetition rates. In this analysis, three scenarios are considered, corresponding to three different assumptions of the change in repetition rates. It may be noted that, in 1995-96, the base year, repetition rates were mostly around about 1-2% in grades 1 to 5, 5-10% in grade 6, and 1-2% in grades 7-10. The projected net cost of the program is shown in Figure 1.

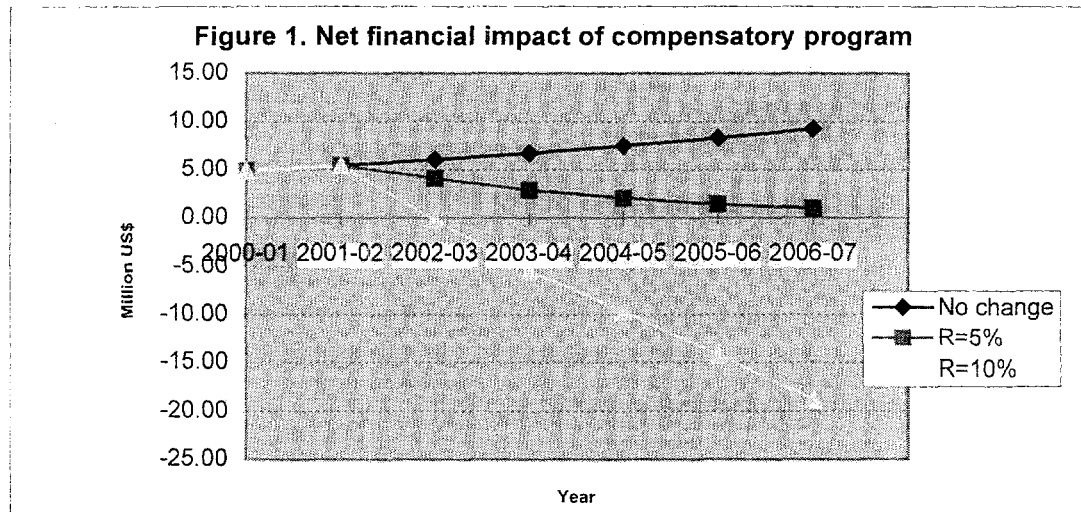
Net Cost of Compensatory Program

Scenario 1: It is assumed that there is no change in repetition rates in grades 1 to 10. The cost of the compensatory program is projected to be 4.87 million US dollars in fiscal year 2001 and 9.24 million US dollars in 2007. Since there is no change in repetition rates, enrollments by grade level will be identical to the situation when there is no compensatory program. Thus, there is no change in the recurrent cost of primary and secondary education when the compensatory program is implemented. The net cost of the compensatory program is the same as the cost of the compensatory program itself. The scenario implies that the great majority of the students having the compensatory program will have made adequate progress to be promoted to the next grade. This is a desirable situation.

Scenario 2: It is assumed that repetition rates will increase to 5% in grades 1-5 and 7-10. The cost of the compensatory program is projected to be 4.87 million US dollars in fiscal year 2001 and 9.17 million US dollars in 2007. Since there is a change in repetition rates, enrollments by grade level will be different from the situation when there is no compensatory program. Over time, there will be more students in primary grades and less students in secondary grades. The projection shows that there will a reduction in the recurrent cost of primary and secondary education when the compensatory program is implemented, which will be 77.4 million Jamaican dollars in 2003 and 326.7 million Jamaican dollars in 2007. The net cost of the compensatory program will be 4.87 million US dollars in 2001 and only 1. million US dollars in 2007. This scenario implies

that one-sixth to one-quarter of the students having the compensatory program still fail to make adequate progress to be promoted to the next grade.

Scenario 3: It is assumed that repetition rates will increase to 10% in grades 1-5 and 7-10. The cost of the compensatory program is projected to be 4.87 million US dollars in fiscal year 2001 and 8.87 million US dollars in 2007. Since there is a change in repetition rates, enrollments by grade level will be different from the situation when there is no compensatory program. Over time, there will be more students in primary grades and even less students in secondary grades. The projection shows that there will a greater reduction in recurrent cost of primary and secondary education when the compensatory program is implemented, which will be 247.9 million Jamaican dollars in 2003 and 1106.1 million Jamaican dollars in 2007. The net cost of the compensatory program will be 4.87 million US dollars in 2001 and there will a savings of 18.78 million US dollars in 2007. This scenario implies that one-third to one-half of the students having the compensatory program still fail to make adequate progress to be promoted to the next grade. This is not a desirable situation.



Scenario 1: No change in repetition rates							
	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Projected enrollment							
Grades 1-6	324616	331514	338565	343215	345353	345566	343913
Grades 7-9	145286	146687	148627	150651	153572	157838	162522
Grades 10-11	68415	66259	64762	64941	66296	67115	67694
Grade 10	35690	34383	34016	34537	35461	35471	36001
Students in Weekend Program							
Proportion of Grades 1-6 attending program	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Proportion of Grades 7-9 attending program	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Proportion of Grades 10-11 attending program	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Grades 1-6	107123	109399	111727	113261	113966	114037	113491
Grades 7-9	29057	29337	29725	30130	30714	31568	32504
Grades 10-11	13683	13252	12952	12988	13259	13423	13539
Students in Summer Program							
Proportion of Grades 1-6 attending program	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Proportion of Grades 7-9 attending program	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Proportion of Grade 10 attending program	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Grades 1-6	107123	109399	111727	113261	113966	114037	113491
Grades 7-9	29057	29337	29725	30130	30714	31568	32504
Grades 10	7138	6877	6803	6907	7092	7094	7200
Cost of Weekend Program							
(1) For grades 1-6 students							
Student/teacher ratio	30	30	30	30	30	30	30
Number teachers needed	3571	3647	3724	3775	3799	3801	3783
Pay per teacher (J\$)*	15532	17085	18794	20673	22740	25014	27516
Teacher cost (Million J\$)	55.5	62.3	70.0	78.0	86.4	95.1	104.1
Non-teacher cost (Million, J\$)**	2.8	3.1	3.5	3.9	4.3	4.8	5.2
Cost for grades 1-6 students	58.2	65.4	73.5	82.0	90.7	99.8	109.3
(2) For grades 7-11 students							
Student/teacher ratio	20	20	20	20	20	20	20
Number teachers needed	2137	2129	2134	2156	2199	2250	2302
Pay per teacher (J\$)*	18950	20845	22929	25222	27744	30519	33571
Teacher cost (Million J\$)	40.5	44.4	48.9	54.4	61.0	68.7	77.3
Non-teacher cost (Million, J\$)**	2.0	2.2	2.4	2.7	3.1	3.4	3.9
Cost for grades 7-11 students	42.5	46.6	51.4	57.1	64.1	72.1	81.1
(3) For grades 1-11							
Teacher cost (Million J\$)	96.0	106.7	118.9	132.4	147.4	163.7	181.4
Non-teacher cost (Million, J\$)**	4.8	5.3	5.9	6.6	7.4	8.2	9.1
Total cost of weekend program (Million, J\$)	100.8	112.0	124.9	139.0	154.8	171.9	190.4
Cost of Summer Program							
(1) For grades 1-6 students							
Student/teacher ratio	30	30	30	30	30	30	30
Number teachers needed	3571	3647	3724	3775	3799	3801	3783
Pay per teacher (J\$)*	15532	17085	18794	20673	22740	25014	27516
Teacher cost (Million J\$)	55.5	62.3	70.0	78.0	86.4	95.1	104.1
Non-teacher cost (Million, J\$)**	2.8	3.1	3.5	3.9	4.3	4.8	5.2
Cost for grades 1-6 students	58.2	65.4	73.5	82.0	90.7	99.8	109.3
(2) For grades 7-10 students							
Student/teacher ratio	20	20	20	20	20	20	20
Number teachers needed	1810	1811	1826	1852	1890	1933	1985
Pay per teacher (J\$)*	18950	20845	22929	25222	27744	30519	33571
Teacher cost (Million J\$)	34.3	37.7	41.9	46.7	52.4	59.0	66.6
Non-teacher cost (Million, J\$)**	1.7	1.9	2.1	2.3	2.6	2.9	3.3
Cost for grades 7-10 students	36.0	39.6	44.0	49.0	55.1	61.9	70.0
(3) For grades 1-10							
Teacher cost (Million J\$)	89.8	100.0	111.9	124.8	138.8	154.1	170.7
Non-teacher cost (Million, J\$)**	4.5	5.0	5.6	6.2	6.9	7.7	8.5
Total cost of summer program (Million, J\$)	94.2	105.0	117.5	131.0	145.8	161.8	179.3

