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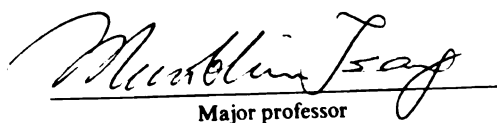
DIRECT PRIVATE COSTS AND ACCESS TO
SECONDARY SCHOOLING IN BURUNDI

presented by

Marie Mayoya

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Educational
Administration


Major professor

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DIRECT PRIVATE COSTS AND ACCESS TO SECONDARY
SCHOOLING IN BURUNDI

By
Marie Mayoya

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Educational Administration

1997

**DIRECT PRIVATE COSTS AND ACCESS TO SECONDARY
SCHOOLING IN BURUNDI**

By

Marie Mayoya

Secondary school is highly valued in Burundi, but it is a great financial burden on the parents of children in both day or boarding school. School fees are determined by the government, but other costs (school supplies, uniforms, and shoes, and transportation) have not previously been analyzed. The research investigated the direct private costs of secondary school and the determinants of access to secondary schooling in 1993.

A multisite (Gitega, Karuzi, and in Bujumbura, the capital city), stratified sample of 197 families, including families with and without children in secondary school was used. The families included 1,161 children with 518 children enrolled in school and 635 children not in school in 1993.

The mean of the direct private cost of secondary schooling per child was 26,256 FBu for boarding and 20,725 FBu for day schools. It varied according to school, gender of the student, family background, and location. It was higher for female students in both types of school.

Family expenditure for schooling increased with parents education, higher paying occupation, income, and assets. Mothers with more education had more children in day school. The economic burden of the direct private cost of secondary schooling was 10 % of family income in boarding school and 3% of family income per child in day school. That economic burden was 23% for the lowest quintile income families for children in boarding school. It was 1% of the total family income for the highest quintile income. Farmer parents and fathers with no formal schooling did not have children in day schools.

Family assets and education of the father were the main determinants of access to secondary schooling in the entire sample. In

the urban area, family assets and fathers' education were the determinants of access to secondary schooling. In the rural area, predicted burden of secondary schooling, sixth grade repetition, children's chores, and parents' attitude to secondary school, were the determinants of access to secondary schooling. Educated members of the extended family played a role in access to schooling.

Increased education of parents would improve access to secondary schooling. Analysis should be made of the financial, institutional, and management dimensions involved in expanding compulsory education from the sixth grade to lower secondary school. A policy of scholarships for poor rural children and girls from poor families should be explored to help equalize educational opportunity.

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DEDICATED TO MY PARENTS, MY HUSBAND, AND CHILDREN

To my Dad, Mr. Mayoya Tharcisse, and my Mom, Mrs. Renata Ngenzebuhoro, for your prayers, values, and loving guidance.

To my Mom, for choosing to send me to school instead of helping you with chores, staying up late to prepare my lunch after the others had gone to sleep, and getting up early to warm my breakfast. You warmed my heart every day.

To my Dad, for teaching me the values of education and showing me the path to better schools and a better life. For your challenge to go farther than you were able to in school.

To both of you, for your love of children.

And to my husband Mevin Ndarusigiye, and children, Diane, Eric, and Claire with a promise to love you as much as I was loved. ("Urukundo ukunze umwana, arubikira uwiwe").

ACKNOWLEDGEMENT

My heartfelt gratitude goes to:

The Rockefeller Foundation which sponsored my data collecting. Without their generous financial support, the project would not have been possible.

My dissertation co-directors Dr. Jack Schwille and Dr. Mun Tsang, for their unfailing support during the shaping of the dissertation proposal, data collection and throughout my graduate studies. I very much appreciated the visit by Dr. Jack Schwille during the data collection in Burundi and the funding by the Rockefeller Foundation that made that visit possible. Dr. Schwille helped in many ways to improve the quality of the data collected.

I am equally grateful, as well, to my academic advisor, Dr. Mun Tsang, for his interest in the study his encouragement, and his commitment to working with me to help me reach my goal.

I am indebted to the other two members of my dissertation committee, Dr. Gary Sykes and Dr. David Wiley, who have been most supportive, understanding despite their busy schedules.

I am also really grateful to Dr. Richard Houang, and Mr. Jean Bosco Sibomana, for statistical help and comments and advice, to Mr. Ernest Habonimana, Mr. Nestor Riragendanwa, and Ndayishimiye Jean for their help in conducting interview.

I am also thankful to all those who contributed to my training at Michigan State University, especially the College of Education. My appreciation as well to Ms. Martha Green, Mrs. Maggie Schuesler, for editing my dissertation.

My thanks to:

The government of Burundi for financing the early years of my graduate studies.

The Centre Universitaire pour la Recherche et le Developpement

Economique (CURDES) dans La Faculty d' Economie, a l' University du Burundi, for hosting me during the data collection in Burundi.

The Ministries of Education and Interior for the permission to conduct this study.

The Communal administrators and "chefs de zones", who facilitated contact with the population in rural Bujumbura, Gitega, Karuzi, and Mairie de Bujumbura. I shall never forget the warm welcome, the kind attention and the enthusiastic interest of my interviewees. The motivation they showed in answering my questions surely kept mine alive until the end of the dissertation. My heartfelt sympathy goes to those who saw secondary education as an unreachable dream for their children and who perceived it as only for "others". Maybe, one day, it will be theirs, too.

I sincerely acknowledge the many informants who helped me locate the families with children in secondary school on their collines without them this project would have been impossible.

I owe a large debt of gratitude to my family:

To my parents who sent me to school, financed my studies, and taught me during primary schooling; you provided me with the foundation for doctoral studies.

To my brothers and sisters for all your sacrifices.

To my husband, Mevin Ndarusigiye, and children, Diane, Juste-Eric, and Claire M. Noelle, for your unconditional love, prayers, and support during my doctoral studies.

To the family of Joseph and Magdalena Rudagaza and their children, especially Gregoire and Rose.

My sincere thanks to all my friends everywhere for their continuing personal support.

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CHAPTER I. INTRODUCTION

This chapter introduces problems of access to secondary education in Burundi. In particular, it addresses issues raised by the structure, evolution, and expansion of primary schools, and other factors affecting access to secondary schooling. It also presents background information on the economy and population of the country, its ethnic composition, and a brief description of both the formal and non-formal educational system. Finally, this chapter formulates the objectives and presents the organization of the dissertation.

I.1. Problem Statement

Secondary school education in Burundi brings both joy and burden to the family and the community. On the one hand, education is seen as a way out of poverty. Children who pass the secondary school entrance examination (the Concours National, which is administered in sixth grade, last grade of primary school) and go to secondary school, expect a better life upon completion of their studies.

Parents are also relieved for many reasons when their children graduate from secondary school. First, they no longer bear the cost of education. Second, some parents expect to receive money from their children. Third, and in

particular, the children who graduate usually finance the secondary education of siblings. Finally, these same children often motivate, morally and financially, other children in the neighborhood, and in the extended family, to seek higher levels of education.

On the other hand, secondary school education is a burden to the parents because they must pay for it, whether it takes place in day school or in boarding school. In addition to the school fees, which are determined by the government, there are other costs, such as school supplies, uniforms, and shoes (the amount varying according to the parents' ability to pay)¹. In some cases, parents are willing to send their children to secondary school but cannot afford its cost. They rely upon extended family and friends for help. Consequently, secondary school education involves the community.

¹ Private costs of education, as opposed to institutional costs of schooling, include direct private costs of education, household contributions to school and indirect private costs of education (Tsang, 1994). Tsang (1994) defines direct private costs of education as expenditures by parents on their children's schooling. Household contributions to school are contributions, in cash or in kind, from families to the school, or to school personnel. Indirect private costs of education refer to the economic value of the forgone opportunities of schooling (e.g., child's labor in family production and in performing other domestic chores). Institutional costs are public expenditures on education, which are supported by school fees and household contributions to school.

I. 2. Burundi: Physical Characteristics and Population

Burundi is a small landlocked, overpopulated, and poor country in Eastern-Central Africa. It is bordered by Rwanda in the north, Tanzania in the south and in the east, and Zaire in the west. The total area comprises about 27,384 square kilometers (or about 12,000 square miles). In 1995, Burundi was divided into 15 provinces and 114 communes², (See Map 1).

Despite its very small size, equivalent to the State of Maryland in the United States of America, Burundi had a total population of six million people in 1990. This population was projected to reach 9.1 million people in 2010, and 13 million people in 2025 (Population Reference Bureau, 1994). This population constitutes a major challenge to the capacity of the educational system of the country to provide education to all. Physical, financial and human resources cannot increase fast enough to match the population growth rate and support its human development needs.

Nearly 94% of the population of Burundi lives in the rural areas; the urban population represents six percent of the total population. Likewise, about 90 percent of the

² The limits of the province of Mwaro, which was created in February 1996, were not known yet during the period of time this dissertation was being written.

population of Burundi are involved in subsistence agriculture. Consequently, as arable land becomes divided into smaller plots by inheritance, families with many children, but limited resources, may not be able to afford the cost of secondary education. Hence, the subsistence economy hinders access to secondary schooling.

The population of Burundi is comprised of three ethnic groups: Bahutu (Hutu 85%), Batutsi (Tutsi 14%), and the Batwa (Twa 1%). The Hutu were traditionally associated with farming, whereas the Tutsi were involved in livestock activities; the Twa lived by gathering and hunting types of economy. All three ethnic groups speak Kirundi which is the native language. They live mingled in all regions of the country (Weinsten, 1974).

These three ethnic groups have had unequal access to formal education during the post-independence era. The Tutsi population was dominant in the formal school system and harvested more of the fruits of Western education, in terms of occupational, economic, and political power. Although ethnic inequalities in schooling are hard to document, there are registered regional imbalances in access to primary and secondary education (Ndimira, 1995; Ndimurukundo, 1995). Table 1, below, indicates a very disproportionate access to formal schooling. These disproportion is highly skewed towards the provinces of Bururi, Muramvya, and Bujumbura city, which have the highest

Map 1. Administrative Divisions of Burundi



Fig. 4 Les divisions administratives en 1990.

Source: Bidou et al., 1991, p. 10

Table 1 Gross Enrollment of Primary and Secondary
Schools by Province, Burundi, 1991-92.

Province	Gross enrollment ratio 1991-92	
	Primary	Secondary
Bururi	98	28.0
Muramvya	91	8.0
Bujumbura (1)	78	17.0
Bujumbura (2)	NA	4.9
Makamba	75	3.8
Gitega	75	5.0
Cankuzo	70	3.0
Ruyigi	63	3.0
Rutana	63	6.5
Bubanza	61	2.5
Ngozi	60	2.2
Kayanza	59	2.6
Karuzi	54	2.0
Cibitoke	53	2.0
Muyinga	49	2.0
Kirundo	46	2.5

Note: (1) = urban
(2) = rural

Source: Ndimira, 1995.

concentration of Tutsi population (Ndimurukundo, 1995; Ndimira, 1995).

The dissertation will focus on three different areas of Burundi. The first is the capital city where most of the people are employed in the modern sector of the economy. The second is located in the center of the country, where Gitega, the second largest city of the country is located. The third is located in the province of Karuzi, which is mostly rural.

I.3. The Educational System

I.3.1. Origins of Unequal Access to Education

This study is an attempt to document disparities which have long seemed to characterize Burundian education. Modern education opened its door first to the wealthy families: royal families, wealthy Tutsi and Hutu. The Twa rarely participated in modern education. Families who owned land (land and cattle were the traditional symbols of wealth) were most likely to send children to school. Those who went through school were able to get out of this subsistence economy and into the wage market. Their offspring became educated, and capable of helping their children motivationally, as well as financially. The other traditionally poor families were, and are, still trying to

get at least one child admitted to, and graduated from, secondary school. As secondary schooling is expensive, its access is related to the economic system of the country.

Historically, the Tutsi, who have been in power since independence, controlled the educational system and increased unequal access to secondary education by introducing a highly selective testing system. This led to unequal access to the benefits that formal education confers, such as high status jobs and political power (Weinsten, 1974). The following is a short description of the education system and its most pertinent features.

I.3.2. Formal Education.

The formal education system is divided into three different levels: primary school, secondary school and the university. There is no public preschool in Burundi. All preschool are private and limited to urban areas only (Rwehera, 1994).

I.3.2.1. Primary School

Primary school consists of six classes: grade one through grade six. The ministry of education provides books for all subjects for teachers and students. This ensures

that the schools provide the same instruction to all enrolled children in the country. The system provides a schedule that is supposed to be followed for each day of the week by grade level, from first to sixth. In the early eighties a number of measures were introduced with the objective of increasing the capacity of primary schools. These measures included, most importantly, the double shifts and automatic promotion.

I.3.2.1.1. Double Shifts

In order to expand schooling to all children, with the same facilities available to all, the system of double shifts was introduced in 1982-83. Double shift is a system of using the same teacher and the same classroom for two groups of students during the same day. This practice can, therefore, double the capacity of the system. For a week, one group attends school in the morning, while the other attends in the afternoon. The groups switch the following week. This system provides a half day of school instead of the whole day students received before the introduction of double shifts. Each group was targeted to consist of a maximum of 50 students.

Double shifts have greatly increased access to primary education, especially for girls. Prior to the introduction of the double shift in 1982, the primary gross enrollment

rate was 29%. It rose to 72.5% in 1991-92 (Rwehera, 1994). Female literacy increased from 10 percent to 40 percent, or a 300 percent increase, over the period 1970-1990. Male literacy increased from 29 percent to 61 percent during the same period, or a 110 percent increase (World Resources, 1994).

However, it can be argued that the double shift system makes children from the rural areas less competitive in the Concours National. With double shifts, the children from poor families spend less time in school and on academic subjects. Once they arrive home, these children have to perform household chores instead of studying³. In contrast, the children in the city, and those whose families' have house workers, can use that time to review their school lessons and read other academic materials. The more day time student spend at home, the shorter the time they are exposed to the precious books which they do not find in their own homes.

This situation, it appears, may increase the chances of the advantaged children while reducing those of the disadvantaged ones. Hence, inequalities of opportunity may be perpetuated through the economic status of family and the system of double shifts. The advantages for children in

³ Domestic chores are performed mainly by children, especially girls, when parents are poor and/or located in the rural areas. As a result, the level of academic achievement of these children is expected to be lower than that of boys or children who do not have domestic chores.

this context are synonymous with the advantages of time and resources in their homes.

I.3.2.1.2. Automatic Promotion

The system of double shift in Burundi was introduced simultaneously with the system of automatic promotion. In order to create room for the new generation of first graders, automatic promotion meant that every child enrolled in first grade would be admitted to the next grade at the end of the school year, even with a minimum of achievement. The system of automatic promotion has offered the seeming opportunity for children of the poor to complete primary school. However, automatic promotion did not empower many children to compete for entrance into secondary schools. The limited time to study at school due to double shift, and domestic chores after school, have prevented many children from having the quality time necessary to prepare for the secondary school entrance examination.

I.3.2.1.3. Concours National

To pass from sixth grade to secondary one must pass the Concours National. The Concours National is a highly selective national exam which is used to select students who go from primary school to secondary school. So far, less

than 10 percent of the sixth graders are allowed to pass this exam because there are very limited places in secondary schools in comparison to the number of children finishing primary school (Schwille et al., 1991). This exam was introduced in sixth grade in 1973.

Overall, however, the number of children entering secondary schooling increased, specifically for females, up to 1990. There was an overall increase of 4% in secondary school enrollment. During the following school year 1990-91), the increase was 6%. Thereafter, there was a decrease of 4% in secondary school enrollment during 1991-92. At the regional level, enrollment in secondary school followed the national enrollment pattern, except in the capital city of Bujumbura, where it has been consistently increasing. The number of children who passed the Concours National in the sampled areas and the entire country are summarized in Table 2 below.

I.3.2.1.4. Grade Repetition

Primary grade repetition is one of the main consequences of limited access to secondary education in Burundi. Children repeat grades so that they can catch up with their competitive peers and be able to have a stronger foundation in later grades. Consequently, these able students are expected and encouraged to pass the Concours

Table 2 Number of Children Who Passed the Concours National by Sex and Region,
Burundi, 1988-92

PROV	Karuzi				Gitega				Bujumbura				Nation			
YEAR	M	F	T	M	F	T	M	F	M	F	T	M	F	M	F	Total
1988	115	36	151	115	86	201	296	208	504	4664	2181	6845				
%	NA	NA	6.2	NA	NA	8.7	NA	NA	17.6	NA	NA	NA				
1989	115	41	145	199	174	374	261	163	424	4929	2199	7128				
%	NA	NA	10.7	NA	NA	14.4	NA	NA	13.3	NA	NA	NA				
1990	72	26	98	133	102	235	401	388	789	5005	2551	7556				
%	NA	NA	7.13	NA	NA	NA	NA	NA	22.3	NA	NA	NA				
1991	50	23	73	132	118	250	463	421	884	4763	2469	7232				
%	6.6	4.4	5.7	9.8	8.1	8.9	NA	NA	27.6	NA	NA	NA				
1992	NA	NA	54	NA	NA	330	NA	NA	676	NA	NA	6678				
%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				

National the following year. As a result, unlike in many countries, repeaters achieve substantially higher test scores than non-repeaters (Schwille et al., 1991).

Grade repetition is considered a positive sign for later success in school in Burundi. It is not everyone who is entitled to repeat grades. Children do not usually make the decision to repeat a grade; their parents or immediate relatives do. In this situation, parents who can perceive the benefits of repeating will make their offsprings repeat even in lower grades to boost their later achievement.

In short, as less than 10% of children go to secondary school, the remaining 90% of the children enrolled in sixth grade undertake many strategies to maximize their chances to pass the concours National. These strategies include:

- * repeat sixth grade;
- * return to lower grades, especially the fifth grade,
- * change school and go to a lower grade

Those who get discouraged drop out of school without repeating or repeat only once. As such, the sixth grade is the bottleneck to access to secondary school.

1.3.2.1.5. Para-Primary - Yaga Mukama

Not all children attend formal schools, nor do all who enroll in those schools stay or finish them. Yaga Mukama schools, Catholic bible schools that end at the primary

level, provide an alternative. These informal elementary schools have been frequented by adults and children who would never have enrolled in formal school, or who were primary school dropouts.

Yaga Mukama schools are free and meet only twice a week. They, therefore, allow students to carry out other activities, such as domestic chores and off-farm activities. Along with religious education and reading, Yaga Mukama schools offer some practical farming lessons. It was only recently that writing was introduced in the Yaga Mukama curriculum.

During the 1992-93 school year, some school-age children were enrolled in Yaga Mukama rather than the formal primary schools of the Commune of Gitega and Buhiga. Yaga Mukama alone represented 6% of the school age children in the commune of Buhiga and nearly 18% for the commune of Gitaramuka (République du Burundi, 1992). In the Commune of Gitega, children attending Yaga Mukama were not enrolled in the regular primary school.

In contrast, Yaga Mukama schools in the capital city have been adapted to the schedule of the children attending regular primary school (verbal communication with a Yaga Mukama teacher in Bujumbura, 1993). All the children attending Yaga Mukama in Bujumbura were enrolled in the regular primary school. They were attending primary school one shift and still participated in the Yaga Mukama twice a

week. If they were in the morning shift, they would attend Yaga Mukama school in the afternoon. The system of double shift has therefore facilitated children participating in Yaga Mukama schools in Bujumbura.

I.3.2.2. Secondary School

In 1986-87 school year, 86% of secondary schools in Burundi were public and 14% private. Most of the private schools were in Bujumbura and 51% of private schools students were foreign; these schools served only 8% of all secondary students. By 1991-92, private schools comprised 9% of the total population of students. Public secondary schools totaled 91% of the students (Burundi, Ministère de l'Education Primaire et Secondaire, 1992).

Secondary schooling is subdivided into two cycles: Cycles d'Orientation, which provide nationwide standardized curriculum, and Cycle Supérieur whose curriculum varies according to the student's fields of specialization.

Cycle d' Orientation consists of grades seven to grade ten. It is considered the general basis of secondary school. After the Cycle d'Orientation, students are subject to a national test. The results of this test serve to track students into general secondary schools and technical secondary schools. The students who have high scores on this test attend general secondary schools. This cycle used

to be called Cycle Inférieur.

Cycle Supérieur is divided into two different schools: general secondary schools and technical secondary schools. General secondary schools consists of grade 11 through grade 13. It includes three sections: Scientific A, Scientific B, the Humanities. Technical secondary schools consist of grade 11 to grade 14.

Teacher training Schools: some of the secondary schools go from 11 to 14, i.e., Lycées Pédagogiques. At present, they consist of four years divided into two cycles of two years. The first two years are called Ecole de Formation des Instituteurs (EFI). Graduates from these Ecole de Formation des Instituteurs have to teach in primary school for at least two years before starting the last two years, which complete the cycle of Lycées Pédagogiques.

After secondary school, there is another test which is meant to track students to the University of Burundi. All students take this exam during the last year of secondary school.

Secondary schools were exclusively boarding schools until the 1982-83 school year, when day schools started. Boarding schools provide facilities for students to stay during the school year. However, students are required to purchase supplies such as extra bed-sheets, and blankets. Most of these supplies would not be needed if the students were attending day schools.

Day schools were established in 1982-83 to lessen the burden of boarding secondary schooling costs to both the government and parents. In day schools, students go to school every morning and go back home to eat and sleep after school each day. Initially, students who passed the national secondary school entrance examination, Concours National, were sent to nearby secondary schools. However, the objective of building day schools and having day students in all the communes of the country encountered many problems, such as lack of transportation, electricity, running water, and qualified teachers. The number of available day students in a given region was not large enough to justify the cost of these day schools. Consequently, day schools remain only in Bujumbura, the capital city.

Moreover, as a result of this policy, day school students from poor households are highly disadvantaged by the lack of facilities such as electricity and water in their homes, which are available to day school children from middle and upper class families, and to students in boarding school.

I.4. Direct Private Costs of Secondary Education

Direct private costs of secondary schooling are the expenditures by parents on a child's secondary education.

To date, school fees are the only part of the total direct private cost of secondary schooling in Burundi that receive public attention. In boarding school, school fees have been increasing since the 1973-74. In day schools, school fees have increased since 1985. In addition, there has not been any government scholarship or assistance of any kind to students from poor families in Burundi.

The direct private costs of secondary schooling continue to be a major concern of the government and the population of Burundi. The greater part of the direct private costs of secondary education is unknown to parents and to the government, because the government regulates and monitors only the school fees. The burden of the other direct private costs on the family, such as school supplies, transportation and boarding accessories, has long gone unreported in the literature on education in Burundi. Thus, the government and the general population do not have a clear idea of the total direct private cost of secondary schooling in Burundi. Until the child passes the Concours National, some parents stay ignorant of the magnitude of those costs and find themselves unprepared for them.

Annual school fees per child have been increasing for both boarding and day secondary schools. Overall, these fees increased by 800 percent for boarding secondary schools from 1973-74 to 1992-93 (or 20 years), that is, from 1,000 FBu to 9,000 FBu. They increased by 350 percent for day

schools from 1983-84 to 1992-93 (i.e. from 1,500 FBu to 4,500 FBu) school years. The amounts of annual school fees and corresponding percentage increases for both boarding and day secondary schools are summarized in Table 3 below.

Table 3 Annual School Fees per Child and Percentage Increase for both Boarding and Day Secondary Schools, Burundi, 1973-74 - 1992-93 Schools Years.

School year	School Fees and % Increase over Previous Year			
	Boarding	% *	Day	% *
1973-74 -	1000	NA	NA	NA
1980-81 - 1982-83	2000	100	NA	NA
1983-84 - 1984-85	3000	50	1000	NA
1985-86 - 1986-87	4500	50	1500	50
1987-88 - 1989-90	6000	33	3000	50
1990-91 - 1992-93	9000	50	4500	50

Note: * % increase over previous year.

Source: - République Burundi: Ministère de l'Education Nationale, 1988
 - République Burundi: Ministère de l'Education Nationale, 1993.
 - République Burundi: Ministère de l'Education Nationale, 1993.

While school fees for secondary school increased, family income (GNP per capita) in Burundi decreased. For example, GNP per capita decreased by 22 percent from 1991 to 1993. It went from \$218 in 1991 (World Resources Institute et al. 1994) to \$210 in 1992 and \$170 in 1993 (Bernarek, 1994). The GNP per capita should be even lower in subsequent years because of the civil unrest that started in

October 1993 in Burundi.

As a percentage of household income, school fees constituted a major burden for families. For instance, school fees for secondary schools represented 30% of the GNP per capita for boarding secondary school, and 10% for day school in 1991-92 school year. The results are summarized in Table 4 below.

Table 4 Burden of School Fees with Respect to Family Income (%), Burundi, 1982-83 - 1991-93 School Years (Selected Years).

School Year	Boarding school	Day School
1982/83	7%	3.5%
1983/84	10%	5.0%
1985/86	15%	NA
1987/88	20%	NA
1991/92	30%	10.0%

Source: - Mayoya, 1989;
 - République Burundi: Ministère de l'Education Nationale, 1988;
 - République Burundi: Ministère de l'Education Nationale, 1991;
 - République Burundi: Ministère de l'Education Nationale, 1993.

Hence, access to secondary school became increasingly difficult for poor families as they became poorer and poorer over time. Informal primary schools became an alternative to them.

I.5. Proposed Research

This dissertation is a study of the direct private costs of secondary schooling and the impact of such costs on access to secondary schooling in Burundi. It estimates the magnitude of these costs and their economic burden on Burundian families. It seeks to find out whether such costs are a barrier to access to secondary schooling in Burundi.

The specific research questions are:

- * How much are Burundian parents spending on the direct private costs of secondary schooling?
- * How do direct private costs of secondary education vary by family background, type of school (day or boarding), and sex of the student?
- * Which are the families who can afford to send children to secondary school and fully support them financially?
- * What is the magnitude of the economic burden of the direct private costs of secondary education on parents and how does this burden vary with family background?
- * Does the economic burden of direct private costs of secondary education affect access to secondary education?

In addition, the following questions deal with access to secondary schooling:

- * Who are the people send children to secondary school?
- * To whom are direct private costs of secondary education

a barrier to school access?

- * Are families with children in secondary school different from those which do not have children in secondary school?
- * What are the effects of parents' education, wealth and occupation on children's access to secondary school?
- * Does grade repetition affect access to secondary education?

This research will bridge the information gap existing between the already known government contributions and the still unknown contributions of families to secondary education. It informs policy about the portion of the direct private costs of secondary schooling which is not regulated by the government. It uncovers the magnitude of the direct private costs of education by family background. It points to the impact of grade repetition, the extended family, parents' education, parents' occupation, family income and assets, and location to access to secondary schooling.

I.6. Organization of the Dissertation

The rest of this dissertation has five chapters. Chapter Two presents the review of the literature and the conceptual framework. Chapter Three describes the methodology used, including a discussion of methods of data

collection and preparation for data analysis. Chapter Four presents the results of the analysis of the direct private costs of secondary schooling. Chapter Five presents the results of the analysis of access to secondary schooling. Chapter Six is the conclusion; it summarizes the major issues of the study, addresses policy implications, and indicates future research needs.

CHAPTER II. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

This chapter reviews studies on private costs of education and on access to schooling. It also presents the conceptual framework of access to secondary schooling in Burundi. Finally, it provides the justification for this study.

II.1. Literature Review

The literature review is subdivided in two parts: the first part deals with the private costs of education. The second part explores factors influencing access to secondary schooling.

II.1.1. Private Cost of Education

Private costs of education are made of direct private cost and indirect private cost of education. Direct private costs are the monetary contributions by families to their children's schooling. These include family expenditures on items such as tuition and school fees, textbooks, supplementary study guides, writing supplies, uniform, school bag, transportation, and boarding school costs (Tsang 1994). Indirect private cost are measured by the economic

value of the foregone opportunity of schooling. The foregone opportunity of the time the child would have contributed to the family production or other household chores, if s/he was not enrolled in school (Tsang, 1994).

Until recently, relatively little empirical research has been done on the private costs of education in developing countries. Evidence of the impact of private costs of education on families was reported in research studies primarily in terms of access and equity (Lockheed, 1979; Waweru, 1982; Robinson et al., 1985; Wolff, 1985; Anderson 1988; and Mankha, 1990). Much of the literature referred to poverty, remoteness from schools, gender, family composition, birth order, race, ethnicity, religion, handicaps, needs for special education, and children in continual migration (Anderson, 1988). Previous studies tend to focus on public, and not private, educational expenditures. Most of the published studies on private costs of education in developing countries were conducted in the late 1980s and early 1990s by Tan (1985), Tsang (1988; 1990), and others. For example, Tan (1985) concentrated on the direct private costs of secondary schooling in Tanzania, and Tsang (1988) focused on the direct private costs of primary schooling in Pakistan, and the direct and indirect private costs of primary schooling in Thailand (Tsang and Kidchanapanish, 1992).

Empirical studies show that private costs constituted a significant burden on low-income households (Tan, 1985; Tsang, 1988a; Tsang, 1992). In Malaysia, direct costs of all levels of education accounted for 18 percent of family income for low income households, while it represented only six percent of income for wealthy households. In China, these costs represented 11 percent of households' income in the lower-secondary level and 19 percent in the upper-secondary level (Tsang, 1994). Thus, private costs can be burdensome on families, especially those from poor backgrounds.

Empirical research also points out that private resources for education were very substantial compared to public resources for education (Tilak, 1985; Tsang, 1992). In Thailand for instance, total private resources amounted to 28 percent of institutional cost in government primary school in 1987 (Tsang, 1994). A 1988 World Bank study of education in two provinces of the People's Republic of China found that the direct private cost equaled about 70-75 percent of the total institutional expenditure at the primary level and 50-70 percent of the public institutional expenditure for secondary general education (Tsang, 1994). It is erroneous to think that tuition is the only private expenditure for education. In Thailand for example, there was an extensive list of non-tuition costs, including students' uniforms, school bags, textbooks, writing supplies

(pencils, rulers, notebooks, erasers, color pencils and pens), transportation, school fees (for lunch program and other school activities), shoes, and sports wear (Tsang & Kidchanapanish, 1992) .

Moreover, empirical studies found significant disparities in private costs in relation to family income and wealth. For example, even though poorer families in Thailand spent much less on education, private resources necessary to finance education accounted for a much higher proportion of household income of these families than richer families (Tsang & Kidchanapanish, 1992). In general, families with higher cash income, accompanied by other forms of wealth, and more educated parents, allocated more private resources to schooling.

Many studies suggested that costs of schooling limit enrollment for specific groups, such as the rural poor and females. In India, poor families attributed their failure to send children to school to high direct private costs (Tilak, 1985; Tsang, 1994). Solutions to reduce the burden of cost of schooling to parents included free education and/or subsidies for specific groups, especially during the period of economic downturn (Noor 1981; Tilak and Varghesa, 1985; Kelly, 1986; Anderson, 1988; Tsang, 1994).

