

Table 4.2

Prevalence of Malnutrition by Per Capita Consumption  
Quintile, July 1989 SLC

Low Weight for Age

<u>Population Quintile</u>	<u>Moderate</u>		<u>Severe</u>		<u>Total</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
1 (N=226)	19	8.4	4	1.8	23	10.2
2 (N=204)	21	10.3	1	0.5	22	10.8
3 (N=198)	16	8.1	0	0.0	16	8.1
4 (N=145)	9	6.2	1	0.7	10	6.9
5 (N= 88)	8	9.1	0	0.0	8	9.1
All Jamaica (N=861)	73	8.5	6	0.7	79	9.2

Stunting

<u>Population Quintile</u>	<u>Moderate</u>		<u>Severe</u>		<u>Total</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
1 (N=226)	14	6.2	2	0.9	16	7.1
2 (N=204)	8	3.9	0	0.0	8	3.9
3 (N=198)	9	4.6	0	0.0	9	4.6
4 (N=145)	5	3.5	1	0.7	6	4.2
5 (N= 88)	3	3.4	0	0.0	3	3.4
All Jamaica (N=861)	39	4.5	3	0.4	42	4.9

Wasting

<u>Population Quintile</u>	<u>Moderate</u>		<u>Severe</u>		<u>Total</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
1 (N=226)	2	0.9	1	0.4	3	1.3
2 (N=204)	4	2.0	0	0.0	4	2.0
3 (N=198)	4	2.0	0	0.0	4	2.0
4 (N=145)	1	0.7	0	0.0	1	0.7
5 (N= 88)	0	0.0	0	0.0	0	0.0
All Jamaica (N=861)	11	1.3	1	0.1	12	1.4

Table 4.3

Prevalence of Malnutrition L Area, July 1989 SLC

<u>Population Quintile</u>	<u>Low Weight for Age</u>					
	<u>Moderate</u>		<u>Severe</u>		<u>Total</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
Kingston M.A. (N=166)	11	6.6	1	0.6	12	7.2
Other Towns (N=189)	15	7.9	0	0.0	15	7.9
Rural (N=506)	47	9.3	5	1.0	52	10.3
All Jamaica (N=861)	73	8.5	6	0.7	79	9.2

  

<u>Population Quintile</u>	<u>Stunting</u>					
	<u>Moderate</u>		<u>Severe</u>		<u>Total</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
Kingston M.A. (N=166)	5	3.0	1	0.6	6	3.6
Other Towns (N=189)	11	5.8	0	0.0	11	5.8
Rural (N=506)	23	4.6	2	0.4	25	5.0
All Jamaica (N=861)	39	4.5	3	0.4	42	4.9

  

<u>Population Quintile</u>	<u>Wasting</u>					
	<u>Moderate</u>		<u>Severe</u>		<u>Total</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
Kingston M.A. (N=166)	0	0.0	0	0.0	0	0.0
Other Towns (N=189)	6	3.2	0	0.0	6	3.2
Rural (N=506)	5	1.0	1	0.2	6	1.2
All Jamaica (N=861)	11	1.3	1	0.1	12	1.4

Table 4.4

Prevalence of Malnutrition by Age, 1989 SLC

Malnutrition as Measured by WHO Weight for Age

<u>Age in Months</u>	<u>Severe</u>		<u>Moderate</u>		<u>Total</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
0-5 (N= 68)	2	2.9	2	2.9	4	5.8
6-11 (N=100)	3	3.0	6	6.0	9	9.0
12-23 (N=170)	1	0.6	17	10.0	18	10.6
24-35 (N=171)	0	0.0	18	10.5	18	10.5
sub-total (N=509)	6	1.2	43	8.5	49	9.7
36-47 (N=176)	0	0.0	15	8.5	15	8.5
48-59 (N=176)	0	0.0	15	8.5	15	8.5
sub-total (N=352)	0	0.0	30	8.5	30	8.5
Total (N=861)	6	0.7	73	8.5	79	9.2

Table 4.5

Prevalence of Malnutrition by Sex, SLC 1989

Malnutrition as Measured by WHO Weight for Age

<u>Age in Months</u>	<u>Severe</u>		<u>Moderate</u>		<u>Total</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
Male (N=429)	5	1.2	45	10.5	50	11.7
Female (N=432)	1	0.2	28	6.5	29	6.7
Total (N=861)	6	0.7	73	8.5	79	9.2

62. The 1988 SLC preliminary report examined the incidence of benefits from Food Stamps, but no further analysis of other issues was done. In the planning for the 1989 round, extended analysis of food stamps was intended and several questions added to the survey instrument. Coincidentally, the distribution of food stamps was suspended for several months before the survey. The reference period was therefore adjusted to refer to January and February, rather than the two months prior to the July field work. The July 1989 SLC detects that only 6.4% of households report receiving food stamps, whereas in the 1988 SLC, 23% of households were recipients. This decline in participation is apparently due partly to the suspension of benefits in during the reference period and partly to recall error for a period so long before the survey. This leaves the analyst in the somewhat frustrating position of having in the 1988 SLC narrowly focussed, but high quality, food stamp data coupled with uncertain anthropometric data; whereas in the 1989 SLC we have broad, but less reliable, food stamp data and excellent anthropometric data. The analysis of food stamps done here will, therefore, draw on both surveys to produce as complete an analysis as possible. The information presented on the distribution of food stamps benefits is probably more reliable in August 1988 than July 1989 because of the larger number of recipients and the recall period nearer to the time of the survey.

63. Incidence by Consumption. Table 4.6 shows the distribution of benefits by population quintile for households of various characteristics. Overall, in August 1988, 23% of Jamaican households received food stamps. Half of households in the poorest quintile were recipients, while only 6% of those in the wealthiest quintile were recipients. In July 1989, with the temporary suspension of the program, only 6% of households reported receipt of food stamps during the recall period. Thirteen percent of the poorest quintile received food stamps, while only 3% of those in the wealthiest quintile were recipients.

64. All pregnant or lactating women and children under age five are eligible for food stamps if they go to public health clinics to receive care and register. In principle, this mechanism has the dual advantage of encouraging preventive health care, as well as winnowing out the wealthier households, who tend not to use public health care facilities. Table 4.6 shows that in August 1988, of households with pregnant or nursing women, an average of 37% received food stamps. In August 1988, nearly three quarters of such households in the poorest quintile received food stamps while only 4% of such households in the wealthiest quintile were recipients. The pattern is somewhat weaker for households with children under five, 38% of which received food stamps in August 1988. In the poorest quintile, 61% of these households were recipients. The proportion of recipient households declines steadily as consumption rises, with 11% of the households in the wealthiest quintile with children under five receiving food stamps. The requirement of seeking public health care in order to be enrolled in the food stamp programme appears to serve well in screening out well-to-do households.

65. In the July 1989 data there is no way to identify households with pregnant women. Twelve percent of households with children under five received food stamps. Of those in the poorest quintile, 16% were recipients. In comparison, 11% of households with children under five in the wealthiest quintile received food stamps. This is markedly less progressive than in August 1988. There may be some feature of the way in which the suspension was

accomplished which explains this or it might be that the recall error is greater for the poorer households.<sup>13</sup>

66. Food stamps are also available to the elderly, to persons on Poor Relief or Public Assistance, and to indigent households, i.e. those with income levels of less than J\$2600 per year. Of households with elderly members (defined as over 65 for men and over 60 for women) 35% received food stamps in August 1988. Of such households in the poorest quintile in August 1988, 55% received food stamps. There is a declining trend across quintiles, with 13% of households with elderly in the wealthiest quintile receiving food stamps in August 1988. In July 1989, overall 8% of the households with elderly received food stamps. The distribution was more progressive than in 1988, with 13% of the poorest quintile's households and 2% of the richest quintile's households receiving benefits. Households with total consumption less than J\$2600 per year occur only in the poorest two quintiles of the population. Slightly fewer than half of them receive food stamps in August 1988, and only 9% in July 1989.

67. Leakage. Of households that met none of the above eligibility criteria as defined here, about 8% reported receiving food stamps in August 1988. While it would not be hard to imagine that ineligible recipients would deny receiving benefits, and thus the 8% could be an underestimate, great effort was devoted to cleansing the rolls in late 1989 and the occurrence of ineligible recipients found here could be an accurate reflection of good programme management. The ineligible households were about evenly divided between the quintiles. They constitute about 14% of those households receiving food stamps. In the July 1989 data only 2% of households with none of the above reported eligibility criteria report food stamp receipt. Of households in this category, 9% of those in the poorest quintile and 1% in the wealthiest quintile report food stamp receipt. This is very progressive and may mean that although the rough categorization of eligibility done here doesn't identify any of these households as eligible, their receipt of stamps may respond to legitimate need.