Scenario 1: No change in repetition rates (Continued)							
	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Total Cost of Compensatory Program							
(1) For grades 1-6							
In Million J\$	116.5	130.8	147.0	163.9	181.4	199.7	218.6
In Million US\$***	2.91	3.27	3.67	4.10	4.54	4.99	5.46
(2) For grades 7-11							
In Million J\$	78.5	86.2	95.3	106.1	119.1	134.0	151.1
In Million US\$***	1.96	2.16	2.38	2.65	2.98	3.35	3.78
(3) For grades 1-11							
In Million J\$	195.0	217.1	242.3	270.0	300.5	333.7	369.7
In Million US\$***	4.87	5.43	6.06	6.75	7.51	8.34	9.24
Change in Recurrent Cost due to Program							
None (no change in enrollment by grade)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Financial Impact of Program							
In Million J\$	195.0	217.1	242.3	270.0	300.5	333.7	369.7
In Million US\$***	4.87	5.43	6.06	6.75	7.51	8.34	9.24
Scenario 2: Repetition rates at 5% in grades 1-5 & 7-10							
	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Projected enrollment							
Grades 1-6	324616	331514	338429	344533	348528	350633	350634
Grades 7-9	145286	146687	147965	148448	149417	151492	155630
Grades 10-11	68415	66259	62940	61922	62834	63649	63205
Grade 10	35690	34383	33168	33221	34128	34198	33667
Students in Weekend Program							
Proportion of Grades 1-6 attending program	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Proportion of Grades 7-9 attending program	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Proportion of Grades 10-11 attending program	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Grades 1-6	107123	109399	111682	113696	115014	115709	115709
Grades 7-9	29057	29337	29593	29690	29883	30298	31126
Grades 10-11	13683	13252	12588	12384	12567	12730	12641
Students in Summer Program							
Proportion of Grades 1-6 attending program	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Proportion of Grades 7-9 attending program	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Proportion of Grade 10 attending program	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Grades 1-6	107123	109399	111682	113696	115014	115709	115709
Grades 7-9	29057	29337	29593	29690	29883	30298	31126
Grades 10	7138	6877	6634	6644	6826	6840	6733
Cost of Weekend Program							
(1) For grades 1-6 students							
Student/teacher ratio	30	30	30	30	30	30	30
Number teachers needed	3571	3647	3723	3790	3834	3857	3857
Pay per teacher (J\$)*	15532	17085	18794	20673	22740	25014	27516
Teacher cost (Million J\$)	55.5	62.3	70.0	78.3	87.2	96.5	106.1
Non-teacher cost (Million, J\$)**	2.8	3.1	3.5	3.9	4.4	4.8	5.3
Cost for grades 1-6 students	58.2	65.4	73.5	82.3	91.5	101.3	111.4
(2) For grades 7-11 students							
Student/teacher ratio	20	20	20	20	20	20	20
Number teachers needed	2137	2129	2109	2104	2123	2151	2188
Pay per teacher (J\$)*	18950	20845	22930	25222	27745	30519	33571
Teacher cost (Million J\$)	40.5	44.4	48.4	53.1	58.9	65.7	73.5
Non-teacher cost (Million, J\$)**	2.0	2.2	2.4	2.7	2.9	3.3	3.7
Cost for grades 7-11 students	42.5	46.6	50.8	55.7	61.8	68.9	77.1
(3) For grades 1-11							
Teacher cost (Million J\$)	96.0	106.7	118.3	131.4	146.1	162.1	179.6
Non-teacher cost (Million, J\$)**	4.8	5.3	5.9	6.6	7.3	8.1	9.0
Total cost of weekend program (Million, J\$)	100.8	112.0	124.2	138.0	153.4	170.2	188.6

Scenario 2: Repetition rates at 5% in grades 1-5 & 7-10(Continued)							
	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
(1) For grades 1-6 students							
Student/teacher ratio	30	30	30	30	30	30	30
Number teachers needed	3571	3647	3723	3790	3834	3857	3857
Pay per teacher (J\$)*	15532	17085	18794	20673	22740	25014	27516
Teacher cost (Million J\$)	55.5	62.3	70.0	78.3	87.2	96.5	106.1
Non-teacher cost (Million, J\$)**	2.8	3.1	3.5	3.9	4.4	4.8	5.3
Cost for grades 1-6 students	58.2	65.4	73.5	82.3	91.5	101.3	111.4
(2) For grades 7-10 students							
Student/teacher ratio	20	20	20	20	20	20	20
Number teachers needed	1810	1811	1811	1817	1835	1857	1893
Pay per teacher (J\$)*	18950	20845	22930	25222	27745	30519	33571
Teacher cost (Million J\$)	34.3	37.7	41.5	45.8	50.9	56.7	63.5
Non-teacher cost (Million, J\$)**	1.7	1.9	2.1	2.3	2.5	2.8	3.2
Cost for grades 7-10 students	36.0	39.6	43.6	48.1	53.5	59.5	66.7
(3) For grades 1-10							
Teacher cost (Million J\$)	89.8	100.0	111.5	124.2	138.1	153.2	169.7
Non-teacher cost (Million, J\$)**	4.5	5.0	5.6	6.2	6.9	7.7	8.5
Total cost of summer program (Million, J\$)	94.2	105.1	117.1	130.4	145.0	160.8	178.2
Total Cost of Compensatory Program							
(1) For grades 1-6							
In Million J\$	116.5	130.8	146.9	164.5	183.1	202.6	222.9
In Million US\$***	2.91	3.27	3.67	4.11	4.58	5.07	5.57
(2) For grades 7-11							
In Million J\$	78.5	86.2	94.4	103.8	115.3	128.4	143.9
In Million US\$***	1.96	2.16	2.36	2.60	2.88	3.21	3.60
(3) For grades 1-11							
In Million J\$	195.0	217.1	241.3	268.4	298.4	331.1	366.7
In Million US\$***	4.87	5.43	6.03	6.71	7.46	8.28	9.17
Change in Recurrent Cost due to Program							
Primary & secondary education, before program, MJ\$	11152.3	12373.0	13744.3	15259.3	16947.5	18788.4	20769.6
Primary & secondary education, after program, MJ\$	11152.3	12373.0	13666.8	15106.3	16732.4	18513.4	20442.9
Change in recurrent cost, MJ\$	0.0	0.0	-77.4	-153.0	-215.1	-274.9	-326.7
Net Financial Impact of Program							
In Million J\$	195.0	217.1	163.9	115.4	83.3	56.1	40.0
In Million US\$***	4.87	5.43	4.10	2.88	2.08	1.40	1.00
Scenario 3: Repetition rates at 10% in grades 1-5 & 7-10							
	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Projected enrollment							
Grades 1-6	324616	331514	335497	340683	344445	346530	346711
Grades 7-9	145286	146687	147929	146348	144901	144229	146876
Grades 10-11	68415	66259	59452	57052	57855	58693	57242
Grade 10	35690	34383	31422	31450	32336	32495	30900
Students in Weekend Program							
Proportion of Grades 1-6 attending program	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Proportion of Grades 7-9 attending program	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Proportion of Grades 10-11 attending program	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Grades 1-6	107123	109399	110714	112425	113667	114355	114415
Grades 7-9	29057	29337	29586	29270	28980	28846	29375
Grades 10-11	13683	13252	11890	11410	11571	11739	11448
Students in Summer Program							
Proportion of Grades 1-6 attending program	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Proportion of Grades 7-9 attending program	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Proportion of Grade 10 attending program	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Grades 1-6	107123	109399	110714	112425	113667	114355	114415

Scenario 3: Repetition rates at 10% in grades 1-5 & 7-10 (Continued)							
	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Grades 7-9	29057	29337	29586	29270	28980	28846	29375
Grades 10	7138	6877	6284	6290	6467	6499	6180
Cost of Weekend Program							
(1) For grades 1-6 students							
Student/teacher ratio	30	30	30	30	30	30	30
Number teachers needed	3571	3647	3690	3748	3789	3812	3814
Pay per teacher (J\$)*	15532	17085	18794	20673	22740	25014	27516
Teacher cost (Million J\$)	55.5	62.3	69.4	77.5	86.2	95.4	104.9
Non-teacher cost (Million, J\$)**	2.8	3.1	3.5	3.9	4.3	4.8	5.2
Cost for grades 1-6 students	58.2	65.4	72.8	81.3	90.5	100.1	110.2
(2) For grades 7-11 students							
Student/teacher ratio	20	20	20	20	20	20	20
Number teachers needed	2137	2129	2074	2034	2028	2029	2041
Pay per teacher (J\$)*	18950	20845	22930	25222	27745	30519	33571
Teacher cost (Million J\$)	40.5	44.4	47.6	51.3	56.3	61.9	68.5
Non-teacher cost (Million, J\$)**	2.0	2.2	2.4	2.6	2.8	3.1	3.4
Cost for grades 7-11 students	42.5	46.6	49.9	53.9	59.1	65.0	72.0
(3) For grades 1-11							
Teacher cost (Million J\$)	96.0	106.7	116.9	128.8	142.4	157.3	173.5
Non-teacher cost (Million, J\$)**	4.8	5.3	5.8	6.4	7.1	7.9	8.7
Total cost of weekend program (Million, J\$)	100.8	112.0	122.8	135.2	149.5	165.1	182.1
Cost of Summer Program							
(1) For grades 1-6 students							
Student/teacher ratio	30	30	30	30	30	30	30
Number teachers needed	3571	3647	3690	3748	3789	3812	3814
Pay per teacher (J\$)*	15532	17085	18794	20673	22740	25014	27516
Teacher cost (Million J\$)	55.5	62.3	69.4	77.5	86.2	95.4	104.9
Non-teacher cost (Million, J\$)**	2.8	3.1	3.5	3.9	4.3	4.8	5.2
Cost for grades 1-6 students	58.2	65.4	72.8	81.3	90.5	100.1	110.2
(2) For grades 7-10 students							
Student/teacher ratio	20	20	20	20	20	20	20
Number teachers needed	1810	1811	1794	1778	1772	1767	1778
Pay per teacher (J\$)*	18950	20845	22930	25222	27745	30519	33571
Teacher cost (Million J\$)	34.3	37.7	41.1	44.8	49.2	53.9	59.7
Non-teacher cost (Million, J\$)**	1.7	1.9	2.1	2.2	2.5	2.7	3.0
Cost for grades 7-10 students	36.0	39.6	43.2	47.1	51.6	56.6	62.7
(3) For grades 1-10							
Teacher cost (Million J\$)	89.8	100.0	110.5	122.3	135.3	149.3	164.6
Non-teacher cost (Million, J\$)**	4.5	5.0	5.5	6.1	6.8	7.5	8.2
Total cost of summer program (Million, J\$)	94.2	105.1	116.0	128.4	142.1	156.7	172.9
Total Cost of Compensatory Program							
(1) For grades 1-6							
In Million J\$	116.5	130.8	145.7	162.7	180.9	200.2	220.4
In Million US\$***	2.91	3.27	3.64	4.07	4.52	5.01	5.51
(2) For grades 7-11							
In Million J\$	78.5	86.2	93.1	101.0	110.7	121.7	134.6
In Million US\$***	1.96	2.16	2.33	2.52	2.77	3.04	3.37
(3) For grades 1-11							
In Million J\$	195.0	217.1	238.8	263.6	291.6	321.9	355.0
In Million US\$***	4.87	5.43	5.97	6.59	7.29	8.05	8.87
(B) Change in Recurrent Cost due to Program							
Primary & secondary education, before program, MJS	11152.3	12373.0	13744.3	15259.3	16947.5	18788.4	20769.6
Primary & secondary education, after program, MJS	11152.3	12373.0	13496.4	14778.4	16269.5	17898.0	19663.5
Change in recurrent cost, MJS	0.0	0.0	-247.9	-480.9	-678.1	-890.4	-1106.1