Finally, gender was another important factor in the direct private costs of education in developing countries. For instance, female students in Tanzania were found to

require significantly higher expenditures for schooling than male students for both government schools and private schools (Tan, 1985). In Thailand, the costs of education was higher for girls than for boys in government schools and the costs were the inverse in private schools. Furthermore, girls had higher costs in urban areas but lower costs in rural areas (Tsang, 1994).

Thus, gender disparities could be compounded by disparities due to poverty and remoteness (Smith & Cheung, 1981; Stafiliros-Rothschild, 1982; Kelly, 1986; Robinson et al., 1986; Tsang, 1994; and Okwach & Wamahiu, 1995). Consequently, in the study of private costs of education, special emphasis should be placed on gender issues since girls have been under-represented in many developing countries in secondary education. In two districts studied in Kenya, for example, girls made up 41% of the students in forms 1-4 in secondary school, but they represented 61% of dropouts as a result of financial constraints (Okwach & Wamahiu, 1995). Another study by Zamberia (1996) found that although girls' enrollment increased by 517% from 1971 to 1990 (or a 26% annual increase), as opposed to 260% increase for boys, the proportion of girls to boys enrollment increased only by 40% (or 2% annual increase) in the same period of time (Zamberia, 1996). In Burundi, girls constituted 36% of all students enrolled in secondary school (République du Burundi, 1993).

II.1.2. Access to Schooling

Research has indicated that there are regional differences in access to schooling (Heyneman, 1978; Niles, 1981; Anderson, 1988; Lockheed, Fuller & Nyirongo, 1988; Ndimurukundo, 1995; Ndimira, 1995). It was also found that family socio-economic status could be an exceedingly important, sometimes the single most important, factor in determining access to school. However, since there are many differences between countries, each country has to be put in its special context. Therefore, country-specific research is needed.

II.1.2.1. Rural Versus Urban Settings

Many countries of the developing world are characterized by unequal regional economic development and regional disparities in educational participation. Regions which are remote from urban areas lack information and infrastructure and experience more poverty. Inequitable resource distribution across regions constitutes, therefore, a limiting factor to poor families in accessing schooling (Fuller, 1985). Poverty, illiteracy of the parents and the remoteness of the region from educational infrastructure are among the barriers to school participation. In addition, social class factors, such as parents' occupation, have an

negative impact on school access, especially in the rural areas (Lockheed, Fuller, & Nyirongo, 1988; Harbison & Hanushek, 1992). In Thailand and Pakistan, private financing of education was inequitable and contributed significantly to inequalities in educational opportunities for students from different family backgrounds or regions (Tsang & Kidchanapanish, 1992; Tsang et al., 1990). Urban, higher income, wealthier, more educated, and professional or managerial households spent more than rural, lower income, less wealthy, less educated and agricultural households (Tsang, 1994).

Income was a key factor that affects access to schooling in Kenya, where 64% of students in rural areas dropped out of school because of a lack of funding by their parents (Okwach et al., 1995). School participation in rural Uganda was 10%, whereas it was 90% in the capital city (Heyneman, 1978).

In Malawi, many children who attended schools located in the rural areas had parents in the skilled occupations and had electricity and running water. Some poor families in rural areas never enrolled their children in school. (Lockheed, Fuller & Nyirongo, 1988).

Likewise, in British Guyana, children of white collar workers had more access to secondary schooling than children of farmers or blue collar workers (Bacchus, 1966). In rural Brazil, efforts were made since early 1970s to increase

access to schooling by making primary schooling free and compulsory between the ages of seven and fourteen (Harbison & Hanushek, 1992). Moreover, the rural areas of the country had limited access to secondary schooling. Enrollment in secondary schools in the rural northeast of Brazil for example was 3.3 percent in 1982 while enrollment in the urban northeast was 15.2 percent (Harbison, & Hanushek, 1992).

In Burundi, in addition to the above factors affecting access to schooling, ethnicity constitutes another barrier. In areas of high concentrations of Tutsi, there was higher gross school enrollment in primary school and higher access to secondary school (Ndimurukundo, 1995; Ndimira, 1995)¹. Earlier studies on access to secondary schooling in Burundi indicated that children in remote areas had limited access to secondary school (République du Burundi, 1986)

II.1.2.2. Girls in Rural Areas

Many studies done in Africa, Asia, the Middle East, and Latin America show that girls are more likely than boys to drop out of school before completing their primary cycle, especially in rural areas. Illiteracy is experienced mostly among poor and socially disadvantaged women. While adult

¹This issue of ethnicity is not developed in this dissertation because of its political volatility.

women are responsible for child care and cooking, their daughters bear a parallel burden by helping the family fetch water and look for fire wood (Stromquist, 1990).

In rural areas, child labor affects mostly girls, which makes their school completion more problematic. The demand for child labor in the rural areas could lead parents to withdraw their children from school (Psacharopoulos and Woodhall, 1985; Tsang & Kidchanapanish, 1992). This explains why fewer rural girls from disadvantaged families go on to secondary schools. Remoteness from school affects more girls than boys. This factor is never reported in national statistics which may not reveal inequalities of opportunity based upon gender in rural and urban areas.

In Thailand, for example, studies at the national level failed to show sex differences in achievement for the total sample. The disparity between rural and urban sex differences showed that in urban schools girls outperform boys by 1.2 points, while in the rural schools, boys outperformed girls by 1.0. The better performance of urban girls covered up the lower performance of rural girls (Lockheed, Fuller & Nyirongo, 1988).

II.1.2.3. Family Background

Studies in developed countries have confirmed the influence of family background on children's educational

attainment (Coleman, 1966; Jenks 1972; Lockheed et al., 1988; Lupton, 1983; Behrman, 1989). In France, the elitist educational system has been recognized as central in perpetuating the interests of the dominant groups (Millot, 1981). In developing countries, the few studies conducted in the 1970's, such as in Uganda (Heyneman, 1978; Currie, 1978) concluded that family background has little to do with academic achievement in these countries. However, the sample used in these studies was highly homogeneous, as the target population was pre-selected.

The results of Heyneman's study were based on a limited variability in student achievement. In countries with highly competitive systems of education, as was Uganda during the time of the study, children in the seventh grade are a handful of gifted children that have survived every kind of selection test, and the high primary school dropout rate.

These very intelligent children made it difficult to find a discriminating examination; they all pass or fail it together. Thus, in the district where only the top 10% of the pupils were in the seventh grade, Heyneman (1978) could not reasonably have expected that there would be a difference in the socio-economic background among these students. Much remains unexamined about those 90% who did not make it to the seventh grade. Who were they? Thus, the 10% of the children in Kampala came from very advantaged

families, educated officials, civil servants, and some prosperous business people. This explains why Heyneman did not find differences within the schools in his sample (Heyneman, 1978).

Studies in the early 1980's, however, support the consensus of those conducted in developed countries. They contend that family background plays a major role in the child's educational access and retention through school. Studies in several developing countries have now illustrated the crucial, unequivocal, role of the family background. Findings show that impoverished children do not succeed as well as those from wealthy families; many children from poor families do not even enroll in primary school, many of those who enroll do not survive to finish (Cooksey, 1981; Niles, 1981; Fuller, 1985; Lockheed et al., 1988; Anderson, 1988; Mankha, 1990; Nzamutuma, 1992).

In Botswana, traditional rulers' children enjoyed all the education the colonial powers offered, whereas those of the common people remained herders and laborers as a tribute to the same rulers (Mankha, 1986). In Burundi, children of traditional rulers were the first to access secondary education, while children of poor families had little access to the educational system.

Most rural schools are located in areas where the children share similar socio-economic background. Children from poor families are significantly less involved in

education in Pakistan and other developing countries (Niles, 1981; Tsang, 1991). Many of the studies illustrate the importance of parents' education, occupation, income and status in their society (Niles, 1981; Cooksey 1981; Fuller, 1985; Lockheed, Fuller & Nyirongo, 1988; Mankha, 1990). Empirical studies indicated that children from lower socio-economic backgrounds are confronted with many educational inequalities, and face stronger pressure to stay out of school (Tsang, 1994).

II.1.2.4. Dropout

Dropout rates differ substantially by region. In Uganda, for example, the drop out rate was 10% in the capital city and 90% in Karamoja, a region far away from the capital city (Heyneman, 1978). In Burundi, many children enrolled in schools in poor neighborhoods lack basic necessities to be successful; school buildings in poor rural neighborhoods lack the benefits of a better learning environment. In many Sub-Saharan countries, if there were three first grade classrooms, there would be two second grade classrooms and only one third grade classroom. At the end of each school year a sizeable number of children were sent home for two main reasons: (a) they did not perform competitively at school, (b) there was not enough room to accommodate everybody in the next grade since there were

usually fewer classrooms in the upper grades of elementary school (République du Burundi, 1987).

In Burundi in 1987, there were 1,321 first grade classrooms and only 941 sixth grade classrooms (Republique du Burundi, 1987). During the same school year, there were 114,125 pupils in first grade and only 45,037 pupils enrolled in sixth grade in Burundi. About 61% of those enrolled in first grade did not reach the sixth grade. Children who reach the seventh grade are most probably from high socio-economic family background since the poorest children drop out for different reasons during the school year. Some children drop out even during the first term of the school year, a period which corresponds to the collection of school fees (République du Burundi, 1987). Therefore, students in grade seven are not representative of the population.

II.1.2.5. Extended Family

Although recent studies have started to address the question of private costs of education in developing countries, they have failed to address the role of the extended family in financing the education of the children from poor background. As a Burundian saying puts it: **"Umwana si uwumwe; umwana ni uwo umuryango"** (a child is not for the nuclear family only; a child belongs to the extended

family). Educated and wealthy relatives financially support children in the extended family in Burundi.

Very few studies about socio-economic background have investigated the role of the extended family (Niles, 1981; Lanzas & Kingston, 1981 ; Nzamutuma, 1992). Niles' study was limited to the impact of grand-parents status in Sri Lanka. Lanzas & Kingston (1981) emphasized the educational environment of children who moved from their nuclear families to homes of the extended family members, because schools were distant from their primary family home. Consequently, Lanzas & Kingston (1981) seems to suggest that in the case of Zaire, the extended family, more than the family status, played an important role in the education of children

Yet in Zaire, sometimes out of economic necessity and sometimes by custom, many parents have little to do with their children's education .Within the various webs of extended family ties, a number of relatives besides the parents often have the greatest socio- economic impact on a student's education... The word "father" or "mother" in the Zairian languages refers to any person of a certain age and sex to whom respect is owed." (Lanzas & Kingston, 1981).

Likewise, some children born in areas remote from schools, in Burundi, left their parents and went to live with relatives, mainly in the urban areas, so that they could increase their chances to access secondary schooling.

The involvement of the extended family also expanded the children's school participation in Rwanda (Nzamutuma, 1992).

There are no known institutions which provide students or parents with scholarships or monetary loans for attending secondary schools in Burundi. Having educated and wealthy relatives may be an advantage, especially for children from, rural families. These relatives not only can serve as financial providers but also as role models for this marginalized population as Windham (1991) calls it.

As for the poor students without educated relatives, they are the ones who most need the benefit of policies designed to rescue them from marginalization in education. Thus,

"Poverty is a source of multiple disadvantages. The children of the poor are more likely to suffer from nutritional and health problems, to grow up in environments that fail to support intellectual stimulation, and to have inferior school resources" (Windham, 1991).

It is, therefore, important to consider the role of the extended family in accessing schooling in many parts of the world, especially in Africa. Relatives' involvement in financing the education of children can be an important factor in access to schooling. Children who have an educated extended family may have better access to schooling than those who have an uneducated extended family. As such, the extended family may play a major role in shaping the perception of the world by the child, and may impact the way the student perceives formal education. Hence, the neglect, exclusion, or ignorance of the role of the extended family

may have lead researchers to misleading conclusions about access to schooling.

II.1.2.6. Grade Repetition

The meaning of grade repetition in developing countries such as Burundi, is different from that in developed countries because the educational systems are different. In the United States, for example, children living in families with incomes below the poverty line are nearly twice as likely to be retained in a grade as children in non-poverty stricken families (Bianchi, 1984; Natriello, McDill, & Pallas, 1990). In addition, low income children in the US were twice as likely to drop out of school (Natriello, McDill, & Pallas, 1990).

In countries where education is not compulsory, and access to upper levels of education not granted at the end of the academic year, the situation may be different. Empirical research showed that Burundi had one of the world's most selective secondary school systems, and that grade repetition was high because of the difficulty of obtaining access to secondary school (Schwille et al., 1991). Studies on grade repetition in Burundi indicated that repeaters achieved substantially more than non repeaters. Children repeated grades so that they could catch up with their competitive peers and be able to have a

stronger foundation in later grades (Schwille et al., 1991).

Repetition, in Burundi, is an advantage, a positive reinforcer, another chance to succeed in the entrance examination for secondary school. Repetition gives the repeater an edge over the younger cohort by providing the student the opportunity to be seen as the ultimate candidate to pass, which confers upon the teacher the strength to teach more, so that someone in his/her class will pass and confer upon him/her recognition as a good teacher. This is another motivation for the repeater because s/he gets more attention from the teacher.

II.2. Conceptual Framework

This study draws from human capital theory and the status attainment models. These theories have been applied to both developed and developing countries and have reached similar conclusions about the significance of returns from investment in education. Human capital theory and status attainment models are applied to the situation of Burundi in order to explore the conditions of access to secondary schooling.

II.2.1. Human Capital Theory

Human capital refers to the skills that one acquires inside or outside the school that enhances one productive capacity. According to human capital theory, education can increase an individual's productivity and earnings (Schultz, 1971; Becker, 1964). Expenditure on education is a form of investment, since education has economic returns.

Individuals and families make decisions on investment in education by considering both the costs and returns of additional schooling. If the private rate of return from schooling is higher than those of alternative activities, an individual will invest in more schooling. Similarly, parents will invest less in the education of the children if the costs of education go up and make the rate of return from education less attractive compared to alternatives. Likewise, a government should consider investing more in schooling if the rate of return of schooling to society is higher than that of alternative social investment activities. Empirical studies have found that the returns to education are quite high (Psacharopoulos, 1994).

Education has an intergenerational value. When today's students reach adulthood, their children will gain by virtue of the informal education received at home. Better educated parents are more likely to raise children who recognize the value of education in terms of job opportunities and

cultural opportunities. Consequently, the social value of educated parents, especially women, is not zero even if they never enter the wage labor force to utilize the skills developed in school (Weisbrod, 1971).

II.2.2. Status Attainment

Prior to 1980 in developing countries, school characteristics were considered by some researchers to be the most important determinants of student achievement and status attainment (Heyneman & Loxley, 1983). After 1980 family background was found to be one of the major factors influencing children's achievement and educational attainment (Niles, 1981; Fuller, 1986; Lockheed, Fuller & Nyirongo, 1988). Family background and the ability of children to adjust to and incorporate psychological factors into the learning environment were among the major contributing factors to status attainment and access to schooling. Social class origin of children was also found to be a powerful factor explaining school achievement (Carnoy and Levin 1985; Jenks et al., 1972; Kohn, 1959; Clement, 1975). Family background determines in large part the probability that children will enroll in, attend, repeat classes, and complete various levels of education (Anderson, 1988; Cheng, 1986; Lockheed, Fuller & Nyirongo, 1988).

Children start from their family socio-economic status

and achieve their own socio-economic status, in part, via schooling. Their status, however, will also depend upon structural factors like historical period, regional environment, psychological factors (expectations, motivation and aspiration) and ability to learn (Fujita, 1978). Several factors stemming from family background, influence educational and occupational attainment of children. A child's status attainment depends in large part on his/her parent's occupation and/or education (Sewell & Hauser, 1975; Carnoy and Levin, 1985). Therefore, socio-economic inequalities lead to inequality of educational opportunity (Clement, 1975; Shea, 1976).

II.2.3. Access to Secondary Schooling in Burundi

Apart from the study of unequal distribution of schools across regions (Ndimira, 1995), little empirical research has been conducted to document unequal access to secondary schooling in Burundi. This study explores characteristics of families whose children had, or have, access to secondary schooling in Burundi. Consequently, family background, which determines resources available to students, may be one of the most important variables in determining access to secondary schooling. Other variables consist of cultural factors related to gender and the obligation of children and specifically female to perform domestic chores. They also

include the direct private cost of secondary schooling and education policies (e.g. grade repetition, national exams, collective promotion, double shift, school fees, etc.).

Family background variables consist of fathers' and mother's education and occupation, family income, assets and family expenditure, and extended family. Extended family is included because relatives (wealthy or educated) often facilitate schooling of children in the extended family. Support by relatives includes, but is not limited to, money, room and board, and transportation.

Children in Burundi are traditionally involved in domestic chores, such as fetching water, cooking, farming, and babysitting younger siblings. Nonetheless, while many urban families and educated parents hire workers to perform these chores, children from rural families must usually perform domestic chores before sunset because there is no electricity and they do not hire workers. Consequently, domestic chores conflict with homework and study time of children in rural areas. As a result, domestic chores stemming from lack of facilities and financial resources can create unequal access to secondary school between children from families who can hire workers and/or have electricity and families located in areas which do not have these benefits.

The division of labor between men and women in Burundi, is also a relevant factor, in that women are in charge of

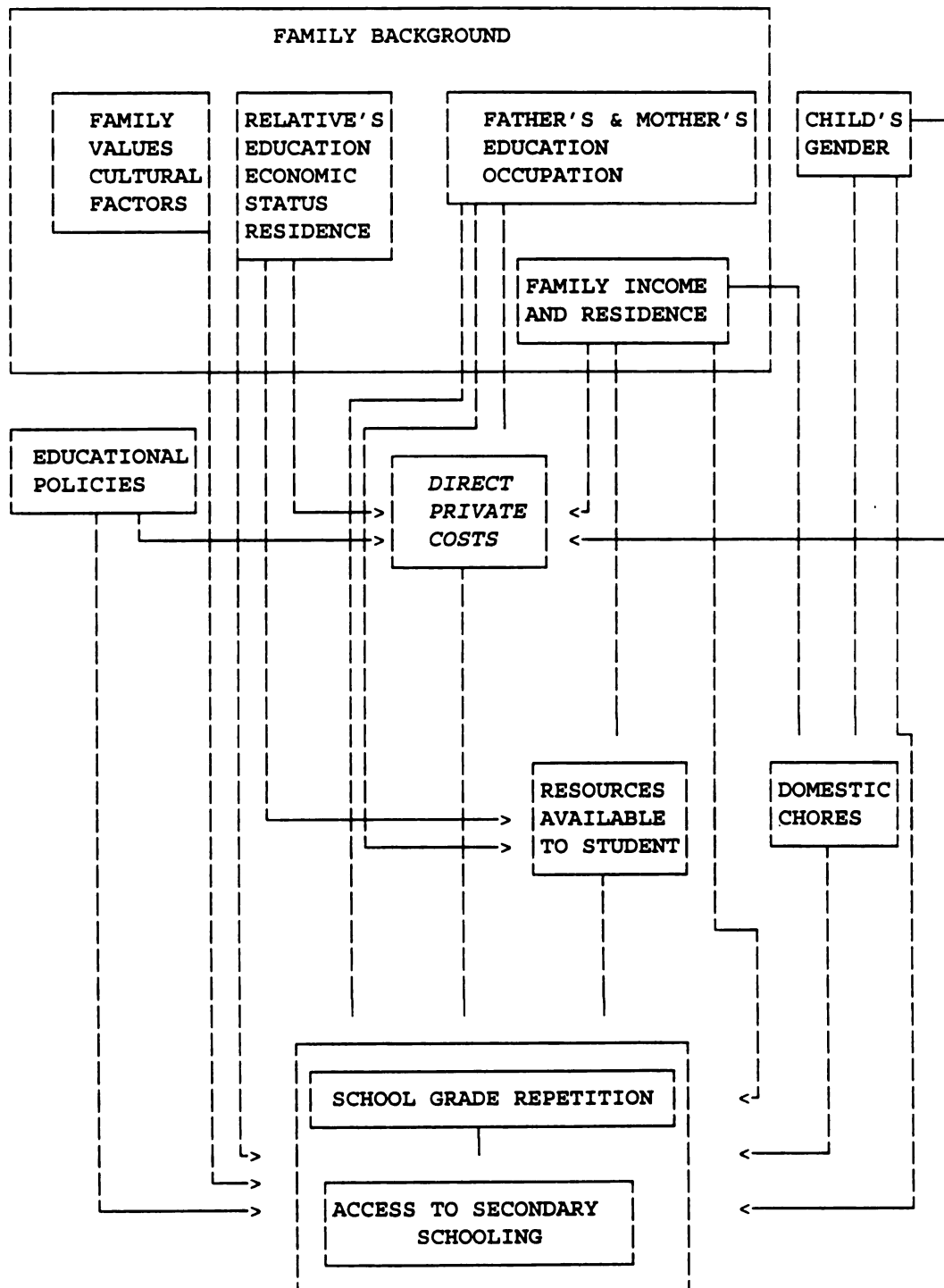
domestic chores, while men are involved in activities that are seasonal and require muscular strength such as clearing land, drainage, fencing, and building houses. Domestic chores, however, are done on a daily basis and are performed for extended hours. Girls are traditionally required to help their mothers in performing domestic chores in Burundi. Hence, since girls spend more time on domestic chores than boys, gender may be a factor that affects unequal access to secondary schooling in Burundi.

Furthermore, parents pay for education of their children in Burundi. In many instances, the burden of the cost of secondary schooling on the family income may be prohibitive for poor families. Those who can not afford the cost of secondary schooling, and whose extended family is unable to financially support these children may not have access to secondary schooling. Thus, the burden of the cost of secondary schooling can be a limiting factor in accessing secondary schooling in Burundi.

Finally, education policies in Burundi may hinder access to secondary schooling. Since the cost of education limits access to secondary schooling, one can expect many cases of dropout. In addition, given the value Burundian families put on education and the selective system of education (i.e., Concours National), grade repetition may be a key variable in accessing secondary schooling. The potential factors influencing access to secondary schooling

in Burundi are summarized in Figure 2.1. below.

Figure 2.1. Framework of Access to Secondary Schooling in Burundi



II.3. Merit of the Study

Previous empirical studies of private costs do not link costs directly to achievement or access to schooling. Studies on both private costs of schooling and family background often do not assess the impact of relatives, or the extended family members' education, on the students' achievement. Only the study in Rwanda (Nzamutuma, 1992) included the education of extended family members, and found that it influenced student achievement positively. The study in Zaire (Lanza, 1981) did show the link between the extended family and student achievement, but did not clearly show who among the extended family was included.

Therefore, this study not only examines the influence of the extended family on access to secondary schooling, but also influence of repetition and the burden of private costs on schol access.

This study includes marginalized people who do not have children in secondary schools, as well as those who do not stay to finish primary schooling. This study also explicitly investigates which students repeat grades in primary school, which do not, and how this impacts access to secondary schooling. Lastly, contrasting rural and urban students' access to secondary schooling will shed some light on the causes of the limited numbers of rural girls, as well as which rural girls participate.

A review of previous studies on direct private costs and access to secondary schooling indicated that only households with children in secondary school were included in the analysis. In addition, most of the previous studies collected information on students only, and mainly in the school setting. Previous studies focused also on either rural or urban areas. Likewise, little analysis was done on the impact of grade repetition on access to secondary school.

Unlike other studies, this study includes both households with children in secondary school and those without children in secondary school. Data were collected from both urban and rural families, and across regions. Detailed information on gender differences was collected for those from rural areas and those from urban areas.

The information on analysis of grade repetition is more complete, as it includes age, the age of starting school, frequency of repetition, and cases of success resulting from grade repetition. In addition, data were collected on the number of repetitions and the highest grade completed by the children who dropped out of school.

This study also includes children who never enrolled in formal school. The role of extended family in accessing secondary school is documented. The information on educated relatives includes the relationship with the family, the place of residence, and their level of education. This

study goes beyond the unidentified relative or guardian.

CHAPTER III. METHODOLOGY

This chapter presents the research design which consists of a survey in a multisite case study. It discusses the pilot study, methods for sampling, data collection, limitations of the dissertation, and preparation for data analysis.

III.1. Pilot Study

III.1.1. Choice of the Site and Families

A pilot study was conducted in the commune Isale in the province of Rural Bujumbura for three reasons. First, the pilot study served to check the adequacy of the questionnaire in terms of understandability and completeness. The ultimate goal of the pilot study was to make necessary modifications of the questionnaire to be used during intensive interviews in three selected areas. Second, the pilot study consisted of finding efficient procedures to use in data collection, given the unstable political environment of the country at that time. Third, the commune of Isale was appropriate because it is not located in the area selected for the study.

The commune of Isale is located in the high altitude area which includes mountains with steep slopes. As a

result, for reasons of accessibility and safety, it was necessary to find informants who were knowledgeable about the region. The choice of informants was facilitated by primary school teachers of the central primary school in Isale. The informants helped in identifying families with secondary school children in the commune. The collines¹, in which the interviews were conducted, were selected on the basis of the information provided by the informants concerning the accessibility of the collines and safety. The informants were a mix of headpersons² of each colline and young adults living in that colline.

A census of families with children in secondary school was made for ten collines that were safe to visit. With the help of the informants from the colline, families with children in secondary school were counted. Thereafter, a list of collines was drawn up giving the number of such families on each colline. A random sub-sample of four collines was drawn from the ten collines. Interviews, using the pilot questionnaire, were conducted on the four collines.

¹ A colline is the smallest administrative subdivision of a commune.

² A headperson of a colline is a male person who is democratically elected by the inhabitants of that colline. He is a spokesperson at different levels of the commune. He represents the interests of the colline. He is engaged in all the aspects of life of the colline, such as the political, social, cultural, legal and economic activities.

A pilot study of 30 families was originally intended, including 20 families with children in secondary school and 10 families without children in secondary school. After 22 interviews (12 families with children in secondary school and 10 families without children in secondary school), there was a lack of the following important groups for the study: (1) day students in secondary school; (2) families which pay the full cost of secondary school for their children; (3) families which support other students who are not their children in secondary school; and (4) non-farmers. As a result, additional pilot study interviews in Bujumbura, the capital city, were necessary to include all these categories. A purposive sample of eight families was made to include the groups mentioned above. The interviews took place on one avenue in Nyakabiga, one of the urban neighborhoods primarily composed of middle class families.

III.1.2. Results of the Pilot Study

III.1.2.1 Questionnaire

The pilot study helped refine the way the questionnaire was to be used. The interviews conducted for the pilot study provided an opportunity to determine which questions each respondent needed to answer. Thus, respondents did not need to be asked questions which did not apply to their

children's situation. As an illustration, a person who did not have children in secondary school was not questioned about the cost of secondary schooling.

No major changes were made in the questionnaire as a result of the pilot study because it was considered satisfactory for interviews. However, a few modifications were made especially for questions about child preference (see Appendix 1). The interviews indicated that many families had no preference for a specific gender. Thereby, an answer identifying no preference for either gender was added. The place of birth for both the respondent and the spouse was removed because the respondent whose spouse was absent did not know the place of birth of that spouse. Likewise, the interviews showed that it was difficult to know the level of education of people in the army.

III.1.2.2. Sampling Procedure

The original design of the study assumed that there existed a register of all the families which had children in secondary school at the commune level. This used to be the case. The pilot study indicated that it was not the case in the Isale commune. There was no longer any trace of the information that used to be collected. Even the old registers were no longer retrievable. The parish church did not keep the register either. Hence reliance on the

informants at the colline level became an efficient and necessary way to get accurate information on families which had secondary school children.

Due to the political environment, which had created a climate of suspicion, the names of families with children in secondary school could not be given. Once families with children in secondary school to be sampled on each colline were identified, a systematic sampling was carried out. All the families of the colline were assigned a number from the nearest family to the farthest from the place we were located. The nearest family with children in secondary school was assigned number one. Each family was represented by a number. That number was written on a piece of paper. All these pieces of paper were folded, put together and mixed. Then, the children who were with us or other passers-by drew one piece of paper until the required number of families with children in secondary school to be interviewed was reached. Thereafter, the informant led me to the family for the interviews. As a result, the role of the informant was necessary throughout data collection.

Living near the families with children in secondary school were families without children in secondary school. These families without children in secondary school were targeted in order to investigate the characteristics which differentiated them from those who had children in secondary school. By living in the proximity of families with

children in secondary school, families without children in secondary school had incentives to send children to secondary school. However, a colline is so populated and small that there should be no difference between families which lived near those with secondary school and those which lived a little farther from them. Therefore, there is no known bias built in targeting families without children in secondary school living near those with children in secondary school.

Once the interview with the family with children in secondary school was finished, the interviewee helped me establish a list of families with children in the age group of secondary school, but who were not themselves enrolled in school. These families were assigned a number following a clockwise direction. These numbers were written on small pieces of paper. The papers were mixed and one piece was picked by one of the people or the interviewee. Then, the randomly selected family without children in secondary school was interviewed.

III.1.2.3. Number of Interviews per Day

It was originally planned that four to five families would be interviewed per day. However, the pilot study showed that only two to three interviews per day were possible because of the following:

- * walking distance between families which were randomly selected for the interviews;
- * climatic conditions (i.e. rainy season) which made travel difficult;
- * certain types of questions made the interview last longer (i.e., questions related to income, family expenses, family assets, and the level of education of educated relatives);
- * waiting time for the respondent to be ready for the interview since each one was involved in daily activities like farming, domestic chores, and business;
- * non-availability of the respondent as a result of party meetings, farming far from home, social gatherings etc.

III.2. Sampling for the Main Study

III.2.1. Selection of Provinces

Before randomly selecting any provinces, the following provinces on the periphery of the country were excluded from the sample because of violence and concern for safety: Bubanza, Cankuzo, Cibitoke, Kayanza, Kirundo, Makamba, Muyinga, and Ngozi (see map 1). Since 1991, there has been turmoil in all these provinces. These provinces all border Rwanda, Zaire or Tanzania. Rwanda was at war since 1990. These peripheral provinces were believed to be affected by

PALIPEHUTU (Party for the Liberation of the Hutu People) attacks from Tanzania and Rwanda. Consequently, it was dangerous to go there.

As a result only seven provinces constituted the final sampling space. The criteria used to stratify the seven provinces were:

- * population density;
- * number of primary schools; and
- * number of secondary schools.

These criteria were thought to be influencing secondary school participation. On the basis of these criteria, three strata of provinces were formed. The first stratum represented provinces with a high density population (150 or more inhabitants per square kilometer) and a high concentration of both primary schools (100 schools or more) and secondary schools (five schools or more). The provinces which met these criteria were Muramvya, Gitega, and Bururi (Map 1). Within this first stratum, the province of Gitega was randomly selected.