68. Alternately, programme leakages can be calculated by looking at those who are eligible by current criteria, but who may not be truly needy. The bottom panel of Table 4.6 shows that of all households receiving food stamps in August 1988, about 57% were in the poorest two quintiles. The remaining 43% of beneficiary households are in the upper 60% of the income distribution. In July 1989 the distribution was less progressive, with 51% of benefits going to the poorest 40% of the population, and 49% of benefits to the wealthier 60%. Whether this reflects a need for cleansing of the rolls which is what prompted the program's temporary suspension, or is an artifact of the suspension itself, is unknown. In either case these numbers suggest that the program's eligibility criteria may bear closer examination, and that the trade-offs between the administrative costs involved in better targeting and the cost of programme leakages be reconsidered.

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<sup>13</sup> The food stamps questions are at the end of the questionnaire. For poor households, which are larger than average, the respondent might be becoming fatigued by the end of the interview.

Table 4.6

Distribution of Food Stamp Benefits by Eligibility Criteria

Percent of households receiving food stamps								
Household Characteristic	No.	No. of which Receive Food Stamps	Population Quintile					Jamaica
			1	2	3	4	5	
<u>August 1988 SLC</u>								
Children less than five.	607	228	61.0	45.3	34.9	26.3	11.2	37.6
Pregnant or lactating woman.	182	68	71.8	39.6	31.6	24.2	4.4	37.6
Elderly.	550	194	54.9	45.7	37.2	28.7	13.0	35.3
Consumption < J\$2600.	73	34	47.2	45.0				46.6
None of the above	805	62	27.7	18.8	8.9	7.5	2.7	7.7
JAMAICA			50.6	37.1	26.3	17.0	6.0	23.4
<u>July 1989 SLC</u>								
Children less than five.	672	81	16	10	12	11	11	12.1
Pregnant or lactating woman.								
Elderly.	513	43	13	13	8	6	2	8.4
Consumption < J\$2600.	46	4	10	0				8.7
None of the above	926	21	9	4	3	2	1	2.3
JAMAIC A			13	8	8	5	3	6.4
<u>August 1988</u>								
Number of Households Receiving Food Stamps			137	115	89	69	35	445
Percent of All Food Stamp Recipient Households			31	26	20	16	8	100
<u>July 1989</u>								
Number of Households Receiving Food Stamps			39	25	27	20	15	126
Percent of All Food Stamp Recipient Households			31	20	21	16	12	100

69. Undercoverage. The other main criteria for the success of the food stamp programme is its ability to reach the target population, that is, to avoid undercoverage. Paragraph 18 showed that in August 1988, when the food stamp programme was in full swing, the programme did a good job of reaching the poor, especially for the maternal/child portion of the program. If the target population is more narrowly defined as those households with malnourished children, then food stamps have been less successful. Table 4.7 shows that in 1989 only about a fifth of the children with low weight for age live in households which receive food stamps. In interpreting this number, it should be borne in mind that in the overall population only about 6% of households receive food stamps, and that 16% of households with children under age five receive them. In 1988, about half of households with malnourished children received food stamps, while 23% of all Jamaican households and 38% of households with children under five were recipients. Thus the very low coverage in 1989 is partly due to the program's temporary suspension. Nonetheless, even in 1988 the coverage of malnourished children was low. The following paragraphs examine possible causes, and draw lessons for improvements in food stamp coverage.

70. Children under five are automatically eligible for food stamps by virtue of their age alone. In order to be registered in the program, they must be taken to a primary health care facility, with their birth certificate, on a day when a Ministry of Social Security food stamp officer is present. Such personnel are usually present on a regular basis, the one or two days per week that the clinic tries to schedule its maternal-child health check-ups and immunizations. To receive the food stamps, the child's mother must pick them up at the same clinic on a pre-specified day, once every two months. Thus two separate visits to a health clinic are needed before food stamps are actually received. There is an administrative limit of 200,000 enrollments in the maternal/child portion of the program. Having to register for and collect food

Table 4.7

Malnourished Children and Household Receipt of Food Stamps

<u>Malnourished Children as Defined by:</u>	<u>Household Receives Food Stamps?</u>					
	<u>Yes</u>		<u>No</u>		<u>Total</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
<u>1989 SLC</u>						
Stunting	5	12	37	88	42	100
Wasting	3	25	9	75	12	100
Low Weight for Age	15	19	64	81	79	100
<u>1988 SLC-later</u>						
Stunting	7	50	7	50	14	100
Wasting	3	27	8	73	11	100
Low Weight for Age	18	44	23	56	63	100

stamps at a public health facility effectively screens out the better off from receiving food stamps, as they tend to use private physicians (see Chapter 5, Table 5.5).

71. From the age structure data presented in Table 2.1 with a total population of 2.3 million, there should be about 253,000 children under five years old and about 50,000 pregnant or lactating women. Thus the universe of the eligible in the maternal/child part of the food stamps programme is about half again as large as the number of allotments to distribute. Given the tendency of the better off not to use public health care, or to register for the program, the 200,000 limit to food stamp benefits in the maternal/child programme should not be the decisive factor in undercoverage of malnourished children.

72. The SLC contains several potential indicators of children's contact with the health care system. Example, complete vaccination coverage for tuberculosis (BCG) and polio (OPV) can be taken to mean at least one and at least three visits to a health care facility, respectively. However, due to misunderstanding of these questions in interviewing and coding, they may not be used in our analysis.

73. Analysis was made, however, of the answer to the question, "has the child ever been taken to a public health centre or hospital since he/she was born?" From Table 4.8, it is seen that over 90% of malnourished children who do not receive food stamps have ever been taken to a public health facility during their life.

74. Because the question referring to whether the child was ever taken to a public health facility includes hospitals, but food stamp registration is only possible in primary facilities, the questions on use of facilities for curative treatment in the last four weeks preceding the survey and for preventive care in the six months preceding the survey were used. Screening for type of facility, so that only public primary facilities are included, reveals that about 5% of well-fed and 6% of malnourished children visited public health centers for the treatment of an illness or injury in the four weeks preceding the survey. No difference is found between children in households which receive food stamps and those from households that do not receive food stamps. Similarly, about 16% of both well-fed and malnourished children visited public clinics for preventive care in the six months preceding the survey. Children in food stamp recipient households both the well-fed and the malnourished, were actually less likely to have made a recent preventive visit than their peers who do not live in food stamp recipient households.

75. The inescapable conclusion is that both healthy and malnourished children are making contact with the public health care system, but are not being enrolled in the food stamp programme. For those who do not receive food stamps, it is not because they are not reached by the public health system. It appears, rather, that children are being missed because the registration and receipt of stamp procedures are far from automatic. Registration which is done by the Ministry of Health staff is at best problematic because (i) registration forms are lengthy and therefore time consuming to complete; (ii) children who, for example, receive only the first in a series of vaccinations are sometimes re-registered for the food stamp programme when they return to the clinic months later, instead of the first registration form moving on to the processing stage;

Table 4.8

Food Stamps, Public Health Care Use, and Malnutrition

## Use of Public Health Clinic Only

	<u>Ever</u>	<u>Prevent. Last 6 months</u>	<u>Cur. Last 4 weeks</u>
<u>1989 SLC</u>			
<u>Normal</u>			
FS recip (N=115)	96%	11%	5%
Not FS recip (N=667)	91	17	5
Subtotal (N=782)	92	16	5
<u>Malnourished</u>			
FS recip (N=15)	100	7	13
Not FS recip (N=64)	92	17	5
Subtotal (N=79)	94	15	6
<u>All Children</u>			
(N=861)	92	16	5

(iii) there are backlogs in the processing of applications after registration stage due to poor coordination between the Ministry of Health and the Ministry of Labour, Welfare and Sports which distribute the stamps.

76. In order to increase the coverage of malnourished (and all) children, consideration should be given to simplifying registration by the following measures: (i) allow the registration of children at any time. This could be accomplished by using regular health staff in facilities where the work load would permit the imposition of an extra duty, and the full time posting of food stamp officers to the busier facilities; (ii) allow registration at public hospitals. A quarter of all curative visits by children under five are to hospitals; (iii) do not demand the presentation of the birth certificates. If the certificate is forgotten at the time of the clinic visit, then an opportunity to register the child may be lost. Furthermore, the Ministry of Health reports that the youngest children are the least likely to have obtained their birth certificates. These, however, are the children making frequent contact for immunization; (iv) distribute food stamps by mail. While this would not provide the same incentive to get health care, especially for preventive reasons, it might lower the time and transport cost of staying in the food stamp

programme for some recipients. It might also lower any stigma attached to it. Anecdotal evidence suggests that participation in the Public Assistance programme carries less stigma than participation in Poor Relief because beneficiaries of the former receive their checks in the mail as do social security recipients, while Poor Relief recipients must queue for their checks, as do Food Stamp recipients.