Scenario 3: Repetition rates at 10% in grades 1-5 & 7-10 (Continued)							
	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
(C) Net Financial Impact of Program							
In Million J\$	195.0	217.1	-9.1	-217.2	-386.4	-568.5	-751.2
In Million US\$***	4.87	5.43	-0.23	-5.43	-9.66	-14.21	-18.78

* Teacher cost: 1 month basic salary of trained teacher, with 10% increase annually in nominal terms

** Non-teacher cost is set to be 5% of teacher cost

*** Based on an exchange rate of 40J\$/1US\$

Appendix 9: External Finance for Education

External Finance for Education

Early Childhood Education (ECE) Programs		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
To build the capacity of regional Caribbean countries to develop integrated approaches to early child development	The grant supports four major components: <ul style="list-style-type: none"> ▪ Developing a policy framework based on the case of Jamaica; ▪ Revising and piloting curricula for training the relevant personnel and developing an accreditation system; ▪ Developing service delivery models; ▪ Establishing a regional information and resource network. 	Early Childhood Development Project — Institutional Development Fund Grant (1996-98). Funded by IBRD (\$200,000 grant).
To improve the learning achievement of primary school-age children.	To strengthen national capacities for the planning, implementation, and monitoring of innovative techniques designed to improve the quality of basic education; and <ul style="list-style-type: none"> ▪ To develop gender aspects of the socialization and developmental needs of young children. 	Basic Education/Early Childhood Education Program (1997-2001). Estimated program cooperation. Funded by UNICEF (estimated program budget: \$3,135,000).
Primary Education Programs		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
To encourage children of the primary grades to cultivate good health habits and be a strong influence for healthy living for their peers and members of their households.	To integrate Child Health in the curriculum of primary schools by: <ul style="list-style-type: none"> ▪ Designing health lessons as extensions of specific lessons in the Social Studies, Science, and Language Arts sections of the General Curriculum; ▪ Developing Student Workbooks for each grade; ▪ Designing a Health Reader as further lesson support material; ▪ Training teachers. 	Child Health Education and Development Project (1979-2001). Originally a joint effort of the Ministries of Youth and Community Development, Health and Education. The project was strengthened by UNICEF support from 1989 on. (\$721,000 for the 1990-96 period).
To improve the quality of primary education and reduce inequalities in its provision.	To support the construction and civil works on schools, teacher training and professional development, teacher salary subsidies, recognition grants, instructional materials, equipment, furniture and other goods for this educational level through: <ul style="list-style-type: none"> ▪ Providing textbooks to 350,000 primary school students; ▪ Upgrading and expanding 19 Primary and All-Age schools; 	Social Sector Development Project (SSDP, 1989-96) funded by GOJ/IBRD.

Primary Education Programs (Continued)		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
To improve the effectiveness and efficiency of the primary education system.	The program—which covers children in Grades 1-6 and Grades 7-9 in participating All-Age Schools—will: <ul style="list-style-type: none"> ▪ Establish a system to monitor pupil performance in key primary grades; ▪ Update content and performance objectives and primary curriculum guides; ▪ Equip primary teachers with skills and resources to ensure that primary school leavers can read, write, and speak standard English; ▪ Ensure that all children have access to school library books. ▪ Provide secure, sanitary conditions in some of the country's least adequate primary schools; ▪ Provide institutional support to the MOE; ▪ Provide support for administration, management, and design activities. 	Primary Education Improvement Project (PEIP II, 1993-97) funded by IDB (\$28M)/ USAID (\$4.5M) / ODEC & NDF (\$5.7M).
To improve the effectiveness and efficiency of the primary education system with special reference to: policy analysis and educational management information system, decentralization of school management and mathematics education.	Specific project objectives are: <ul style="list-style-type: none"> ▪ Fostering of greater community involvement in education through the School Community Outreach Program for Education (SCOPE); ▪ Upgrading the MOEC's policy analysis capabilities by establishing an Educational Management Information System (EMIS); and ▪ Improving the teaching /learning of mathematics. 	Primary Education Assistance Project (PEAP III, 1990-96). Funded by GOJ/USAID (\$5,600,000).
		1991 study on Jamaica Primary Textbooks — Phase II. CIDA funded project.
	OAS has provided 30 primary schools with equipment and materials.	Textbooks and instructional materials. OAS funded project.
To improve the quality of primary education and reduce inequalities in its provision		Primary Education Improvement Project II (duration: to September 1999). Budget: \$38.6M (IDB: \$28M).
National program which seeks broad support to reduce future levels of violence in communities by teaching children, parents, and communities to resolve conflict.		Violence Reduction through Education of Youth and Community project (Peace and Love in Schools). Duration: 1994-? (on-going). Funded by PAHO/WHO. Budget: \$157,539 (PAHO \$43,000).
Analytic review of issues of teaching and reading.		1992 study on A Model for Assessing Reading with Primary School (Marvin Irwin). Funded by UNESCO (\$3,500).

Primary Education Programs (Continued)		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
Study was conducted to identify ways of improving reading at the early primary level.		1994 study on Accelerating Reading Achievement (Elaine Carter). Funded by UNESCO (\$2,510).
Study aimed at identifying methods of improving and making recommendations regarding curriculum and pupil achievement.		1995 study on Alternative Teaching Methods, Assessing Early Learning Experiences of Children 0-6 years (Carlos Brown). Funded by UNESCO (\$2,489).
Study aimed at identification of priority areas where more research and technical assistance needed.		1995 study on Primary Education in the Caribbean (Special Reference to Jamaica) (Millicent White). Funded by UNESCO (\$600).
To encourage children of the primary grades to cultivate good health habits.		Child Health Education and Development Project (1989-2001). Funded by UNICEF (\$721,000).
To enhance the teaching capability and improve education standards and conditions at the primary level in primary and all-age schools in rural and disadvantaged areas.		All Age/Primary School Rural Area Education Project (1997-98). Funded by ODA (\$4,670,715)
To improve the literacy and numeracy of "at risk" primary school students so that they can become more responsible productive citizens.		New Horizons for Primary Schools (to be contracted in March 1998). Funded by USAID (\$10,200,000).
Secondary Education Programs		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
To improve quality, efficiency and equity of lower secondary education especially schools serving poorest students; to strengthen the capacity of the MOEC to plan and monitor the impact of the reform; to strengthen the Government's capacity to undertake sophisticated social policy analysis and use the results in formulating more effective and targeted social programs.	To effect qualitative improvements to first cycle (Grades 7-9) secondary education and to remove the inequities in the current structure and provision of education at this level through: <ul style="list-style-type: none"> ▪ Physical upgrading of schools; ▪ Developing and implementing training for guidance counselors at 2 colleges; ▪ Implementing a common core curriculum in 72 All-Age and New Secondary schools; ▪ Rationalizing secondary level examinations; ▪ Providing textbooks and support materials; ▪ Improving local capability for policy. 	Reform of Secondary Education (ROSE, 1993-2000). Funded by GOJ/IBRD. Budget: 40.7 million (IBRD \$32.0, the Netherlands \$2.7 million, GOJ \$6.0 million).
To cover financing, implementation, and labor market issues.		1998 study on Secondary Education in Jamaica. Funded by IBRD.

Secondary Education Programs (Continued)		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
	Objectives include: <ul style="list-style-type: none"> ▪ Developing and introducing common core curriculum in 6 subject areas; ▪ Upgrading facilities in 16 All-Age Schools; ▪ Consolidating Grades 7-9 of 16 small All-Age Schools into 4 Junior High Schools or Departments; ▪ Strengthening of the management and institutional capabilities of the MOEC. 	Education Program Preparation and Student Loan.
To support the development and publication of learning materials for lower reading ability pupils, including those from low income families.	The project strategies are to: <ul style="list-style-type: none"> ▪ Provide textbooks on a rental basis to students in public and private secondary schools and in Grades 7-9 of All-Age Schools; ▪ Provide textbooks for over 60,000 low ability children in four core subjects and writers workshops on text development for these children; ▪ Provide training for 6,000 teachers in the use of textbooks; ▪ Prepare students for SSC and CXC exams. 	Secondary schools textbook project — (SSTP, 1993-97). Phase III. Funded by GOJ/UK-ODA (2.56 million pounds). Overall phases I-III (1987-97): 8.0 million pounds.
	The project is extending its textbook support activities to the primary schools to lower secondary schools, through additional provision of paper.	Textbooks and instructional materials. CIDA funded project.
	OAS has supported the development and distribution of teaching aids for mathematics, language, science, and social studies.	Textbooks and instructional materials. OAS funded project.
To improve and institutionalize Family Life Education in grades 1-9 in Primary, All-Age and Secondary Schools in Jamaica		Family Planning Initiatives Project. Funded by USAID (1996-98) \$165,000
To provide a better quality of technical and vocational education and training in the field of auto-mechanics, computer assisted designs, electronics & machine shop at Jose Marti Technical High School		TVET Improvement Project at Technical High Schools. Funded by the Japanese International Cooperation Agency. (1997-2002) \$4.1 million
	USAID has equipped technical high schools with appropriate institutional technology, materials, and teaching aids.	Textbooks and instructional materials. Project funded by USAID.