The second stratum included provinces with low population density (less than 150 inhabitants per square kilometer) and a low concentration of both primary schools (less than 100 schools) and secondary schools (less than five). Thus, Karuzi was randomly selected from four provinces in the low density stratum. The strata are summarized in Table 5 below.

Table 5 Population Density, Number of Primary and Secondary Schools by Province, Burundi, School Year 1986-87.

Province	population density number of people / square km	# primary schools	# secondary schools
High Density (First) stratum In Terms of Schools			
Muramvya	287	121	8
Gitega	286	111	15
Bururi	160	160	8
Low Density (second) stratum In Terms of Schools			
Rural Bujumbura	300	82	4
Karuzi	207	65	2
Ruyigi	109	76	3
Rutana	102	54	0

Source: - Annuaire Statistiques, 1989
 - Statistiques Scolaires, 1986-1987
 - Census of population, 1990

The capital city, Bujumbura, was a stratum by itself. Bujumbura had the highest density of population (2,700 inhabitants per square kilometer). It also included the highest number of both primary and secondary schools. As a capital city, it comprised the highest number of educated people and almost all the socio-economic categories of the population, including those underrepresented in other sites of interest to the study.

III.2.2. Selection of Communes

There was a purposive selection of communes in the provinces of Gitega and Karuzi. A total of two communes were selected. There was one commune per province. The selected commune included secondary schools and an urban center because the results of the pilot study indicated that an entirely rural commune without secondary schools would not have enough variety to answer questions related to the issues of day/boarding schools, occupation and income categories. More specifically, entirely rural communes would not have adequately addressed the following:

- * the direct private cost of secondary education (because many poor parents in the rural area were not paying the full cost for their children and therefore could not know the total cost);
- * families with day school students (because families who have day students were believed to live near those schools);
- * Families who housed day students whose parents lived far from schools;
- * Families with different income categories (because rural communes far from the centers are mostly homogenous farmer families).

The commune needed to include an urban center in order to obtain diverse income categories. Different income categories indicated families which were paying entirely for secondary school education of their children and others which needed outside help. In addition, the commune with secondary schools was thought to have more families with secondary school students. The commune which did not have a secondary school could not be selected since the objective of the study was to estimate the direct costs of secondary education to the parents.

III.2.2.1. Province of Karuzi

The province of Karuzi is comprised of six communes but Buhiga was the only commune which met the criteria described in the previous section. As a result, the commune of Buhiga was purposively selected. The entire province of Karuzi had only three secondary schools. One had just opened and was still incomplete; the two complete secondary schools were both located in the commune of Buhiga. There were also 12 primary schools in the commune of Buhiga. The Karuzi province had two small urban centers: Buhiga with 1,836 people or 372 households and Muhweza with 1,193 people or 253 households (Recensement de la Population, 1990). The two small towns were both located in the commune Buhiga.

The total urban population was too small to impact on the average density of the commune. Counter-intuitively, therefore, the density of the commune of Buhiga was 161 inhabitants per square kilometer while the density of the province of Karuzi was 207 inhabitants per square kilometer. The commune of Buhiga had 9,817 households. The total number of urban households in the commune was only 652 (Recensement de la Population, Resultats Definitives, 1992).

III.2.2.2. Province of Gitega

The province of Gitega had 10 communes. The city of Gitega was the second largest city in Burundi after Bujumbura, the capital city which had nearly 300,000 people. The total urban population of Gitega equaled 20,708 inhabitants (Recensement de la population 1990, Resultats Definitives, 1992). The remaining communes were rural and had no day school students. In the province of Gitega, some secondary schools were dispersed in the rural communes of Bukirasazi (one), Bugendana (two), Giheta (one), Gishubi (one). But the commune of Gitega alone included 10 secondary schools, and 22 primary schools. As a result, the commune of Gitega was selected.

III.2.2.3. Bujumbura

Bujumbura, the capital city, was made up of 16 subdivisions. These subdivisions could be grouped in three income categories using the following criteria: population density and value of the houses. The value of houses was estimated from the status of the majority of people living in the area.

- ★ Low density population and high income areas were inhabited by expatriates, government officials and diplomats. Therefore, the value of houses was higher than other areas. These areas were: Rohero I, Rohero II, Kinindo, Kinanira, Gatoke, and Mutanga;
- ★ the middle-value category, which includes Nyakabiga, Ngagara, and Quartier Asiatique;
- ★ High population and low income areas included Cibitoke, Kamenge, Kinama, Musaga, Jabe, Bwiza, and Buyenzi. (But Jabe was ultimately excluded because it was inhabited by mainly very young families without children in the secondary school age group.

III.2.2.4. Problems of Data collection

The collection of data was done in Burundi during the academic year 1992-93. This period corresponded with a disturbed political climate in the country. There were

campaigns for both the presidency and the parliament. The data were collected both during the campaign and after the elections. Data collection was difficult to do since the population was often absent from home while attending party meetings during the time during the presidential campaign³. After the presidential campaign the losers in Bujumbura refused to participate in the interviews. They were concentrated in Rohero I and Rohero II. In addition, Kinindo, Mutanga, Kinanira and Gatoke were inhabited by relatively young people without children in the age group of secondary school. Consequently, the stratum of the high income low density area had to be excluded from the sampling. A random sample of two subdivisions was drawn from the remaining strata. Nyakabiga was randomly selected from the stratum of middle income subdivisions and Kamenge was randomly selected among the low income subdivision.

III.2.3. Sampling Families in the Selected Sites

There were 193 households selected for interviews. In reference to the density of primary and secondary schools and the population density, the households were distributed

³There were several political parties. Each political party was conducting campaign meetings on different days and people attended many of them so as to select one to join. This made people very busy and often away from home. After work instead of going home as usual, people were either preparing for or attending political party meetings.

as follows:

Fifty families from the commune of Buhiga in Karuzi including:

- * 25 families with children in secondary school, and
- * 25 families without children in secondary school.

Fifty-eight families from the selected commune of Gitega in Gitega including:

- * 33 families with children in secondary school, and
- * 25 families without children in secondary school.

Eighty-five families from the capital city Bujumbura including:

- * 60 families with children in secondary school, and
- * 25 families without children in secondary school.

This disproportionate sampling requires data weighting in data analysis.

III.2.3.1. Counting Families with Secondary School Children

The pilot study indicated that there was no register of families with children in secondary school either at the commune or at the colline level. Therefore, the lists of the number of these families were established per colline with the help of informants. In order to verify the accuracy of the informant and thereby judge the reliability of this procedure, a second count of families with children in secondary school was conducted in the communes Buhiga and

Gitega with different informants two months after the first count on the same collines. The families with secondary school children were counted first in February 1993. The second count, by different informants, in April found the same number of families with children in secondary school.

The sampling procedure was the same for Gitega and Karuzi provinces. It was different for Bujumbura, the capital city, because of the structure of the city. In all provinces, an official authorization from the Ministry of the Interior, the provincial governor, and the communal administrator or the chief of zone in the capital city, was required and obtained.

III.2.3.2. Buhiga

III.2.3.2.1. Sampling of Families with Children in Secondary School

For Karuzi and Gitega, the communal permission was shown to the headperson of the colline (this measure was required ostensibly to insure security throughout the country). Upon the receipt of the official authorization, the headperson of the colline allowed us to look for an informant. The desired informant was a young male, between the age of 18 and 25, because he was the most knowledgeable of the population of secondary school students who were in

the same age group. The total number of families with children in secondary school in the commune of Buhiga was 278. The informant was helped by young people from the colline who knew students from the same colline.

Thereafter, a systematic sample with a random start was drawn to achieve the target number of 25 families. In Buhiga, one in 11 of all the families with children in secondary school were interviewed. As a result, 25 families with children in secondary school were selected with equal probability.

III.2.3.2.2. Sampling of Families without Children in Secondary School

One family without children in secondary school, living in the neighborhood of the selected family with children in secondary school, was randomly sampled. A list of families who had children in the age-group of secondary school, but who were not enrolled in school, was established. Each of these families was assigned a number following a clockwise direction. These numbers were written on small pieces of paper. Thereafter, one number was randomly selected. The randomly selected family was interviewed.

Consequently, 25 families without children in secondary school were selected and paired. In all, 50 families participated in the interviews in the commune of Buhiga in

the province of Karuzi.

III.2.3.3. In Gitega Commune

III.2.3.3.1. Selection of Zones

The sampling procedure in the commune of Gitega was the same as in Buhiga for the identification of families with children in secondary school, the systematic sampling and the interviews. The difference between the province of Karuzi and that of Gitega was that the commune of Gitega included both rural and urban areas. For the rural area the sampling process was the same as in the province of Karuzi.

The commune Gitega has three zones (a zone is an administrative subdivision of commune): Gitega⁴, Mungwa and Mubuga. Mungwa and Mubuga had the same characteristics: they were both exclusively rural zones; were contiguous with the zone Gitega; had no secondary school and each had only five primary schools. As a result, the Mungwa zone was randomly selected. This was done because the area was too vast to include both zones. The walking distance would have been too long for the interviewer.

The zone of Gitega (as opposed to the commune of Gitega) consisted of two parts. There was the urban center

⁴ The province of Gitega, the commune of Gitega and the zone of Gitega are three different administrative entities. The province contains the commune, which in turn, contains the zone.

with 3140 households, which included 15,750 people (République du Burundi, 1990). The urban center included 10 secondary schools and six primary schools. It also included administrative, religious, and commercial centers. It had a hospital and a military camp. There was also a rural area surrounding the city. The selected rural area of the commune of Gitega was sampled as in the province of Karuzi. However, the urban part of the zone of Gitega was excluded for the following reasons.

The experience with the small urban center of Karuzi showed that there were many urban families with children in secondary school. Since the commune of Gitega had a large urban area, a systematic sample, which would have included the urban area, would have limited the chances of the rural families to participate in the study. In addition, the total study sample included a completely urban stratum, namely Bujumbura. It was therefore decided to limit the target population in Gitega to families who are located in the rural area. Thus, the urban center of Gitega commune was excluded.

III.2.3.3.2. Sampling of Families with Children in Secondary School

For the zone of Mungwa and the rural areas of the zone of Gitega, the census I conducted revealed that there was a

total of 218 families with children in secondary school. The sampling procedure was the same as in the Karuzi. That is, to achieve the target number of 33, one in six families with children in secondary school were systematically selected with a random start for interview. Thus, a total of 33 families with children in secondary school were selected with equal probability from the rural area of Gitega commune.

III.2.3.3.3. Sampling of Families without Children in Secondary School

One family without children in secondary school, living in the neighborhood of the selected family with children in secondary school, was randomly sampled. The selection of these families without children in secondary school followed the same procedure used and described in Buhiga. All in all, a total number of 25 families without children in secondary school in the commune of Gitega was sampled in the rural area.

III.2.3.4. Bujumbura

III.2.3.4.1. Sampling of Families with Children
in Secondary School

The sampling procedure in Bujumbura, the capital city, required a specific approach due to the structure of the zones selected. Each zone was subdivided in quartiers. Each quartier was subdivided in avenues. There were several compounds on each avenue. Most of the compounds were comprised of several households. Nyakabiga was divided in three quartiers, whereas the zone Kamenge was subdivided in six quartiers.

A census of all the families which had children in secondary school was conducted in the two zones. Families with children in secondary school were counted by a research assistant during a visit to each compound on each avenue.

Originally, the design of the sample in urban Bujumbura was as follows: 20 families with children in secondary school in Nyakabiga, 20 families in Kamenge, and 20 in Rohero. As Rohero was excluded from the sample, for the reasons mentioned earlier, the final sample from Bujumbura became:

- * Nyakabiga: 30 families with children in secondary school
- * Kamenge: 30 families with children in secondary school.

From the census, in each zone, a systematic random sample of families with children in secondary school was drawn. The zone of Nyakabiga had a total number of 364 families with children in secondary school. In these families 1/12 were interviewed. Kamenge was comprised of 313 families with children in secondary school. Once more, a systematic random sample was drawn. One family in ten (1/10) was interviewed. In all, 60 families with children in secondary school were randomly selected.

III.2.3.4.2. Sampling of Families Without Children in Secondary School

One family without children in secondary school, living on the same streets as the selected sampled families with children in secondary school, was randomly sampled. A list of families who had children in the age-group of secondary school, but who were not enrolled in school, was established. Each of these families was assigned a number. These numbers were written on small pieces of paper. Thereafter, one number was randomly selected. The randomly selected family was interviewed. However, in Nyakabiga several attempts to find these families failed. Only seven streets had such families. On the contrary, Kamenge had many families without children in secondary school because it has many people who did not attend formal school. The

people who were lacking in Nyakabiga were supplemented by those in Kamenge. The results were as follow:

- * Eight families without children in secondary school from Nyakabiga as opposed to 12 in the original design;
- * Seventeen families without children in secondary school from Kamenge as opposed to only 13 in the original design. In all, a total number of 25 families without children in secondary school in Bujumbura was sampled in both Nyakabiga and Kamenge. A summary of the sampling is presented in Table 6 below.

Table 6 Summary of the Sampling

First stage: Regions	2nd stage: Commune	3rd stage:	4th stage
Bujumbura: 1/1	Randomly selected - Nyakabiga 1/3 from a 3 middle income sub-division - Kamenge 1/6 from a 6 low income subdivision EXCLUDED in Bujumbura: - Jabe in the Kamenge stratum; - all the high income sub-division	All but one quarters in Kamenge and Nyakabiga Kamenge: 5/6 Nyakabiga 3/3	a systematic random sample of families with children in secondary school In Nyakabiga 1/12; in Kamenge: 1/10; plus quota sample of families without children in secondary school
Gitega 1/3 from a stratum of 3 high density provinces EXCLUDED: Kayanza, Ngozi,	Gitega 1/1 EXCLUDED in Gitega: all communes without a secondary school.	all the collines in the Mungwa and Gitega rural zones. 2/3 EXCLUDED: urban Gitega	systematic random sample of families with children in secondary school 1/6; plus quota sample of families without secondary school children
Karuzi 1/4 from a stratum of 4 low density provinces EXCLUDED: Bubanza, Cankuzo, Cibitoke, Makamba, Muyinga,	Buhiga 1/1 EXCLUDED in Karuzi: all communes without a secondary school	all collines selected 1/1	a systematic random sample of families with children in secondary school: 1/11; plus quota sample of families without children in secondary school

III.3. Limitations of the Sample

Several provinces (considered unsafe) were excluded from the study. These were Bubanza, Cankuzo, Kayanza, Kirundo, Ngozi, Makamba and Muyinga. It is difficult to establish how the results of this study can be generalized to these areas. The only distinctive feature of these provinces is their location at the periphery of the country. Their location made them more vulnerable to ethnic conflicts and were grounds for ethnic violence before the collection of the data. However, they are all subject to the same school regulations as the other provinces of the country. They could easily be classified as either densely populated provinces (Bubanza, Kayanza, Kirundo, Ngozi) or low density provinces (Cankuzo, Cibitoke, Makamba, Muyinga) (see Map 1).

As explained above, within the randomly selected provinces themselves, several communes were excluded because they did not have secondary schools in their areas, and they did not have diverse income categories. The statistics obtained from this sample can be used to answer more questions (such as the participation of children in day school) than those which would have been obtained from these rural communes. Once again, the results cannot be generalized to these communes.

As explained above, the urban area of Gitega was excluded from the sample because it would have limited the

participation of families from the rural area in the entire sample. Kamenge and Nyakabiga were completely urban. The commune Buhiga consisted of both rural and urban areas, but Buhiga's urban area was small. Gitega was the second largest urban center after Bujumbura.

The objective of the dissertation is to assess direct private costs of education to the parents and how these costs affect their children's participation in secondary schooling. However, foreigners were automatically eliminated from the interviews because many foreigners were not paying the direct private costs of secondary schooling of their children. The overwhelming majority of foreigners were Rwandans refugees. The children of poor Rwandan refugees, attending public schools, were still sponsored by the United Nations High Commission for Refugees (UNHCR). Moreover, many refugee children, sponsored by the UNHCR, were enrolled in private schools, especially in Bujumbura. Thus, their households were excluded because parents were not fully supporting them.

Families with children enrolled only in private secondary schools were also excluded from the study. Private secondary schools are usually attended by foreigners. They are more expensive and only a handful of wealthy Burundian households considered them as an alternative to public schooling. Those who cannot afford the direct private cost of public schools do not even

consider private school as an alternative.

This sampling procedure has no known bias against families without children in secondary school who lived far from the families with children in secondary school. The population of the rural collines has inherited the land from their forefathers and has been living there for a long time. This tended to be a homogenizing experience. In addition, the collines are relatively small so the distance between those who have children in secondary school and those who do not is not long enough to make an impact on the bias. In addition, the families without children in secondary school who lived near those who had children in secondary school gained an understanding of that experience from their neighbors. Thus, it was considered an advantage to see the characteristics which differentiated them since the distance to school facilities was the same.

III.4. Data Analysis

III.4.1. Weighting the Data

The lack of the population register required the use of an alternative way to find which households had children in secondary school and which did not. One way to find these households would be to interview every house in the area. This method would yield accurate information. However, it

would be expensive and too time consuming. Another way to obtain information would be to rely on informants because there was a low gross secondary school enrollment ratio in rural Bujumbura (see Table 1). Therefore, the use of informants became the best alternative to know the number of households with children in secondary school.

The data had to be pooled and weighted. The number of families without children in secondary school needed to be estimated. The estimates were based on the total number of households in the commune and the range of ages of parents in the sample. The total number of households who had children in the age group of secondary school was then computed (see section on weight).

Families without children in secondary school outweigh those which have children in secondary school. The lack of the anticipated register complicated the issue of weight. They were not counted. Counting them would have involved too much time and required even more resources than those available. Therefore, only the households without children in secondary school but who had children in the age-group of secondary school and lived in the vicinities of interviewed families with children in secondary school, which were counted. One family was randomly sampled and immediately interviewed. Therefore, the total number of the families without children in secondary school was not known.

III.4.1.1. Nyakabiga

The total number of households in Nyakabiga was 3,557 (Republique du Burundi, 1990). Among them, the target households (those which had children in the age group of secondary school) were computed from the total number of females and males in the age group of the sample 30-65. The total number of males in this age range was 2,639. The total number of females was 1,391. The average was assumed to be the nearest estimate of the number of the target households for the study. The target households were therefore $(2,639 + 1,391)/2 = 2,015$.

Among those households, 364 (or 18%) had children in secondary school. Thus, the targeted households without children in secondary school were obtained by drawing the 364 households from the total targeted households of 2,015. Thus, the total number of households without children in secondary school was $(2,015 - 364) = 1,641$.

Thirty households with secondary school children were sampled. Therefore, the proportion $30/364$ or .082 for households with children in secondary school will be used in the weight of these households. That of households without children in secondary school was $8/1,641$ or .0048 in the zone of Nyakabiga.

III.4.1.2. Kamenge

The zone Kamenge had a total number of 8,992 households. The total number of target households in the zone Kamenge was assumed to be the average of 6,165 males, 4,606 females aged 30-65 living in Kamenge. The average was 5,385. In order to find the target households in the quarters sampled, this factor $(5,385 / 8992) = .60$ was applied. The five quarters sampled in Kamenge were Gikizi, Heha, Kavumu, Songa and Twinyoni had a total number of 3698 households (Burundi, Resultats Provisoires, 1992). Therefore, $3,698 * .60 = 2,218$ households constitute the estimated total number of target households in the sampled area of Kamenge. Among those, 313 had children in secondary school. Therefore, the households without children in secondary school were obtained from the $2,218 - 313 = 1,905$. The proportion of secondary school households was $30/313$ or .096 because 30 households were sampled. The proportion of $17/1,905$ or .0094 represents the sample of households without children in secondary school in the zone of Kamenge.

III.4.1.3. Gitega

Gitega had a total number of 21,394 households. It was assumed that the target households were the average of the total number of 12,345 males and 14,053 females in the age

group of parents in the sample. This average was 13,199 households. These households represented almost 62% (61.69) of the total households in the commune of Gitega.

However, the commune of Gitega had three zones and only two were sampled, the rural zone of Mungwa and the rural part of the Zone of Gitega. The total number of households included was constituted from the total of the households of all the collines included in this area. The result of that total of households was 9,962. The target households in this area was assumed to be 62% of the total households in the area $9,962 * 62\% = 6,176$. Among these households, 218 had children in secondary school. Therefore, the target households without children in secondary school were $(6,176 - 218) = 5,958$. Thus, the proportion for Gitega was 33/218 for households with secondary school and 25/5,958 for households without secondary school children.

III.4.1.4. Buhiga

The commune of Buhiga has a total number of 9,817 households. The total number of households with children in the age group of secondary school was assumed, with the proportion of 62%⁵ of the total number of households in the commune. Thus, 62% of 9,817 households was 6,086 households. The total number of those households with children in secondary school was 287. Therefore, those without children in secondary school was $6,086 - 287 = 5,799$ households. Only 25 households were sampled from each group. Therefore, the proportions are 25/287 for those with children in secondary school and 25/5,799 for households without children in secondary school. The results of the proportions are summarized in Table 7, 8, and 9 below.

⁵ The proportion of the rural area of Gitega was used as a proxy for the rural commune of Buhiga because information on the average of the total number of males and females in the age group of parents in the sample was not available. The total population of the rural area of the commune of Gitega (9,962 households) was comparable to that of the commune of Buhiga (9,817 households) (Recensement de la Population, Résultats Définitifs, 1992).

Table 7: Summary of Proportions

commune	male	female	male 30-70	female 30-70	house- holds
Nyakabi	7,818	5,168	2,639	1,391	2,015
Kamenge	17,343	14,412	6,165	4,606	5,385
Gitega	36,355	39,564	12,345	14,053	13,199
Buhiga	21,313	22,823	NA	NA	9,817

Table 8 Population and Sample Description By Commune

Commune	Total Hsehld	Target Hsehld	Total Hsehld w/ sec	Total Hsehld w/o sec	Sample	
					With sec	W/o sec
Buhiga	9,817	6,086	287	5,799	25	25
Gitega	9,804	6,176	218	5,958	33	25
Nyakab	3,557	2,015	364	1,641	30	8
Kamenge	8,992	2,218	313	1,805	30	17
Total	33,170	16,495	1,182	15,203	118	75

Table 9 Proportion of the Sample and Weight by Commune and Families with and Without Secondary School Students

Commune	Proportion sample with secondary students	Weight	Proportion sample w/o secondary students	Weight
Buhiga	25/287 = .0871	1.146	25/5,799 = .0043	1.144
Gitega	33/218 = .1513	0.659	25/5,958 = .0042	1.175
Nyakabiga	30/364 = .0824	1.211	8/1,641 = .0050	1.012
Kamenge	30/313 = .0960	1.042	17/1,805 = .0094	0.524
Bujumbura	60/677 = .0890	0.680	25/3,446 = .0073	1.126
Total	118/1182 = .1000	NA	75/15,203 = .0050	NA

The estimated population mean ($\hat{u}$) is equal to the weighted sums of the variable X_1 (sums x_a) and (sum x_b) in the sub-population A and B, where the weights (w_a) and (w_b) are functions of the total population size ($N = N_a + N_b$) and the total sample size ($n = n_a + n_b$). The estimated mean $\hat{u}$ is computed as follow $\hat{u} = 1/n [\text{sum } w_{axa} + \text{sum } w_{bxb}]$

where

$$w_a = \frac{\frac{n}{N}}{\frac{n_a}{N_a}} = \frac{\frac{\text{Total sample size}}{\text{Total population size}}}{\frac{\text{Sample size from Sub-population a}}{\text{Total Sub-population a size}}}$$

and

$$w_b = \frac{\frac{n}{N}}{\frac{n_b}{N_b}} = \frac{\frac{\text{Total sample size}}{\text{Total population size}}}{\frac{\text{Sample size from Sub-population b}}{\text{Total Sub-population b size}}}$$

As a result, the following weights were applied

Buhiga secondary

$$w_a = \frac{\frac{n}{N}}{\frac{n_a}{N_a}} = \frac{\frac{118}{1182}}{\frac{25}{287}} = 1.1460575$$

Buhiga non-secondary

$$w_b = \frac{n}{\overline{Nb}} = \frac{75}{5799} = 1.1443136$$

$$\frac{N^-}{nb} = \frac{15203}{25} = 1.1443136$$

Gitega secondary

$$w_a = \frac{n}{\overline{Na}} = \frac{118}{218} = 0.6594882$$

$$\frac{\overline{N}}{na} = \frac{1182}{33} = 0.6594882$$

Gitega non secondary

$$w_b = \frac{n}{\overline{Nb}} = \frac{75}{5958} = 1.175689$$

$$\frac{N^-}{nb} = \frac{15203}{25} = 1.175689$$

Nyakabiga secondary

$$w_a = \frac{n}{\overline{Na}} = \frac{118}{364} = 1.2112883$$

$$\frac{\overline{N}}{na} = \frac{1182}{30} = 1.2112883$$

Nyakabiga non-secondary

$$w_b = \frac{n}{\overline{Nb}} = \frac{75}{1641} = 1.0119302$$

$$\frac{N^-}{nb} = \frac{15203}{8} = 1.0119302$$

Kamenge secondary

$$w_a = \frac{\frac{n}{\bar{N}}}{\frac{na}{\bar{Na}}} = \frac{\frac{118}{1182}}{\frac{30}{313}} = 1.0415679$$

Kamenge non-secondary

$$w_b = \frac{\frac{n}{\bar{N}}}{\frac{nb}{\bar{Nb}}} = \frac{\frac{75}{15203}}{\frac{17}{1805}} = 0.5237936$$

III.4.2. Family as a Unit of Analysis.

The analysis of the data about education in Burundi considers the family as the primary unit of analysis. The unit of sampling was the family and all decisions about the children's education were made at the family level. Of primary importance, it was the family who decided whether or not the child would be enrolled in school in the first place but, of greater importance, it was the family that decided whether the child would repeat a grade or not, before the child knew the benefits of either choice.

In addition, parents paid for secondary school when they were capable of financing it. When they were incapable of doing so, they identified and contacted somebody who

helped them finance their child's secondary education. Those who were incapable of financing or finding a helper for their child's schooling could not keep the child in school. Most of these decisions were made before the child realized what school is all about.

In cases of limited resources, parents decided which child would remain in school and how they would manage to keep him/her in school. Thus, analyzing the data with the family as a unit of analysis captures all the circumstances in which the parents made the decisions for the children.

III.4.3. The Child as a Unit of Analysis

Some data, such as the direct private costs and child grade repetition, were collected and analyzed at the child level. Not all the children were in the same situation. Some children were still in school; others had dropped out of school and others were too old and/or never attended school.

There were two parts in the data analysis at the child level. The first part was on the direct private costs of secondary schooling and the burden of those costs on the family. This part is found in Chapter Four. The second part, which consists of access is largely developed in Chapter Five.

III.4.4. Analysis of the Cost of Education

III.4.4.1. Creating Data Files

Families which had children in secondary school presented several characteristics related to the direct private cost of education. A fraction of those families fully paid for the schooling of their children. Other families were partially paying for secondary schooling of their children. Yet another group of families were paying nothing. Their children were supported entirely by relatives. As such, in order to separate the families who paid the cost of secondary school, different data files were successively formed as follows:

III.4.4.1.1. File of all the Children

First, a file (CHILDREN.SYS) including all the children was created. It contained the data of all children enrolled in primary and secondary school as well as students who were at the university. This file, which also includes children who were not enrolled in school, has a total number of 1,161 children. It consisted of all children of the 193 families of the whole study, including 198 children who never enrolled in school. Among the 963 children who have started school, 549 were still attending school or the university at

the time of the data collection. Of those, 322 were enrolled in primary school (grades 1-6); 210 were in secondary school and only 17 were enrolled in the university.

III.4.4.1.2. File of Children Enrolled in Post Primary

A second file (SECUNIV.SYS), which consisted of 227 children who were enrolled in secondary school or university at the time of the survey, was created. All the children who were above sixth grade were included. In this file also, there were children whose parents were not paying for their schooling. Likewise, it included university students who all receive a scholarship from the government. Their parents no longer pay for their studies.

Paradoxically, there were more girls than boys enrolled in secondary school in the sample (58% and 42% respectively) because there are more urban households in the sample. Many of these girls were from the urban area or nearby. The mostly rural province registered fewer girls than boys enrolled in secondary school. Table 10 below summarizes the participation of the children in secondary schooling by sex and by province.

Table 10: Student Distribution by Province and by Gender

Sex	Gitega	Karuzi	Bujumbura	Total
Male	17	15	63	95 (42%)
Female	34	14	84	132 (58%)
Total	51	29	147	227

III.4.4.1.3. File of Children Enrolled in Secondary School

A third file (SECONDAR.SYS) was created, which consisted of only children enrolled in secondary school. There were 210 secondary students from 118 families. This file included 156 children from 71 families whose parents were completely paying for secondary schooling. In addition, there were 54 other students from 47 families whose parents were not paying for their secondary schooling. Those parents did not have to answer questions about the cost of secondary education of the children because they did not know the entire cost. Detailed information is summarized in Table 11 through 13 below.

Table 11: (FULSUP) School Expenses Fully Covered by Parents

	Gitega		Karuzi		Bujumbur a		Total	
Fulsup	Yes	No	Yes	No	Yes	No	Yes	No
Male	12	5	12	3	39	16	63	24
Female	24	10	11	3	58	17	93	30
Total	36	15	23	6	97	33	156	54
Total all	51		29		130		210	

These children were enrolled in secondary schooling as follows in the table below:

Table 12: Student distribution by Grade Level (GRADE) and by Province in the Sample

GRADE	7	8	9	10	11	12	13	Total
Gitega	9	8	14	5	6	3	6	51
Karuzi	8	7	4	5	2	1	2	29
Buja	14	25	19	28	17	16	11	130
Total	31	40	37	38	25	20	19	210

III.4.4.1.4. File of Children Fully Supported by the Parents

Finally, a fourth file (COST.SYS) which contained only the 156 children enrolled in secondary school and whose own parents paid all the expenses of secondary schooling was created. If the answer to the question "Do you pay all the cost of secondary schooling for this child" (FULLSUP) was

coded 1 (meaning yes), then, the family was included in this file. The results are summarized in Table 13 below.

Table 13: Child Gender (GENDER) by Province (PROV).

Prov	Gitega	Karuzi	Buja	Total
male	12	12	39	63 (40%)
female	24	11	58	93 (60%)
Total	36	23	97	156

Parents in this file knew the whole cost of secondary schooling because they were entirely supporting at least one child. These families provided all the information needed to compute the individual cost of secondary schooling for at least one child. All the following computations of direct private costs of secondary schooling were derived from the data in this file. Hence, the child is the unit of analysis for these data. In addition to variables about children, these files contain the variables about their family background, parents' education, income, and occupation as well as the presence of educated people among the extended family members.