77. Self-reported reasons for non-receipt. Households were asked why they do not receive food stamps. The most frequently cited reasons were that the household was ignorant of the programme, or that the quota was filled (see Table 4.9) These reasons together account for three quarters of the responses of poor households with annual consumption less than J\$2600 per year, about half of responses of households with malnourished children, and 40% of responses for households with female heads, heads self-employed in agriculture, or children under five, or in rural areas. Stigma is cited as a reason for non-receipt in eight percent or less of the time for all groups. Participation in the programme is considered too much trouble to be worth the effort by 20% of all households in Jamaica, but only by 9% of those with annual consumption less than J\$2600 per year, and by 6% of those with malnourished children.

78. The prevalence of ignorance as a reason for non-receipt suggests that more publicity may be needed for the programme. The perception that quotas are filled is somewhat erroneous. At one time they were oversubscribed but with the cleaning of the rolls, those ineligible through attrition were removed, leaving room for new eligible recipients. Still, the family may at the time have been told that they were rejected due to full quotas.

#### F. The Distribution of Benefits from School Lunches

79. Two large school feeding programs exist in Jamaica, and they are important planks of the Human Resource Development Program. Combined, they form the largest component in the program. The Nutribun Programme distributes daily to participating schools a centrally prepared, fortified bread product and half a pint of flavored milk. In 1987 the Nutribun programme distributed about 120,000 lunches daily. Other primary schools receive food donations and a cash grant (of J\$0.14 per pupil per day in 1987) for the purchase of commodities for school lunch preparation at the school. In 1987 about 96,000 children were reached in this "traditional" programme.

80. Tables 4.10 and 4.11 show the distribution of school lunch benefits by quintile and area. About a quarter of children in school receive Nutribuns, while another quarter receive traditional meals. Students in the poorest forty percent of the population receive 54% of the Nutribuns while those in the wealthiest quintile receive 8% of the benefits. The targeting of the traditional programme is somewhat less progressive with 48% of its benefits going to the poorest two quintiles and 13% of its benefits to the richest quintile.

81. Looking at targeting within school levels shows that for Nutribuns the programme is the most progressively targeted at the secondary level where 62% of Nutribuns distributed go to children in the lowest two quintiles. This indicates considerable care in the selection of participating schools, as poorer

Table 4.9

Self-Reported Reason for Not Receiving Food Stamps  
Various Groups, SLC 1989

<u>Reason</u>	Household Characteristic						
	<u>All Jamaica</u> N=2005	<u>Rural</u> N=1054	<u>Malnour- ished</u> N=72	<u>Poor</u> <u>&lt;J\$2600</u> N=46	<u>Female</u> <u>Head</u> N=780	<u>Agri.Self</u> <u>Employed</u> N=406	<u>With</u> <u>Child &lt;5</u> N=672
Doesn't consider hh eligible	20	17	6	9	16	13	11
Doesn't want/ stigma	8	6	0	2	9	4	6
Too much trouble	8	6	1	0	10	4	6
Ignorance/Doesn't know how to get	21	19	14	28	21	19	19
Did receive/no longer eligible	3	5	4	2	3	5	5
Rejected	9	9	8	0	8	14	7
Quota filled	16	21	33	44	16	22	23
Other	9	11	14	7	10	10	11
Does Receive	6	7	20	9	7	8	12
Total	100	100	100	100	100	100	100

children are less likely to be in secondary schools than their wealthier age-mates. Only 17% of the Nutribuns go to secondary schools. The least progressively targeted part of the Nutribun program, primary schools, receives 75% of the lunches. At the primary level, 53% of Nutribuns go to children in the poorest two quintiles.

82. The traditional school lunch programme is most progressive at the primary level with 56% of benefits accruing to students from the lowest two consumption quintiles and 11% to those from the highest consumption quintile. Forty four percent of traditional lunches are in primary schools. At the secondary level, which is about a third of the program, the traditional lunch programme is almost proportionate.

Table 4.10

School Lunch Benefits and Payments by Quintile, July 1989 SLCPercent of Children Receiving School Lunches

<u>Nutribuns</u>	<u>Population Quintile</u>					<u>Jamaica</u>	<u>Distrib. of Lunches by Level</u>
	<u>Poorest</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>Richest</u>		
Basic (N=56)	7%	32%	32%	16%	13%	100	8%
Primary (N=540)	26	27	21	17	9	100	75
Secondary (N=122)	31	31	23	13	2	100	17
Sub-Total (N=718)	26	28	22	16	8	100	100
<u>Traditional</u>							
Basic (N=153)	25	20	22	18	15	100	24
Primary (N=282)	31	25	23	11	11	100	44
Secondary (N=200)	21	21	24	22	14	100	32
Sub-Total (N=635)	26	22	23	16	13	100	100
<u>No Lunch</u>							
Basic (N=306)	19	21	21	19	20	100	25
Primary (N=448)	18	21	19	24	19	100	37
Secondary (N=453)	14	16	20	25	25	100	38
Sub-Total (N=1207)	17	19	20	23	21	100	100
<u>Grand Total</u>							
(N=2560)	23	22	22	19	15	100	100

83. The distribution of school lunches by area is approximately proportionate to the population. It is interesting to note that although Nutribuns are centrally prepared in five plants and distributed daily, their coverage in rural areas is as great as that of the traditional lunch program.

84. The Nutribun programme asks for a voluntary contribution from the family of the student. No enforcement is used and Nutribuns are given to all who wish to receive them regardless of their payment. It is evident that by their own choice children in the wealthiest two quintiles have much lower levels of participation in the programme than the others.

### G. Conclusion

85. Malnutrition rates are generally low in Jamaica, and have fallen since 1985. The incidence of malnutrition declines only slightly as consumption levels rise. Malnutrition is slightly more prevalent in rural areas than urban. The pattern by ages is standard. Boys are more likely to be malnourished than girls. However, these findings are to be viewed with caution due to the reservations stated earlier (para. 48-51).

86. The targeting and coverage of the food stamp programme was examined using both the 1988 and the 1989 SLC data. The coverage of the programme is

Table 4.11

#### School Lunch Benefits by Area, July 1989 SLC

##### Distribution by Area of Children Receiving School Lunches

	<u>K.M.A.</u>	<u>Other Towns</u>	<u>Rural</u>
<u>Nutribuns</u>			
Basic (N=56)	25%	9%	66%
Primary (N=540)	20	22	58
Secondary (N=122)	7	25	69
Sub-Total (N=718)	18	21	61
<u>Traditional</u>			
Basic (N=153)	32	25	42
Primary (N=282)	17	11	72
Secondary (N=200)	21	26	54
Sub-Total (N=635)	21	21	58
<u>No Lunch</u>			
Basic (N=306)	19	25	56
Primary (N=448)	24	22	55
Secondary (N=453)	25	20	55
Sub-Total (N=1207)	23	22	55
<u>Grand Total</u>			
(N=2560)	21	21	58

significantly lower than during the August 1988 survey period, and somewhat less progressive. Analysis of the use of public health facilities shows that even malnourished children are reached by public health care, they are not reached by food stamps. Thus improvements in the registration system are called for rather than some entirely new vehicles for registration.

87. The distribution of school lunches is progressive, somewhat more so for Nutribuns than for traditional lunches. The distribution of voluntary contribution for Nutribuns are regressive. The distribution of lunches by area is proportionate for both programmes.