Youth Programs		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
To promote a better quality of life among selected young women in school and out of school by attempting to reduce the incidence of teenage pregnancies.	The project within the formal school system will: <ul style="list-style-type: none"> ▪ Develop a program which will provide information and skills and will inculcate positive attitudes towards human sexuality among adolescents in the 12-19-year-old age group in and out of school; ▪ Develop a support system for girls at risk of becoming pregnant too early, thus avoiding unwanted pregnancies; ▪ Strengthen the links between the Women's Center, Operation Friendship, and the formal school system to facilitate the re-entry of teenage mothers into the public school system; ▪ Institutionalize Family Life activities into the school curriculum. 	Reduction of Teenage Pregnancy Project (1992-96). Funded by UNICEF (\$100.3) / the Netherlands Government (\$443.00).
To reduce the morbidity, mortality, and the social and economic costs associated with HIV/AIDS/STD infections.	The project promotes behavior change in students by: <ul style="list-style-type: none"> ▪ Supporting the introduction of an HIV/AIDS education program in the curriculum of Grades 1-11 of the school system; and ▪ Building on the success of other projects previously implemented by the Ministry of Education and Culture and local schools. 	AIDS/STDs Education Project (1994-97). Funded by UNDP / UNFPA / UNICEF. Budget: \$550,000.
To reduce HIV transmission and the incidence and prevalence of sexually transmitted diseases (STDs) in Jamaica.		AIDS/STD Prevention and Control Project. (1988-2001) Funded by USAID (\$10.1 million)
To assist the GOJ to progressively improve the targeting of the school feeding program for poor children in the early years of schooling and to broaden its scope to cover more students.	The project, as part of the larger National Poverty Eradication Program, was designed to: <ul style="list-style-type: none"> ▪ Provide nutritional subsidy to students in Pre-primary, Primary, All-Age, and New Secondary schools, and ▪ Encourage regular school attendance. 	School Feeding Program (SFP). Component of the National Poverty Eradication Program. Funded by GOJ/WFP.

Youth Programs (Continued)		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
To reflect a holistic view of children's development with information about their physical, mental, social, and emotional development in the context of their home and school environments.	The project includes: <ul style="list-style-type: none"> ▪ A description of the extent and dimensions of debilitated or delayed development; ▪ A description of the living and learning environments of young children; ▪ An identification of particular groups most in need of assistance; ▪ The provision of data to guide the development of policy and programs to support young children; and ▪ Advocacy for political, parental, and public attention to the importance of quality early childhood care and education. 	Profiles on the Status of Jamaica and their Learning Environments at point of entry to Primary School (duration of 3 years, in pipeline). Funded by IDB (\$398,870).
Basic up to tertiary.		1990 study on Education Sector Review (J. Boich). Funded by CIDA.
Covers educational finance, governance, and management; demographic projections; and an assessment of the performance and efficiency of basic and primary school education		1997 study on Education Sector Studies. Education level: Primary, Secondary, and Tertiary. Funded by IDB.
To transform and improve educational systems for the integration of a consistent and positive behavior towards the environment, an understanding of the value and relevance of marine and coastal resources;	The project includes: <ul style="list-style-type: none"> ▪ Strengthening of training programs at the national and regional levels, aiming at improving technical and managerial skills of decisionmakers responsible for the management of marine and coastal resources; ▪ Supporting the public awareness efforts of the media, community-based, and nongovernmental organizations geared towards the economic sectors and the general public for a better understanding of and a positive interaction with marine and coastal resources. 	Regional Program on Education, Training and Awareness for the Management of Marine and Coastal Resources (ETA, 1994-96). Funded by UNEP (\$473,192 for 1995-96).
A demographic and ethnographic profile of the population of out of school youth ages 10-18.		1995 study on the ethnographic, demographic, and institutional analysis for the Uplifting Adolescent. Funded by USAID (\$78,000).

Youth Programs (Continued)		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
To introduce computers into the education system.	To identify and implement cost-effective and instructionally sound models, establishing a WAN network among pilot schools, and experimenting with new software applications for improving reading, math, communication skills, higher level thinking, and cooperative learning techniques.	Jamaica Partnership for Technology in Basic Education Project — InfoDev Grant (1996). Funded by IBRD (\$500,000 grant).
To contribute to the reduction of poverty and help create an environment for sustainable national development. Preprimary and primary education levels.	More specifically, the project is designed to assist the Government in responding to the needs of the most vulnerable groups currently underserved by existing programs and institutional mechanisms by: <ul style="list-style-type: none"> ▪ Establishing an efficient, demand-driven and complementary mechanism to deliver basic services and infrastructure to the poor; ▪ Mobilizing and channeling additional resources to the areas of basic social and economic infrastructure and social services; and ▪ Increasing national institutional capacity to identify, design, implement, manage, and sustain small-scale community-based projects. 	Jamaica Social Investment Fund (JSIF, 1996-2001). Funded by IBRD (\$20.0 million) /GOJ (\$10.0 million) /IDB (\$10.0 million) /Dutch (\$3.0 million) /Beneficiaries (\$5.0 million) /Other (\$2.0 million). Budget: \$50.0 million.
To review education and training in the region; to compare the British-based educational system in the English-speaking islands with the French system used in Haiti and the Dominican Republic.		1993 study on Caribbean Region: Access, Quality, and Efficiency in Education. Funded by IBRD.
To analyze the experiences of 23 programs working with at-risk youth around the world.		1996 study on Review and Analysis of International Experience with Programs Targeted on At-Risk Youth (Baker, Fontes). Funded by IBRD.
To provide the basis for programmatic interventions.		1994 survey on Integration of Population Education into the Agricultural Extension Service. Funded by UNFPA (\$5,000).

Youth Programs (Continued)		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
To enhance peer counseling skills of young people and supervisory management training skills of youths in addition to providing resources, IEC material, and integrating reproductive health education content into the workplan of NGOs. (Expands the foundation laid by the YES project, which aims to contribute to the improvement of the reproductive health status of young people).		Adolescent Reproductive Health Education through NGO's Collaboration Project (1994-96). Funded by UNFPA (\$191,529).
To facilitate training in community health with special emphasis on health and family education.		Health Education Course Project. Funded by UNFPA. Budget: (fellowship costs).
To improve the provision of education for all.	Development of activities and workshops; preparation, production, and dissemination of education material; Plans of Action, a pilot training program in basic skills for out-of-school youth; Education and Vocational Guidance through theater; training courses for teachers in science and technology; organization of a consultation on Conflict and Violence and Basic Education; identification of pockets of excellence in Basic Education and Postprimary Education; purchase of textbooks; development of a program in Basic Education in one prison under the Education for All; Collaboration with the UWI, in the development of a project for the training of correctional officers in basic education; development of activities in connection with the promotion of basic education in rural areas and with the empowerment of girls and women by strengthening their literacy and reading, etc.	UNESCO funded projects (1991-96).
Tertiary Education Programs		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
		1992 study on the Assessment of the Impact of Assistance to the Ministry of Education to prepare Implementation Plan for Financing Education (C. Gardner). Funded by CIDA.
		1992 study on System Analysis of CAST; Prepared for CAST Council (J. Boich). Funded by CIDA.

Tertiary Education Programs (Continued)		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
	Financing of the construction of a student hostel to assist in easing the accommodation difficulties of students and prospective students.	Infrastructural Development Project funded by the EEC under the LOME III program, 1995-96.
Establish 6 regionally integrated Master courses to be offered regionally.	Offer 260 Graduate scholarships to be offered at Caribbean Universities. Construction of new building for the Caribbean School of Architecture at UTECH.	Caribbean University Level Programme. Funded by EU Regional Programme. (ECU 21 million)
	Implementation of a Development Plan for UWI.	Development Plan for UWI funded by GOJ/IDB.
	Connection of UWI to Internet providing mutual access between its own database and that of libraries and universities worldwide.	Information System Development plan for UWI. Funded by the OAS.
	The Student Loan aspect of the EPP&SL. Provides support for strengthening the financial mechanisms for student loans at this educational level.	Education Program Preparation and Student Loan (EPP&SL, 1988-19?) funded by World Bank IV.
Provide Jamaican students (especially the neediest) with adequate financing options to pay for their share of higher education on an ongoing basis.	Improve targeting of Subloans; injection of funds into an Education fund; the restructuring of the Student Loan Bureau to focus on improved loan targeting the improvement in administrative efficiency and financial sustainability of the SLB.	Student Loan Project (1996-01). Funded by IBRD (\$28.5 million)
		1991 Education and Training for Productivity (CAST) (Association of Canadian Community Colleges). Funded by CIDA.
Human Resource Development	HR subcomponent to facilitate a Regional Distance Learning Programme at UWI and a Post Graduate Training Programme at UWI including a Master Course and 20 Scholarships. Programme is active in 8 CARIFORUM countries including Jamaica, the Dominican Republic, Haiti, Suriname, Trinidad & Tobago, and Barbados.	Caribbean Regional Tourism Sector Programme Funded by the EU (ECU12.8 million total) Sub-component dealing with HR subcomponent: Regional distance Learning Prog – ECU 408,000; Post Grad training at UWI – ECU668,000.
To improve the access and quality of higher education.	Development of summer training courses in science and technology; workshops for the execution and implementation of training; training of teachers; conferences for administrators and lecturers; pre-service and in-service training of teachers; an educational network among teacher-training institutions, etc.	UNESCO funded projects (1991-96).