III.4.4.2. Breakdown of Entire Sample of Children
by Age and Gender

These children are presented in two tables. Table 14 shows the grade that the children were enrolled in during the year of data collection. The variation in the ages of children in the same grade is a direct result of grade repetition. Table 14 below indicates the ages and the grade level of the children in 1992-93. It includes only the children who were still in school. Table 15 presents the ages of children who had already left school and the grade they finished before leaving school. The same table indicates the children who never attended school. These two tables contain all the living children of the families who were interviewed in 1993.

Table 14: Crosstabulation of Age and Grade Level of the Children Still
in School, Burundi, 1992-93

age	grade														TOTAL	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14		UNI
4																
5	1														1	
6	5	2													7	
7	11	2													13	
8	5	12	3												20	
9	1	14	9	1											25	
10		6	14	16	5										41	
11	2	1	1	11	5										20	
12		1	1	10	16	9									37	
13		1	1	5	6	23	1	1							38	
14				2	9	16	6	3		1					37	
15					9	19	5	4	5						42	
16					2	24	4	9	3	1					43	
17						9	5	8	3	3	3	1			32	
18						6	5	9	6	6	2	2			36	
19						2	4	3	10	5	4	2	1		31	
20						1		2	6	12	7	3	1	1	33	
21						1	1	1	5	7	4	3	2	1	23	
22								1	1	4	4	4	7		21	
23								1	1	3	1	4	2	1	14	
24								1	1	1	1	1	5	1	14	
25									1		1		1	1	9	
26														1	1	
27													1		1	
28										1		1			2	
29														1	1	
TOT	25	38	29	45	54	110	31	40	37	38	25	20	19	3	14	518

Table 15: Highest Grade Completed for Children Who Had Already Left School in 1992-93

age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	univ	never been	TOTAL
1																10	10
2																9	9
3																10	10
4																8	8
5																13	13
6																9	9
7	1															4	6
8																2	2
9																1	1
10	1															1	2
11																-	0
12																1	1
13	1					1										2	4
14		1				6										3	10
15			1		1	9										0	11
16					2	6										2	10
17			1	2	2	14	1									2	22
18	2		1		5	24										7	39
19	1			2	1	23					1					8	36
20		1	3		4	20			1	1	1	1				7	39
21	1		1	1	2	14		1					2			2	25

Table 15 (Cont'd)

22	1			4	18		1		1		1		9	35
23	2		1	3	2	10	1		1	1	1		8	31
24	2	2		2	1	15		2			1		12	37
25			1	2	1	7		1	1	1			10	24
26			1		2	7		1	3	1	2	3	4	39
27	1	1				6	1	1				4	1	20
28	1		1		1	12		1			1	2	5	32
29	2	1	1	1	1	3		1		2	1		1	17
30	1		1		2	9	1					1	2	27
31		1		2	1	3		1	1	1		1	2	14
32	1			1	1	4		1		1		1		14
33				1	1	4			1	1	2		1	10
34		1	1		3			1	1	1		1	-	9
35					3	1			1			1	3	9
36				1	2					1			1	5
37			1								1		2	4
38		1						1					-	3
39									1				-	1
40								1	1			1	3	6
41													-	2
42					1								1+1*	2

Note: (*) : No case of children who left school for ages 43 through 45; only one case was 46 years old.

III.4.5. Analysis of Direct Private Costs

III.4.5.1. Cost of Secondary Schooling per Child per Year

The annual total cost of secondary schooling per child (YCOST) constitutes the total amount of money spent on secondary schooling per child by the family. The data included in this file (COST.SYS) allows complete computation of the direct private cost of secondary schooling in Burundi. These variables were collected as SCFEES (school fees), PNEED (personal needs), CLOTH (uniforms), SHOES (shoes), BLANK (blankets); and BSHEET (bed sheets), MISC (miscellaneous items).

The variable YCOST is the total amount of money spent on secondary school per child per year per family. The following costs are computed:

- * average annual cost of secondary education (boarding and day schools);
- * average annual cost of education of secondary boarding schools;
- * average annual cost of secondary boarding education for boys;
- * average annual cost of secondary boarding education for girls;
- * average annual cost of education in day schools;
- * average annual cost of secondary day school for boys;

- * average annual cost of secondary day school for girls;
- * variation of the cost of education by region and family background.

III.4.5.2. Economic Burden of Secondary Education on Parents

The total direct private cost of secondary school as a proportion of the net household income (and as a proportion of total family expenditure) indicates the burden of the cost of secondary schooling on parents. It is assumed that the family is the unit of analysis. The burden of the schooling cost of one child on the family's income will be analyzed and compared in terms of family background. This analysis will identify characteristics of families which can support one or more children in secondary school. This indicates the affordability of secondary education by parents, and the number of children they are financially able to support.

III.5. Access to Secondary Education

III.5.1. Multivariate Analysis

A multivariate analysis is used to analyze the influence of economic burden of direct private cost, family characteristics, and other factors related to access to secondary education. The dependent variable is access to secondary school. Access is measured by the presence of a secondary student in the family (SECOSCHL), or by whether or not a child of secondary-school age is in secondary school. Separate equations are estimated for the entire sample, the rural sub-sample, and the urban sub-sample. The independent variables affecting this access are defined in the next sections.

III.5.1.1. Independent Variables

at the Family Level.

Based on the literature review, independent variables, important in terms of the way they influence the child's access to education, are as follows:

- * FATHEDUC: the level of education of the father of the children;
- * MOTHEduc: the level of education of the mother of the children;
- * FATHEROC: the main occupation of the father;

- * MOTHEROC: the mother's occupation;
- * INCOME: total monetary income of the family,
- * ASSETS: the index of wealth of the family;
- * FAMILED: the presence of educated relatives in the extended family of the child;
- * PROV: the location of the family either in the rural or urban areas (rural- urban: Bujumbura versus Gitega and Karuzi;
- * BURDEN: the economic burden of the direct private costs of secondary schooling; and
- * TIMES6: the number of times children repeat in the last grade of primary schooling.

III.5.1.1.1 Father Education (FATHEDUC)

The father's education is expected to play an important role in differentiating between children's access to secondary education. There were more educated men than women in the age group of the sample. Women had a lower level of education or no formal education at all.

The variable FATHEDUC was created with SPSS. During the data collection, this information was collected either as the respondent's level of education or it was located in the respondent's spouse's level of education if the respondent was a female.

The variable FATHEDUC is a result of information obtained via a combination of two variables: RESPLVED (level of education of the respondent) and RESSPLED (level of education of the respondent's spouse). The first set of data consisted of all male respondents (sex = 1). The information came from the variable RESPLVED (level of education of the respondent). The command select "if ASEX, respondent's sex = 1" was used. The data was saved as FATHEDUC with SPSS. The second set of data was obtained from the variable RESSPLED (level of education of the respondent's spouse). The command "select if ASEX, respondent's sex = 2" was used. The set of data was saved as FATHEDUC. The two sets of data were merged and the data are all located in the same variable FATHEDUC.

a) Father's Education Across the Regions.

Some regions have had better access to education than others. To show that FATHEDUC is a meaningful variable, it will be of interest to compare the father's education for the three different regions of the study as indicated in Table 16 below. It was expected that urban areas would have more educated fathers than would rural areas. The farther we go from Bujumbura, the lower will be the levels of education of the father. Table 16 shows the comparison of fathers' education and mothers' education.

Table 16. FATHEDUC and MOTHEDEC in the whole sample and per region.

Level of education	Gitega		Karuzi		Bujumbura		Total Sample	
	FATHER (48)	MOTHER (56)	FATHER (42)	MOTHER (50)	FATHER (52)	MOTHER (85)	FATHER (142)	MOTHER (191)
	%	%	%	%	%	%	%	%
No school	60.4	64.3	52.4	84.0	19.2	37.6	43.1	57.8
low Prim	10.4	10.7	19.0	10.0	1.9	7.1	9.9	8.8
Upper Prim	18.8	16.1	16.7	2.0	19.2	27.1	16.8	16.1
Low Sec	10.4	8.9	11.9	4.0	59.6	28.2	30.2	17.1
Total	100	100	100	100	100	100	100	100

It was expected that regions with more educated fathers would have more children with secondary school experience. A cross tabulation of father's education and the proportion of children with secondary school experience would indicate how regions vary in terms of education of the father and its consequences for the children's experience with secondary school (see the table below)⁶. This is as an exploratory analysis to examine the covariation in father's education and number of family's children in secondary school (INSEC) before finalizing the more complex analysis.

The variable INSEC (number of children enrolled in secondary school per family) was created with SPSS. The variable INSEC (child in secondary school coded 1 yes and 0 for no) was created from GRADENOW. Table 17 below indicates the total number of children who were still in secondary school per family by the

⁶ The same cross tabulation of INSEC are shown for all the variables which are thought to influence access to secondary schooling such as parents' education, occupation, income, expenditure, and assets.

fathers' level of education (FATHEDUC). It shows the percentage of fathers who had no child, one, two and more children in secondary school. This included fathers who have never been to school, those who had completed the lower level of primary school, the upper primary school, and those who have been to secondary school)

Table 17. Cross tabulation of INSEC (number of children with secondary experience) and father's education (FATHEDUC)

FATHEDUC	INSEC				100% (142)
	NONE	1	2	2<	
	in %	in %	in %	in %	
NO SCHOOLING	69.0	29.0	1.6	0.0	100 (62)
LOW PRIMARY	57.1	42.9	0.0	0.0	100 (51)
UPPER PRIMARY	46.0	29.2	0.0	4.0	100 (13)
SECONDARY & UP	7.0	42.0	14.0	39.5	100 (6)

III.5.1.1.2. MOTHER EDUCATION (MOTHEDEC)

This variable was created in the same way that the variable FATHEDUC was created. A combination of two sets of variables, RESPLVED, RESSPLED resulted in the variable MOTHEDEC.

- RESPLVED (level of education of the respondent);
- RESSPLED (level of education of the respondent's spouse).

The first set of data consisted of all the female respondents (sex = 2) in the variable RESPLVED. These data were selected with the command "select if respondent' sex is 2. They were

saved as MOTHEDUC. The second set of data of MOTHEDUC were located in the respondent's spouse level of education RESSPLED and the respondent was a male (sex = 1). These data were selected using the command "select if sex = 1" and were saved as MOTHEDUC. The data of MOTHEDUC selected from the RESSPLED were merged with the data of MOTHEDUC selected from the RESPLVED. They are all located in the same variable MOTHEDUC.

a) Mother Education Across Regions

The sample may contain a smaller number of mothers who have had access to secondary school themselves because previous data show that female literacy is lower than male's in Burundi. Since the number of educated mothers is expected to be small, this means that only a few privileged children will have educated mothers. This privilege is intended to be observable in terms of the number of children who have had secondary school experience among the children from 12 to 25 as indicated in Table below. The number of children who have secondary school experience indicates the possible impact of the level of education of the mother to children's secondary schooling.

Table 18. ⁷ Cross tabulation of INSEC (number of children in sec) and the level of education of the Mother (MOTHEduc)

MOTHEduc	INSEC				Total% N
	NONE	1	2	2<	
	in %	in %	in %	in %	
NO SCHOOLING	52.0	43.6	2.6	1.8	100 (75)
LOW PRIMARY	64.7	29.4	5.9	0.0	100 (82)
UPPER PRIMARY	16.0	52.2	19.3	12.9	100 (18)
SECONDARY & UP	6.0	39.4	18.2	36.4	100 (16)

III.5.1.1.3. Main Occupation of the Father (FATHEROC).

Data for this variable were located in the respondent occupation (RESPOCC) when the respondent is male and the rest were located in the spouse occupation (SPOSEOCC) when the respondents were female. For the data located in the respondent's occupation (RESPOCC) they were selected (if sex = 1) and copied under the new variable father occupation (FATHEROC). When the respondent was a female, the data located in the respondent's spouse occupation (SPOSEOCC) were selected (if the respondent's sex = 2) and copied under the new variable father occupation (FATHEROC). The two sets of variables formed the variable FATHEROC. See Table 20 of comparison of FATHEROC and MOTHEROC below.

⁷ Tables of INSEC and the other family variables (FATHEROC, MOTHEROC, INCOME, ASSET, and EXPENSES) are included in appendix....

Table 19. FATHEROC and MOTHEROC in the Whole Sample and per Region.

[illegible]

III.5.1.1.5 INCOME: Total Yearly Nominal Monetary
Income of the Family

This variable was computed from the summation of 12 variables:

- AGPROD: sold agricultural produce;
- LIVEST: sold livestock ;
- PROPTY: sold property;
- SALAR: salary of the respondent;
- SPSAL: salary of the spouse;
- SOCSEC: social security;
- GIFTS: received gifts;
- HIREDLAB: money from respondent hired labor;
- FRMLAB: money from the family members' hired labor;
- BASSOON: money from a business;
- RENTHSE: money from rented houses;
- MISCEL: Money from miscellaneous sources.

Table 20 indicates the distribution of income by source in the areas sampled.

Table 20 Average Family Income by Source in The Sampled Areas, Burundi, 1992-93.

Variable	Mean (FBu)			
	All (N=186)	Gitega (n=54)	Karuzi (n=48)	Bujumbura (n=84)
AGPROD	26663.66	53028.52	35872.92	4452.38
LIVEST	5358.06	1722.22	4762.50	8035.71
PROPTY	607.53	.00	1729.17	357.14
SALAR	82378.49	41870.37	26258.33	140488.10
SPSAL	78161.29	16111.11	14500.00	154428.57
SOCSEC	5570.73	689.26	433.33	11644.48
GIFTS	15338.71	11074.07	1875.00	25773.81
HIRELAB	1215.59	2400.00	260.42	1000.00
FARMLAB	20867.74	622.22	187.50	45700.00
BASSOON	260302.15	23859.26	11312.50	554580.95
RENTHSE	108941.94	5333.33	6250.00	234228.57
MISCEL	2443.22	2117.37	35.42	4028.57

III.5.1.1.6. ASSETS: Total Assets of the Family.

Data for this variable were created from a weighted average of the following variables:

- RADIO: radio (assigned the value: 1);
- NEWS: newspaper (assigned the value: 1. This is not an expensive asset but it distinguishes between those who consider it an item worthy of spenditure and can afford it;
- * CAMERA: camera: value 1;
- * LIGHT: electricity in the house: value 3;
- * RURHSE: house location (1= rural; 2 = urban);
- * THATCHED: thatched house (value= 1);
- * MOTO: motorcycle (value = 3);
- * TELE: television (value = 3);

- * CAR: car (value = 5);
- * FRIDGE: refrigerator (value 3);
- * RUNWAT: running water in the house (value = 3);
- * IRONHSE: house with iron sheet roof (value 2);
- * CEMENT: cemented house (value = 3);
- * BIKE: bike (value = 2);
- * COW: cows (values: 1 cow = 1; 2-5 cows =2; more than 5 =3);
- * SHEEP: sheep (values: 1);
- * GOAT: goat (values: 1-10 = 1; more than 10 goats = 2);
- * PIGS: pig (values 1-5 pigs = 1; more than 5 = 2);
- * CHICKEN: up to 10 chickens = 1; more than 10 = 2); and
- * COFFEE: coffee trees (values: up to 200 trees = 1; 201-400 =2; 401-600 = 3; more than 600 = 4).

Each of these values was assigned in comparison to its importance in monetary equivalent value. The value of 1 was assigned for an asset valued up to 3000 FBu (around \$10) or those which are common equipment. The higher the cost of the asset was, the higher its value. These values were added up and the total value per family was called ASSETS. A high value of ASSETS for a family indicates that the family had more aggregate wealth than a family with a lower value.

The value of family home (HOUSE) was constituted by all the items characteristics of each family house. These items are: rural house or urban house, thatched or iron roof, cement, electricity, and running water. The highest value of 14 represented an urban house with all the items except rural and

thatched roof. The lowest value of two indicated a rural, and thatched roof house. The distribution of the items included in ASSETS is summarized in Table 21 below.

Table 21. Items of the Family Assets (ASSET), Burundi, 1993.

Items	PROV 1		PROV 2		PROV 3		ALL	
	Number	%	Number	%	Number	%	Number	%
Radio	42	72.4	23	54	61	71.8	126	65.3
Newsp.	15	25.9	7	14	28	32.9	50	29.9
VCR	0	0.0	0	0	6	7.1	6	3.1
Camera	2	3.4	0	0	4	4.7	6	3.1
Light	5	8.6	0	0	42	49.4	47	24.4
Urbhse	8	13.8	2	4	17	90.6	87	45.1
Rurhse	50	86.2	48	96	1	1.2	99	51.3
Thach.	9	15.5	20	40	1	1.2	30	15.5
Moto	2	3.4	0	0	5	5.9	7	3.6
Tele	2	3.4	1	2	31	36.5	34	17.6
Car	0	0.0	0	0	11	12.9	11	5.7
Fridge	1	1.7	0	0	19	22.4	20	10.4
Runwat	3	5.2	1	2	42	49.4	46	23.8
Ironhs	46	79.3	30	60	69	87.2	145	75.1
Cement	26	44.8	13	26	62	72.9	101	52.3
Bike	29	50.0	18	36	19	22.4	66	34.2
Cow 1	5	8.6	3	6	-	-	-	-
Cow 2	1	1.7	1	2	2	2.4	4	2.1
Cow 3	0	0.0	3	6	4	4.7	7	3.6
Sheep	5	8.6	7	14	3	3.5	15	7.8
Goat 1	21	36.2	18	36	3	3.5	42	21.8
Goat 2	0	0.0	6	12	2	2.4	8	4.1
Pig 1	9	15.5	1	2	0	0.0	10	5.2
Pig 2	7	12.1	0	0	0	0.0	7	3.6
Chick1	0	0.0	2	4	0	0.0	2	2.1
Chick2	1	1.7	0	0	3	3.5	4	2.1
Coffe1	33	56.9	19	38	1	1.2	53	27.5
Coffe2	6	10.3	14	28	2	2.4	22	11.4
Coffe3	4	6.9	6	12	1	1.2	11	5.7
Coffe4	3	5.2	0	0	0	0.0	3	1.6

Table 21 cont'd

House1	1	1.7	0	-	0	-	0	.5
2	9	15.5	21	42	5	5.9	35	18.1
3	22	37.9	16	32	1	1.2	39	20.2
4	1	1.7	0	0	16	18.8	17	8.8
5	1	1.7	0	0	3	3.5	4	2.1
6	15	25.9	11	22	8	9.4	34	17.6
7	4	6.9	1	2	6	7.1	11	5.7
8	0	6.0	0	0	1	1.2	1	.5
9	0	0.0	0	0	0	0.0	0	0.0
10	2	3.4	1	2	4	4.7	7	3.6
11	0	0.0	0	0	3	3.5	3	1.6
14	3	5.2	0	0	38	44.7	41	21.2

III.5.1.1.7. New Variables in the Family File.

a) Predicted Burden of the Direct
Private Cost (PREDBURD)

The predicted burden of the private cost of secondary schooling (PREDBURD) on the family was computed for all the families in the sample. These families included those with and without children in secondary school, for families which fully financed their children in secondary school as well as those which did not. This variable was estimated by using the burden of the direct private cost of secondary schooling of one child (BURDEN). This burden was obtained from children whose families fully financed their secondary schooling.

b) Real Values of the Burden (RBURDEN)

A new variable RBURDEN was created using the true values of BURDEN for families which were fully financing their children (73 families) and predicted values of burden PREDBURD for all other families.

c) Number of Repetition in Sixth Grade (TIME6)

This variable was collected at the child level. Some families had children who attended sixth grade and did not repeat this grade. Among these children who did not repeat sixth grade, some were admitted to seventh grade and others were not admitted to secondary school. Among these children some were still in school, while others had already dropped out of school. Regardless of their condition at the time of the data collection, for all children, the number of times they repeated sixth grade was collected. The highest number of times a child repeated sixth grade in each family was entered to represent the effort of the family to get access to secondary school. The range of this variable was between 0 and 6. Zero was entered for a family where none of the children repeated sixth grade. The distribution of the highest number of times a child repeated the sixth grade is shown in Table 22 below.

The following steps were used to obtain TIME6 variable: first, compute the number of children age 12 or more; second, compute the number of children of secondary school age (12-28 years); third, identify the child with highest number of sixth grade repetitions per family; fourth, drop all other cases (children); fifth, retain the variable (TIME6) of the child with the highest number of sixth grade repetitions to represent the family and; sixth, add the TIME6 for that child to the family file.

Table 22 Distribution of TIME6

TIME6	Frequency	%
0	34	17.6
1	43	22.2
2	54	28.0
3	38	19.7
4	16	8.3
5	3	1.6
6	5	2.6
Total	193	100

d) Repetition in Sixth Grade Per Family (REP)

There were families whose children never repeated sixth grade. Regardless of their situation, the variable REP was created. It was coded 0 or 1. The value of zero was assigned to families (34 or 17.6%) with no child who repeated sixth grade. The value of one was assigned to families (159 or 82.4%) which had at least one child who repeated sixth grade.

e) Families With Children Who Never Enrolled
in Formal School (BEENSCH).

The variable BEENSCH (total number of children who never enrolled in school in the family) was computed for each family in the family file. During the data collection, this variable was collected for each child. It is coded 0 or 1 in the child file. The code zero means that the child never enrolled in primary school. The code 1 means that the child enrolled in primary school.

In the family file, the total number of children who never enrolled in school per family is coded 0 through 6. Families with all their children enrolled in school represented 77.7%, whereas there were 22.3% of families who had children, in the age-group of secondary school, who never enrolled in school. The distribution of families with the number of their children who never enrolled in school is presented in the Table 23 below.

Table 23 Distribution of Families with Number of Children Never Enrolled in Primary School, Burundi, 1992-93

BEENSCH	Frequency	%
0	150	77.7
1	16	8.7
2	9	4.7
3	11	5.7
4	5	2.6
5	2	1.0
6	5	2.6
Total	193	100

III.5.8. Parents' Values and Beliefs

About Secondary Schooling

Nearly 92% of the parents interviewed strongly agreed that secondary schooling in Burundi was expensive. Five percent of the parents agreed that secondary schooling was somewhat expensive and three percent did not consider secondary schooling as expensive at all. The results on the parents' perception about the direct private costs are shown in Table 24 below.

Table 24 Opinion About Secondary Schooling Direct Cost
(OPWILPAY) Burundi, 1992-93 School Year

Opinion	Frequency	%
Not expensive at all	5	2.6
A little bit expensive	9	4.7
Expensive	47	24.5
Very expensive	131	68.2
Total	192	100

Despite the perception of high direct private cost of secondary schooling, 98% of the parents strongly agreed that secondary education was useful. Only 2% of the parents found education either not useful at all or were not convinced of its usefulness. Respondents included 48% male and 52% female. The results related to the usefulness of secondary education are summarized in Table 25 below.

Table 25: Opinion on the usefulness of secondary school
(USEFSCHL) in Burundi, 1993

Opinion	Frequency	%
Not at all useful	1	.5
Somewhat useful	3	1.6
Useful	28	14.5
Very useful	161	83.4
Total	193	100

The major reasons given for sending children to secondary school were that educated people had a better life, helped their parents, and earned more than those who did not have a secondary education.

CHAPTER IV. DIRECT PRIVATE COST OF SECONDARY EDUCATION IN BURUNDI

IV.1. Type of Cost, Objectives, and Sample

Direct private costs of secondary education in Burundi consist of parental spending on school fees, personal needs, school uniforms, shoes, blankets, bed sheets and miscellaneous items related to secondary education. This research estimates the annual spending on secondary education by families who had children in secondary school for the school year 1992-93. The amounts are in Burundi francs (FBu). In 1992-93, there were 254 FBu per one US dollar. The following describes each variable item embodied in the direct private cost in 1992-93.

School fees consisted of a fixed charge by the government of Burundi per individual student in secondary school. School fees were charged according to the type of school. These fees were paid at the beginning of the school year or in three installments. Each installment was due at the beginning of the term. School fees were regulated by the government in public schools only. Private schools were not subject to any school fee regulations. Therefore, each private school charged its own school fees.

Personal needs included school supplies, transportation and personal care. Personal needs varied from student to student because expense requirements for each type of school were different. Transportation cost depended on the distance between home and school; there could be large variations in such expenses. Expenses for personal care depended on the gender and wealth of the family/relatives.

School uniforms were compulsory in every school in Burundi, beginning with primary for private and public schools. In addition, apart from public primary schools, each secondary school selected its own school uniform's colors. Consequently, any student who changed schools had to buy new uniforms. Spending on school uniforms varied according to the type of fabric selected and the number of uniforms parents chose to provide for the student.

Shoes were included in the analysis because they were considered a luxury. Most people in rural areas in Burundi do not wear shoes on a daily basis. As such, most students wore shoes primarily for school purposes. They probably would not wear or own shoes if they were not in school.

Bedclothes consisted of blankets and bed sheets. At least one blanket and a set of bed sheets were required in every boarding secondary school. Buying a blanket or bed sheets for each child in secondary boarding school constituted an extra cost to the family because children who do not go to secondary school share one bed (e.g. two or

more children in one bed); and do not require individual sets of bedclothes.

Miscellaneous consisted of money used for school related materials purchased by the student. Some parents provided only money to the student. These parents made their children responsible for managing the funds they provided to obtain all the required school materials. In such case, the students had to buy everything they needed for schooling. In some cases, children were given all the school supplies and some pocket money for their personal needs. As such, miscellaneous included some personal needs items, and in some cases all of the other items if parents gave all the money to the children.

Annual expenditures by the parents on school fees, personal needs, school uniforms, shoes, blankets, bed sheets, and miscellaneous items are represented by the variables SCFEES, PNEED, CLOTH, SHOES, BLANK, BSHEET, and MISC. The sum of all these costs constituted the total annual direct private cost of secondary school (YCOST). Thus, $YCOST = SCFEES + PNEED + CLOTH + SHOES + BLANK + BSHEET + MISC$.

The analysis of the direct private costs of secondary education in this chapter is aimed at answering the following questions:

- * How much money did parents spend on secondary schooling per child in Burundi during the school

year 1992-1993?

- * How did the direct private cost of secondary schooling vary by family background, type of school (day or boarding), gender of the student and region?
- * What was the magnitude of economic burden of these costs on parents?

Not all secondary students in the sample were included in answering questions related to the direct private cost of secondary education. Out of the 210 secondary school students in the sample, 74 percent were fully supported financially by their parents. The analysis, in this chapter, focuses on students who were fully sponsored by their parents because parents knew the direct private cost of their children's secondary schooling. These parents constituted 65% of all families with children in secondary school. Among the secondary students fully supported by their parents, 51% were boarding students and 49% were day students. There were 32 public school boarding students (43% of all public boarding students) from Gitega (PROV 1); 22 students (29%) from Karuzi (PROV 2); and only 21 students (28%) from Bujumbura. There were 63 day students (97%) from Bujumbura, one student (1.5%) from Gitega and another one (1.5%) from Karuzi.

The remaining 26 percent of the students were helped by relatives or friends. Secondary students helped by

relatives or family friends were not included in this analysis because their parents did not necessarily know the amount of money that their relatives or friends spent on the secondary schooling of their children.

IV.2. Direct Private Cost of Secondary Schooling

This section estimates the direct private costs of secondary education per student in Burundi. The analysis considers differences in the type of school, region, gender, education and occupation of the parents, family wealth, grade level of the students and the number of children in secondary school in the family. In the Tables 26- 47 below, the number of students in each sub-sample is indicated at the top of the table in parentheses. The unit of analysis is the student.

IV.2.1. Types of Public School

The direct private costs of public day schools and public boarding schools are shown in Table 21. (Direct private costs of private schools, also shown in Table 26, will be analyzed later in the chapter.)

The total direct private cost was 26,256 FBu for boarding school students and 20,725 FBu for public day school students. The total cost was higher for boarding

schools because of higher school fees and boarding related expenses. However, day school students had higher spending on personal needs, clothing, and shoes.

Most students attending day school lived in Bujumbura, where transportation costs were high. These students had to ride buses to and from school at least three times a day (some students walked home after school). Moreover, life style necessities in the capital city required expenditures that might not be necessary in rural areas where most public boarding schools were located. Consequently, day public schools were more expensive than public boarding schools.

Table 26: Annual (YCOST) and Itemized Direct Private Costs (FBu and percentage) in Both Private and Public school, Burundi, 1992-93

Type of cost	Private school (16)		Public Schools			
			Day (73)		Boarding (70)	
	Amount	%	Amount	%	Amount	%
SCFEES	19,825	40.3	4,012	19.4	9,000	34.3
PNEED	12,381	25.2	9,885	47.7	7,284	28.0
CLOTH	7,482	15.2	4,260	20.6	3,958	15.0
SHOES	3,247	6.6	2,504	12.1	1,983	7.6
BLANK	1,164	2.4	0	0.0	1,161	4.4
BSHEET	1,373	2.8	54	0.2	1,357	5.2
MISC	3,669	7.4	0	0.0	1,513	5.8
YCOST	49,142	100	20,725	100	26,256	100

IV.2.2 Costs Across Provinces

The comparison of costs across provinces was possible only for public boarding schools because there were very few public day schools in the rural areas of Burundi. Only two cases of day students in the commune of Gitega and one case in the commune of Buhiga were observed. Almost all day school students were found in Bujumbura, the capital city. Table 27 presents direct private costs of public boarding schools in the three provinces of the study.

School fees were standard in all public secondary schools; they represented a major part of the total direct private cost of secondary school education in all three provinces. The other costs differed among the provinces.

Expenses in the Karuzi province, which was more rural, were mainly high for personal needs, clothing and miscellaneous items. Since the province of Karuzi was located in a remote area, parents had to make sure that their children had the necessary school materials to prevent students from running out of such materials before the end of the term. It might be more costly to replace lost materials or replenish the stock of school materials.

Thus, students attending secondary school in Karuzi were in charge of managing the money given by their parents to buy needed school materials and clothes. These three items alone, i.e. personal needs, miscellaneous and

clothing, represented 55% of the total direct private costs in Karuzi.

In the province of Gitega, most of the expenses were directed to school fees and personal needs. These items represented 61.3%, (41% for school fees, and 20.3% for personal needs), of the total direct private cost. The personal needs item, in Gitega, was the lowest of the three provinces because students were walking to and from school, thus saving on transportation expenses. Being the second largest city in Burundi, Gitega also necessitated a lifestyle which is closer to that of Bujumbura.

Similarly, school fees and personal needs were the most expensive items in Bujumbura. These items represented 60% (29.7% for school fees, and 30.3% for personal needs) of the total direct private costs.