## Appendix 4.A

### Adjustment of 1985 Malnutrition Rates for Sampling Bias

i. The 1985 Ministry of Health anthropometric survey was conducted during the school year and made a single visit to each home in its sample. Consequently many children away from home when the visit took place were not measured. Because three and four year olds from wealthier families are more likely to be enrolled in pre-primary schools, they were consequently more likely to absent from the home at the time of the visit. This implies that the results of the 1985 MOH survey may have been biased in a way that overstates malnutrition among three to four year olds. The SLC, in contrast, was conducted during the school vacations thus reducing the chance of biased sampling due to uneven school enrollment.<sup>14</sup> Because the SLC data show a lower rate of malnutrition than the 1985 MOH survey, it becomes important to determine how much of the difference could be attributed to an improvement in the nutritional status of the population, and how much to differences in the sample. This annex explains a crude adjustment to the MOH figures that attempts to compensate for the possibility of bias in the 1985 MOH sample in order to obtain numbers that will reflect only differences in the nutritional status of the population.

ii. The 1985 MOH survey reports low weight for age measurements using both the Gomez (based on the Harvard growth tables) and WHO standards (based on the National Center for Health Statistics growth tables), but presents breakdowns by age only for the Gomez measures. The SLC uses only the WHO measures. This forces one to do the following: adjust the Gomez figures by age in the 1985 MOH report and then assume that the percentage change in the WHO figures by age would be the same.

iii. The adjustment is based on three hypotheses: (i) that the distribution of malnutrition by age in the SLC is "true" because it applies the same rigor in measuring children in the sample households for all age groups; (ii) that the distribution of malnutrition by age is the same for the Harvard and NCHS growth curves; and (iii) that the true distribution of malnutrition by age has been constant from 1985 to 1989. In the 1989 SLC the malnutrition rate among 36-59 month olds is 88% of the that for 0-35 month olds (Table 4.4). If the same rate is applied to the 1985 Gomez rates, then the rate for younger children is unchanged at 7.4% (since we assume no sample bias for younger children in the 1985 survey), but for older children it must be reduced from the 7.7% reported

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<sup>14</sup> With a uniform age distribution across years, 60% of children measured should be in the 0-35 month group and 40% in the 36-59 month group. For the SLC the actual figures are 59 and 415, respectively, indicating that the sample is representative. For the 1985 MOH survey, 67% of children measured were 0-35 months, and 33% were 36-59 months. Holding the number of children 0-35 months measured (3185) constant, to achieve a balanced sample an additional 550 children 36-59 months old would have to have been measured. Only 1573 were measured in this group, indicating an undersampling of 25%. This is potentially serious enough to warrant investigation.

to 6.8%, i.e. 88% of 7.4. Then the three to four year olds' weight in the sample is increased to 40%. This lowers the overall 1985 rate for all ages from the 7.5% reported to 7.2%, a reduction of       . If the overall rate reported for WHO standards, 14.6%, is also reduced by 4%, then the adjusted 1985 WHO rate is 14.0.

## Chapter 5: Health

88. Good health is an important contributor to human well-being. In addition to contributing to vigor and happiness, it is important in labour productivity and in the ability of school children to learn. The Human Resources Development Programme consequently encompasses twelve separate health projects as well as a number of policy reforms.

### A. Data

89. The July 1989 SLC has a module of forty health questions which cover the occurrence of illness or injury, the use of services and associated time and monetary costs, and preventive care. The module was expanded somewhat in scope from the 1988 SLC in response to suggestions from several parties, and as an exploratory step to design the expanded health and fertility module which will be the main focus of the November 1989 SLC.

90. The data from the health module were not cleaned prior to the production of the tables presented here. Overall the quality is good, and the conclusions drawn in this chapter are certainly robust to the small changes that would result from a rigorous cleaning. Nonetheless, further checking would be in order before sophisticated analysis is performed. There are a certain number of responses not in the allowable range, i.e. for a yes=1, no=2 question, some records have a 0 coded. There are very few reported hospitalizations, and there are some inconsistencies in responses for some of those. Hospitalizations are therefore not considered in detail here.

### B. Self-Reported Illness or Injury

91. The Jamaican population is reasonably healthy, with only 17% reporting some illness or injury in the four weeks preceding the survey (see Table 5.1). The strongest pattern by correlates is by age. The elderly, those over 60 years, are by far the most likely to suffer ill health. With 37% reporting illness or injury, they are twice as likely as the general population, and three times as likely as young adults to report such a condition. Children under five are the next most likely to be unwell, with 24% so reported. Women are somewhat more likely to report illness or injury than men, 18.5% versus 15.0%, respectively.

92. Whether the illness or injury reported began prior to the four week recall period was asked. Overall, a third of the medical problems reported had begun more than four weeks before the survey. Prior problems may be weakly correlated with consumption level, with the poorer reporting fewer. Only 15.3% of the maladies of young children are of a duration longer than the four week recall period while 57.5% of those of the elderly are longer term. Women's ill health is slightly more likely than men's to be of long-standing duration.

93. Two measures of severity are used--the mean days of illness or injury and the mean days of restricted activity. The overall mean for Jamaica is eleven and five days, respectively. The same patterns for the two measures are

Table 5.1

Self-Reported Illness or Injury

	% Reporting Illness or <u>Injury</u>	Condt'n Began More than 4 <u>Weeks Previous</u>	<u>Of those Ill or Injured</u>		Percent Seeking Medical <u>Care</u>
			Mean Days of Illness or Injury	Mean Days of <u>Impairment</u>	
<u>Population</u>					
<u>Quintile</u>					
Poorest	14.9	28.5	10.4	4.4	48.3
2	17.1	34.3	10.5	4.0	47.1
3	17.1	31.4	10.9	4.8	57.8
4	17.9	28.8	11.1	4.7	55.0
5	17.1	39.3	11.2	4.8	65.2
<u>Area</u>					
K.M.A.	12.0	41.9	10.8	5.0	68.6
Towns	18.2	24.7	9.7	3.4	47.5
Rural	18.2	32.9	11.3	4.9	53.5
<u>Sex</u>					
Male	15.0	30.7	10.6	4.8	49.8
Female	18.5	34.0	11.1	4.4	58.2
<u>Age</u>					
1-4	24.3	15.3	8.4	3.0	49.8
5-13	12.0	21.6	8.6	3.2	39.7
14-39	11.5	25.5	9.0	3.8	58.3
40-59	19.7	38.7	12.3	4.5	60.0
60+	37.3	57.5	15.5	7.7	60.3
JAMAICA	16.8	32.6	10.9	4.6	54.6

observed. The strongest is again by age. Young children's illnesses are the shortest, with 8.4 days of illness and 3 days of impaired activity. The length of illness and impairment increases monotonically with age, to 15.5 and 7.7 days for the elderly.

94. These sorts of comparisons of health status using self-reported rates and severity of illness or injury are prone to the ambiguities involved in subjective evaluations. What one person may report as an illness may appear normal, or not serious enough to report as an illness, to another person. To improve on these measures, the November 1989 round will include a short series of questions asking whether the individual's ability to perform certain daily activities is impaired, and to what degree. This will allow the construction of a more objective index of health status.

### C. The Use of Medical Care

95. Slightly over half of those who report an illness or injury seek medical care for it. By age and sex, the tendency for women to resort to medical care more than men, and for the elderly and young children to be heavy users of medical care is consistent with the frequency and duration of illness or injury patterns. By consumption level the pattern is quite marked. When ill, the poor seek medical care much less frequently than do the well-to-do. Coupled with the relative uniformity of self-reported illness or impairment, this means that the poor are definitely less served than those better off. Residents in the Kingston Metropolitan area also seek health care much more often when they are ill than do others. No doubt this reflects the concentration of the nation's best health care facilities in the capital.

96. The July 1989 SLC asks where all visits made during the preceding four weeks were made, and how many were made. The mean number of visits made is 1.7. Sixty percent of those seeking medical care had only one consultation in the four weeks preceding the survey, with a further 26% who had two consultations.

97. Table 5.2 shows for those who seek care, the percent who choose to visit each kind of facility. Because a patient may visit more than one facility, the sum of the percentages is greater than unity. Fifty-five percent of those who seek care go to private doctors' offices for it. Twenty-one percent go to public hospitals and twenty-one percent to public health centers. Private hospitals, private health centers, pharmacies, house calls and other sources account for relatively negligible proportions for those who seek care. The fact that sum of all of the percentages is only 103.6%, indicates that although many of the ill have more than one visit in the reference period, they do not visit many different sources.

98. Tables 5.3 and 5.4 show the pattern of usage of primary vis-a-vis secondary facilities and of public vis-a-vis private facilities. Table 5.3 shows that the vast majority of those seeking care over the reference period used primary (73%) as against secondary facilities (20%). Table 5.4 shows that those seeking care from private sources totalled a little over half, while 38% went to a public facility. Few persons (3-4%) made use of both primary and secondary or of both public and private facilities.