Adult Education Programs		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
	<p>The program is aimed at:</p> <ul style="list-style-type: none"> ▪ Developing a numeracy curriculum to complement the literacy curriculum; and ▪ Focusing on the teaching of life skills. 	Human Resources Development Program funded by JAMAL/CIDA.
Training Programs		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
<p>To upgrading and reform the educational and training systems.</p> <p>To produce and maintain a competent workforce responsive to the needs and dynamics of the labor market.</p>		
		Regional shipping Diploma Course introduced in 1994. This modular program, offered in conjunction with the Vancouver based Pacific Marine Training Institute (PMTI), is funded by CIDA.
Result of the increased demand by organizations for training beyond entry level competence, this program aims at increasing the efficiency and productivity of Jamaican organizations through skill upgrading and other interventions.	It provides technical assistance in areas such as human resources development, industrial safety, workforce needs assessment and analysis, skills upgrading, and the brokering and monitoring of training programs. During the year, contacts were made with 20 organizations, 6 programs introduced, and 72 persons trained.	Workforce Improvement Program introduced in 1996. HEART/NTA in collaboration with the national industrial training agency of Brazil, SENAL.
		Basic Skills Training Project funded by USAID.
To equip the Public Service of Jamaica with the qualified human resources necessary for sound economic development.	To upgrade or create capacity within specifically identified ministries and agencies in their provision of services to the public.	Public Sector Training (1993-96). Funded by UNDP (\$440,000).
Postgraduates studies (Masters) for staff from PIOJ and Ministry of Finance.		Public Sector Training (1995-98). Funded by UNDP (add-on funds, \$40,000).
<ul style="list-style-type: none"> ▪ To establish a regional antinarcotics law enforcement training center which will serve the English-speaking Caribbean countries; and ▪ to develop a training program that will meet the region's need for efficient and effective antinarcotics operations. 		Subregional Antinarcotics Law Enforcement Training Center Project (1995-99). Funded by UNDCP (\$879,750).

Training Programs (Continued)		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
To consolidate and further institutionalize graduate training in social science studies in the Caribbean region.	<ul style="list-style-type: none"> ▪ To improve the capacity of national and regional development planning and policy-making institutions to research economic and social conditions, analyze and predict trends; and ▪ To formulate development objectives; to design, monitor and evaluate development programs within a multi-disciplinary framework and a Caribbean context. 	Consortium Graduate School in Applied Social Sciences Project (1994-96). Funded by UNDP (\$220,500).
To strengthen the competitiveness of the Jamaica manufacturing sector and subsectors with special emphasis on small and medium enterprises.	<ul style="list-style-type: none"> ▪ To upgrade technical and management skills in small enterprises; and ▪ To reinforce links between training institutions and the manufacturing sector. 	Strengthening the Competitiveness of the Jamaica Manufacturing Sector and Subsectors with Special Emphasis on Small and Medium Enterprises (on-going in 1996). Funded by UNDP.
To contribute to the improvement of the educational preparedness of youth and adults in Jamaica by accelerating the introduction of education and training systems.	<p>The project will:</p> <ul style="list-style-type: none"> ▪ Help youth improve their preparedness for the world of work by upgrading their basic literacy numeracy, problem solving, and computer literacy skills through Computer Aided Instruction (CAI); ▪ Help adult workers supplement specialized technical and on-the-job training, by increasing the availability of computer aided instructional facilities and tutorial packages; ▪ Contribute to the expansion and strengthening of public-private partnerships to support educational improvement and expand training. 	Computer Aided Technology and Training Project (2 years duration). Funded by GOJ (\$630,000) / IDB (\$1M).
To consolidate and institutionalize graduate training in social science studies in the Caribbean, placing emphasis on national and regional developing planning and policy-making institutions.		Consortium Graduate School in Applied Social Sciences Project (2 years duration, terminated) UNDP (\$220,500).
To provide suitable, cost-effective education and training programs for disadvantaged Jamaican youths.	To provide opportunities for academically able students who are community leaders to attend community colleges and pursue courses leading to an Associate Degree.	Cooperative Association of States for Scholars (CASS, 1989-98). Funded by USAID (\$4,258,625).
To provide in-service training through the Ministry of Health to several categories of personnel who are engaged in the provision of FP services, information, education, and communication services, contraceptive social marketing, etc.		In-service Training of Family Planning Personnel 1988-91). Funded by UNFPA (\$656,000).

Training Programs (Continued)		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
To facilitate south-south cooperation through the technical cooperation among developing countries.		Umbrella Technical and Managerial Education and Training (1989-1997). Funded by UNDP (\$100,000)
To equip a broad base of leaders and potential leaders in Latin America and the Caribbean with technical skills, training and academic education.		Caribbean and Latin America Scholarship Program II (1990-98). Funded by USAID (\$5.5 million)
To provide support to UWI (Advanced Training and Research in Fertility and Management Unit) to train health and allied personnel in reproductive health programs with emphasis on coverage and quality of care.	The strategy involves distance training via teleconferencing supported by the use of training manuals.	Strengthening Democratic/Population Health in the Caribbean (1994-96). Funded by UNFPA (\$390,000).
Technical and Vocational Education and Training Programs		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
To develop a structural development plan for Jamaican vocational training, oriented to the demands of the labor market and the priorities of the country's policy on economics, and taking into account prevailing social conditions.	The project includes the following strategies: <ul style="list-style-type: none"> ▪ Improving the organizational framework of vocational training; ▪ Formulating and implementing a structural development plan for the system of vocational training in the country; ▪ Putting into operation concrete vocational training measures in priority training sectors and training facilities, taking into account the experience gained from the earlier project, JAGAS; and ▪ Promoting a deeper and more socio-politically oriented involvement, especially in the informal sector, on behalf of under-privileged groups of women. 	Development of the Vocational Training System, joint effort between Human Employment and Resource Training (HEART) / National Training Agency (NTA) / the German Agency for Technical Cooperation (GTZ). Total funding for the first project phase (3 years out of 9): DEM 4,800,000.
To strengthen the institutional capacity of the Forestry Department (FD) to plan and implement sustainable forest management and other soil and water conservation measures in Jamaica's watersheds, and to increase awareness of the importance of environmental issues throughout the country.	<ul style="list-style-type: none"> ▪ To redefine the FD's mandate and organization; ▪ To update the National Forestry Action Plan and five-year management plan; ▪ To train FD staff; ▪ To equip FD's Resources Management Division to deliver program; ▪ To conduct biophysical inventories. 	Trees for Tomorrow (1992-99). Funded by CIDA (Cdn\$ 10.0 mil., training component Cdn\$ 187,000 to date).

Technical and Vocational Education and Training Programs (Continued)		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
To assist in developing human resources and in institutional strengthening to increase productivity for the public and private sectors.	To improve the availability and quality of skilled professionals, managers, technicians, administrators, and small business people.	Canada/Jamaica Training Project (1990-97). Funded by CIDA (Cdn\$ 5.0 mil).
To contribute to the economic growth of Jamaica by stimulating small business creation and by improving viability of both new businesses and existing ones.	<ul style="list-style-type: none"> ▪ To strengthen the capability of the College of Arts, Science, and Technology (CAST) to provide relevant formal education in small business in general and specifically in <i>hospitality/tourism and computers</i>; ▪ To provide skills to CAST's graduates to stimulate them to establish small businesses. 	Entrepreneurial Extension Center at CAST — Education and Training for Productivity Project (1990-96). Funded by CIDA (Cdn\$ 3.0 mil).
To increase the region's capacity to compete in the global economy through human resources and institutional development; and To strengthen the region's capacity in environmental management.	<ul style="list-style-type: none"> ▪ To develop critical skills to meet the supply/demand gaps in a wide range of nontraditional skills in various sectors and levels (agriculture, tourism etc.); ▪ Management training in diverse areas including: planning, accounting, marketing, etc., targeted to the private sector; ▪ Entrepreneurial and small business development; ▪ Targeted vocational/skills training through the formal and nonformal systems to facilitate the participation of less advantaged women, youth and the semiskilled in the labor market. 	1996 Caribbean Regional Human Resource Development Project for Economic Competitiveness (in pipeline). Funded by CIDA (estimated budget of Cnd\$ 25 mil.).
To improve the social and job skills of Jamaica's at-risk youth (ages 10-14) on a sustainable basis so they may become responsible and productive citizens.	To support the work of Jamaican NGOs in delivering multimodal packages of interventions that have demonstrated successful impact in promoting self-esteem and socialization, reducing teenage pregnancy and HIV/STDs, increasing literacy, reintegrating "dropouts" into schools, and teaching marketable skills to the target group.	Uplifting Adolescents Project (1996-2000). Funded by USAID (\$7,000,000).
To equip a broad base of leaders and potential leaders with technical skills, training, and academic education, and an appreciation and understanding of the workings of a free enterprise economy in a democratic society.	Clasp II provides scholarships to allow these Jamaicans to pursue training and academic education at institutions in the United States. It also focuses on critical areas in education for which training is not available in Jamaica.	Caribbean and Latin American Scholarship Program II (CLASP II, 1990-97). Funded by USAID (\$5,500,000).