Table 27: Direct Private costs of Public Secondary Boarding Schools by Region, Burundi, 1992-93

Type of cost	Public Schools					
	PROV GITEGA (32)		PROV KARUZI (22)		BUJUMBURA (21)	
	Amount	%	Amount	%	Amount	%
SCFEES	9,000	41.0	9,000	35.3	9,000	29.8
PNEED	4,459	20.3	7,843	30.5	9,205	30.4
CLOTH	2,931	13.3	3,750	14.6	5,090	16.8
SHOES	2,294	10.4	1,570	6.0	1,786	6.0
BLANK	1,390	6.3	445	1.7	1,719	5.6
BSHEET	1,412	6.4	563	2.2	2,152	7.0
MISC	500	2.3	2,545	10.0	1,333	4.4
YCOST	21,986	100	25,716	100	30,285	100

IV.2.3 Gender Differences

In both types of public school, direct private costs of secondary school were higher for female than for male students (see Table 28). These costs were 6.9% higher for boarding schools and 6.3% for day schools. In boarding schools, female students tended to require more money on almost all items except shoes. In day schools, female students needed more money for personal needs, clothing, and shoes, whereas, male students spent more on school fees.

Table 28 Direct Private Costs of Secondary Education (in FBu and percentages) by Gender and Type of School, Burundi, 1992-93

Type of cost	Public Schools							
	Day				Boarding			
	Male		Female		Male		Female	
	(32)		(41)		(31)		(39)	
	Amount	%	Amount		Amount	%	Amount	%
SCFEES	4,102	20.5	3,958	18.6	9,000	35.6	9,000	33.3
PNEED	9,632	48.1	10,086	47.4	6,830	27.0	7,648	28.3
CLOTH	3,825	19.1	4,606	21.6	3,669	14.5	4,190	15.5
SHOES	2,465	12.3	2,535	11.9	2,145	8.5	1,854	6.9
BLANK	0	0.0	0	0.0	1,011	4.0	1,281	4.7
BSHEET	0	0.0	97	0.5	1,174	4.6	1,503	5.6
MISC	0	0.0	0	0.0	1,463	5.8	1,552	5.7
YCOST	20,024	100	21,282	100	25,292	100	27,028	100

IV.2.4. Parental Education

The education level of fathers and mothers was related to the direct private costs of secondary school. Parents with lower levels of education generally paid less for the secondary education of their children. In all cases school fees, personal needs, clothing and shoes were the major components of the direct private cost of secondary schooling.

IV.2.4.1 Fathers' Education (FATHEDUC)

The results of the analysis of the costs data with respect to fathers' education are summarized in Table 29 and 30 below. Fathers with no formal schooling spent the least

on secondary schooling and their children were almost exclusively in public boarding schools. Fathers who reached upper primary school education tended to spend more on the secondary schooling of their children in both day and boarding schools.

In secondary boarding school, direct private cost increased with the fathers' level of education except for the fathers with secondary schooling experience. Compared to fathers who never attended formal school, fathers with a lower primary level of education spent 16.5% more, those with an upper primary level of education spent 28.6% more, and those with at least some secondary schooling spent 16.8% more.

In secondary day school, direct private cost increased with the fathers' level of education except for the fathers with secondary schooling experience. Compared to fathers who never attended formal school, fathers who had lower primary spent only 2.8% more, those with an upper primary spent 46.3% more, and those with at least some secondary schooling spent only 2.4% more.

Table 29: Costs of Secondary Boarding School (FBu, percentages) by Fathers' level of Education, Burundi, 1992-93

Type of cost	Fathers' Level of Education (FATHEDUC)							
	No Schooling (17)		Lower Prim (17)		Upper Prim (22)		Secondary & Up (9)	
	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	9,000	40.0	9,000	34.0	9,000	31.0	9,000	34.0
PNEED	5,832	26.0	7,038	27.0	9,909	34.0	5,298	20.0
CLOTH	2,687	12.0	3,159	12.0	4,708	16.0	4,825	18.0
SHOES	1,308	6.0	2,053	8.0	1,962	7.0	2,864	11.0
BLANK	718	3.0	709	3.0	1,511	5.0	1,815	7.0
BSHEET	730	3.0	1,057	4.0	1,894	7.0	1,758	7.0
MISC	2,267	10.0	3,256	12.0	0	0.0	762	3.0
YCOST	22,542	100	26,272	100	28,984	100	26,322	100

Table 30: Costs of Secondary Day School by Fathers' level of Education, Burundi, 1992-93

Type of cost	Fathers' Level of Education (FATHEDUC)							
	No Schooling (2)		Lower Prim (7)		Upper Prim (39)		Secondary & Up (24)	
	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	3,750	23.0	4,367	26.0	4,114	17.0	3,786	22.5
PNEED	8,200	50.0	6,703	40.0	11,980	50.0	7,552	45.0
CLOTH	3,500	21.0	3,254	19.0	5,117	21.2	3,219	19.0
SHOES	975	6.0	2,562	15.0	2,726	11.4	2,262	13.5
BLANK	0	0.0	0	0.0	0	0.0	0	0.0
BSHEET	0	0.0	0	0.0	100	0.4	0	0.0
MISC	0	0.0	0	0.0	0	0.0	0	0.0
YCOST	16,425	100	16,886	100	24,037	100	16,819	100

IV.2.4.2 Mothers' Education

In boarding schools, the more educated the mothers were, the higher the expenditures were for the secondary education of their children (see Table 31). However, in day schools, mothers with only lower primary schooling spent the most on their children's schooling. In addition, the more educated the mothers were, the more likely their children were to attend day schools. Less educated mothers tended to have children in public boarding schools. The main explanation of this phenomenon is that more educated mothers lived in urban areas where day schools were located, while less educated mothers lived in the rural areas.

Table 31: Costs of Secondary Boarding School by Mothers' level of Education, Burundi, 1992-93

Type of cost	Mothers' Level of Education (MOTHEDEC)							
	No Schooling (28)		Lower Prim (26)		Upper Prim (15)		Secondary & Up (2)	
	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	9,000	38.0	9,000	33.4	9,000	31.0	9,000	30.0
PNEED	6,581	27.5	6,538	24.3	10,010	35.0	5,761	19.0
CLOTH	3,277	14.0	4,139	15.3	4,858	17.0	4,261	14.0
SHOES	1,647	7.0	2,186	8.0	2,139	7.0	2,946	10.0
BLANK	901	4.0	1,359	5.0	1,371	5.0	554	1.0
BSHEET	940	4.0	1,524	6.0	1,490	5.0	4,261	14.0
MISC	1,559	6.5	2,203	8.0	0	0.0	3,693	12.0
YCOST	23,905	100	26,949	100	28,868	100	30,476	100

Table 32: Costs of Secondary Day School by Mothers' Level of Education, Burundi, 1992-93

Type of cost	Mothers' Level of Education (MOTHEDEC)							
	No School (5)		Lower Prim (18)		Upper Prim (21)		Secondary & Up (29)	
	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	3,000	17.8	4,125	18.0	4,049	19.0	4,096	21.0
PNEED	7,500	44.4	11,325	49.0	10,069	47.3	9,235	47.4
CLOTH	4,625	27.4	4,769	21.0	4,957	23.3	3,392	17.4
SHOES	1,750	10.4	2,822	12.0	2,221	10.4	2,627	13.5
BLANK	0	0.0	0	0.0	0	0.0	0	0.0
BSHEET	0	0.0	0	0.0	0	0.0	134	0.7
MISC	0	0.0	0	0.0	0	0.0	0	0.0
YCOST	16,875	100	23,041	100	21,296	100	19,484	100

IV.2.5. Direct Private Cost and Parental Occupation

Analysis of the direct private costs of secondary education by parents' occupational groups indicated that such costs varied with parents' occupation. School fees, personal needs, clothing and shoes were the major items in the direct private cost of secondary education.

Regarding secondary boarding schools, in term of fathers' occupation, general-laborers spent the least on secondary schooling for their children, followed, in ascending order, by farmers, technicians, businessmen, and professionals (See Tables 33). Professionals spent 29.8% more than general-laborers, 28.3% more than farmers, 13.1% more than technicians, and 7.5 % more than businessmen.

In terms of mothers' occupation, farmers also spent the least amount on the secondary schooling of their children, followed by technicians, general-laborers, professionals, and business women. Business women spent 34.3% more than farmer-mothers, 20.4 % more than technician-mothers, 14.8% more than general-labor mothers, and 14.3% more than professional mothers (see Table 34).

Table 33: Costs of Secondary Boarding School by Fathers' Occupation, Burundi, 1992-93

Type of cost	Fathers' Occupation (FATHEROC)									
	Farmer (17)		Gen Labor (3)		Business (14)		Technic (5)		Profess (16)	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	9,000	40.3	9,000	41.0	9,000	31.0	9,000	33.0	9,000	28.9
PNEED	6,454	28.9	4,980	22.7	7,820	27.0	3,883	14.3	1,105	35.5
CLOTH	3,097	13.9	2,820	12.8	4,892	17.0	907	3.4	5,119	16.4
SHOES	1,197	5.4	2,330	10.6	2,464	8.6	883	3.3	3,102	10.0
BLANK	521	2.3	1,400	6.4	2,189	7.6	0	0.0	1,181	3.8
BSHEET	588	2.6	1,440	6.5	2,529	8.8	0	0.0	1,681	5.4
MISC	1,469	6.6	0	0.0	0	0.0	12,392	46.0	0	0.0
YCOST	22,327	100	21,870	100	28,794	100	27,065	100	31,141	100

Table 34: Costs of Secondary Boarding School by Mothers' Occupation, Burundi, 1992-93

Type of cost	Mothers' Occupation (MOTHEROC)									
	Farmer (35)		Gen Labor (4)		Business (10)		Technic (5)		Profess (15)	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	9,000	40.0	9,000	30.8	9,000	26.2	9,000	33.0	9,000	30.6
PNEED	5,511	24.4	8,182	28.0	7,792	22.7	10,425	38.2	10,189	34.7
CLOTH	3,042	13.5	5,264	18.0	5,650	16.5	4,000	14.7	4,856	16.5
SHOES	1,975	8.8	2,771	9.5	1,873	5.5	1,375	5.0	2,254	7.7
BLANK	729	3.2	1,763	6.0	1,921	5.6	2,000	7.3	1,283	4.3
BSHEET	862	3.8	2,237	7.7	2,541	7.4	500	1.8	1,817	6.2
MISC	1,430	6.3	0	0.0	5,523	16.1	0	0.0	0	0.0
YCOST	22,548	100	29,217	100	34,301	100	27,300	100	29,398	100

Regarding secondary day schools, there were no day schools in the rural areas in Burundi. Therefore, farmers did not have children in day school. Only families from urban areas, i.e., Bujumbura, were concerned. The interview results are shown in Tables 35 & 36 below.

In comparison to other groups, technician fathers spent the least on secondary schooling of their children. They were followed by general-labor fathers, businessmen, and professionals. Professional fathers spent 28% more than technician fathers; 22.1 % more than general-labor fathers, and 1.3% more than businessmen.

General-labor mothers spent the highest amount for day school because they lived far from day schools (e.g., Kamenge), which were located in downtown Bujumbura. Thus, personal needs (PNEED), which include transportation, constituted a major item in the direct cost of secondary day

school. General-labor mothers spent 31.3% more than technician mothers; 26.8 % more than professional mothers; and 25.4% more than business mothers.

Table 35: Costs of Secondary Day School by Fathers' Occupation, Burundi, 1992-93

Type of cost	Fathers' Occupation (FATHEROC)									
	Farmer (0)		Gen Labor (3)		Business (9)		Technic (6)		Profess (48)	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	na	na	4,500	27.0	3,593	17.0	3,600	23.0	4,151	19.2
PNEED	na	na	7,667	45.0	8,812	41.0	5,060	33.0	10,688	49.5
CLOTH	na	na	3,167	19.0	5,145	24.0	4,500	29.0	4,219	19.5
SHOES	na	na	1,500	9.0	3,780	18.0	2,400	15.0	2,474	11.4
BLANK	na	na	0	0.0	0	0.0	0	0.0	0	0.0
BSHEET	na	na	0	0.0	0	0.0	0	0.0	81	0.4
MISC	na	na	0	0.0	0	0.0	0	0.0	0	0.0
YCOST	na	na	16,833	100	21,329	100	15,560	100	21,614	100

Table 36: Costs of Secondary Day School by Mothers' Occupation, Burundi, 1992-93

Type of cost	Mothers' Occupation (MOTHEROC)									
	Farmer (0)		Gen Labor (8)		Business (21)		Technic (6)		Profess (35)	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	na	na	4,500	16.5	4,184	20.7	3,300	18.0	4,016	20.0
PNEED	na	na	15,743	57.9	8,226	40.5	8,500	45.4	9,906	50.0
CLOTH	na	na	5,314	19.5	4,963	24.4	4,900	26.0	3,410	17.0
SHOES	na	na	1,664	6.1	2,926	14.4	2,000	10.6	2,477	12.4
BLANK	na	na	0	0.0	0	0.0	0	0.0	0	0.0
BSHEET	na	na	0	0.0	0	0.0	0	0.0	113	0.6
MISC	na	na	0	0.0	0	0.0	0	0.0	0	0.0
YCOST	na	na	27,221	100	20,300	100	18,700	100	19,923	100

IV.2.6. Family Wealth

Family wealth (cash income and assets) was also related to the direct private cost of secondary education. The results are presented in Tables 37 through 40. The more income and assets a family had, the more it spent on secondary education. Families in the first and second income quintiles did not send their children to day schools. These quintiles included poor families, mainly farmers and general-labor families. They lived in the rural areas and sent their children to boarding school. The third, fourth, and fifth income quintiles represented families mainly from professional, and business backgrounds. Technicians were mainly represented in the third quintile. Their children attended day school.

Table 37: Costs of Secondary boarding School by Income, Burundi, 1992-93

Type of cost	Family's Income Quintile									
	1 (15)		2 (14)		3 (21)		4 (5)		5 (15)	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	9,000	40.8	9,000	41.3	9,000	33.2	9,000	32.5	9,000	27.0
PNEED	5,435	24.7	5,634	25.9	8,199	30.3	6,486	24.0	9,777	29.3
CLOTH	3,036	13.8	2,972	13.7	4,273	15.8	4,604	17.0	5,192	15.5
SHOES	707	3.2	1,793	8.2	3,385	12.6	2,710	10.0	1,231	3.7
BLANK	468	2.1	708	3.2	1,186	4.3	1,520	5.5	2,134	6.4
BSHEET	693	3.1	1,055	4.9	1,011	3.8	3,045	11.0	2,231	6.6
MISC	2,722	12.3	597	2.8	0	0.0	0	0.0	3,846	11.5
YCOST	22,063	100	21,760	100	27,054	100	27,635	100	33,431	100

Table 38: Costs of Secondary Day School Education by Income, Burundi, 1992-93

Type of cost	Family's Income Quintile									
	1 (0)		2 (1)		3 (6)		4 (28)		5 (37)	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	na	na	na	na	3537	20.0	4,500	19.7	3,727	19.0
PNEED	na	na	na	na	7903	44.1	11,880	51.8	8,694	44.4
CLOTH	na	na	na	na	4409	24.6	4,080	17.9	4,394	22.5
SHOES	na	na	na	na	2036	11.3	2,312	10.0	2,776	14.1
BLANK	na	na	na	na	0	0.0	0	0.0	0	0.0
BSHEET	na	na	na	na	0	0.0	140	0.6	0	0.0
MISC	na	na	na	na	0	0.0	0	0.0	0	0.0
YCOST	na	na	na	na	1,7885	100	22,912	100	19,590	100

Table 39: Costs of Secondary Boarding School by Assets, Burundi, 1992-93

Type of cost	Families' Assets Quintile									
	1 (10)		2 (10)		3 (10)		4 (20)		5 (15)	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	9,000	42.5	9,000	41.0	9,000	38.0	9,000	27.5	9,000	30.4
PNEED	5,984	28.2	4,739	21.4	5,739	24.0	10,221	31.3	9,149	31.0
CLOTH	2,409	11.3	3,512	16.0	3,584	15.0	4,376	13.4	5,468	18.5
SHOES	1,172	5.5	1,153	5.2	2,535	10.7	3,063	9.4	1,218	4.1
BLANK	172	0.8	1,143	5.0	1,103	4.7	761	2.3	2,381	8.0
BSHEET	366	1.7	1,200	5.4	1,092	4.5	1,553	4.7	2,341	8.0
MISC	2,063	10.0	1,332	6.0	743	3.1	3,733	11.4	0	0.0
YCOST	21,166	100	22,080	100	23,797	100	32,707	100	29,557	100

Table 40: Costs of Secondary Day School by Asset, Burundi, 1992-93

Type of cost	Families' Asset Quintile									
	1 (0)		2 (0)		3 (7)		4 (31)		5 (34)	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	na	na	na	na	4,250	15.1	4,087	21.7	3,900	18.4
PNEED	na	na	na	na	16,733	59.4	9,122	48.4	9,353	44.2
CLOTH	na	n	na	na	5,500	19.5	3,118	16.5	5,113	24.2
SHOES	na	na	na	na	1,658	6.0	2,410	12.8	2,787	13.2
BLANK	na	na	na	na	0	0.0	0	0.0	0	0.0
BSHEET	na	na	na	na	0	0.0	127	0.6	0	0.0
MISC	na	na	na	na	0	0.0	0	0.0	0	0.0
YCOST	na	na	na	na	28,142	100	18,865	100	21,153	100

IV.2.7. Total Family Expenditure

Direct private costs also varied with the total family expenditure in 1992-93. The results are presented in both Table 41 and 42 below. In boarding schools, the first expenditure

quintile spent less on their children's schooling than any other quintile, followed by the fourth, the second, third, and fifth expenditure quintiles. Families in the fifth expenditure quintile spent 45.8% more than those in the first quintile, 34.7% more than the second quintile, 30.7% more than third quintile, and 35% more than the fourth quintile families. In day school, the fourth quintile families spent 24.6% more than the third quintile. The families in the fourth and fifth expenditure quintiles spent almost the same amount.

School fees represented the most expensive item for quintiles one through four in boarding school, whereas personal needs were the major expense for quintile five in boarding school and for all families who had children in day school. Clothing was the third most expensive item in both types of schools.

Table 41: Costs of Secondary Boarding School by Total Families' Expenditure, Burundi, 1992-93

Type of cost	Families' Expenditure Quintiles									
	1 (14)		2 (14)		3 (16)		4 (12)		5 (14)	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	9,000	44.7	9,000	37.1	9,000	35.0	9,000	37.2	9,000	24.2
PNEED	5,139	25.5	5,688	23.5	4,732	18.3	6,135	25.4	15,188	41.0
CLOTH	2,277	11.3	4,524	18.7	2,928	11.4	3,885	16.1	6,400	17.2
SHOES	641	3.2	1,655	6.8	2,851	11.0	1,936	8.0	2,759	7.4
BLANK	332	1.6	1,222	5.0	959	3.7	1,446	6.0	1,947	5.2
BSHEET	347	1.7	1,554	6.4	1,337	5.2	1,769	7.3	1,864	5.0
MISC	2,409	12.0	613	2.5	3,967	15.4	0	0.0	0	0.0
YCOST	20,144	100	24,256	100	25,775	100	24,171	100	37,167	100

Table 42: Costs of Secondary Day School by Total Family Expenditure, Burundi, 1992-93

Type of cost	Family's Expenditure Quintile									
	1 (0)		2 (0)		3 (7)		4 (32)		5 (33)	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	na	na	na	na	4,250	26.5	4,364	20.5	3,621	17.0
PNEED	na	n	na	na	7,133	44.5	10,597	50.0	9,745	46.0
CLOTH	na	n	na	na	3,117	19.4	4,293	20.0	4,490	21.0
SHOES	na	na	na	na	1,533	9.6	1,891	9.0	3,362	16.0
BLANK	na	na	na	na	0	0.0	0	0.0	0	0.0
BSHEET	na	na	na	na	0	0.0	122	0.5	0	0.0
MISC	na	na	na	na	0	0.0	0	0.0	0	0.0
YCOST	na	na	na	na	16,033	100	21,259	100	21,218	100

IV.2.8 Direct Private Costs by Grade Level

The cost of the first cycle of secondary education (grades seven through ten) was lower than that of the second cycle of secondary education (grades eleven through thirteen) for both day and boarding schools. The results are summarized in Table 43 through 45.

In boarding school, the eighth grade was the most expensive in the first cycle whereas the 12th grade was the most expensive grade in the second cycle. In day school, however, the seventh grade was the most expensive grade in the first cycle and the 11th grade in second cycle. The ninth grade was the cheapest grade of all day and boarding school.

School fees were the most expensive item in boarding school, while personal needs item was the most expensive item in day school. On the average, school fees represented 33% of the

Table 44: Direct Private Cost of Day School per Grade Level, Burundi, 1992-93 School Year.

Type of Cost	GRADE						
	7 (12)	8 (17)	9 (10)	10 (15)	11 (7)	12 (9)	13 (3)
SCFEES	4,227	4,300	3,524	3,923	3,500	4,312	4,000
	19.7%	20.7%	20%	19%	14.5%	19%	23%
PNEED	9,373	10,120	7,832	10,000	12,167	11,250	7,767
	43.6%	48.7%	45%	49%	50.5%	50%	46%
CLOTH	4,664	4,460	3,684	4,038	5,250	4,163	2,667
	21.7%	21.5%	21%	20%	22%	18%	16%
SHOES	3,223	1,887	2,466	2,369	2,583	2,875	2,500
	15.0%	9.1%	14%	12%	11%	13%	15%
BLANK	0	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%	0%
BSHEET	0	0	0	0	583	0	0
	0%	0%	0%	0%	2%	0%	0%
MISC	0	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%	0%
YCOST	21,487	20,767	17,506	20,331	24,083	22,600	16,934
	100%	100%	100%	100%	100%	100%	100%

Table 45: Direct Private Cost per Cycle of secondary school per Type of school, Burundi, 1992-93

Type of cost	Type of school							
	Day School				Boarding school			
	first cycle		second cycle		first cycle		second cycle	
	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	4,040	20.0	3,971	17.9	9,000	36.9	9,000	30.0
PNEED	9,502	46.9	10,959	49.5	6,420	26.3	9,058	30.0
CLOTH	4,252	21.1	4,282	19.0	3,773	15.4	4,338	14.4
SHOES	2,432	12.0	2,706	12.2	1,928	7.9	2,096	6.9
BLANK	0	0.0	0	0.0	1,095	4.4	1,297	4.3
BSHEET	0	0.0	206	0.9	1,231	5.0	1,615	5.3
MISC	0	0.0	0	0.0	912	3.7	2,746	9.1
YCOST	20,226	100	22,124	100	24,359	100	30,150	100

The seventh grade was expected to be the most expensive grade of the first cycle because of necessary expenditures for initial school supplies, such as bedclothes, school uniforms, table supplies, and a suitcase. Analysis of survey results showed that the seventh grade in boarding schools did not seem to be as expensive as was expected. This was because there were no seventh grade students from Bujumbura in boarding school in this study. Also, some of the school equipment used in seventh grade was kept for more than one or two school years. Parents were required to replace only what was worn out, lost, broken, or outgrown (i.e., uniforms and shoes). For this reason, the 9th grade was the cheapest in terms of direct private costs of secondary schooling. The 8th grade was more expensive than the 7th grade, probably due to the increase in the number of courses (three courses were added in the eighth grade). Furthermore, students changed schools in eighth grade, requiring new equipment, such as school uniforms. After the tenth grade, students changed schools as a result of a national test which was used for tracking purposes. Consequently, the eleventh grade's direct private costs were higher than those in the first cycle.

The last two grades of boarding school were the most expensive. The twelfth grade was found to be unusually expensive for the following three possible explanations:

- * there were more girls in this grade and the cost of

girls' education was found to be more expensive than boys';

- * these were the graduation years (12th grade e.g., EFI = Ecole de Formation des Instituteurs; 13th grade: graduation of the regular humanities);
- * many of the students were from Bujumbura and paid higher than the average cost of other regions.

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IV.2.9. Direct Private Costs and Number of Children in Secondary School

Some parents had more than one child enrolled in secondary school. Tables 46 and 47 show how direct private costs per child varied with the number of children a family had in secondary school. For boarding school, direct private costs per student increased with the number of students that a family had in secondary school. The average spending on secondary boarding school for parents having only one student in secondary school was 19.6% less than those with two, 26.5% less than those with three, and 40.3% less than those with more than three students.

In day school, it cost relatively less to send one child to secondary school. Families with one child spent 34.6% less than those with two children; 18% less than those with three; and 37.1% less than those with more than three children in day secondary school.

Table 46 DPC of Secondary Boarding School and Number of Children in Secondary School per Family

Type of cost	Number of Children in Boarding School							
	INSEC 1 (23)		INSEC 2 (21)		INSEC 3 (9)		INSEC>3 (17)	
	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	9,000	41.0	9,000	34.1	9,000	32.2	9,000	29.3
PNEED	5,280	23.9	7,214	27.4	8,463	30.3	9,468	30.5
CLOTH	3,088	14.0	4,079	15.5	5,159	18.5	4,344	14.0
SHOES	1,265	5.7	2,635	10.0	1,168	4.2	2,609	8.4
BLANK	521	2.3	1,422	5.4	1,861	6.7	1,334	4.3
BSHEET	756	3.4	2,025	7.6	2,256	8.1	867	2.8
MISC	2,143	9.7	0	0.0	0	0.0	3,334	10.7
YCOST	22,053	100	26,375	100	27,908	100	30,957	100

Table 47. DPC of Secondary Day School and Number of Children in Secondary School per Family.

Type of cost	Number of Children in Day School							
	INSEC 1 (3)		INSEC 2 (9)		INSEC 3 (16)		INSEC>3 (44)	
	Amount	%	Amount	%	Amount	%	Amount	%
SCFEES	4,000	25.2	4,125	19.3	3,823	20.5	4,077	18.6
PNEED	7,400	46.7	9,112	42.7	8,628	46.1	10,705	49.2
CLOTH	3,233	20.4	4,350	20.4	4,314	23.1	4,300	20.0
SHOES	1,217	7.7	3,750	17.6	1,931	10.3	2,562	11.8
BLANK	0	0.0	0	0.0	0	0.0	0	0.0
BSHEET	0	0.0	0	0.0	0	0.0	90	0.4
MISC	0	0.0	0	0.0	0	0.0	0	0.0
YCOST	15,850	100	21,337	100	18,696	100	21,734	100

Only families with more income could afford to have more than one child in secondary school. The analysis of the direct private cost showed that the more income parents had, the more they spent on the schooling of the individual child. Consequently, income played a major role in

determining the amount of the direct private cost of schooling and the number of children a family was able to finance. As income increased, not only did parents send more children to secondary school, but they also spent more per child.

IV.2.10. Public versus Private Schools

The average direct private costs in private schools were higher than those in public schools mainly because school fees constituted the major source of income for these schools (see Table 26). Direct private costs in private schools were 87% higher than those for public boarding schools and 137% higher than those for public day schools. School fees constituted 40% of the direct private cost of private schools. These were used to pay the teachers and cover all the expenses of running the school. In public schools, the school fees were never used to pay the teachers' salaries. They were used for maintenance of school building and to purchase food for students. Therefore, the school fees of private schools were 394.1% higher than those of public day school, 120.3% higher than those of boarding school.

The major items of direct private costs, found in both day and boarding schools, (i.e., personal needs, clothing, shoes), were higher in private school. Personal needs were

70% higher than those of public boarding school, 25.3% higher than those of day school. Clothing costs were 89% higher than those in public boarding and 75.6% higher than those in public day schools. Shoes were 63.7% higher than those in public boarding schools and 29.7% higher than those in public day schools. Expenditure on these items generally increased with the income of the family.

Thus, analysis of the background of students in private schools shows that their families were wealthy and able to finance private school costs. Indeed, almost all the private students came from advantaged family backgrounds (the 4th and 5th quintile income). These findings, which indicate that direct private costs for private secondary schools were higher than those for public secondary schools, support findings from other developing countries (Tsang and Kidchanapanish 1992; Tsang, 1994).

IV.3. Total Family Spending on Secondary Education

While section IV.2 presents the direct private cost of secondary education per student, this section computes the total family spending on secondary education. Family spending on secondary schooling increased with the parents' level of education, the family income, total family expenditures, family assets, and with the number of children

in secondary school. The results are presented in Table 48. TYCOST, total family spending on secondary education is in Burundi francs (Fbu). The unit of analysis is the family.

IV.3.1. Fathers' Education (FATHEDUC)

The total family spending on secondary education increased with the education of the father. In families where the fathers had no schooling, the total cost of secondary schooling was 23,696 Fbu. The total cost of secondary schooling increased by 51% when fathers had at least a lower primary education, by 271% when fathers had a upper elementary education, by 161% when fathers had at least some secondary education.

These increases were related to the number of children enrolled in secondary school in those families. For example, fathers with an upper-primary schooling spent the highest amount (87,961 Fbu). This amount was able to pay for at least three children in secondary school, whereas the fathers with no schooling had barely enough to spend on one student. Fathers with the highest level of education spent relatively less on schooling than the fathers with an upper primary school education because their children were mostly enrolled in day schools. These schools were cheaper than boarding schools.

IV.3.2. Mothers' Education (MOTHEDEC)

In families where the mothers had no schooling, the total cost of secondary schooling was 31,498 FBu. The total spending on the cost of secondary schooling increased by 95% when mothers had at least a lower primary education, by 149% where mothers had a upper elementary education, by 112% when mothers had at least some secondary education. Mothers with the highest level of education also spent relatively less than the mothers with upper primary school because their children were also enrolled in day school. Since these families lived near these schools, they were spending less on transportation. This reduced the cost of day secondary schooling on these families.

IV.3.3. Fathers' Occupation (FATHEROC)

In families where the fathers were farmers, the total spending on secondary schooling was 20,329 FBu. The total spending on secondary schooling increased by 92% where the fathers were general-laborers, by 161% when fathers were qualified technicians, by 295% where the fathers were businessmen, and by 312.5% when fathers were professionals.

IV.3.4. Mothers' Occupation (MOTHEROC)

In families where the mothers were farmers, the total spending on secondary schooling was 26,344 FBu. The total spending on secondary schooling increased by 97% when the mothers were general-laborers, by 156% when mothers were qualified technicians, by 172% when mothers were professionals, and by 279% when the mothers were in business. The business women spent the highest amount on schooling because they were wealthier.

IV.3.5. Income Quintile (INCOME)

The total family spending on secondary schooling systematically increased with the increase in income of the family. The total expenditure for secondary schooling was 20,532 FBu for families in the first income quintile. It increased by 31.6% in the second quintile, by 142% in the third quintile; 250% for the fourth quintile, and by 376% for parents in the fifth quintile.