99. In table 5.5 the pattern of usage of different sources and levels of care are tabulated against patient characteristics.<sup>15</sup> The pattern of source of care by consumption quintile is very strong and regular. While over half of the poorest quintile seeking care use only the public sector, only a quarter of the upper quintile seeking care use only the public sector (see Table 5.5). It is perhaps remarkable that fully 40% of the poorest quintile use private sources for medical care. Given the extensiveness of the Jamaican health care system, this can only indicate that even the poor are willing and able to pay something for medical care they perceive as better, or more accessible, than the public system.

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<sup>15</sup> The very small number who went to some other source were excluded from this analysis.

100. The pattern of source of care by age is also strong and regular showing decreasing usage of the public system with increasing age. This pattern breaks however over age 60 where 40% of the elderly use public facilities. Women use private care very slightly more, and men very slightly less than the overall median.

Table 5.2

Choice of Provider, July 1989 SLC

<u>Visit Provider(s)</u>	<u>Of those consulting,* Percent Who Utilize</u>	<u>Mean Cost per J\$</u>
Public Hospital	21.5%	
Outpatient	20.0	4
Interned	1.5	
Private Hospital	1.8	
Outpatient	1.7	33
Interned	0.1	
Public Health Center	21.4	4
Private Health Center	2.2	35
Private Doctor's Office	54.6	56
Private Pharmacy	5.6	31
Patient's Home	0.5	0
Other	1.6	26

\* Sums to more than one hundred percent because a few patients use two or more types of facilities.

Table 5.3

Use of Primary and Secondary Facilities, July 1989 SLC

	<u>Percent Using</u>
Primary only	73
Secondary only	20
Both	3
None*	4
	-----
Total	100

Note:

\* Attended to in a pharmacy, their home or other locale.

Table 5.4

Use of Public and Private Facilities, 88 July 1989 SLC

	<u>Percent Using</u>
Public only**	38
Private only	54
Both	4
None*	4
	-----
Total	100

Note:

\* Attended to in a pharmacy, their home or other locale.

\*\* Public refers to use of a public hospital or health centre; private refers to use of a private hospital, health centre or physician's office.

101. The level of care was categorized into primary (health centers and doctors offices), hospital outpatient and hospitalizations. Eighty percent of all care used in Jamaica is used at the primary facility level. Seventeen percent is outpatient care at hospitals, and four percent is hospitalizations. Patterns by user characteristics are not very strong, though children do seem to use outpatient services more than older groups and residents of the Kingston Metropolitan Area use outpatient services more than do rural groups and those in other towns. This could easily be the result of the concentration of hospital facilities in the city.

D. Medical Expenditures

102. Publicly provided care in Jamaica is largely free. Hospital fees have been instituted, but waivers are available for the indigent, and as seen above, only four percent of patients are interned. The uniformity of fees in public services is evident in Table 5.6, where no strong trends are found for expenditures for public health care by characteristic of the patient. Markedly the opposite is true for expenditures to private practitioners. On average, patients in the lowest quintile who use private physicians had spent J\$26 for care in the four weeks preceding the survey, while patients in the upper quintile had spent J\$81. No big difference is found by area. Women pay slightly less than do men. Medical expenditures rise sharply with the age of the patient, from J\$22 for the youngest children to J\$62 for the elderly.

103. The same overall pattern is true for expenditures on drugs. In expenditures on drugs obtained at public sources, there is little systematic variation. Drug expenditures from private sources increase markedly with consumption quintile and age.

Table 5.5

Source and Level of Care by Patient Characteristics, July 89 SLC

	<u>Source</u>			<u>Level</u>		
	<u>Public</u>	<u>Private</u>	<u>Mixed</u>	<u>Primary</u>	<u>Out-patient</u>	<u>Hospital-ization</u>
<u>Population</u>						
<u>Quintile</u>						
poorest	58	41	1	75	20	5
2	51	42	8	81	16	3
3	45	52	2	75	21	4
4	41	56	3	83	14	3
5	25	70	5	80	16	4
<u>Area</u>						
K.M.A.	41	55	3	65	28	7
Towns	36	61	3	82	13	4
Rural	45	51	4	82	15	3
<u>Sex</u>						
Male	44	52	4	79	20	4
Female	41	55	4	81	15	4
<u>Age</u>						
0-4	61	37	2	75	23	2
5-13	55	40	4	76	17	8
14-39	35	61	3	76	18	6
40-59	32	64	4	82	14	4
60+	40	55	5	85	14	2
JAMAICA	42	54	4	79	17	4

104. It is interesting to note in juxtaposition the frequency with which the whole (healthy as well as ill and injured) population holds medical insurance. The wealthier are much more likely to have insurance than the poor, and except for the oldest, insurance coverage rises with age.

105. In looking at the unevenness of medical expenditures across groups, it is important to remember that total expenditures are even more unequal than the presentation in Table 5.6 makes clear. The table includes only those expenses not covered by insurance, but the rich and middle-aged are more likely to have insurance, which means that their total expenses would be disproportionately higher. Furthermore, the tables report expenses only for those who seek care, but since the wealthier and the elderly seek care more often, if spread over the whole population, the expenditures would be yet more uneven.

106. The concentration of use of the public medical care system among the poor and young children (see Table 5.5) suggest that if more extensive or higher

user fees are enacted, these are the groups that will be most affected. Because they are the vulnerable groups of highest priority to protect, it will be important to monitor their use of medical care (which can be accomplished by the SLC) and to provide fee waivers or reductions for some groups. The extensive use of private practitioners, even by the poor, suggests that higher public user fees may shift use from the public to the private sector. The use of the private sector also substantiates the notion that there is willingness to pay for quality not available in the public system currently. If the revenues generated through user fees are used to raise quality in the public system, then there will be a countervailing tendency for higher use of the public sector relative to the private sector. Estimating the magnitude of changes in medical coverage, its division between the private and public sector, and the public revenue consequences is necessary before undertaking large fee reforms, and will be based on the data supplied by the SLC, especially that from the round scheduled for November 1989.

#### E. Drug Availability

107. Because the purchase of pharmaceuticals is a large component of the Human Resources Development Programme, and because the Government has recently taken several steps to improve the efficiency of the purchasing and distribution of drugs, Table 5.7 summarizes the accessibility of drugs. Just over half of those who report an illness or injury purchase some medicines. Those in the richest quintile are half again as likely to purchase medicines as those in the poorest quintile. Purchase of medicines by age group is more evenly distributed than most of the other indicators examined here. Residents of Kingston are more likely to purchase drugs than those of other areas. This may reflect the higher average per capita consumption, or the greater availability of pharmaceuticals in the capital.

108. Respondents were asked whether all medicines were available from public sources. Those most likely to have purchased all their medicines from public sources are the poorest, the residents of the K.M.A., and the youngest. About a quarter of these groups responded that all drugs they purchased were available from public sources. For the general population about a fifth purchased all their drugs at public sources. Those who could not purchase all their medicines in the public sector were asked if they could purchase all the rest of the desired medicines at private sources. Ninety percent could do so. This is true even in rural areas. Of the remaining eight percent of drug purchasers who could not buy all the drugs they needed from either public or private sources, three quarters cited lack of money as the reason, rather than that the drugs were not available where they live. Thus it is economic access rather than physical access that prevents a few from not obtaining all the medicines they needed. The fact that only 8% could not obtain all they needed is an indicator that the safety net provided to Jamaicans by public health care and drug supply is effective.

Table 5.6

Health Care Expenditures

	Mean Total Cost Incurred for All Visits in Last 4 Weeks, Excluding Drugs, and Costs <u>Reimbursed by Insurance</u>		Mean Costs for Drugs, by Source		Percent With Health <u>Insurance</u>
	<u>Public</u> J\$	<u>Private</u> J\$	<u>Public</u> J\$	<u>Private</u> J\$	%
<u>Population</u>					
<u>Quintile</u>					
poorest	4	26	2	14	0.7
2	3	36	2	19	1.8
3	5	41	7	25	5.2
4	3	43	2	34	10.3
5	13	81	6	55	22.4
<u>Area</u>					
K.M.A.	6	44	6	43	15.7
Towns	11	49	1	26	9.4
Rural	4	49	4	28	4.7
<u>Sex</u>					
Male	5	52	5	30	7.8
Female	7	46	3	30	8.6
<u>Age</u>					
0-4	2	22	2	16	6.5
5-13	5	27	0	16	7.4
14-39	5	54	4	36	9.2
40-59	3	56	3	34	11.3
60+	12	62	7	41	3.3
JAMAICA	6	48	4	30	8.2