Technical and Vocational Education and Training Programs (Continued)		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
<p>To provide informal skills training opportunities for disadvantaged persons, in particular recipients of food stamps:</p> <p>1) ■ To help reduce dropout rates, increase the enrollment of poor trainees, and improve training programs and facilities; and</p> <p>■ To enable HEART and the NGOs to increase their outreach capacities and their commitment to community-based training targeted to the most disadvantaged.</p> <p>2) WFP assistance to the Food Stamp Program: To increase opportunities of food stamp recipients who have not had access to training to achieve greater self-reliance and to lessen their dependence on public assistance.</p>	<p>1) To provide stipends to needy students attending vocational training institutions managed by the Human Employment and Resources Training (HEART/NTA) Trust and selected NGOs service providers.</p>	<p>Poverty Reduction and Food Security through the Development of Human Resources (3-year program). Funded by GOJ (\$69,947,822) /WFP (\$14,941,952).</p>
<p>To pilot a new form of collaboration between organized labor and employers in order to expand private sector capacity to improve labor market exchange mechanisms, training and retraining capability, and labor market information, and to expand the private sector role in promoting human resource development capital on a national level.</p>	<p>The project includes:</p> <ul style="list-style-type: none"> ■ Pilot innovative labor market services to provide 3,6000 adult workers with placement, self-employment, and related training and retraining in technical, supervisory level and /or entrepreneurial activities; ■ To examine the feasibility of establishing an institutional infrastructure and a rotating fund; ■ To improve a private and public sector collaboration to develop a strategy to initiate a necessary Labor Market Information System (LMIS) to improve planning human resource capability and enhance the future compatibility between training delivery and credentialing systems and labor market demand information. 	<p>Human Capital Development Pilot Project (4 year duration). Funded by GOJ (\$1,029,800) / IDB (\$3,523,300).</p>
<p>To strengthen the institutional capacity of the Beneficiary, so as to enable it to maintain as well as expand its services to underprivileged young women in low-income urban and rural communities. The goal is to restore educational opportunities forfeited due to pregnancy and to reduce subsequent pregnancies.</p>	<ul style="list-style-type: none"> ■ To develop training programs for the WWC staff, trainers, and beneficiaries; ■ To design and implement strategic planning measures to address issues of cost recovery and sustainability. 	<p>Institutional Strengthening of the Women's Construction Collective (WCC, 1996-98). Funded by IDB (\$150,000).</p>
<p>A longitudinal study of the effectiveness of individual schools (Grammar and Technical High Schools) in preparing students for external examinations.</p>		<p>1994 study on Pockets for Excellence (Dennis Minnott). Funded by UNESCO (\$1,500).</p>

To equip a broad base of leaders and potential leaders with technical skills, training and academic education.		Caribbean and Latin American Scholarship Program (1990-97). Funded by USAID (\$5,500,000).
Assessment of Jamaica's Workforce skills, needs, and training capacity in four leading export sectors.		1994 study on the Jamaican Labor Force Survey. Funded by USAID.
Management of the Education System		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
To strengthen general education management and administration.	To assist the MOEC's Projects Division to improve its project management capability.	Education Sector Management Project funded by UNDP (\$500,000).
As part of the Government's national strategy for social sector development under the Human Resources Development Program, the project aims at strengthening basic education and education sector management.		Education Sector Management Project (4 years duration). Funded by UNDP (\$791,450).
To help the MOE improve its capacity to plan, implement, manage, and evaluate projects and to support the institutionalization of an on-going program of in-service training for the professional development of education personnel.	To improve MOE's capabilities in education planning and administration by providing training and fellowships for education and managerial staff of MOE.	Education Program Preparation and Student Loan (EPP&SL, 1988-19?) funded by World Bank IV.
	The project provides for : <ul style="list-style-type: none"> ▪ Establishment of a Project Implementation Unit; ▪ Establishment of a management audit and proposal for rationalizing the Projects, Construction, and Maintenance Division; ▪ Establishment of systems and procedures for collecting, updating, storing, retrieving, and disseminating data; ▪ Procurement of communication equipment for the decentralization process; ▪ Production of instruments to record the impact of primary education (the National Assessment Program); and ▪ Development of terms of reference and program documents for the Professional Development Unit and for identifying materials for the Education Media Services Unit. 	Education Sector Management Project (ESMP) funded by UNDP.
To strengthen the management capacity of the PIOJ to increase its operating efficiency and to better equip it to achieve its policy mandate.		Institutional strengthening of PIOJ (pipeline). Funded by UNDP (add-on funds, \$500,000).

Management of the Education System (Continued)		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
To rebuild and reform the social sectors and to ensure increased investment flows with emphasis on health, education, nutrition, and employment.	<ul style="list-style-type: none"> ▪ To strengthen basic education, including rehabilitation and upgrading of preprimary and primary schools, ▪ To improve the efficiency and effectiveness in education sector management; and ▪ To provide a more effective and equitable system of secondary education. 	Education Sector Management Project (1990-94). Funded by UNDP (\$791,450).
To equip "The Public Service of Jamaica" with qualified human resources necessary for sound economic development by upgrading or creating the capacity to improve the services to the public.		Public Sector Training project (3 years duration, terminated)). Funded by UNDP (\$440,000).
To strengthen the management education and training capability of the Department of Management Studies (DOMS) at the University of the West Indies and to establish an Institute of Business.	The focus of this project is on institutional enhancement of the DOMS and the Institute of Business through the development of relevant undergraduate, graduate, and executive management programs to meet the needs of the business community.	UWI Management Education Project (1987-97). Funded by USAID (\$5,600,000).
To enhance the university's capacity to respond to the region's higher education needs in the fields of science and technology.	<p>The program seeks to :</p> <ul style="list-style-type: none"> ▪ Expand and improve the development of human resources needed for the economic growth of the English-speaking Caribbean; ▪ Strengthen research and development capacity relating to the region's needs and problems; and ▪ Increase, diversify, and improve the outreach services of the UWI. 	UWI Development Program (4 years duration, in execution). Funded by IDB (\$80,000).
To enhance educational management at the regional level.	The program will assist the MOEY&C in the design and pilot implementation of an action learning management development program for regional and local management, including school principals, based on the current and emerging corporate management practices of the Ministry.	Improving the Quality and Sustainability of Decentralized Education (in pipeline), Funded by IDB (proposed funding: \$675,000).
To examine the process and effects of managerial decentralization in education in order to improve implementation effectiveness.		1994 study on Education Decentralization in Jamaica (Lorraine Blank). Funded by IBRD.
		Study on Education Financing funded by IBRD (in pipeline).

Management of the Education System (Continued)		
Objectives	Strategies	International and Bilateral Agencies and Funding Amount
To help strengthen UWI's capacity to respond to critical regional HRD needs.	<ul style="list-style-type: none"> ▪ To assist with the development of the strategic planning, financial management, and regional coordination capacities of the University Center; ▪ To contribute to a sustainable development program focusing initially on regional environmental issues; ▪ To assist with the upgrading of regional HRD planning capacities and matter teaching skills. 	Canada/UWI Institutional strengthening Project (1990-97). Funded by CIDA (Cdn \$10.0 mil).
		Canada/UWI Institutional Strengthening Project. Inception Report (S. Griffith). Funded by CIDA.
To provide information for policymakers to evaluate the quality and efficiency of spending and to improve allocation of resources.		1996 study on Jamaica Public Expenditure Review. Funded by IBRD.
To emphasize approaches and ways of determining education policies, priorities, and strategies.		1995 study on Priorities and Strategies for Education (Education and Social Policy Department). Funded by IBRD.
To undertake a detailed review of the financing of the entire education sector and the policy implications of resource allocation strategies.		1997 study on Educational Finance and Policy Implications. Funded by IDB.
To explore options for the enhanced performance of the education sector through decentralized management.	In order to assist the MEC in diagnosing the strengths and weaknesses of the existing system and in identifying options for improved sector governance and management, the study will review the administrative operation of the current decentralized structure, as well as the degree of autonomy enjoyed by educational institutions.	1997 study on Educational Governance and Management. Funded by IDB.
To provide a detailed diagnostic of the current state of basic and primary education, including issues related to system performance such as equity, access, coverage, quality, and internal efficiency, as well as existing mechanisms for assessing performance (learning, teaching, and administration).		1997 study on Assessment of the Performance and Efficiency of Basic and Primary School Education. Funded by IDB.

**Appendix 10: Summary of a Literature Review of Financing
Strategies for Equalization in Basic Education in Selected
Countries**

Summary of a Literature Review of Financing Strategies for Equalization in Basic Education in Selected Countries

This literature review of financing strategies for equalization in basic education was commissioned⁶ in order to provide the Jamaican Ministry of Education and Culture international experience in financing the extension of educational access and the promotion of equity and quality. The review examines a wide range of financing strategies actually implemented in a number of countries in recent years. For each financing strategy, the review attempts to explain how it works, assess its equalization impacts, identify outstanding issues, and summarize key lessons learned in its implementation. The major objective is to identify promising strategies and facilitating conditions for promoting equalization in basic education. The review is based on published studies in the English literature. These studies cover low-income countries such as Sub-Saharan African nations, Tanzania, Kenya, and China; middle-income countries such as Malaysia, Chile, Colombia, Trinidad and Tobago, Barbados, Cote d'Ivoire, Thailand, and Zimbabwe, as well as high-income countries such as the United States, Great Britain, France, Sweden, and Japan. This summary provides a synopsis of the findings.