IV.3.6. Assets Quintiles (ASSETS)

The total family spending on secondary schooling systematically increased with the increase in assets of the family. Families in the first assets quintile spent an

average of 19,148 FBu as the total cost of secondary schooling. This expenditure increased by 40% for the second quintile, by 99% for the third quintile, by 237% for the fourth quintile, and by 406% for the parents in the fifth quintile.

IV.3.7. Expenditure Quintile (EXPENSES)

The total family spending on secondary schooling systematically increased with the increase in the total family expenditure of the family. On average, families in the first expenditure quintile spent a total of 19,428 FBu on secondary schooling. This expenditure increased by 61% for the second quintile, by 112% for the third quintile, by 254% for the fourth quintile, and by 408% for the fifth quintile.

IV.3.8. Number of Children in Secondary School (INSEC)

The total direct private costs of secondary school (TYCOST) increased with the number of children in secondary school. The families with only one child in secondary school spent an average of 22,283 FBu on the total cost of secondary schooling. The total cost of secondary school increased by 135% for families with two children in secondary school.

Table 48 : Total cost of Secondary School per family (TYCOST).

FATHEDUC	1	2	3	4	5
TYCOST	23,696	35,768	87,961	NA	61,769
MOTHEduc	1	2	3	4	5
TYCOST	31,498	61,538	78,281	NA	66,844
FATHEROC	0	1	2	3	4
TYCOST	20,329	38,993	80,240	46,843	83,871
MOTHEROC	0	1	2	3	4
TYCOST	26,344	51,934	99,865	67,480	71,674
INCOME	1	2	3	4	5
TYCOST	20,532	27,011	49,656	71,839	97,813
ASSET	1	2	3	4	5
TYCOST	19,148	26,858	38,066	64,555	96,932
EXPENSES	1	2	3	4	5
TYCOST	19,428	31,207	41,208	68,811	98,620
INSEC	INSEC 1	INSEC 2	INSEC 3	INSEC >3	
TYCOST	22,283	52,466	66,012	113,751	

Note:

- FATHEDUC and MOTHEduc: 1= no schooling; 2= Lower Primary; 3= upper primary; 5 = at least some secondary .
- FATHEROC, and MOTHEROC: 0 = Farmer; 1=general-laborer; 2 businessmen/women; 3= qualified Technicians, 4= Professionals
- INCOME, ASSET, and EXPENSES: 1 = first quintile; 2 = second quintile; 3 = third quintile; 4 = fourth quintile; 5 = fifth quintile.
- INSEC: INSEC1= the family has only one child in secondary school
INSEC2 = the family has two children in secondary school
INSEC3 = the family has three children in secondary school
INSEC>3 = the family has more than three children in secondary school

The increase was 196% for families with three children in secondary school, and 410% for families with more than three children in secondary school.

IV.4 Total. Family Spending on Education

The finding of the total family spending on all levels of education (STUD) are presented in Table 49. The unit of analysis is the family. STUD increased with the increase in parental education, income, assets, expenditure, and the number of children in secondary school per family. It varied with parental occupation. The increase in family spending on education with reference to total family expenditure on secondary schooling was due to the additional children enrolled in primary school.

The total family spending on education (STUD) can be compared with the total family spending on secondary education. As the direct private costs of primary schooling were definitely cheaper than those of secondary school, the total family spending on secondary education was closer to the total spending on education. For example, the total family spending on education with respect to total family spending on secondary schooling increased by 24.4% for the fathers with no schooling, by 14% for the fathers with a lower primary education, by 4.3% for fathers with an upper primary schooling, and 14% for fathers with at least some

secondary education. The highest increase was for fathers with no schooling, probably because they felt the burden of primary schooling more than the other categories.

With respect to income, total spending on education, when compared to the total spending on secondary schooling, increased by 22% for the first quintile, by 5% for the second quintile, by 6% for the third quintile, by 10.2% for the fourth quintile, and by 7% for the fifth quintile.

However, these findings on the total family spending on education must be taken with caution as the study focused on the direct private costs of secondary schooling. The direct private costs of primary schooling were not collected for individual children. Therefore, the targeted families might have had fewer children in primary school and may also have concentrated on the direct private cost of secondary school because they are more burdensome.

Tables 49 Total Family Spending on Education (STUD),
Burundi, 1992-93

FATHEDUC	1	2	3	4	5
STUD	28,104	40,810	91,778	NA	70,885
MOTHEDEC	1	2	3	4	5
STUD	35,067	64,229	85,211	NA	75,574
FATHEROC	0	1	2	3	4
STUD	24,814	42,253	83,358	60,077	91,835
MOTHEROC	0	1	2	3	4
STUD	29,048	62,798	99,135	75,976	81,110
INCOME	1	2	3	4	5
STUD	25,016	28,457	52,919	79,197	104,665
ASSET	1	2	3	4	5
STUD	22,280	29,543	40,553	74,247	101,402
EXPENSES	1	2	3	4	5
STUD	20,960	30,589	47,819	75,520	107,076
INSEC	INSEC 1	INSEC 2	INSEC 3	INSEC >3	
STUD	26,271	53,940	74,528	122,067	

Note:

- FATHEDUC and MOTHEDEC: 1= no schooling; 2= Lower Primary; 3= upper primary; 5 = at least some secondary.
- FATHEROC, and MOTHEROC: 0 = Farmer; 1=general-laborer; 2 businessmen/women; 3= qualified Technicians, 4= Professionals.
- INCOME, ASSET, and EXPENSES: 1 = first quintile; 2 = second quintile; 3 = third quintile; 4 = fourth quintile; 5 = fifth quintile.
- INSEC: INSEC1= the family has only one child in secondary school
INSEC2 = the family has two children in secondary school
INSEC3 = the family has three children in secondary school
INSEC>3 = the family has more than three children in secondary school

IV.5. Economic Burden of Direct Private Cost of Public Secondary Schooling on the Family

The burden of the direct private cost of public secondary schooling was computed using two measures. The first is computed with respect to the income ($YCBURD = YCOST / INCOME * 100$). The second is computed with respect to the family expenditure ($YCEXP = YCOST / EXPENSE * 100$). The average burden of the direct private cost of secondary education on the family income (YCBURD) and on expenses (YCEXP) are summarized in Table 50 below. The unit of analysis is the family.

IV.5.1. Burden of DPC per Child

Overall, the average direct private cost of secondary schooling per child (YCOST) in Burundi represented 9.67% of total family income (YCBURD) in boarding school, and 1.53% of total family income (YCBURD) in day school. It constituted 9.51% of family expenditure (YCEXP) in boarding school, and 2.96% of family expenditure (YCEXP) in day schools. The burden was higher for boarding school than for day schools because the families with children in boarding schools are poorer than those with children in day schools. Parents with more education, higher paying occupations (professionals), wealthier (third through fifth quintiles

income, assets) had children enrolled in day schools. Therefore, the burden of direct private costs in day schools is relatively much lower and is subject to less variation.

The burden of direct private cost with respect to income (YCBURD) was slightly higher than the burden with respect to expenditure (YCEXP) for families in boarding school because they spent relatively more than their income. Thus, most of these families (mostly rural ones) were in debt at the end of the year. The burden of direct private cost with respect to income (YCBURD) was lower than the burden with respect to expenditure (YCEXP) for families in day school because they spent relatively less than their income. Thus, these families (mostly urban ones) were able to have savings at the end of the year.

In boarding school, the burden for male students was higher than that for female because most female students were from wealthier families whereas male students came from all the income categories, especially lower income families. It represented 10.9% of income for males, which was above the average, and 8.7% for female, which was below average. They were about the same in YCEXP. In day schools, the burden was about equal for both male and female students because they came from wealthy families.

The burden of the direct private cost of secondary schooling to the parents generally decreased as income, assets, expenditure, and parental education increased. In

boarding schools, the heaviest burden was borne by families in the first income quintile (23.21%), the first expenditure quintile (20.47%), and the first assets quintile (18.02%); and by families whose fathers (17.13%) and mothers (14.99%) did not have any formal schooling, and families whose parents were farmers. The same pattern could be observed for secondary day schools. The heaviest burden was borne by fathers with less education (1.95% for fathers with lower primary schooling), less income (7.33% for the second income quintile), less assets (3.55% for the third asset quintile), and less expenditure (2% for the third expenditure quintile). The burden of secondary schooling was higher for students in lower secondary education than in upper secondary education.

Table 50. Burden of the Direct Private Cost of public Secondary Schooling per Child (DPC)

Independent Variables	Type of Public Secondary School			
	Boarding School		Day School	
	YCBURD	YCEXP	YCBURD	YCEXP
All	9.67	9.51	1.53	2.91
Female	8.68	9.43	1.46	2.98
Male	10.90	9.61	1.62	2.82
FATHEDUC 1	17.13	14.38	NA	NA
2	8.82	9.99	1.95	4.14
3	5.73	5.56	1.54	2.98
4	9.11	8.43	1.07	2.05
MOTHEduc 1	13.99	11.22	1.30	1.97
2	8.77	10.50	2.00	3.61
3	3.07	4.20	1.31	2.48
4	NA	NA	1.44	2.93
MOTHEROC 0	14.87	12.67	NA	NA
1	9.76	9.66	3.75	5.6
2	4.93	8.41	0.75	2.09
3	1.60	2.77	1.27	1.95
4	2.85	4.57	1.41	2.88
FATHEROC 0	19.98	16.07	NA	NA
1	9.17	9.36	1.80	3.63
2	6.35	6.36	1.27	2.20
3	5.43	9.13	0.75	2.50
4	2.75	4.93	1.32	2.72
Income 1	23.21	17.94	NA	NA
2	12.70	11.18	7.33	9.07
3	5.53	7.01	3.26	4.62
4	2.53	5.42	1.89	3.65
5	1.18	4.22	0.80	1.87

Table 50 (cont'd)

Asset	1	18.02	13.40	NA	NA
	2	16.83	15.98	NA	NA
	3	11.55	10.55	3.55	5.29
	4	4.43	7.18	1.48	3.19
	5	1.42	3.05	1.10	2.10
Expense	1	20.47	17.98	NA	NA
	2	15.52	12.61	NA	NA
	3	6.35	8.72	2.00	5.39
	4	2.84	4.33	1.86	3.37
	5	2.38	3.06	0.91	1.73
GRADNOW	7	15.41	14.70	1.91	3.47
	8	12.54	11.22	1.60	3.11
	9	12.36	10.60	1.30	2.28
	10	7.64	8.22	1.44	2.49
	11	9.43	8.23	1.24	2.47
	12	4.13	6.71	1.56	3.50
	13	3.65	6.01	1.35	2.77
	7-10	11.66	10.80	1.58	2.88
	11-13	5.57	6.87	1.41	3.00

Note: GRADNOW = Grade level

IV.5.2. Burden of Total DPC for Public Secondary School per Family

The burden of total family spending for public secondary schooling as a percentage of the total family income (TSECBURD) and as a percentage of the total family expenditure (TSECEXP) are presented in Table 51. The burden of secondary schooling per family was mostly borne by the families in the first and second quintiles of income, expenses, assets. The highest burden was mainly borne by families who had only one child in secondary school. Likewise, the highest burden was borne by parents without formal schooling, and farmers.

IV.5.3. Burden of Total Family Spending on Education

The burden of total family spending on education as a percentage of the total family income (BURDED) and as a percentage of the total family expenditure (EDUCEXP) are presented in Table 51 above. The burden of the total family spending on education was highly related to the total burden of secondary education on the family. Again, these findings may be influenced by the overall focus of the study, which is the direct private costs of and access to secondary education. It was mostly borne by families in the first and second quintiles of income, expenses, and assets. The

Tables 51 Total burden of secondary school (TSECBURD, TSECEXP) and Total Burden of Education (BURDED, EDUCEXP) per family

INDEPENDENT VARIABLE		TSECBURD	TSECEXP	BURDED	EDUCEXP
ALL		11.79	13.05	13.34	14.21
DAY		4.82	8.32	5.49	9.43
BOARD		14.63	14.97	16.52	16.15
FATHEDUC	1	17.65	15.40	21.83	18.32
	2	9.93	12.22	11.03	13.36
	3	8.07	12.24	8.28	12.53
	4	9.69	11.40	10.32	11.98
MOTHEduc	1	15.25	12.67	17.48	14.11
	2	12.43	15.96	13.87	16.87
	3	6.03	10.20	6.72	11.24
	4	6.08	10.82	6.32	11.68
FATHEROC	1	21.66	17.25	26.68	20.29
	2	7.98	10.70	6.72	10.13
	3	10.19	11.42	11.15	12.09
	4	6.36	12.23	10.17	15.94
	5	5.61	11.16	6.17	12.25
MOTHEROC	1	18.33	15.77	21.54	17.42
	2	9.62	12.88	11.17	15.70
	3	6.78	13.81	5.82	12.85
	4	3.26	5.39	4.03	6.67
	5	5.49	10.21	6.29	11.57
INCOME	1	22.91	17.65	28.19	20.61
	2	14.85	13.38	15.43	13.73
	3	9.85	13.17	9.83	12.97
	4	5.81	11.65	6.41	13.26
	5	3.26	8.93	3.57	9.59

Table 51 (cont'd)

EXPENSES	1	21.21	18.53	23.19	20.03
	2	17.81	15.18	20.35	15.67
	3	8.73	13.88	10.11	15.63
	4	6.41	11.21	7.09	12.42
	5	4.31	7.48	4.89	8.17
ASSET	1	16.57	13.45	18.89	15.11
	2	20.41	19.24	22.30	21.15
	3	14.33	14.04	16.69	14.76
	4	7.08	12.57	7.73	14.10
	5	4.37	8.75	4.61	9.12
INSEC	1	15.25	13.35	18.19	15.30
	2	10.94	12.65	10.67	12.34
	3	4.92	9.19	5.51	10.35
	>3	6.75	14.09	7.49	15.11

highest burden was mainly borne by families who had only one child in secondary school. Likewise, the highest burden was borne by parents without formal schooling, and farmers. Hence, families with more children in secondary school were able to finance them and still bear a lower burden than families with only one child.

IV.6. Correlation Among Variables

For those in secondary boarding schools, the results are shown in Table 52. All the variables about direct private cost of education (YCOST, TYCOST and STUD) were highly and positively correlated with one another at .001 level of significance. They were also significantly and negatively correlated with the variables of burden (YCBURD, YCEXP); YCOST was negatively but not significantly correlated with YCEXP. The variables of family wealth (INCOME, ASSET and EXPENSES) were highly and positively correlated with the variables related to direct private cost of secondary boarding schools. Family wealth variables, however, were highly but negatively correlated with the variables related to the burden of education. The variables about parents education (FATHEDUC and MOTHEDEC) were not correlated with neither the variables about direct private cost nor those about the burden of education (YCOST, TYCOST, YCBURD and YCEXP).

For secondary day school, the results are shown in Table 53. All the variables about direct private cost of secondary education (YCOST), the total cost of education per family (TYCOST) and the total cost of education (STUD) for secondary day schools were highly and positively correlated with one another at .001 level of significance. On the contrary, variables related to family background (FATHEDUC, MOTHEDEC, INCOME, ASSET, and EXPENSES) were not significantly correlated with the variables about the direct private costs. The variables about family wealth, however, were highly and negatively correlated with the variables of the burden (YCBURD, YCEXP). The burden variables were not correlated among themselves.

For both types of secondary schools, the variables about family wealth were negatively correlated with the variables related to the burden of education. The wealthier the family the lower their burden of secondary education. In other words, the more family income, family expenditure, and family assets, the lower the burden of education on the family.

Table 52 Correlations Among the Variables of Secondary Boarding School

VARIABLES	YCOST	TYCOST	STUD	YCBURD	YCEXP	FATHEDUC	MOTHEDEDUC	INCOME	ASSET	EXPENSES
YCOST	1.0000									
TYCOST	.6173*	1.0000								
STUD	.6376*	.9520*	1.0000							
YCBURD	-.3659*	-.6625*	-.6334*	1.0000						
YCEXP	-.3246	-.5962*	-.6188*	.8436*	1.0000					
FATHEDUC	.0410	-.0700	-.0934	-.0617	-.0334	1.0000				
MOTHEDEDUC	.3123	.3531	.3465	-.3358	-.1713	-.0602	1.0000			
INCOME	.6014*	.8224*	.7727*	-.8848*	-.7314*	-.0133	.4194*	1.0000		
ASSET	.5649*	.7528*	.7364*	-.7040*	-.6160*	-.0713	.4910*	.8485*	1.0000	
EXPENSES	.6697*	.8077*	.8357*	-.7850*	-.8221*	-.0237	.4508*	.8483*	.8421*	1.0000

Note: N of cases: 43

* p>01

Table 53 Correlations Among the Variables of Secondary Day School

VARIABLES	YCOST	TYCOST	STUD	YCBURD	YCEXP	FATHEDUC	MOTHEDEDUC	INCOME	ASSET	EXPENSES
YCOST	1.0000									
TYCOST	.8378*	1.0000								
STUD	.7715*	.9798*	1.0000							
YCBURD	.0405	-.2390	-.2974	1.0000						
YCEXP	.1472	-.1073	-.1651	.9533*	1.0000					
FATHEDUC	-.0554	.2194	.3212	-.6650*	-.6438*	1.0000				
MOTHEDEDUC	.0029	.1879	.2361	-.3770	-.2806	.7298*	1.0000			
INCOME	.2381	.4926	.5339	-.8589*	-.8469*	.6383*	.3043	1.0000		
ASSET	.2585	.2918	.3035	-.5412	-.5742*	.4739	.4325	.5898*	1.0000	
EXPENSES	.2503	.4339	.4511	-.8555*	-.8722*	.6057*	.3636	.9312*	.7352*	1.0000

Note: * N of cases: 18
p> .01

IV.7. Summary of the Chapter

Secondary boarding schools were more expensive than secondary day schools. The direct private costs of secondary schooling were higher for boarding school than for day school. These costs varied by region, parents' education, parents' occupation, family wealth, the number of children in secondary school, as well as gender of the student. The direct private costs increased with the income, asset, and education of the parents.

Urban families, which included more educated and wealthy parents, spent more than rural families on individual children in boarding school. They also were able to choose to pay for either day or boarding schooling because secondary day schools were available only in urban areas. Most urban families sent children to secondary day schools. Poor families, mostly in rural areas, sent their children mainly to secondary boarding schools.

Direct private costs increased with an increase level of education of both parents. It also increased with higher paying occupations for either parent, and family wealth. Direct private costs were highest in the highest income and expenditure categories. Poor families, mostly farmers, enrolled a very limited number of children in secondary schools because of limited income.

Direct private cost of female students in both secondary boarding and day schools was higher than that of male students. In addition to the required supplies for every student, female students required more expenditures on specifically female items.

The burden of the direct private cost decreased with increased family wealth and parents' level of education. The burden of day secondary school was lower than that of boarding schools. Despite the higher direct private cost for female students, its burden was lower than that of male students. This is an indication that female students came from relatively wealthier families and/or educated parents.

Furthermore, poor families, especially farmers, whose children represented 11.5% of all the children financed by their parents, bore the heaviest burden (20%) of secondary schooling. The total direct private costs of education on the family increased with the number of children in secondary school, while the number of children in secondary school increased with family wealth and parents education. Despite that, poor families with only one child in secondary school bore the highest burden of the total direct private costs of schooling.

CHAPTER V. DETERMINANTS OF ACCESS TO SECONDARY SCHOOLING IN BURUNDI

V.1. Overview

This chapter attempts to answer the following questions:

- * Which families had access to secondary school in Burundi in 1993?
- * What factors affect the economic burden of the direct private cost of secondary schooling in Burundi?
- * What factors affect access to secondary schooling in Burundi?

To answer these questions, the chapter begins with a profile of children still enrolled in secondary school in 1993. These children are made up of those helped by extended family members and those fully financed by their parents. The characteristics of the helpers in the extended family are described. The chapter then presents a mean-comparison of independent variables to determine if families without children in secondary school in 1993 (GROUP1) and families with children in secondary school in the same year (GROUP2) were significantly different. A linear multiple regression analysis used to identify the determinants of the economic burden of the direct private cost of secondary schooling on the family is subsequently provided. Finally,

this chapter presents the results of a logistic regression analysis used to determine the factors predicting access to secondary schooling. This analysis is conducted at both the family and the child levels.

V.2. Characteristics of Children in Secondary School

Not all children attending secondary school were financed by their parents. Seventy four percent of all children in secondary school were financed by their parents. Twenty six percent of them were financed by relatives and/or friends.

As such, it was important to look at the characteristics of the helpers (those who helped in financing the children in secondary school), and the role of relatives in motivating children to go to secondary schooling. In addition, it was necessary to present the characteristics of children who were financially supported by their parents and those who were not prior to analyzing the characteristics of families.

V.2.1. Characteristics of Helped Children

In 1993, children who were helped by relatives and friends had the following characteristics:

- * 44% of the children were male and 56% of them were

female

- * 91% of the children never repeated a lower grade of primary school (grades 1-3).
- * 78% of the children repeated upper grades of primary school (4-6).
- * 93% of the children repeated the sixth grade. Only seven percent acceded to secondary school without repeating the sixth grade.
- * 61% of the children repeated sixth grade two or three times.
- * 65% of the children did not repeat a grade in secondary school.
- * 35% of the children repeated a grade in secondary school.
- * 61% of helped children lived in Bujumbura, the capital city.

Moreover, there was a positive correlation between the opportunity to go to secondary school and the proximity to urban areas. In Karuzi, which was a rural province, children dropped out of primary school after the first repetition in sixth grade. In the rural Gitega area, which was next to the urban center, most children repeated the sixth grade three times. Children in Bujumbura also repeated the sixth grade three times.

Among the children financed by the extended family or friends, very few passed the Concours National before they

repeated the sixth grade. None of these children passed it in Karuzi. Only 6% of them did in Bujumbura and 13% of them did in Gitega.

V.2.2. Characteristics of Helpers

Direct relatives (e.g., brothers, sisters, uncles, aunts and cousins) from both the mother's and the father's sides represented 96% of the people who financed secondary school children in the extended family. The remaining 4% of helpers were friends of the family.

In addition, about 74% of the relatives who financially helped the children had at least a secondary school education. Furthermore, 84 % of the helpers lived in urban areas, while 16% of them lived in rural areas. Nearly 72% of the helpers paid the full cost of secondary schooling of the children they supported.

V.2.3. Characteristics of Children fully Supported by Parents

In 1993, the children who were fully supported by their parents, had the following characteristics:

- * 40 % of the children were male and 60 % were female.
- * 93% of the children never repeated in lower primary grades.

- * 78% of the children repeated in higher primary grade.
- * 81% of them repeated sixth grade.
- * Most children wrote the Concours National at least three times in both rural and urban areas.
- * Very few children passed the Concours National the first time, (i.e., 4% in Karuzi, 17% in Gitega, and 24% in Bujumbura).

Among the children who were supported by their parents, 15% changed schools. Among the 15% who changed schools, 46% went to other rural schools and 54% went to urban schools.

V.3. Comparing Characteristics of Families With and Without Children in Secondary School

V.3.1. Matrix of Correlation

In this section, the family is the unit of analysis. A correlation matrix was established to indicate the relationship between the variables. These correlations were obtained from weighted data. The following relationships were observed (at the .05 level of significance): there was a high¹ and positive correlation between having a child in secondary school (SECOSCHL) and family assets (ASSET), and

¹ There is high correlation if the value of the coefficient of correlation is at least 0.5 (see Table 54).

the father's level of education (FATHEDUC), and a moderate correlation with the mothers' level of education (MOTHEDEC). There was a positive correlation between having children in secondary school (SECOSCHL) and the urban origin (AREAS).

Having children in secondary school (SECOSCHL) and the predicted burden (PREDBURD) were moderately but negatively correlated. Apart from income (INCOME), presence of educated member in the extended family (FAMILED), highest number of times a child repeated in the sixth grade (TIME6) children's chores (CHORES), predicted values of the burden (PREDBURD), highly and negatively correlated with all other variables. The predicted burden of secondary schooling (PREDBURD) was highly but negatively correlated with family assets (ASSET), level of education of the father (FATHEDUC), level of education of the mother (MOTHEDEC), and urban origin (AREAS); it was moderately but negatively correlated with family expenditure (EXPENSES), family income (INCOME), and access to secondary schooling (SECOSCHL). FATHEDUC and MOTHEDEC (parents' education) were highly and positively correlated with family assets (ASSET), and urban origin of the family (AREAS). Family assets (ASSET) was positively correlated with income, fathers' education, mothers' education, family expenditure; it was highly but negatively correlated with PREDBURD; moderately correlated with access to secondary schooling (SECOSCHL), and urban/rural origin (AREAS). TIME6 was moderately and positively correlated

with FAMILED. CHORES was weakly, significantly but negatively correlated with FATHEDUC AREAS. EXPENSES was highly correlated with family income (INCOME), and family assets (ASSET); it was moderately but significantly correlated with fathers' level of education (FATHEDUC), and mothers' level of education (MOTHEDEDUC). The correlations between variables are presented in Table 54 below.

The rest of this section shows the results of the comparison of the characteristics of families without children in secondary school and those with children in secondary school. All the independent variables used in this chapter were included in the comparison based on the t-test. The level of statistical significance was set at .05.

V.3.2. Parents' Education

V.3.2.1. MOTHEDEDUC

The two groups of families were found to be significantly different in terms of mothers' level of education. The pooled T- value was -5.59. Therefore, mothers who had children in secondary school had more formal schooling than those without children in secondary school.

Table 54 Correlation Matrix of Factors and Access Variables

VARIABLES	ASSET	BOY	CHORES	FAMILYED	EXPENSES	FATHEDUC	INCOME	MOTHEEDUC	AREAS	SECOSCHL	TIME6	USESCH	PREDBURD
ASSET	1.0000												
BOY	-.1891	1.0000											
CHORES	-.1807	.0970	1.0000										
FAMILYED	.2882	-.0388	.0012	1.0000									
EXPENSES	.5603*	-.1340	-.0634	.1630	1.0000								
FATHEDUC	.6396*	-.0850	-.1741	.3531	.3619	1.0000							
INCOME	.5344*	-.1328	-.0748	.1361	.6810	.3538	1.0000						
MOTHEEDUC	.6072*	-.1665	-.1316	.3390	.4043	.6306	.3301	1.0000					
AREAS	.4518*	-.2927	-.2547	.1255	.2522	.5969	.3626	.4669	1.0000				
SECOSCHL	.4800*	-.1250	-.1059	.3019	.2949	.4849	.2582	.3752	.3201	1.0000			
TIME6	.0888	-.0420	.1197	.1943	.2002	.1067	.1301	.0170	-.0139	.2140	1.0000		
USESCH	-.1243	.1021	.0159	.0368	-.1447	-.1225	-.0793	-.2595	-.2324	.0282	.0850	1.0000	
PREDBURD	-.6089*	.1701	.1163	-.2918	-.4946	-.5777	-.4766	-.7700	-.5694	-.3820	-.0217	.2961	1.0000

V.3.2.2 FATHEDUC

The two groups of families were found to be significantly different in terms of fathers level of education. The pooled t-value was -7.55. Therefore, fathers who had children in secondary school had more formal schooling than those without children in secondary school.

V.3.2.3. Family Income (INCOME)

The two groups of families were found to be significantly different in relation to their income (INCOME). The pooled t-value was -3.64. The two groups were found to be different. Parents who had children in secondary school had more income than parents without children in secondary school.

V.3.2.4. Family Expenditure (EXPENSES)

The two groups of families were found to be significantly different in relation to their expenses (EXPENSES). The pooled t-value was -3.98. Families which had children in secondary school had higher family expenditure than families without children in secondary school.

V.3.2.5. Family Assets (ASSET)

The two groups of families were found to be significantly different in terms of ASSET. The pooled t-value was -7.55 at .05 level of significance. Families that had children in secondary school had more assets than families without children in secondary school.

V.3.2.6. Existence of Educated Relative in the Family

The comparison of the two groups in terms of the existence of educated relatives in the extended family showed that they were different at .05 level of significance. The pooled t-value was -4.37. Families with children in secondary school had more educated relatives in the extended family than families without children in secondary school.

V.3.2.7. Predicted Burden (PREDBURD)

The comparison of the two groups in terms of the predicted burden on the family showed that they were different at .05 level of significance. The mean of the predicted burden for families without children in secondary school (15.06%) was 50% higher than that of for families with children in secondary school (10.17%). In other words,

families without children in secondary school would have borne a higher burden of the direct private cost of secondary schooling if their children had enrolled in secondary school. The pooled t-value was 5.64.

V.3.2.8. Highest Number of Time for Sixth Grade Repetition (TIME6)

The results of the comparison of the two groups in terms of the highest number of time a child repeated in sixth grade in the family (TIME6) showed that these groups were significantly different at .05 level of significance. The mean of TIME6 was 1.56 for families without children in secondary school and 2.17 for families with children in secondary school. Thus, families with children in secondary school had their children repeat the sixth grade more times than families without children in secondary school. The pooled t-value was -3.02.

V.3.2.9. Chores

The results of the comparison of the two groups in terms of children's chores in the family (CHORES) indicated that this variable was not statistically significant at the .05 level. Its pooled t-value was 1.47.

V.3.2.10. Areas (AREAS)

The variable specifies the location of the family as rural or urban. It is coded zero for families from the rural area and 1 for families in the urban areas. The results of the comparison of the two groups in terms of the rural/urban area of origin of the family showed that these two groups were significantly different at .05 level of significance. The mean AREAS was .24 for families without children in secondary school which showed that they were mostly rural; it was .56 for families with children in secondary school which illustrated that they were mostly urban.

Table 55 Summary Table Section V.3. T-test Mean-comparison

Variable	GROUP1 Mean	GROUP2 Mean	Pooled t-value
INCOME	123079.59	981974.38	-3.64*
EXPENSES	242267.91	592965.21	-3.98*
ASSET	6.41	13.28	-7.55*
FATHEROC	.41	2.54	-7.20*
MOTHEROC	.35	1.48	-5.75*
FATHEDUC	1.73	3.49	-7.55*
MOTHEduc	1.37	2.54	-5.59*
FAMILED	.34	.65	-4.37*
PREDBURD	15.07	10.17	5.64*
TIME6	1.56	2.10	-3.02*
CHORES	.65	.54	1.47
AREAS	.24	.56	-4.66*

Note: * Significant at the 0.05 level.

V.4. Determinants of Access to Secondary Schooling

V.4.1 Predicted Burden Equation

Multiple linear regression was used to estimate the economic burden equation from the actual values of the burden of secondary schooling of children who were fully financed by their parents. As part of the estimation of the economic burden, dummy variables were created for the parents' occupation . There were five occupations for fathers (FATHOC), and mothers (MOTHOC):

- * Farmers,
- * General laborers (FATHOC1/MOTHOC1),
- * Technicians (FATHOC2/MOTHOC2),
- * Business people (FATHOC3/MOTHOC3), and
- * Professionals (FATHOC4/MOTHOC4).