Table 5.7

Drug Availability, July 1989 SLC

Percent of Drug Purchasers Reporting

	<u>Percent of Ill/ Injured Reporting Drug Purchasers</u>	<u>All Medicines Available From:</u>		<u>Reason Why Couldn't Buy All Drugs</u>		<u>Total</u>
		<u>Public Sources</u>	<u>Private Sources*</u>	<u>Unavail.</u>	<u>Cost</u>	
<u>Population</u>						
<u>Quintile</u>						
poorest	46.7	28.3	86.6	18	82	100
2	52.9	13.5	91.5	18	82	100
3	54.6	20.0	92.2	50	50	100
4	58.0	17.2	92.8	55	45	100
5	68.6	17.1	88.2	20	80	100
<u>Area</u>						
K.M.A.	63.6	28.5	86.9	43	57	100
Towns	55.7	8.0	91.1	20	80	100
Rural	55.0	19.6	91.2	29	71	100
<u>Sex</u>						
Male	55.9	17.2	90.6	29	70	100
Female	57.0	19.7	90.4	30	69	100
<u>Age</u>						
0-4	53.7	23.1	93.1	25	75	100
5-13	42.0	7.8	88.6	25	75	100
14-39	59.5	17.7	93.6	38	61	100
40-59	60.4	17.3	90.0	33	67	100
60+	60.6	21.6	85.5	27	73	100
JAMAICA	56.5	18.6	90.5	30	70	100

\* Percentages shown are of a residual category, i.e. those persons who did not obtain all their medicines from public sources.

## F. Conclusions

109. Jamaica's population is reasonably healthy relative to other developing countries, with Jamaicans having reasonable access to health care and pharmaceuticals. The patterns in self-reported illness or injury by age group are quite typical of the life cycle patterns found in other countries. The young children and elderly are the most often ill, and the duration and severity of illness increases with age. As consumption rises there is clearly increasing use of medical care, increasing use of private facilities, increasing purchase of drugs and increasing use of private sources for drugs. Thus the wealthier use more, and apparently higher quality, health care, or its financing, will affect the poor, the children under five and the elderly more than the better-off and able-bodied and should be designed to maintain or increase the access of the vulnerable to good quality medical services.

## Chapter 6: Education

110. Education is the principal means to raising labour productivity and obtaining high wages. Better educated individuals have higher incomes and are better able to look after their own health. Further, educated mothers are more able to look after the health of their children. For these reasons about a fifth of the Human Resources Development Programme expenditures are devoted to education. The measures include upgrading and maintenance of school buildings, improvements in library facilities, teacher training, salary incentives, and textbook provision. Important management initiatives are included. This chapter will use the data from the 1989 Survey of Living Conditions to assess the patterns of enrollment, repetition, school abandonment and attendance in Jamaica, and to look at the provision of textbooks.

### A. Education Data

111. There is an education module for children aged 3-19 which focuses on enrollment patterns, repetition and attendance of children in school, and the reason, level and type of school abandoned for those who have dropped out. The questionnaire was administered during summer vacation although the module was designed for administration during the school year. Some ambiguity as to the school year referred to may have resulted. The linked Labour Force Survey has information on the highest level of education attained for all surveyed adults, age 14 and above. Information on household consumption levels, composition and location are also used.

112. There are 3323 records of children who answered the education module. Grade by age and school type tables were run to examine the quality of the data. A fairly large number of children in All Age schools had been assigned the wrong All Age school code. For example, a nine year old who had completed the third grade was given the school code for All Age Grades 7-9 rather than that for All Age grades 1-6. In such case the school code was changed. Several secondary age students who reported having completed six or more years in primary schools and being enrolled in Secondary high schools had grade codes from 1-5. These apparently were responding in "form" terminology. Six was added to their grade codes to convert them to the grade terminology of the survey. A similar problem was suspected for vocational/agricultural schools, but the solution was less clear. Since no analysis by grade of the small number of students in these schools was contemplated, no action was taken. After these corrections to the data, the ages by grade and school type were re-run. Thirty-nine serious outliers were identified, and the questionnaires checked. About a third were data entry errors, a third had inconsistent information on the questionnaire, and a third apparently are true outliers. The questionnaires were not located until after the tables reported here were run. They have not been corrected. Such a small number of corrections should have almost no impact on the figures in the tables. For the expenditure data fourteen records with unreasonably large expenditures were corrected for apparent data entry/coding errors without examining the questionnaire. For example, in the case of two children who reported buying uniforms daily, with a time unit code of 3 for day, the time unit code was changed to the more prevalent 8 for yearly purchase.

## B. School Enrollment and Abandonment

113. Enrollment rates are quite high in Jamaica. Of children 3-5 years old, 72% are in schools, almost all are in basic schools. Of children 6-11 years old, 98% are in school. Among secondary aged children, enrollment in educational institutions is 95% among the 12-14 year olds, drops to 78% for the 15-16 year olds and to 28% among 17-19 year olds. It is important to note, however, that the enrollment level among secondary aged students quoted above are not consistent with Ministry of Education estimates. In the 1987/88 academic year, these estimates showed enrollment as being 87.5% among the 12-14 age group, and approximately 50% among the 15-16 years age group. One contributing factor to this discrepancy could be the fact that the Ministry of Education has established criteria of attendance which must be adhered to before a student can be included in a school's enrollment statistics. Respondents were likely to be unaware of these criteria.

114. Table 6.1 presents the enrollment rate by age, level and quintile. Although enrollment rates are in general quite high, strong trends with rising consumption are evident. Among 3-5 year olds, for example, those in the poorest quintile are twice as likely as those in the richest quintile not to be enrolled in school. If the basic schools provide any educational advantage over the home environment, when this could be an early factor working against the less well-off children.

115. Among children age 6-11 enrollment in some kind of institution is nearly universal. Even in this age group, the children at the upper end of the income distribution are more likely to be enrolled in basic schools than are poorer children, who apparently enter the school system directly in the first grade. Six percent of the poorest quintile's children are in basic schools, while 92% are in primary schools. For the children of the richest quintile, the figures are 16% and 81%, respectively. The enrollment in secondary schools in this age group rises slightly from none in the poorest quintile to 2% in the wealthiest.

116. For the youngest children in the secondary system, trends by consumption level are not too marked. Among 12-14 year olds the poorer are slightly more likely to be still in primary schools or not to be in school than their age-mates. In the 15-16 year cohort, marked changes begin to appear. Children in the lowest quintile are more than twice as likely to be out of the school system than those in the highest quintile. This trend continues for 17-19 year olds. Enrollment in secondary schools rises from 14% in the lowest quintile to 31% in the highest. Similarly, enrollment in higher education climbs from 3% to 14%.

117. Table 6.2 provides further detail within the secondary system. The enrollment of all students in the various classes of secondary schools is shown by quintile. Grades 7-9 in All Age schools, which is generally considered to be the least well-equipped and least desirable of the secondary tracks, enroll 28% and 39% of students in the poorest two quintiles, but only 7% of those in the richest quintile. New Secondary schools also enroll students from the lower quintile more than twice as often as those from the upper quintile. Secondary High schools, generally considered the best track in the system, enroll 14% of the lowest quintile's students, but 60% of those in the wealthiest group.

Table 6.1

Enrollment Rates by Quintile, Age and Level, July 1989 SLC

Percent of Children Enrolled in School

	<u>Population Quintile</u>					<u>Jamaica</u>
	<u>Poorest</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
<u>AGE 3-5</u>						
Basic (N=404)	60%	68%	70%	76%	81%	69%
Primary (N=18)	3	4	1	3	4	3
None (N=158)	37	28	28	20	15	27
Sub-Total (N=580)	100	100	100	100	100	100
<u>AGE 6-11</u>						
Basic (N=117)	6%	8%	9%	10%	16%	9%
Primary (N=1091)	92	90	87	87	81	88
Secondary (N=10)	0	0	1	1	2	1
None (N=19)	2	1	2	2	1	2
Sub-total (N=1237)	100	100	100	100	100	100
<u>AGE 12-14</u>						
Primary (N=156)	27%	26%	26%	24%	24%	26%
Secondary (N=423)	65	71	66	72	74	69
None (N= 30)	8	3	7	4	2	5
Sub-total (N=610)	100	100	100	100	100	100
<u>AGE 15-16</u>						
Primary (N= 4)	1%	3%	0%	1%	0%	1%
Secondary (N=267)	60	74	75	86	80	74
Higher (N=5)	1	0	0	0	6	1
None (N=79)	34	23	25	13	14	22
Sub-total (N=361)	100	100	100	100	100	100
<u>AGE 17-19</u>						
Secondary (N=119)	14	13	20	33	31	22
Higher (N=31)	3	1	6	7	14	6
None (N=381)	83	84	73	60	55	71
Sub-total (N=535)	100	100	100	100	100	100

Table 6.2

Tracking in Secondary Schools by Quintile, July 1989 SLC

<u>Type of School</u>	<u>Enrollment by Track and Quintile</u>					<u>Jamaica</u>
	<u>Poorest</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
All Age 7-9 (N=186)	28	39	25	14	7	23
New Secondary (N=274)	49	29	34	31	23	33
Comprehensive (N=37)	4	3	7	4	5	4
Secondary High (N=279)	14	22	30	43	60	34
Technical (N=36)	1	4	3	9	4	4
Vocat./Agric. (N=14)	4	2	1	1	1	2

Comprehensive schools show no strong patterns of enrollment and consumption. Though their total enrollment is low, Technical schools seem to serve the better off groups while Vocational Agricultural schools serve the poor.