Equalization in Basic Education. Conceptually, equalization in basic education involves interventions to achieve two objectives: interventions to expand access to basic education, and interventions to promote equality in the basic-education experience. To the extent that individuals without prior access are provided the opportunity to enroll in basic education, expansion of access will contribute to equalization among individuals from different backgrounds. However, interventions to achieve the first objective alone may be problematic in at least two aspects. First, the quality of the basic-education experience may be so poor that graduates from basic education do not have the requisite skills, knowledge, and dispositions to perform productively in the workplace and to function properly in society. Thus, expansion of access to basic education should be based on the provision of a minimally accepted level of quality for all individuals. This in turn calls for the mobilization of an adequate level of resources from different sources, and an efficient utilization of such resources to achieve access to quality basic education for all. The second potential problem is that, despite universal access to basic education with a minimally acceptable level of quality, there can still be a substantial disparity in the quality of basic education for individuals from different socio-economic backgrounds. To the extent that individuals from disadvantaged backgrounds are invariably provided a lower quality of education and consequently a smaller opportunity for social advancement, such educational inequality may be deemed highly unjust or unfair, thus

⁶ This literature review was undertaken by Magane Koshimura and Mun C. Tsang. The full length report, "Financing Strategies for Equalization in Basic Education" is published in the World Bank's Latin America and the Caribbean Region's Department of Human Development Paper Series, No. 51.

requiring interventions to achieve the second objective. In the literature, equality of education is distinguished into four dimensions: equality in educational resources, equality in educational process, equality in educational output (such as learning achievement), and equality of educational outcome (such as employment and earnings prospects). Educational policymakers generally think that they can design interventions to promote equality in educational resources, process, and output; and they have much less influence on equality in educational outcome.

Classification of Financing Strategies. To facilitate discussion, the financing strategies reviewed in this paper are classified in the following table according to the financing sources and approaches to equalization. Financing sources consist of education resources from government and non-government sources. Government education resources refer to government allocation for the education sector, and such allocation is generally supported by domestic tax and non-tax revenues and/or from external resources managed by the government. Non-government education resources refer to resources for the education sector that are not allocated or managed by the government; they generally include educational spending by individuals and households, educational contributions by households, community organizations, and externally-based organizations. Four approaches to equalization in basic education across countries are given in the following table.

Financing strategies for promoting equalization in basic education		
Financing sources	Government resources	Non-government resources
Approaches to expand access/promote equality		
1. Equalization in the allocation of existing educational resources	Education equalization aid (funding formulas) Targeting of existing resources	
2. Mobilization and targeting of additional educational resources	Reallocation from other subsectors External resources	Community financing School fees
3. Reducing the private cost of access to quality schooling	Tax credit for education Government education vouchers Funding for charter schools Capitation grants	Private vouchers Capitation grants
4. Improved utilization of existing resources	Multiple shifting School-based management Choice and market mechanism (tax credit, vouchers, & charter schools)	

The first approach is equalization in the allocation of existing education resources. A prominent example is state education aid to local schools in the United States, based on a variety of funding formulas. Such education aid is often used to ensure an adequate level of funding on a per-student basis and to equalize per-student spending across local schools. Another example is to set aside some fund from the existing budget to target basic-education services at the educationally disadvantaged, such as students from disadvantaged backgrounds and girls in some countries.

Mobilization and targeting of additional educational resources from both government and non-government sources is the second approach. Additional government resources may come from a reallocation of government resources from other education subsectors to basic education, and from external resources managed by the government. Community financing and the charging of school fees are two strategies for mobilizing additional education resources from non-government sources. To the extent that such strategies result in relatively more basic-education resources or services to the educationally disadvantaged, they can be equalizing.

Most of the strategies under the third approach seek to increase access to alternatives to public schools (such as private schools and charter schools) by providing financial support to such alternative schools. Such support may be in the form of a tuition tax credit, an education voucher, or a capitation grant. By increasing parental choice in schooling and promoting market mechanism in education, proponents argue that these strategies will increase competition among different types of schools, raise school quality, and thus the efficiency in the utilization of educational resources. To the extent that these strategies may increase access to quality schooling for the educationally disadvantaged, they can promote equalization in basic education. To the extent that the market-oriented strategies raise school quality at a given cost, they can also be put under the fourth approach.

The fourth approach also includes strategies such as school-based management and multiple shifting. Depending on the focus of policy, the use of school-based management to improve efficiency may or may not promote equalization. Multiple shifting is aimed at increasing the number of student places by having double or triple shifts in existing schools. The increase in capacity may increase access to basic education for those not previously in school.

Summary of Findings				
Strategies	Expanded Access for Educationally Disadvantaged	Equalization in input (per-student spending)	Equalization in output (Quality/learning)	Issues in implementation
Equalization Aid from Government	Not focus of strategy	Can promote substantial equalization; funding formulas address horizontal and vertical equity	Not primary concern of most reforms; no evidence yet	Public demand/political support needed; adequacy of funding is an emerging issue; extent of equalization depends on capping high-spending districts
Targeting of Existing Government Resources	Access can be expanded	May result in some reduction in disparity	No evidence yet	Targeting is superior to universal provision in directing benefits at the disadvantaged; need to define target groups carefully to make intervention operational
Mobilization & targeting of additional government resources	Access can be expanded	May result in some reduction in disparity	No evidence yet	Need proper balance in investment among subsectors of education
Community financing	Access can be expanded	Can reinforce social inequality and inequity	Not primary concern of strategy; not an effective strategy	Strategy can be disequalizing; need to be accompanied by government resources targeted at the poor
Educational fees	Access can be expanded; but need to provide assistance to the poor	Not focus of strategy	Not focus of strategy	Educational fees need to be accompanied by student assistance programs (scholarships/loans) to target poor students

Tuition tax credits	Not focus of strategy	Not focus of strategy	Not effective. Used mainly by upper-middle income families	Access to information about school quality is important; transportation cost can be a problem for the poor. An inequitable strategy
Government educational vouchers	Not focus of strategy	Not focus of strategy	Reinforce existing inequalities in countries in Europe & South America. Limited scale in US	Access to information about school quality is important; transportation cost can be a problem for the poor. Debate persists in US about relative effectiveness of public and private schools
Private educational vouchers	Not focus of strategy	Not focus of strategy	Relatively more poor students enrolled in private schools. New strategy, need further assessment	Access to information about school quality is important; transportation cost can be a problem for the poor. Need more study
Capitation grants	Access can be expanded	Not focus of strategy	Not focus of strategy	Can be a prompt way to add student places; need regulations to ensure quality of private schools
School-based management	Not focus of strategy	Can promote equalization if equal funding is a key objective of reform	No evidence yet.	Need to strengthen decision-making capacity at the school level; need to resolve potential conflicts among school staff; need to assist disadvantaged schools to promote equalization. Need more study
Multiple-shift schooling	Access can be expanded	Not focus of strategy	Not focus of strategy	Strategy may lower school quality; can actually reinforce existing inequalities

The table above summarizes the equalization impacts of financing strategies actually implemented in a number of developed and developing countries. Three dimensions of equalization are considered: whether there is expanded access to basic education for individuals previously not in basic education, whether there is increased equality in educational input (in terms of per-student educational spending), and whether there is increased equality in educational output (in terms of quality or student achievement). The table also indicates the key issues encountered in the implementation of these strategies.

This review indicates that, in terms of expanding access to basic education, a number of strategies have been found to be effective. Strategies based on government resources include: targeting of existing and additional government resources for basic education, the use of capitation grants to purchase student places from existing private schools, and the more intensive use of government schools through multiple shifts. Community financing and the imposition of educational fees (accompanied by some student assistance programs) are strategies based on non-government resources.

The review also shows that government resources can be explicitly and forcibly used to promote equalization in per-student spending on basic education, particularly through some kind of equalization aid, and targeting of government resources at the educationally disadvantaged. And disparities in per-student educational spending across schools and districts can actually be reduced. Private financing generally contribute to, and not reduce, disparities in per-student spending across schools and localities. School-based management and financing is the most direct and potentially most effective form of financial equalization if it is adopted. The 1988 Educational Reform Act for England and Wales is a prominent example. However, in the United States, none of the school-based management reforms have a school-level financial-equalization component. There is insufficient popular support to equalize spending at the school level.

A key issue in the design of equalization aid is the extent of equalization to be achieved. To ensure adequacy in educational funding, increased equalization in per-student spending often requires additional government resources. Stakeholders of education have to determine what level of equalization they are willing to pay for. The new state education aid system in Kentucky illustrates features that accommodate several policy objectives. First, an adjusted foundational amount of funding, consistent with the principles of vertical and horizontal equity, is guaranteed to schools in all the districts within the state. Second, local governments have the discretion to spend money from their own resources and the state also guarantees the tax yield at the rate of a reference district. Third, the state puts a cap on the amount of discretionary spending to effectively define the extent of disparity (and thus the extent of equalization) in total spending per student. A looming issue is the pressure from high-spending districts to relax the spending cap.

Equalization of educational output is a desirable but illusive goal. So far, there is little or no evidence at all that any of these financing strategies are effective in achieving such an educational objective. This is partly because educational output is dependent on both school and non-school factors. Equalization of per-student government spending alone does not ensure equality because of substantial differences in family and community economic resources, in cultural capital, and in other factors. Also, equalization of educational output is not the primary objective or even an objective of many of these financing strategies. Some of the strategies, such as targeting of government resources and school-based management, have the potential of promoting such equalization. But they have to be properly harnessed to achieve such a goal. Other strategies, such as community financing, generally tend to reinforce existing inequality rather than reducing it. Still other strategies, such as privately-funded vouchers and charter schools, need additional time and evaluation to properly assess their impacts. To some educators, equalization of educational output is not the most urgent goal in basic education. The more immediate concern is that children from all backgrounds can achieve a minimally acceptable level of learning.

Finally, this review is based on studies from a rather wide range of countries. It recognizes that educational inequalities and inequities are a common problem among countries; and it implicitly assumes that countries can learn from one another in devising financing strategies to address this problem. However, as already pointed out in some of these studies, each country has also to search for strategies that work best in its own context.

Appendix 11: Summary of a Literature Review of Standard Setting in Education Improvement in the United States

Summary of a Literature Review of Standard Setting in Education Improvement in the United States

This literature review was conducted⁷ in order to provide the Jamaican Ministry of Education and Culture an overview of the objective, process and results of a major initiative in educational improvement in the United States -- the "standards" movement. It is hoped that the findings would be informative to the formulation of education policy to improve educational outcomes in Jamaica. This summary provides a synopsis of the review.