Farmers were used as the reference category. The definition of these occupational dummy variables is indicated in Table 56 below. The dependent variable was the economic burden, defines as the percentage of the direct private cost of secondary schooling on the total family income.

Table 56 Distribution of Dummy Variables Coding

Name	FARMER	GENERAL LABORER	TECHNI CIANS	BUSINESS PEOPLE	PROFES SIONALS
FATHOC1/MOTHOC1	0	1	0	0	0
FATHOC2/MOTHOC2	0	0	1	0	0
FATHOC3/MOTHOC3	0	0	0	1	0
FATHOC4/MOTHOC4	0	0	0	0	1

Table 57 shows the variables which were statistically significant at .05 level of significance in the estimated burden equation.

Table 57 Variables in the Equation of Burden

Variable	B	SE B	Beta	T	Sig T
MOTHEduc	-2.413712	.249951	-.580155	-9.657	.0000
FATHOC3	-7.636292	1.444354	-.265242	-5.287	.0000
FATHOC1	-5.959998	1.802155	-.157804	-3.307	.0012
MOTHOC2	-4.973575	.840535	-.292435	-5.917	.0000
MOTHOC1	-4.099166	1.196517	-.161797	-3.426	.0008
MOTHOC3	-10.074333	1.255830	-.398739	-8.022	.0000
FATHOC2	-6.307779	1.040477	-.341188	-6.062	.0000
FATHOC4	-5.939700	.955108	-.421555	-6.219	.0000
(Constant)	20.433756	.924786		22.096	.0000

This economic burden equation had an R^2 value of .70067, and $N=150$. The variables of the parents occupation and the mother's education were statistically significant in this equation. The estimated economic burden equation was used to generate predicted economic burden for all families.

The predicted economic burden (PREDBURD) was subsequently used in the equation on access to secondary schooling.

V.4.2. Use of Logistical Regression

Access to secondary schooling was defined as a binary variable; it was equal to zero for families without children in secondary school and 1 for families with children in secondary school. In this study, logistic regression analysis was used to study access to secondary schooling in Burundi.

Logistic regression analysis is generally used to predict whether an event will, or will not, occur. Therefore, logistic regression analysis requires a dichotomous dependent variable. When a dichotomous dependent variable is used, R^2 is likely to be low, suggesting that R^2 should not be used as an estimation criterion (Kennedy, 1992). The Wald-values and their level of significance serve to predict the likelihood of the occurrence of an event. The Wald-statistic is the square of the result of the coefficient divided by the standard error of the independent variable in the output of the logistic regression [$\text{Wald} = (B/SE)^2$].

A stepwise variable selection was used to specify the model (add or delete independent variables). Each independent variable was entered in the regression

separately from other variables to determine its predictive power. Independent variables whose overall predictive power was low were not entered in the equation. Thereafter, the remaining independent variables which met the predictive criterion were entered in the equation through forward variable selection. Independent variables which were not statistically significant (Wald-value < 2) were omitted from the equation. After each step, the model was respecified. The final equation included only independent variables which were statistically significant at .05 level of significance.

V.4.3. Logistic Regressions: Family as Unit of Analysis

At the family level, access to secondary schooling (SECOSCHL) was used as the dependent variable. The results of the analysis of the logistic regression were presented for the entire sample, and for the urban (Bujumbura), and the rural (Karuzi and Gitega) sub-samples. In this analysis, the variables about the value of education in Burundi were not significant. These variables included whether secondary education is useful, and whether the parents preferred to have a boy or a girl enrolled in secondary school. There was little variation in the variable about the usefulness of secondary school as most parents (83.7%) stated that education was very useful.

Likewise, 44.5% parents preferred to enroll a boy in secondary school.

V.4.3.1. Entire Sample

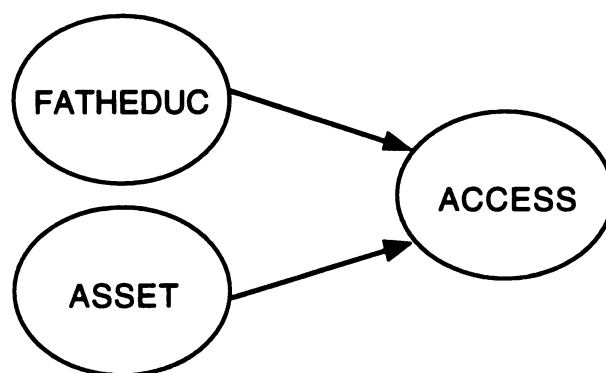
The following variables were statistically significant factors in determining access to secondary schooling in the final equation using stepwise variable selection as a method to specify the model: the level of education of the father (FATHEDUC) and the family assets (ASSET). The results of the logistic regression are summarized in Table 58 and Figure 5.1 below.

Table 58 Equation for Access to Secondary Schooling (Entire Sample and Family as Unit of Analysis)

Variable	B	S.E.	Wald	Sig	R
FATHEDUC	.4683	.1438	10.6042	.0011	.1852
ASSET	.2353	.0549	18.3885	.0000	.2556
Constant	-2.7294	.5065	29.0350	.0000	

The sign of the level of education of the father and the family assets was positive. Thus, the higher the level of education of the father, the greater access to schooling for the family. Likewise, the more the family assets, the greater the access to secondary schooling for children.

Figure 5.1 Determinants of Access to Secondary Schooling in Burundi, Entire Sample and Family as Unit of Analysis



V.4.3.2. Urban Subsample

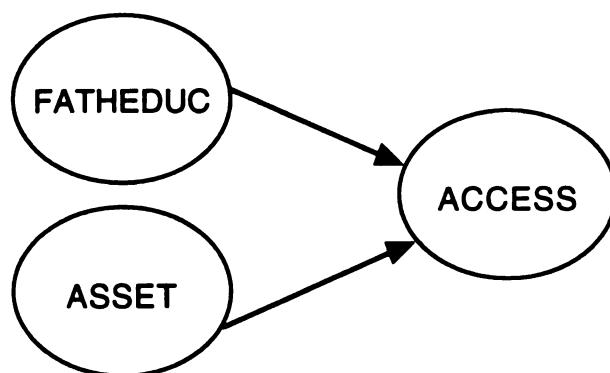
The following variables were statistically significant in predicting access to secondary schooling: the level of education of the father (FATHEDUC) and the family assets (ASSET). Table 59 presents the results of this analysis.

Table 59 Equation for Access to Secondary Schooling (Urban Sub-sample and Family as Unit of Analysis)

Variable	B	S.E.	Wald	Sig	R
ASSET	.3140	.1066	8.6780	.0032	.2796
FATHEDUC	.5947	.2674	4.9458	.0262	.1857
Constant	-3.5683	1.1063	10.4038	.0013	

Increase in the family assets increased access to secondary schooling. Likewise, increase in the level of education of the father increased access to secondary schooling for children in the family. Access to secondary schooling in the urban area is presented in the following Figure 5.2.

**Figure 5.2 Determinants of Access to Secondary Schooling
in Burundi, (Urban Subsample and Family as Unit
of Analysis)**



V.4.3.3. The Rural Subsample

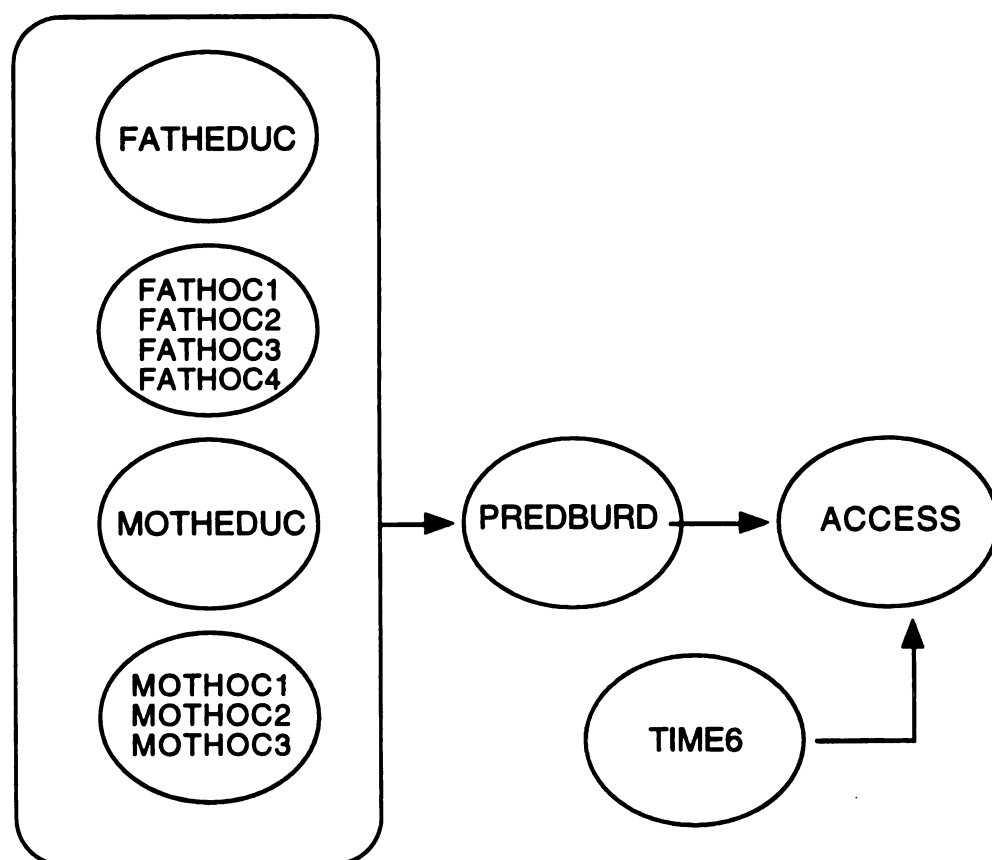
The following variables were statistically significant in determining access to secondary schooling in the rural subsample: PREDBURD and TIME6. The variables INCOME, ASSET, EXPENSES, FATHEDUC were statistically significant, but were highly correlated (see Table 54). Multicollineality surfaced as soon as they were entered into the logistic equation. They were all omitted to avoid multicollineality. The Wald-value of both PREDBURD and the variable added became less than 2. The following equation was the final equation with Wald-values which were statistically significant at the .05 level of significance. The results are presented in Table 60 below.

Table 60 Equation for Access to Secondary schooling in Burundi (Rural Subsample and Family as Unit of Analysis)

Variable	B	S.E.	Wald	Sig	R
TIME6	.2952	.1478	3.9915	.0457	.1152
PREDBURD	-.1688	.0566	8.8916	.0029	-.2143
Constant	1.9044	.9443	4.0674	.0437	

The predicted burden had a negative sign which indicated that the higher the predicted burden, the lower the access to secondary schooling. The highest number of sixth grade repetitions in the family had a positive sign,

Figure 5.3 Determinants of access to secondary schooling in Burundi, (Rural Subsample and Family as Unit of Analysis)



which indicated that the more sixth grade repetition, the greater the access to secondary schooling.

Therefore, the likelihood of accessing secondary school for families from the rural area, was determined by the predicted burden of the direct private cost of secondary school, which involved mothers' education (MOTHEduc), father's occupation (FATHOC1, FATHOC2, FATHOC3, FATHOC4), and mothers' occupation (MOTHOC1, MOTHOC2, and MOTHOC3), and the highest number of sixth grade repetition in the family (TIME6). Access to secondary schooling in the urban area is presented in the following Figure 5.3.

V.4.4. Logistic Regressions: Child As Unit of Analysis

GRADFIN is the highest grade level a child had finished before leaving school, and GRADNOW gives the grade level in which the child was enrolled at the time of the survey. The mean grade level for children still in school was 9.63 and the standard deviation was 1.83 (N = 216). The mean finished grade level for the children who had left school was 6.52 and the standard deviation was 3.03 (N = 300).

Based on the information from GRADFIN and GRADNOW, the access to school variable, ACCESS, was defined. For ACCESS, a value of 1 was assigned to children who had finished, or were enrolled in, the seventh grade; and a value of 0 was

assigned to children who left school before reaching grade seven. ACCESS was used as a dependent variable in a logistic regression analysis. The results of the analysis are presented for the entire sample, and for the urban and rural subsamples.

A stepwise variable selection was used to add or omit variables which had a Wald-value smaller than 2 and which were not statistically significant at .05 level of significance. The final equation includes only statistically significant variables. Except for the variable, BOY defined as the family preference to send a boy into secondary school, which was statistically significant only for the rural sub-sample, the cultural values about secondary schooling were not significant in this analysis.

V.4.4.1. Entire Sample

The statistically significant variables in the final equation were the family assets (ASSET), the existence of educated relatives in the extended family (FAMILED), the level of education of the father (FATHEDUC), children chores (CHORES), the number of times a child repeated sixth grade (TIME6), whether or not the child repeated in the last three grades of primary school (REPHIGH), and whether or not the child repeated in the lower three grades of primary school (REPLow). The results of the logistic regression are

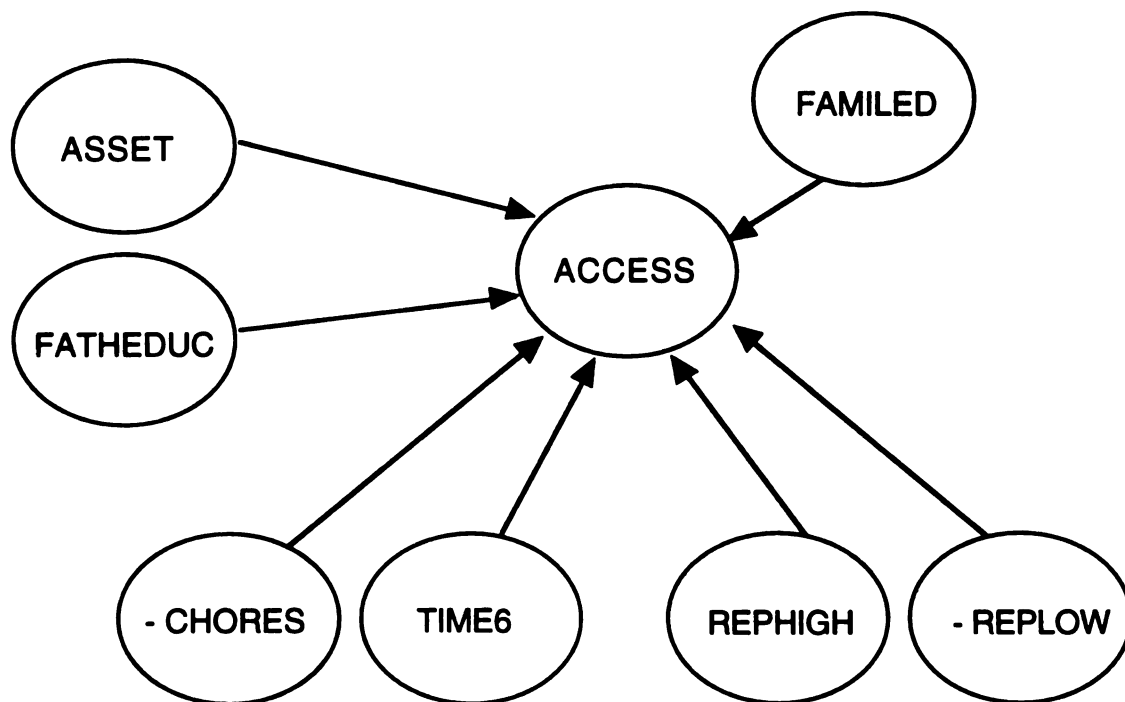
summarized in Table 64 below.

Table 61. Equation for Access to Secondary Schooling
(Entire Sample and Child as Unit of Analysis)

Variable	B	S.E.	Wald	Sig	R
ASSET	.1421	.0271	27.4786	.0000	.1912
CHORES	-.6434	.2788	5.3258	.0210	-.0691
FAMILED	.8279	.2682	9.5309	.0020	.1040
FATHEDUC	.4622	.0950	23.6950	.0000	.1765
REPHIGH	1.0336	.3104	11.0844	.0009	.1142
RELOW	-1.4272	.5403	6.9772	.0083	-.0845
TIME6	.5764	.1380	17.4418	.0000	.1489
Constant	-3.7315	.4421	71.2471	.0000	

The variables ASSET, FAMILED, FATHEDUC, REPHIGH, and TIME6 had a positive sign. This sign indicated that increased family assets, increased presence of educated relative in the extended family, higher level of education of the father, higher repetition of the upper grades of primary school, higher number of sixth grade repetition, increased access to secondary schooling. The variables RELOW and CHORES had a negative sign, which indicated that more repeating the lower three grades of primary school, and having to do more chores at home before or after school decreased access to secondary schooling. Access to secondary schooling in the entire sample using the child as the unit of analysis is presented in the following Figure 5.4.

Figure 5.4 Determinants of access to secondary schooling in Burundi, (Entire sample Child as Unit of Analysis)



V.4.4.2. Urban Subsample

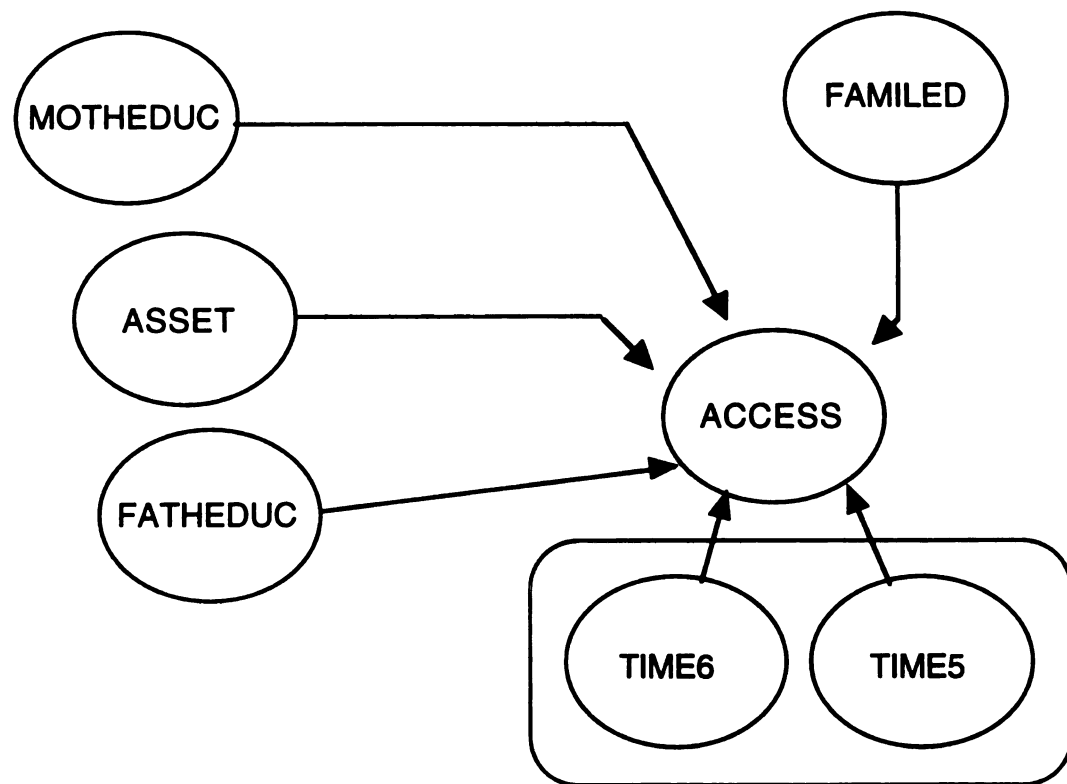
The statistically significant variables in the final equation were the existence of educated relatives in the extended family (FAMILED), the family assets (ASSET), the level of education of the father (FATHEDUC), the level of education of the mother (MOTHEduc), the number of times a child repeated sixth grade (TIME6), and the number of times a child repeated fifth grade (TIME5). The results of the logistic regression are summarized in Table 65 below.

Table 62. Equation for Access to Secondary Schooling (Urban Subsample and Child as Unit of Analysis)

Variable	B	S.E.	Wald	Sig	R
MOTHEduc	.4892	.1885	6.7346	.0095	.1171
ASSET	.1123	.0324	12.0312	.0005	.1704
FATHEDUC	.4639	.1479	9.8345	.0017	.1506
FAMILED	2.1720	.4408	24.2804	.0000	.2540
TIME6	.8097	.2279	12.6242	.0004	.1754
TIME5	-.9898	.3414	8.4068	.0037	-.1362
Constant	-5.3336	.7831	46.3925	.0000	

The variables MOTHEduc, ASSET, FATHEDUC, FAMILED, and TIME6 had a positive sign. This sign indicated that higher level of education of the mother, more family assets, higher level of education of the father, increased presence of educated relative in the extended family, higher number of

Figure 5.5 Determinants of access to secondary schooling in Burundi, Urban Sub-sample and Child as Unit of Analysis



sixth grade repetition, increased access to secondary schooling. The variable TIME5 had a negative sign, which indicated that increase in the number of fifth grade repetition decreased access to secondary schooling. Figure 5.5. presents the determinants of access to secondary schooling at the urban subsample.

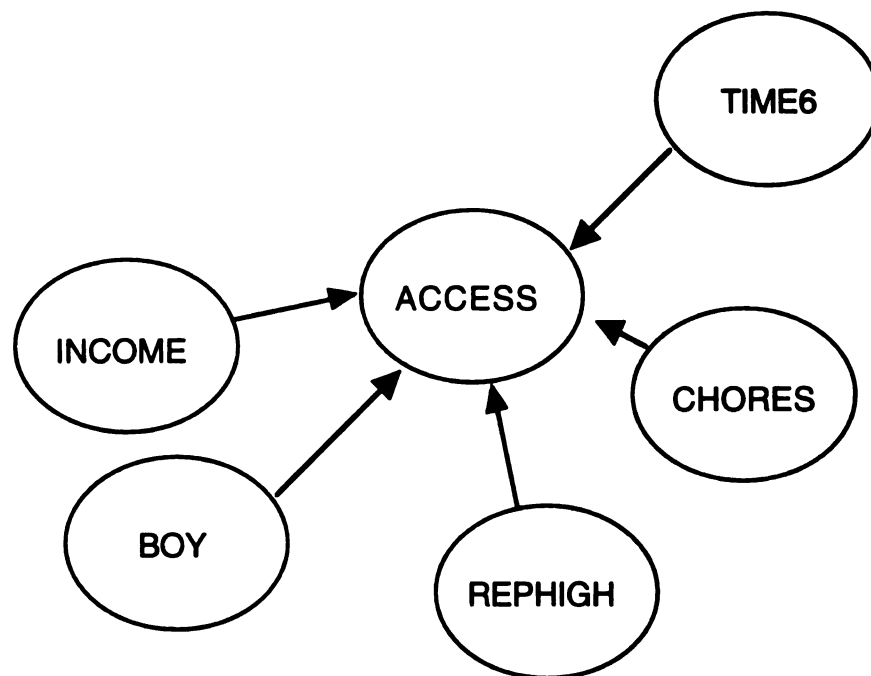
V.4.4.3. Rural Subsample

The statistically significant variables in the final equation were the family income (INCOME), the number of times a child repeated sixth grade (TIME6), the children's chores (CHORES), whether or not the child repeated in the last three grades of primary school (REPHIGH), and whether or not the family preferred to send a boy to secondary schooling (BOY). The results of the logistic regression are summarized in Table 66 below.

Table 63 Equation for Access to Secondary Schooling (Rural Subsample and Child as Unit of Analysis)

Variable	B	S.E.	Wald	Sig	R
INCOME	9.23E-06	1.794E-06	26.4668	.0000	.2850
TIME6	.5970	.1783	11.2127	.0008	.1749
CHORES	-1.4100	.5531	6.4992	.0108	-.1222
REPHIGH	1.1250	.4328	6.7586	.0093	.1257
BOY	-.9251	.3912	5.5930	.0180	-.1092
Constant	-1.4216	.6182	5.2889	.0215	

Figure 5.6 Determinants of access to secondary schooling in Burundi, Rural Sub-sample and Child as Unit of Analysis



The sign of the variables CHORES and BOY was negative which indicated that doing chores before or after school, as well as the family's preference to send a boy to secondary school decreased the children access to secondary schooling. The sign of the other variables was positive which indicated that access to secondary school would increase with higher family income, more repetition in sixth grade, and more repetition in the last three grades of primary school. Figure 5.6. presents the determinants of access to secondary schooling at the rural subsample.

V.4.5. Discussion of Findings on Access to Secondary Schooling

The most important factors in determining access to secondary schooling in Burundi, in 1993, were the level of the education of the father, the level of education of the mother, family assets, family income, the predicted burden of secondary schooling, and the number of times of sixth grade repetition. Among these factors, the level of education of the father was consistently significant in predicting access to secondary schooling when the family was used as the unit of analysis, and when the child was used as the unit of analysis, except in the rural area. However, income, which was statistically significant in the rural area, was highly correlated with the level of education of

the father.

The findings of this chapter showed the role of parents' education in predicting access to secondary schooling. The level of education of the father was highly correlated with family income, family assets, family expenditure, and the level of education of the mother.

In general, significant factors in determining access to secondary schooling in the urban area dominated in predicting access to secondary schooling in the entire sample because the urban area provided more opportunities to schooling. Thus, family assets and level of education of the father were statistically significant in both the entire sample and the urban area, and in both family and child as unit of analysis. The cultural factors (preference to send a boy to secondary school), direct private costs (predicted burden), and indirect private costs of primary schooling (children's chores) inhibited access to secondary schooling only to children from the rural area.

In the rural area subsample, the predicted burden of secondary schooling, the number of times of repeating the sixth grade (family as unit of analysis), as well as the parents' preference to send a boy to secondary school (child as the unit of analysis), which were not significant in the urban subsample nor in the entire sample, were the only determinants of access to secondary schooling. Increase in the fathers' education and the mothers' education and the

parents' occupation reduced the predicted burden, and therefore, increased access to schooling. Rural farmers, with less income and without any level of education, had limited access to secondary schooling. All the other occupations had more advantaged in acceding secondary schooling.

When the family was the unit of analysis, the nuclear family background factors (father' education, and mothers' education) were the statistically significant determinants of access either directly (entire sample, and urban area), or indirectly (through the predicted burden of secondary schooling in the rural area). In addition to family background determinants, when the child was the unit of analysis, sixth grade repetition significantly increased access to secondary schooling; the presence of educated relatives increased access to children at the entire sample and in the urban area. Increased level of education of the parents would counteract many of the problem created by the parents' cultural values of education, indirect private costs of schooling, and limited income.

CHAPTER VI. CONCLUSION

This chapter presents a summary of the findings on the direct private cost of, and access to, secondary schooling in Burundi. The findings were presented using both the family and the child as the unit of analysis. They were also presented at the entire sample level, as well as at the urban and rural sub-sample levels. These findings include the financing of secondary schooling, the economic burden of the direct private cost of secondary schooling, predicted burden and the determinants of access to secondary schooling in 1993. The chapter also suggests policies to improve access to secondary schooling. Finally, further research needs are recommended.

VI.1. Summary of Findings

VI.1.1. Direct Private Costs and Economic Burden

The estimate of the direct private cost of secondary schooling in Burundi was based on information on children fully supported by their parents. The annual direct private cost of secondary schooling per child in Burundi varied according to the type of secondary school, gender of the student, family background, and location of families. The total direct private cost of secondary schooling was 26,256

FBu for secondary boarding school and 20,725 FBu in secondary day school. The main items for both boarding and day secondary schools were school fees and personal needs, which included transportation, school supplies and personal care.

School fees constituted 33% of the total direct private cost in boarding secondary school, whereas they were 19.4% in day secondary school in 1993. School fees have increased rapidly overtime. For example, they increased by 800% for secondary boarding schools during the period of 1973 to 1993, and by 350% for secondary day schools during 1983 to 1993. During the period of 1982-1993, the burden of school fees per child with respect to family income went from 7.0% to 30% for boarding secondary school and from 3.5% to 10% for day secondary school.

Personal needs in secondary day school, especially transportation, accounted for 48% of the total direct private cost, while they represented 28% in secondary boarding school. Shoes and cloths, including school uniforms, were respectively 32.7% and 22.6% of the total direct private cost in day and boarding secondary schools. Bedding items and miscellaneous expenses (i.e., pocket money) accounted for an additional 15.6% of the total direct private cost in boarding secondary school.

The total direct private cost was higher for female students than for male students in both day and boarding

schools. In secondary day school, female students spent 6.9% more than male students. In secondary boarding school, female students spent 6.3% more than male students. This suggested that female students came mainly from wealthier and more educated parents, living especially in the urban areas. Male students came from all family backgrounds.

In addition, there was a positive correlation between the education of the parents and the direct private cost of secondary schooling in Burundi. The more educated the parents were, the more was spent on secondary schooling. Furthermore, the less educated the parents (especially fathers) were, the more likely it was that secondary boarding school became the only alternative available for the children. On the contrary, the more educated the mother was, the more likely children would attend day secondary school because most educated mothers lived in the urban areas.

Parents' occupation also positively influenced the direct private cost of secondary schooling in Burundi. The more high paying the occupation of the parents, the more parents spent on secondary schooling. Professional and business parents spent more than technicians, general labor and farmers.

The possession of assets, and total family income, were the resources used to pay for secondary schooling in Burundi. The more assets a family had, the more money it

spent on secondary schooling. As such, the more income a family had, the more children could be sent to secondary schooling. It cost 135% more to send a second child to secondary school, and 196% more to send a third child to secondary school. Almost all low income families had only one child in secondary. The main source of income was agricultural production in the rural provinces (i.e., Gitega and Karuzi), whereas salaries, business and rent were the major sources of income in the urban areas (i.e., Bujumbura).

As income and assets increased, the burden of the direct private costs decreased. The economic burden of the direct private cost of secondary schooling represented about 10 % of family expenditures per child in boarding secondary school, where most children of low income families went. This burden constituted three percent of family expenditures per child in day secondary school, which was attended mainly by children from wealthy urban families. Hence, the greatest burden was borne by low income families and by those who had parents, especially fathers, with no formal schooling and farmers.

The economic burden of the lowest quintile income families was 23% of the total family income for children in boarding school. It was almost one percent of the total family income for the highest quintile income. Farmer fathers and mothers and fathers with no formal schooling did

not have children in day secondary schools. The wealthier the family was, the lower the burden of secondary schooling borne by parents. Consequently, low income families had fewer children in secondary school.

VI.1.2. Predicted Economic Burden

The economic burden of secondary schooling was predicted by the fathers' occupation, the mothers' occupation, and the level of education of the mother. The predicted burden for all the families in the sample was computed. The results of the predicted burden were included in the logistic regression analysis of determinants of access to secondary schooling using both the family as the unit of analysis and the child as the unit of analysis.