118. In analyzing school abandonment, it is important to note that there are three terminal grades in the Jamaican education system, viz Grades 9, 11 and 13. The term abandonment as used here will therefore be taken to include both students who drop-out of the regular system as well as those who complete the various cycles and terminate school at any of the three terminal grades. Table 6.3 shows abandonment, broken down by level, by consumption quintile, area, sex and age. The breakdown of level by quintile confirms that the enrollment statistics show - the wealthier attain higher levels of education than the poor before leaving the system. The pattern by area shows that rurality is a determining factor. Over half of rural children abandon school in grades 7-9, but only a little more than a third of children in Kingston do so. Of children Other Towns, 44% leave the system in grades 7-9. The interpretation of these findings must, however, be related to the fact that grade 9 is the terminal grade for All Age schools which accounts for almost 30% of enrollment at the secondary level. All Age schools also provide an even greater proportion of secondary school places in rural areas therefore resulting in the abandonment pattern by area noted here. The results for abandonment by sex are what is expected in Jamaica, but highly unusual compared to most other countries in the world. Over ten percent more males have left school by age 19 than have females, and at a lower level. Two thirds of dropouts at the primary level are male. Half of the males who leave school do so in the first half of secondary school, while only 45% of females leave so early.

Table 6.3

School Abandonment, July 1989 SLC

Percentage of Students Leaving School by Level and Characteristic

<u>Level</u>	<u>All Jamaica</u>	<u>Quintiles</u>				
	<u>N=447</u>	<u>1</u> N=130	<u>2</u> N=81	<u>3</u> N=103	<u>4</u> N=79	<u>5</u> N=54
Grades 1-3	1.6%	2.3%	0.0%	1.9%	2.5%	0.0%
Grades 4-6	9.6	12.3	8.6	8.7	7.6	9.3
Grades 7-9	48.3	47.7	60.5	57.3	30.4	40.7
Grades 10-13	38.9	34.6	28.4	32.0	58.2	50.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

  

<u>Level</u>	<u>All Jamaica</u>	<u>Kingston Metro.</u>	<u>Other Towns</u>	<u>Rural</u>
	<u>N=447</u>	<u>N=79</u>	<u>N=96</u>	<u>N=272</u>
Grades 1-3	1.6	1.3	1.0	1.8
Grades 4-6	9.6	5.1	13.5	9.6
Grades 7-9	48.3	38.0	43.8	52.9
Grades 10-13	38.9	54.4	41.7	33.5
Total	100.0	100.0	100.0	100.0

  

<u>Level</u>	<u>All Jamaica</u>	<u>Male</u>	<u>Female</u>
	<u>N=447</u>	<u>N=240</u>	<u>N=207</u>
Grades 1-3	1.6	1.7	1.5
Grades 4-6	9.6	12.5	6.3
Grades 7-9	48.3	51.3	44.9
Grades 10-13	38.9	32.9	45.9
Total	100.0	100.0	100.0

  

<u>Level</u>	<u>All Jamaica</u>	<u>Age</u>				
	<u>N=447</u>	<u>3-5</u> N= 0	<u>6-11</u> N= 7	<u>12-14</u> N=22	<u>15-16</u> N=69	<u>17-19</u> N=346
Grades 1-3	1.6	0.0	50.0	0.7	0.0	0.9
Grades 4-6	9.6	0.0	50.0	8.9	13.0	6.9
Grades 7-9	48.3	0.0	0.0	49.5	71.0	43.9
Grades 10-13	38.9	0.0	0.0	39.9	14.5	47.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

119. Table 6.4 shows the responses to a question about why non-enrolled children of school age were not enrolled. For the age groups of 12-14 and 15-16, about a quarter of those not enrolled cite financial reasons. For the youngest group, the next most important category the reason is illness. For 15-16 year olds, after financial reasons, working is cited. By the time youth reach the 17-19 age group, financial problems are not cited but rather working is a reason for non-enrollment. These are really closely linked. The cash cost of outlays for uniforms, texts, fees and transport, which is probably a large part of what is being referred to under the "financial" category, is small compared to the opportunity cost of not being employed. For all groups, by far the most frequent reason chosen for non-enrollment was the "other" category, indicating that the pre-coded responses were not as comprehensive as desirable.

### C. Repetition and Attendance

120. Repetition and attendance are used as indicators of school performance. In the Jamaican education system, however, repetition rates are not necessarily good performance indicators because of the practice of automatic promotion whereby children are promoted by age rather than by performance. The August 1988 SLC did not cover these indicators directly. For the July 1989 SLC it was decided to correct this. Though much can be gained from the questions as they were asked, there is still room for improvement. The repetition questions asked for the number of years the student had spent in primary and in secondary school. Compared with the current grade, repetition can then be inferred. Because the survey was administered during summer vacation rather than during the school year as had been planned when the questions were formulated, the

Table 6.4

Reasons for Non-Attendance and Non-Enrollment, July 1989 SLC

<u>Reason</u>	<u>Absence in Last Week</u>		<u>Not Enrolled</u>		
	<u>Primary</u> (N=283)	<u>Secondary</u> (N=186)	<u>12-14</u> (N=22)	<u>15-16</u> (N=69)	<u>17-19</u> (N=346)
Illness	11%	11%	10%	5%	2%
Financial	27	18	23	25	9
Transport Problem	1	2	3	0	9
Working	0	1	3	14	28
Household Chores	7	8	-	-	-
School Holiday	34	37	-	-	-
Truant	2	2	-	-	-
Pregnt/Young Mother	0	0	3	8	12
Babysitting	1	0	0	0	1
Apprenticeship	0	1	3	5	4
Not Worth Going	3	5	3	10	5
Other	15	17	47	30	37
Not Ready	-	-	0	1	1
No School Available	-	-	0	1	2
No Space in School	-	-	3	0	0
Total	100	100	100	100	100

wording was a bit confusing for the repetition questions and the recall period for attendance distant from the time of the interview. These problems have been addressed through revision of the questionnaire for the November 1989 round. Table 6.5 shows the rates of repetition and attendance for primary and secondary levels by quintile, area, and sex.

121. Repetition. Repetition falls as consumption level rises, especially at the secondary level. There, 21% of students from the poorest quintile have repeated a year, while only 12% of those from the wealthiest households have done so. The pattern by area is again much stronger at the secondary level than at the primary level. Only 7% of students in the Kingston Metropolitan Area have repeated one or more years, compared to 15% in Other Towns, and 21% in rural areas. Girls have slightly higher repetition rates than do boys, which is somewhat surprising, in that they also leave the system having reached a higher level than do boys.

122. Attendance. The survey asked whether the students had full attendance for the reference week (June 19-25). Full attendance rises markedly and regularly with consumption at the secondary level, less so at the primary level. Attendance is notably better in the Kingston Metropolitan Area at both primary and secondary levels, intermediate in rural areas, and lowest in Other Towns. Girls' attendance is just perceptibly better than boys'. Attendance rates are about equal at primary and secondary levels. Although the patterns are fairly strong, probably not too much emphasis should be given to the actual level of absences measured here. The reference week was the last full week of the school year, a time when attendance might be expected to be unusually irregular. It was also as much as two months prior to the survey interview, which could lower the precision of recall considerably.

123. A question enquiring as to the reason for the absence was asked of those absent at least one day in the reference week. The most frequent response was due to school holiday, indicating the unusual nature of the reference week. The next most often selected category is "financial", with 27% of primary absentees and 18% of secondary absentees citing this. Illness accounts for 11% of absences at both levels, and household chores for about 7% at both levels.

#### D. Textbooks

124. Research in several countries has shown that textbooks are one of the most important inputs in the education production function. The Human Resources Development Programme continues and enlarges a programme for the distribution of basic texts to ensure that all children have access to them. Accordingly, a short series of questions was included in the July 1989 SLC to monitor the accessibility of textbooks to the children.