National standards movement. Since late 1980s and early 1990s along the movement of national educational goals in the United States (now called Goals 2000), high standards reforms movement has been adopted at national, state and local levels. Although the idea was started by conservative political leaders and education thinkers, mostly in response to the findings of low academic achievement among American students in comparison with those in other countries, 49 of 50 states have implemented some or all of the ideas. The major objectives of high standards reforms are: (i) to raise American students' academic achievement to be economically competitive in a global society and a critical decision-maker in a democratic society, and (ii) to give high quality education to *all* students. The first objective is expected to meet the goal of "*excellence*" while the latter, to meet the concern for "*equity*".

Three different types of standards were introduced by Ravitch (1995):

- i. Content standards which describe what teachers are supposed to teach and students are expected to learn;
- ii. Performance standards which set the degree of educational proficiency; and
- iii. Opportunity-to-learn standards which define the availability of programs, staff and other resources in order to meet challenging high standards.

The last one, opportunity-to-learn (school delivery) standards were meant to equalize the access/quality of educational services, but they were dropped out from the national educational agenda. There still remain great financial disparities among districts across the nation, which affects the delivery of services to meet challenging high standards. Furthermore, inclusion of special education students in a high standards reform system is not systematized yet. Garms, Guthrie, and Pierce (1978) described equality, efficiency and liberty were three major values influencing the U.S. education system, and when one value was stressed, other values were restricted or eliminated.

⁷ This literature review was undertaken by Magane Koshimura. The full length report, "High Standards for All Students: Excellence or Equity? In the Context of the United States" is published in the World Bank's Latin America and the Caribbean Region's Department of Human Development Paper Series, No. 52.

Therefore, in theory, there is a tension in implementing the goals of excellence and equity simultaneously. In practice, high standards reforms movement tends to pursue excellence of education rather than equity of education, which might exacerbate the division around class and race.

Policy alignment. High standards reforms movement tries to align policy instruments such as curriculum, assessments, accountability programs such as incentives, teacher preparation and professional development, resources, and governance (such as site-based management). Curriculum provides teachers with guidance for developing lessons linked to the standards. Assessments determine whether students are meeting the standards, accountability systems impose consequences for students and schools that do not meet expectations. Professional development helps teachers to teach students more effectively. Resource allocation determines program funding. One of key objectives of the reform was to create compatible, linked policy instruments. In this regard, the movement is regarded as systemic reform (Sykes and Plastrik, 1993).

Reflecting the strong local control, there is a great variance in these policy instruments across states, districts and schools in the nation. The variance also must derive from different definitions of standards in the areas of specificity, knowledge framework, quality, and connection among content, teaching and descriptions of student performance. Thus, how they are aligned depends on how they are interpreted and implemented in each local context

What states have accomplished. Even though there is a great variance, as of 1998, 49 states set the standards, and 48 states have tests measuring student achievement. 36 states have a report card for each of its schools. 14 states provide monetary rewards to successful schools while 19 states provide assistance/sanctions to schools it names low-performing. 19 states require students to pass tests to receive a high school diploma, and 9 states have a promotion policy. In 19 states, the intervention is required, funded, and based on the standards.

Student Assessment. After developing and implementing curriculum based on standards, assessments are made for different reasons. For examples, assessments are made in order to (i) understand the level of student achievement, (ii) identify students and/or schools that need special help, and (iii) award high school diplomas. There are five major types of assessments: norm-referenced, criterion-referenced, customized norm-referenced tests, portfolio and performance-based assessments. Many states are moving toward performance-based assessments, but some educational, political and financial objectives make the transition from norm-referenced to performance-based assessments rather difficult. In the case of portfolio assessment which Kentucky and Vermont have, the problems are cost, time, and stress of teachers.

Accountability. How students and schools are held accountable vary across states. Based on motivation theory, in order to give teachers extrinsic incentives for better performance, team-based rewards for school improvement are currently exercised in 14 states. Team-based rewards have emerged from the failure of individual merit pay plans to motivate teachers. Team competency-based pay and performance pay appear to

be the cornerstones to a new compensation system that better reflects the needs of standards-based education reform and the type of new school organization it required (Odden and Kelly 1997). Team rewards foster norms that favor good performance and encourage cooperation performance and worker satisfaction. As for rewards, non-monetary recognition such as certificates is also provided to high performing schools.

In many states and districts, those teachers who earn certificates from the National Board for Professional Teaching Standards are provided bonuses. And, in some states, students who perform on or above the standards, are given high school diplomas (i.e., Maryland and New Jersey). In New York, students who pass Regular Regents Examinations will have this noted on their diplomas and New York's state university system gives preference to students who score well on Regents exams.

There are also many interventions and sanctions for schools and students when they do not meet the standards. Those include: (i) technical assistance by "qualified" staff (from state and local schools. For example, in Illinois, a "support team" consists of a veteran distinguished educator, a state board facilitator, and community team of higher education, community and business representatives); (ii) technical assistance may come with funding; and (iii) replacement of school's administration and/or staff. In some states, students who fail to meet the standards at the end of the academic year, may be retained at the same grade for the next year.

Teacher preparation and professional development. The standards-based education reform movement, in which teachers play leading roles, is identifying curriculum content standards and student performance standards that require a greater level of teacher professional competence to implement (Odden and Kelly 1997). An important element of standards-based reform and of developing notions of teacher professionalism is the need to link teacher training and compensation to the knowledge and skills required by new curriculum standards (Darling-Hammond et al, 1995; National Board for Professional Teaching Standards, 1995; Smith & O'Day 1991).

There are two broad ways in which states influence development of teacher's skills. The first is teacher certification and licensure, which is the process for the beginning teacher that include having a mentor and undergoing an assessment of on-the-job skills. After completing this program, a teacher usually receives a professional certificate that is renewed on a regular basis for the teacher completes additional course work or other professional development. The second support for professional development for teachers, which is the chance for practicing teachers to increase skills, mainly through attending workshops or courses.

In nine states (California, Connecticut, Florida, Georgia, Kentucky, Minnesota, New Jersey, South Carolina, Texas) in the Consortium for Policy Research in Education (CPRE) study, networks were becoming an important tool for building professional capacity tied to reform. For example, in California, the university system in conjunction with the state department of education began to develop Subject Matter Projects in 1987, which are summer institutes focused on specific content areas and pedagogy. As of 1995,

there were projects in 11 curricular areas in 90 sites. Schools were also involved in subject-specific networks such as Math Renaissance, a middle school initiative funded by the National Science Foundation. Similarly, California established a pilot network of schools focused on literacy that targets children performing below grade level and incorporates professional development and parental involvement.

Despite these many positive initiatives, state financial support for professional development activities was typically weak. Most professional development for teachers is set up and funded at the local level. Thus, many of these states left primary responsibility and decision-making about professional development to districts, which create further discrepancies among those who have and who do not.

Finance and resources. Adequate funding is needed to bring about any real changes in the education system, including obtaining higher student achievement. But providing the funding for public education is always a challenge. For high expectations to have an impact on achievement, there must be a system in place for detecting which students are struggling to meet the standards and for providing them with extra help before they fail too far behind. Extra help or academic intervention can come in a variety of forms, including one-on-one instruction during school hours, after school tutoring, Saturday school, and summer school. The issue is whether extra funding is provided by the state to support such assistance. Furthermore, there still remains large disparities of educational finance among districts and schools.

Governance. At the heart of site-based reform is shared decision making that engages teachers and staff, parents, students, and the community in basic decisions about curriculum and programs. These decisions typically extend to budget allocations within the school, staff hiring decisions, and the professional development needs of the school. In order to make site-based management successful, each school must have the authority, responsibility and capacity to produce excellent outcomes for all students.

Market-based reforms. Market-based reforms advocates argues that schools would be more responsive to the needs of poor or in other ways disadvantaged students if the system operated more as a marketplace than a public monopoly. In some states, charter schools, school of choice, and voucher system have been implemented. In Texas, students in a low performing school are allowed to transfer to a better performing school. Districts receiving these transfer students get additional state and local funds to educate them. While it was certainly true that efforts targeting the educational opportunity of poor and disadvantaged students continued to be made, the initiatives were not high-profile and did not appear to be comprehensive or thoroughly integrated into standards initiatives, particularly those at the state level (Massell 1997).

Issues on high standards reform movement. Sykes and Plastrik (1993) pointed out five normative and conceptual issues such as (i) cultural conflicts as in ideology, religion and racial multiculturalism, (ii) a mismatch that has emerged from the different goals of learning as in basic skills and more advanced knowledge and skills, (iii) the content of the curriculum as in disagreement of the content in social studies and language arts, (iv) the curriculum's structure and differentiation which contradicts with an

egalitarian objective of high standards setting, and (v) interstate variation in the categories for teacher licensure.

There are unintended effects of state testing on curriculum and instruction, particularly when performance is closely monitored. The emphasis on test scores narrowed the curriculum. Some teachers teach to the test to raise test scores. In order to meet the expectations, unethical and illegal behaviors and actions are observed among some school personnel. Additionally, high-stakes accountability creates unnecessary divisions, undermines morale, and inhibits leadership in ways that work against reform goals. Another concern related to the amount of money devoted to performance-based accountability is with potential inequities. Lastly, there may not be strong relationship between national standards, academic achievement and economic productivity.

On the other hand, some states (such as Minnesota) have been successful in assisting the vast majority of students meet certain academic standards within just a few years by focusing on learning outcomes. Realization of the issues in high standards movement means that implementation should not be conducted mechanically; instead, it should be reflective, flexible, and allowing opportunity for corrective actions.