125. Overall, access to textbooks is quite high. At the primary level, for Jamaica as a whole, 90% of students have textbooks for their exclusive use, and 5% have access to shared textbooks (see Table 6.6). Better off students do have slightly better access, but even in the lowest quintile, 86% of students have texts for their own use, and only 9% do not have texts at all. The overall rates are quite similar at the secondary level, though the pattern of better access with rising consumption levels is slightly stronger. Textbook availability was also tabulated by school type. Primary schools, the primary

grades of All Age schools, New Secondary High schools, and Comprehensive schools all have about the same 90% availability level. The secondary grades of All-Age schools have only about 50% own use access while Secondary High schools have 98% own use availability. This conforms to the generally accepted ranking of quality in the tracks in the secondary system.

126. An important issue in the availability of textbooks is not only whether the students have them, but how they got them. In primary schools three quarters received some texts free from the school, a tenth paid something to the school for some texts, and half of the students also obtained some texts from sources outside the school (presumably purchases from bookstores or hand-me-downs). Eighty-five percent of the All-Age primary students received their books free, and only about a third obtained texts outside the school. About half of students in the secondary grades of All Age schools received their texts free from the school and 60% used some other source. For the other tracks of secondary schools free provision by the schools is sharply lower, to between 6-13% of students with some access to texts. Provision of texts for a fee is 60-65% in New Secondary, Comprehensive, and Secondary High schools. Acquisition from non-school sources is also high, over 80% for Comprehensive and Secondary High schools.

Table 6.5

Primary and Secondary Repetition, July 1989 SLC

	<u>% Who Have Repeated One or More Years</u>		<u>% with Full Attendance For Reference Week</u>	
	<u>Primary Repetition</u>	<u>Secondary Repetition</u>	<u>Primary</u>	<u>Secondary</u>
<u>Quintile</u>				
Poorest	(N=309) 6.5%	(N=140) 20.7%	(N=308) 69%	(N=143) 62%
2nd	(N=306) 13.7	(N=152) 22.4	(N=306) 80	(N=158) 75
3rd	(N=258) 12.0	(N=170) 15.9	(N=256) 76	(N=170) 77
4th	(N=231) 7.4	(N=183) 13.7	(N=228) 82	(N=180) 83
5th	(N=163) 6.7	(N=148) 11.8	(N=162) 90	(N=145) 84
<u>Area</u>				
K.M.A.	(N=259) 22.6	(N=165) 7.3	(N=260) 84	(N=164) 88
O.T.	(N=246) 7.3	(N=173) 15.0	(N=246) 70	(N=178) 70
Rural	(N=762) 9.8	(N=455) 20.9	(N=754) 78	(N=454) 75
<u>Sex</u>				
Male	(N=635) 8.8	(N=377) 16.2	(N=631) 76	(N=380) 76
Female	(N=632) 10.3	(N=416) 17.3	(N=629) 79	(N=416) 77
Total	(N=1267) 9.5	(N=793) 16.8	(N=1260) 78	(N=796) 77

127. These figures on textbook availability and source of supply indicate that the textbook programme operating in Jamaica is very well targeted. Overall access is high and equitable. The provision of free text is higher at primary level than at the secondary. This is so because textbook programmes operating at both levels are different in nature. The programme at the primary level provides books free, whereas some textbooks are provided at the secondary level under a low-cost book rental scheme. It is to be assumed that where it is recorded that students obtain free books, these are actually primary level books. It is, however, appropriate that access to the free books is greater at the primary level, both in terms of efficiency and equity. Primary education generally has a higher rate of return than secondary, and fewer poor children access secondary level education. Within levels, free provision is concentrated in the All Age schools which the poor are most likely to attend. Taken together this indicates a high quality investment in Jamaican education.

#### E. Education Expenditure

128. Table 6.7 shows education expenses by school type. The overall pattern is fairly clear for each category and for the total. Education expenses increase with the reputation for quality for the school. This may to some extent reflect the correlation with socio-economic status of the students attending specific types of schools. Lunch expenses, for example are over half of the total, and are strongly related to the reputation of the school. Mean lunch expenditures for primary school children are J\$691 per year and J\$455 for the primary grades of All Age schools. There being no inherent reason why one group of primary students would need to spend so much more than the other (even if All Age schools are more frequent in rural areas, the cost of living differences are not so great), the expenditure level must reflect the household's general consumption level more than differences in minimum necessary costs. Higher transport expenses for the more prestigious schools may reflect the fact that these schools would have a wider catchment area as there are relatively fewer of them than other types of schools. School fees are notably lower for All Age schools than for other types, and higher for Secondary High, Technical and Vocational/Agricultural schools. Uniforms expenses are fairly even, except for the higher expenditure reported for Secondary High and Technical schools.

#### F. Conclusions

129. The coverage of the Jamaican school system is high. Pre-primary coverage is high compared to international standards. It is skewed to the higher consumption groups, with lower consumption groups more likely to enter the school system directly at the primary level. At the primary level the indicators of the educational process are fairly uniform. Enrollment is virtually universal, attendance is fairly uniform, and repetition shows no marked patterns. School abandonment and repetition increase sharply in the secondary levels, with the poor exhibiting much higher rates of both.

Table 6.6

Textbook Availability, July 1989 SLC

Textbook Availability by Quintile and School Level

<u>Primary</u>	<u>Poorest</u>	<u>Population Quintile</u>				<u>Jamaica</u>
		<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	
Has, Own Use(N=1141)	85.5%	90.3%	89.6%	93.5%	92.0%	89.8%
Has, Shared (N= 62)	5.5	5.2	6.2	3.9	2.5	4.9
None (N= 67)	8.7	4.6	4.3	2.6	5.5	5.3
Sub-Total (N=1271)	100.0	100.0	100.0	100.0	100.0	100.0
<u>Secondary</u>						
Has, Own Use (N=699)	82.5%	86.8%	91.6%	91.8%	97.9%	90.2%
Has, Shared (N= 48)	8.4	10.5	6.6	4.7	0.7	6.2
None (N= 28)	9.1	2.6	1.8	3.5	1.4	3.6
Sub-total (N=775)	100.0	100.0	100.0	100.0	100.0	100.0

Textbook Availability by School Type

	<u>Prim.</u> N=665	<u>All Age</u> <u>1-6</u> N=606	<u>All Age</u> <u>7-9</u> N=186	<u>New</u> <u>Secondary</u> N=273	<u>Comp.</u> N=37	<u>Secondary</u> <u>High</u> N=279
Has, Own Use	89.2%	90.4%	82.3%	87.9%	89.2%	97.9%
Has, Shared	4.7	5.1	10.8	8.4	2.7	1.4
None	6.2	4.3	7.0	3.7	8.1	0.7
Sub-total (N=2565)	100.0	100.0	100.0	100.0	100.0	100.0

Source of Textbooks by School Type

	<u>Prim.</u> N=628	<u>All Age</u> <u>1-6</u> N=586	<u>All Age</u> <u>7-9</u> N=173	<u>New</u> <u>Secondary</u> N=263	<u>Comp.</u> N=35	<u>Secondary</u> <u>High</u> N=278
Provided at No Cost by the School	7.3%	83.5%	53.2%	13.7%	5.7%	7.2%
Provided for a Fee by the School	11.0	8.0	10.4	65.0	60.0	59.7
Acquired by Household in Some Other Way	52.7	36.2	59.4	63.2	83.3	83.8

Note: Columns do not sum to 100 because a student may obtain from more than one source

Table 6.7

Education Expenditures, July 1989 SLC

<u>School Type</u>	<u>Mean Annual Expenses in J\$</u>				
	Transportation	Fee	Uniform	Lunch	Total
Basic	106	341	140	490	1094
Primary	140	261	189	691	1119
All Age, grades 1-6	97	32	201	455	777
All Age, grades 7-9	183	104	205	568	794
New Secondary	326	228	228	893	1685
Comprehensive	394	179	228	1190	2050
Secondary High	491	371	353	1329	2539
Technical	703	371	376	1197	2676
Vocat./Agricultural	506	555	219	1316	2669

Attendance is at about the same level as in the primary years, but more correlated with consumption level. Consumption level and track of secondary schools are strongly associated, with clear implications for the quality of schooling and career paths of the students. The textbook programme has achieved high coverage. The primary level and the tracks of secondary schools most used by the poor have the most provision of free texts, which is appropriate both for efficiency and for equity.

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