VI.1.3. Access to Secondary Education

Analysis of access to secondary schooling included all the children of secondary school age, a group comprised of children who were still attending secondary schools and those who were not in school. There were 528 children of secondary school age group distributed as follows: 210 children were enrolled in secondary schools and 318 children were not in school. Among the category of children who were not in school, 52 children had access to secondary school.

Most of the children in secondary school (74%) were financially supported by their parents. The remaining 26% were financed by relatives and friends.

The following were the characteristics of children helped by relatives and friends: (1) 93% repeated the sixth grade; (2) 65% of these children never repeated a grade in secondary school; (3) and 61% of them lived in Bujumbura. Relatives and friends who helped these children lived in urban areas, and were educated and wealthy. Children fully supported by their parents presented the following characteristics: (1) 83% repeated the sixth grade and (2) 15% of them had to change schools to go to study in urban areas.

VI.1.3.1. Determinants of Access To Secondary Schooling

When the family was used as the unit of analysis, access to secondary schooling in Burundi in the entire sample was determined by the family assets and the level of education of the father. Access would increase with increased level of education of the father, and increased family assets.

In the urban area, access to secondary school was determined by the family assets and the level of education of the father. Access would increase with increased family

assets and increased level of education of the father.

In the rural area, access to secondary school was determined directly by the predicted burden and the highest number of children sixth grade repetition, and indirectly by the fathers' occupation, the level of education of the mother, and the mothers' occupation which were used to compute the predicted burden of secondary schooling. Access would decrease with increased burden and it would increase with increased number of sixth grade repetition.

When the child was used as the unit of analysis, access to secondary schooling in the entire sample was determined by the family assets, the level of education of the father, the presence of educated relatives in the extended family, grade repetition in upper-primary schooling, the number of times a child repeated the sixth grade, and the grade repetition in the lower primary grades and the child's chores. Access would increase with increased family assets, level of education of the father, presence of educated relatives in the extended family, grade repetition in upper-primary schooling, number of times a child repeated the sixth grade, and access would decrease with increased grade repetition in the lower primary grades and child's chores.

In the urban area, access to secondary schooling was determined by the level of education of the mother, the level of education of the father, the family assets, the presence of educated relatives in the extended family, the

number of times a child repeated the sixth grade, and the number of times a child repeated the fifth grade. Access would increase with increased level of education of the mother, family assets, level of education of the father, presence of educated relatives in the extended family, and number of times a child repeated the sixth grade; and access would decrease with increased number of times a child repeated the fifth grade.

In the rural area, access to secondary schooling was determined by the family income, the number of times a child repeated the sixth grade, the repetition in the upper primary grades, the child's chores, and the family preference to send a boy to secondary school. Access would increase with increased family income, number of times a child repeated the sixth grade, and repetition in the upper primary grades; and access would decrease with increased child's chores, and family preference to send a boy to secondary school.

VI.2. Policy Implications

Policy recommendations are presented to alleviate the burden of the direct private cost of secondary schooling to the parents and, thus, improve access to secondary schooling in Burundi.

VI.2.1. Economic Burden

The government of Burundi should formulate policies that are fair for both secondary day and boarding schools. Most expenses were made on school fees and personal needs. While transportation was a major problem to the students in the urban areas, especially Bujumbura, which comprised almost exclusively all day secondary schools, school fees and school supplies were a common problem to both types of secondary schools. Therefore, any policy to reduce the economic burden of the cost of secondary schooling should focus primarily on school fees and school supplies. Moreover, in a country where most people emphasize education as a means of status attainment, and where the community (extended family) is involved in educating children, but where the income of most families is not high enough to sustain secondary schooling, government intervention and community involvement would be essential in improving access to secondary schooling.

Expenditures on secondary schooling reflected the expected burden of secondary school education by the parents, which, in turn, indicated the level of education of the father, that of the mother, the amount of family income, and family assets parents had. The more educated the parents were, the more knowledgeable about the direct private cost of education they were. As such, the

government of Burundi should target its effort at disadvantaged families, especially families from rural and poor backgrounds.

In cooperation with local institutions, the government should inform the population about the usefulness of formal education for female especially in the rural areas, and the burden of the cost of education to both the government and the parents. It may provide financial assistance to children from disadvantaged backgrounds. For example, scholarship may be established especially for encouraging secondary school participation of girls from rural and farming backgrounds.

The government should also start discussing alternative solutions to reduce the economic burden of the cost of secondary schooling, as well as defining the shared responsibility between the government and the community. For example, the government may want to explore ways to get the extended family more involved in sponsoring additional children. It may explore ways to get the local institutions such as churches to set up educational funds to assist children from disadvantaged families.

VI.2.2. Access to Secondary Schooling

Access to secondary schooling was predicted by many factors that could be grouped into three categories: grade

repetition, affordability and family demand for schooling, and the type of school attended. Grade repetition was directly related to the national test. Secondary-school affordability and family demand included family income, family assets, parents' level of education and their occupation, family values and household chores. The attendance of either day or boarding schools indicated the location of families and the income category of the parents.

VI.2.2.1. The National Test

One of the major obstacles to accessing secondary school was grade repetition, especially in the sixth grade, resulting from the institution of the national test at the sixth grade level. Consequently, some children had to change schools. They moved to urban areas, where there were better educational facilities, which were conducive to a higher probability to pass the national test. Children who changed schools had educated and/or wealthy relatives. Children whose families were poor dropped out of school because they had no chance to try somewhere else. Subsequently, the national test at the sixth grade level brought about several problems. It created inequalities between the families who did not have educated or wealthy relatives and those who did. Moreover, while parents were willing to invest in education as a way out of poverty, the

national test constituted a serious constraint to their effort. Hence, some parents found school not useful because of a higher rate of drop out after the sixth grade, as a result of the national test.

The children who dropped out of school at the sixth grade level were not academically equipped to apply what they learned. Instead of solving the problem of excess manpower in the subsistence sector, these children increased the population involved in farming. As a result, both the parents and their children would not consider formal education useful.

In order to achieve the objective of increased literacy among youth, the policy of the national test should be revised. The government of Burundi, while advocating collective promotion in primary school and adopting the double shift program to increase the literacy rate of children, should explore the elimination of the national test at the sixth grade level and administer it at the tenth grade level for tracking purposes. The children would be tracked in areas where they demonstrated more ability. This policy would reduce the gender bias, involve more children in formal education, rather than the Yaga-Mukama religious education, and lead to improved parents' literacy. However, there is a number of related issues to examine before deciding on the national test (see section VI 3.1).

VI.2.2.2. Family Income

Family income was a key factor in accessing secondary schooling. The burden of the direct private cost of secondary schooling to wealthy families in Burundi was much lower than that for low income families. Income was positively associated with education or occupation of the parents. Since the rural areas of Burundi offered few income generating activities, apart from subsistence farming, the government of Burundi should diversify the economy, modernize farming and revamp small business activities. Moreover, since the results of this study suggested that spending on secondary education increased with the wealth and education of the mother, income generating activities involving women should be given a priority.

VI.2.2.3. Gender Differences in Access

The family preference to send boys to secondary schooling was a major determinants of access to secondary schooling in the rural area. The more the parents preferred to send a boy to secondary schooling, the less access to secondary schooling for children in the family. In conjunction with the local institution, the church, the government should inform the rural population about the

importance of sending girls to secondary school. Measures to encourage rural girls to attend and stay in secondary schooling may be considered because of the many benefits of educated girls to the future generations, such as financing their own children and promoting and financing children in the extended family, as this was shown in this study. Measures should be taken to reinforce the implementation of the government policy of universal primary education which was already in place in 1993.

VI.2.2.4. Household Chores: Indirect Private Cost of Schooling

Most rural children suffered from limited access to formal schooling because of indirect private costs of schooling. Many children from the rural areas did not enroll in formal schooling so as to help the family with household chores. Measures to increase family income and level of awareness about the benefits of education may help rural parents make decisions about children schooling and limit their chores.

VI.3. Future Policy Analysis and Research

VI.3.1. Policy of Expansion of Lower Secondary Schooling

A policy of the expansion of lower secondary schooling needs to be studied in terms of implementation issues and the country's development needs. Analysis should be made of the financial, institutional, and management dimensions involved in expanding compulsory education from the sixth grade to lower secondary school. The government should investigate the national development goals of the country and the role of increased compulsory schooling in contributing to these goals.

Examples of specific studies include the estimation of the costs of educational expansion and the costs of financial assistance to disadvantaged families, the evaluation of the financial feasibility of the expanded compulsory educational policy, the assessment of the management capacity of the education ministry, and the assessment of the employment prospects of school graduates.

VI.3.2. Parents' Attitude Toward Schooling

Further research should be conducted to better understand the rural parents' attitude toward girls

education. Rural children's access to secondary schooling decreased because of the parents' preference to send boy to secondary schooling. Factors which influence this attitude should be identified in the context of Burundi. At the same time this research should identify factors which promote rural parents support for girls education. In addition research should be conducted to investigate how to channel information to parents about educational assistance available from government, and community organizations school.

VI.3.3. Replication of the Study

At the national level, this study's sampling may be improved to include the provinces and communes excluded (see section on limitations of the study) in the present study to make findings more representative at the national level. This could be done when the politico-social conditions allow it. Improved sampling may allow regional comparisons and improve government intervention policies. At the international level, this study may be replicated in other developing countries to allow comparative analysis of the findings.

APPENDICES

APPENDIX A:

TABLES: NUMBER OF CHILDREN IN SECONDARY SCHOOL

APPENDIX A

Table 64. Cross Tabulation of INSEC (Number of Children in Secondary School) and the Father's Occupation (FATHEROC)

FATHEROC	NUMBER OF CHILDREN IN SECONDARY SCHOOL IN THE FAMILY				TOTAL
	NONE	1	2	2<	
Farmer	66.2	32.2	1.6		100
Gen Lab	54.5	40.9	4.5		100
Qual Techn	25	31.4	18.8	18.8	100
Business	0	33.3	33.3	33.3	100
Profess	3	37.6	18.8	40.6	

Table 65. Cross Tabulation of INSEC (Number of Children in Secondary School) and Mothers' Occupation.

MOTHEROC	NUMBER OF CHILDREN IN SECONDARY SCHOOL IN THE FAMILY				TOTAL
	NONE	1	2	2<	
Farmer	56	38	1	1	100
Gen Lab	29	63.1	2.6	5.2	100
Qual Techn	0	38.5	38.5	23	100
Business	33.3	40	13.3	13.3	100
Profess	0	45.4	13.6	41	100

Table 66. Cross Tabulation of INSEC (Number of Children in Secondary School) and Family Income.

INCOME	NUMBER OF CHILDREN IN SECONDARY SCHOOL IN THE FAMILY				TOTAL
	NONE	1	2	2<	
1	86	14	0	0	100
2	43.2	56.8	0	0	100
3	40.6	50	9.4	0	100
4	17.1	65.7	11.5	5.7	100
5	0				100

Table 67. Cross Tabulation of INSEC (Number of Children in Secondary School) and Family Expenses.

EXPENSES	NUMBER OF CHILDREN IN SECONDARY SCHOOL IN THE FAMILY				TOTAL
	NONE	1	2	2<	
1	86	14	0	0	100
2	43.2	56.8	0	0	100
3	40.6	50	9.4	0	100
4	17.1	65.7	11.5	5.7	100

APPENDIX B:
INTERVIEW QUESTIONNAIRE (IN ENGLISH)

APPENDIX B

QUESTIONNAIRE

Questionnaire # : /.../.../.../
 Province :
 Commune :
 Colline :
 Date : ---/---/---
 Mo Day Year

Direct Private Costs And Educational Inequalities: A Case
Study Of Access To Secondary Schooling In Burundi

The purpose of this study is to try to understand how people deal with private costs of secondary schooling in Burundi. Your name is not going to be on any document of this study, and the findings of this study will be kept confidential.

I. RESIDENCE STATUS

1.1. Respondent sex ____ male ____ female. 1= male 2= female
 1.0. ____

1.2. How many people live with and eat with you? 1.2. ____
 spouse _____ brothers _____
 sons _____ sisters _____
 daughters _____ grandparents _____
 others (specify) _____

1.3. How many children do you have now? 1.3. ____

1.4. Do you have other children who do not live with you?
 1.4. ____

0 = no. Go to question 2.1.
 1 = yes. Go to question 1.4.

1.5. I would like to know how many they are, where they are, and what they are doing.

Place	how many (0=none)
school	_____
university	_____
army	_____
civil servant	_____
Other (specify)	_____

II. CHILDREN'S INFORMATION

2.1 Now I am going to ask questions about each of your children.
Let's start with the oldest (then I will take the second oldest, etc...
and finish with the youngest.

Question	Coding	1	2	3	4	5	6	7	8
1. Age	Age in years								
2. Sex	1 = Male 2 = Female								
3. Has s/he ever been enrolled to school?	0 = No → Q4 1 = Yes → Q5								
4. (If no on Q3) Why did the child not go to start school?	RNOSCHO 9 = N/A								
									After answering this question, go to Q 2.6.1
5. (If yes on Q3) Is the child still attending school?	0 = No 1 = Yes								
6. How old was s/he when s/he started school?	Age in years								
									If child still in school, go to Q11.
7. If s/he has stopped going to school, which grade did s/he finish before s/he stopped?	GRADEFIN 99 = N/A								
8. Did s/he repeat a grade before leaving schooling?	0=No 1=Yes 8=Don't remember								
									If yes, go to Q2.2.1
9. Which grade is s/he in currently?	GRADNOW								
10. Is s/he in a day or boarding school?	1 = Day 2 = Board								
11. Is s/he studying in the rural or urban area?	1 = Rural 2 = Urban								

* Note: The Q 2.1.1- 2.1.9 were answered to according to each child situation.

These items constitute the core questions for each child. From the case of each child,

I know who to continue and how to follow the child: the age determines that the child is in the target age group 12-25 year.

The other items determine that the child is in or out of school and the grade.

2.2. Primary school Grade repetition

* Note: All the children in the targeted age group (12-25) are considered as well as those who are older than 25 but are still in secondary school.

Question	Coding	1	2	3	4	5	6	7	8
1. Did s/he repeat any grade in primary school?	0 = no 1 = Yes								
2. Which grades did s/he repeat?									
grade 1	0= no 1= Yes								
grade 2	0 = no 1 = yes								
grade 3	0 = no 1 = yes								
grade 4	0 = no 1 = yes								
grade 5	0 = no 1 = yes								
grade 6	0 = no 1 = yes								
3. How many times did s/he repeat the 5th grade?	no.time								
4. How many times did s/he repeat the 6th grade	no.time								
5. Did s/he change school to repeat the 5th grade?	0 = no 1 = yes								
6. Did s/he change school to repeat the 6th grade? yes/no	0 = no 1 = yes								
7. If yes, which school did s/he change to (rural or urban)	1= Rural 2= Urban								
8. when changing school, did s/he need to stay with a relative or with a friend?	0= no 1= yes								

If the child is not in school go to Q2.6.

2.3. Went back to an early grade

* Note: Only the children in the targeted age group (12-25) who are still in school are considered as well as those who are older than 25 but are still in secondary school.

Question	Coding	1	2	3	4	5	6	7	8
1. Did s/he go back to repeat an earlier grade? (from 6th to 3rd grade)	0 = no 1 =yes	If yes, continue, if no, go to 4.4							
2. From which grade did s/he go back?	grade no.								
3. To which grade did s/he go back to?	grade no.								
4. Did s/he change school in this process? Yes/No	0 = no 1 =yes								
5. If yes in which school did s/he go (rural or urban school)	1= rural 2= urban								
6. Did s/he need to stay with a relative or with a friend?	0 = no 1 = yes								

2.5. Time on extra-academic activities for primary school children

* Note: All the children in the targeted age group (12-25) who are still in school are considered as well as those who are older than 25 but are still in secondary school.

Question	Coding	1	2	3	4	5	6	7	8
1. Did the child have to do chores home after school?	0 = no 1 = yes	If no go to 4.6							
2. As I read you a list of chores, can you tell me the kinds of chores s/he was likely to do before, after school?	0 = no 1 = yes								
1. babysit									
2. fetch water									
3. fetch firewood									
4. cook									
5. work garden									
6. hired labor									
7. sell small items									
8. other(specify)									

2.6. Foregone income

* Note: All the children of the interviewee who are not in school are considered. Except those who are too young and are under school age.

Question	Coding	1	2	3	4	5	6	7	8
1. What kind of job does s/he do?									
2. How much money does a child who does not go to school earn on average?	money/m money/d								
Money earned/month Money earned /day									
Go to Q2.1 and repeat with the next child.									

2.7. Financial help for secondary school related expenses

* Note: All the children who are still in secondary school regardless of the age.

Question	Coding	1	2	3	4	5	6	7	8
1. Did the parent pay all secondary school related expenses for this child?	no = 0 yes = 1								
2.If no, what is your relationship with the helper (eg. cousin, friend)	HELPREL 99=N/A								
3. Does the helper live in the rural/urban areas?	1=rural 2=urban								
4. What is the relative / friend's level of education?	degree 99=N/A								
5. Does s/he pay part of the cost or all the expenses?	1= part 2= all 99=N/A								

2.8. Direct private cost of secondary education by parents themselves

* Note: All the children who are still in secondary school regardless of the age for whom the parents pay ALL the expenses of secondary schooling.

Question	Coding		1	2	3	4	5	6	7	8
1. How much money did you need to have available per term last year for this child including school fees, and all other expenses?	DPCYEAR									
first term	DPCTRM1									
2nd term	DPCTRM2									
3rd term	DPCTRM3									
2. When did s/he start secondary school? (SCHOOL-YEAR)	SCHOOLY									
			CHOOSE AND ANSWER Q4 OR Q5 TO							
3. How much did you spend on each of these items last term?	<u>HOWMUCH</u>									
school fees										
clothes										
blanket										
bed sheets										
shoes										
school supplies (pen and pencil, School- bag, compass, ruler)										
4. If your child bought them, how much money did you give him/her?	DAYSNO.									
5. Was s/he ever sent back home for not paying school fees during the term(while others stayed at school)	0 = no 1 = yes									
6. For how long did the child stay home?	DAY.NO									
7. Did the child have to repeat a course "repechage" in the year s/he was sent back home ?	0 = on 1 = yes									
8. Did the child repeat any grade in secondary school?	0 = no 1 = yes									
			GO TO Q2.1. AND REPEAT WITH THE NEXT CHILD							

III. DIRECT PRIVATE COST OF SECONDARY EDUCATION

* Note: This applied to families who currently have a child or children in secondary school.

3.2. How did you find money to pay? 3.2. _____

- | | |
|--------------------------|---------------|
| 1 From my savings | 2 Sold cattle |
| 3 Sold harvest (specify) | 4 Sold land |
| 5 Borrowed money | |

IV. RELATIVES LIVING WITH THE FAMILY.

4.1. Are there relatives living permanently (at least for one school year) with you? 4.1. _____

0 = NO GO TO Q4.5.

1 = YES GO ON

4.2. How many are they? 4.2. _____

4.3. Now I will ask you some information about each of these young relatives who live with you, one at a time. Let's start with the oldest (then I will take the second oldest, etc... and finish with the youngest.

Question	Coding	1	2	3	4	5	6	7	8
1. Age	Age in years								
2. Sex	1 = Male 2 = Female								
3. When did s/he start to live with you?	age of the child								
4. What is the reason for living with you?									
5. Is s/he going to school? yes/ no	0 = no 1 = yes								
6. If yes, which grade did s/he join when s/he came to live with you?									
7. What is his/her current grade now?									
8. Did s/he repeat any grade while s/he was with you?	0 = no 1 = yes								
9. How many times did s/he repeat grades?	TIMENO 99=N/A								
10. Which grades did s/he repeat?									
11. Did s/he repeat grade before living with you?	0 = no 1 = yes								

If no, go to the next child.

4.4. Financing of secondary education

Question	Coding	1	2	3	4	5	6	7	8
1 Do you pay for all his/her schooling? yes/ no	0 = no 1 = yes								
2. If no, who else helps to pay for his/her schooling?									
4. If s/he has parents, where do they live?									
5. What is the father's education?									
6. What is the mother's education?									
7. What is the father's occupation									
8. What is the mother's occupation?									
AFTER THIS CHILD GO TO THE NEXT OLDEST.									

After you finish with the last relative living with the family go to Q 4.4.

4.5. Do you financially help other students besides your children and relatives living with you? 4.5. _____

0 = no. Go to question 5.1.

1 = yes. Go to next question

4.5.1. Who do you help?

relation	grade	residence	kind of help
A=Primary		1= city	1=financial
B=Secondary		2= rural	3=motivation
		C=university	

# 1	_____	_____	_____	_____
# 2	_____	_____	_____	_____
# 3	_____	_____	_____	_____
# 4	_____	_____	_____	_____
# 5	_____	_____	_____	_____

V. HOUSEHOLD EXPENDITURES

5.1. How much, on average, do you spend on:

per month last year

1. food	_____	Not apply
2. beverages	_____	Not apply
3. agric. equipment	_____	_____
4. agric. inputs (fertilizers,...)	_____	_____
5. clothing	_____	_____
6. household equipment	_____	_____

7. health and medical services _____
 8. school expenses _____
 9. taxes/contributions (cash & in kind) _____
 10. transportation/travels _____
 11. rent _____
 12. hired labor _____
 13. others (specify) _____

5.2. Do you live in your own house? YES/NO not applicable 5.2. _____

5.3. If no how much do you pay for rent 5.3. _____

VI. INCOME (FINANCIAL CAPITAL)

6.1. As I read you some of the ways people get money, please tell me whether or not you get money in this way and how much money you get?

6.1. _____

choose all that apply 0 = no, 1 = yes

	yes or no	AMOUNT
1. sales of agricultural products	: _____	_____
2. sales of livestock products	: _____	_____
3. sales of land	: _____	_____
4. salary of my spouse	: _____	_____
5. my salary	: _____	_____
6. social security benefits	: _____	_____
7. remittances (kinship relationship)	: _____	_____
8. as hired labor(yourself)	: _____	_____
9. Family members hired labor	: _____	_____
10. business (specify) _____	: _____	_____
11. rents _____	: _____	_____
12. other (specify) _____	: _____	_____
_____	: _____	_____
_____	: _____	_____

6.2. Which of the following items do you have in your home?

0=no 1= yes

_____ radio	_____ television
_____ newspaper	_____ car or lorry
_____ VCR	_____ refrigerator
_____ camera	_____ piped water
_____ electricity	_____ iron sheet house
_____ own house (rural/urb)	_____ cement house
_____ thatched roof	_____ bicycle
_____ motor cycle	

6.2. How many of these do you have in your home? 0= none

	Number		Number
1.cows	_____	4.pigs	_____
2.sheep	_____	5.chicken	_____
3.goats	_____	6.coffee trees	_____

VII. RELATIVES' EDUCATION

7.1. Do you have educated relatives?

yes or no

7.1. _____

0 = no. Go to question 8.1.

1 = yes. Go to question 7.2.

7.2. What do they do? Where do they live? What level of education?

relation	Occupation	residence rural/urban	marital status	educ level
# 1	_____	_____	_____	_____
# 2	_____	_____	_____	_____
# 3	_____	_____	_____	_____
# 4	_____	_____	_____	_____
# 5	_____	_____	_____	_____
# 6	_____	_____	_____	_____
# 7	_____	_____	_____	_____
# 8	_____	_____	_____	_____
# 9	_____	_____	_____	_____
# 10	_____	_____	_____	_____

VIII. PARENTS' EDUCATION

8.1. Have you ever been to school?

8.1. _____

0 = no. Go to question 8.3.

1 = yes. Go to question 8.2.

8.2. What was the highest grade you completed? 8.2. _____

8.3. Has your spouse ever been to school?

8.3. _____

1 = yes, go to question 8.4.

0 = no, go to question 9.1.

8.4. What was the highest grade that your spouse completed?

IX. PARENTS' OCCUPATION AND AGE

9.1. What is your principal work ? Your title? 9.1. _____

9.2. What is your second work (which brings income) if you have one? 9.2. _____

9.3. What is the principal work of your spouse? What is his/her title? 9.3. _____

9.4. What is your spouse's second work (which brings income) if s/he has one? 9.4. _____

9.5. Do you mind telling me how old you are (age)? 9.5. _____

9.6. What is your spouse's age? 9.6. _____

X. OPINION AND WILLINGNESS TO PAY

10.1. Do you think secondary school education is for you (choose only one)

10.1. _____

- 1. not expensive at all : _____
- 2. a little bit expensive : _____
- 3. expensive : _____
- 4. very expensive : _____

10.2. How worthwhile do you think it is to spend your money on secondary schooling for any child?

10.2. _____

- 1. not at all worthwhile
- 2. somewhat worthwhile
- 3. worthwhile
- 4. very worthwhile

10.3. If no, why? Mention all that apply.

10.3. _____

- 1. people who did not go to school earn more : _____
- 2. educated people do not financially help their parents : _____
- 3. educated people are unemployed : _____
- 4. Prestige : _____
- 5. others (specify) _____ : _____

10.4. If yes, why? Mention all that apply.

10.4. _____

- 1. educated people earn more : _____
- 2. educated people have better lifestyle : _____
- 3. educated people help parents/siblings/relatives : _____
- 4. others (specify) _____ : _____

10.5. would you be willing to pay more than you are now paying for your children's secondary education? yes or no.

10.5. _____

0 = no go to Q10.8. and skip Q10.6-7.

1 = yes Continue with Q10.3.

* Note: These questions (10.5, 10.6, 10.7) are intended for those who have the experience of paying for secondary school.

10.6. Why?

10.6. _____

10.7. If yes, how much more would you be willing to pay (choose one).

10.7. _____

- 1. less than 100F Bu per child per year
- 2. Between 100FBu and 1000FBu per child per year
- 3. Between 1000FBu and 5000FBu per child per year
- 4. More than 5000 per child per year

10.8. If you could educate only one of your children would you prefer that the educated person be a boy or a girl?

10.8. _____

1 = girl 2 = boy

10.9. For which reason (only one)?

10.9. _____

APPENDIX C:
INTERVIEW QUESTIONNAIRE (IN KIRUNDI)

APPENDIX C

QUESTIONNAIRE

Questionnaire # : /.../.../.../
 Province :
 Commune :
 Colline :
 Date : ---/---/---
 Mo Day Year

Direct Private Costs And Educational Inequalities: A Case
Study Of Access To Secondary Schooling In Burundi

Igituma turiko turabaza ibi bibazo, ni kugira mumfashe gutohoza ingene amahera y'ukurungika umwana mu mashure makuru angana; hamwe n'ingene abantu babigenza kugirango abana bashobore gushika muri ari ayo mashure kandi bayaheze. Inyishu zose muzomba ntizizogukurikirana. Izina ryanyu ntirinakenewe.

I. **RESIDENCE STATUS**

1.0. Uwishura ____ umugabo ____ Umugore. 1= umugabo 2= umugore
 1.0. ____

1.1. umutumba w'amavuka ----- 1.2. Umutumba ubako -----

1.3. Commune y'amavuka ----- 1.4. Commune ubamwo -----

1.5. Umutumba w'amavuka w'umucance ____

1.5.1. Commune yavukiyemwo ____

1.6. Mutunze abantu bangahe munzu? 1.6. ____
 Umucance ____ abahungu babavukanyu ____
 Abahungu banyu ____ Abakobwa babavukanyu ____
 Abakobwa banyu ____ abavyeyi banyu ____
 Abandi (mupfana iki?) ____

1.7. Ubu mufise abana bangahe? 1.7. ____

1.8. Murafise abana bataba ngaha? 1.8. ____

0 = oya. ja ku kibazo ca 2.1.

1 = ego. Ja ku kibazo ca 1.9.

1.9. Abo bana ni bangahe, bari hehe, bakoraye iki? Mumbarire mukurikije umwana umwumwe.

Place	ni bangahe (0=none)	iyi ari (eg:Buja)	icakoraye
mw'ishure	_____	_____	_____
muri Kaminuza	_____	_____	_____
mu Ntwaramiheto	_____	_____	_____
akorera reta	_____	_____	_____
Ahandi (Tomora)	_____	_____	_____

2.2. Primary school Grade repetition

[illegible]

2.6. Foregone income

Question	Coding	1	2	3	4	5	6	7	8
1. Uwu mwana atari mw'ishure akora akazi gaki?									
2. Akorera amafaranga angahe ku kwezi Canke akorera angahe ku munsu?	money/m								
	money/d								
Go to Q2.1 and repeat with the next child.									

2.7. Financial help for secondary school related expenses

Question	Coding	1	2	3	4	5	6	7	8
1. Muramurihira amafaranga y'ishure yose yo kuja mu mashure yisumbuye? muramugurira ibikoresho vyose vy'ishure?	no = 0 yes = 1								
(If yes and the child is still in secondary school go to direct private costs 4.8.)									
2. None ko mutamurihira vyose mupfana iki nuwo muntu abibafashamwo?	HELPREL 99=N/A								
3. Uwo abafasha aba mugisagara canke mu mihana(mu kirundi)?	1=rural 2=urban								
4. Yize amashure angana gute? Yagarukiye mu wa kangahe	degree 99=N/A								
5. Amurihira vyose canke abafasha igice gusa?	1= part 2= all 99=N/A								

2.8. Direct private cost of secondary education by parents themselves

[illegible]

III. DIRECT PRIVATE COST OF SECONDARY EDUCATION

ABANTU BAFISE ABANA BARI MU MASHURE MAKURU UYU MWAKA.

3.2. Mwaronse amafaranga yo kurungika umwana mw'ishure
mu buryo ubuhe? 3.2. _____

1 Ayo twari twarabitse _____ 2 twashoye inka
3 Muvy'imburwa twashoye 4 twagurishiye umurima
5 Twaraguranye

3.3. Nimba mwaraguranye mwaguranye
angahe? 3.3. _____

3.4. Mwayaguranye hehe? 3.4. _____

3.5. Hari ayo murasubira gusubiza? Angahe? 3.5. _____

IV. RELATIVES LIVING WITH THE FAMILY.

4.1. Hari incuti muhaye indaro mubana ngaha? 4.1. _____

0 = NO GO TO Q4.4. 1 = YES GO ON

4.2. Nibangahe? 4.2. _____

4.4. Financing of secondary education

Question	Coding	1	2	3	4	5	6	7	8
1 Muramutangira amafaranga y'ishure yose mukamugurira n'ibikoresho vy'ishure?	0 = no 1 = yes								
2. None ninde abaibashashmwo mukumurihira amafaranga y'ishure?									
4. Nimba agifise abavyeyi baba hehe?									
5. Se wiwe yagarukiye he mumashure niyaba yragiye mw'ishure?									
6. Nyina wiwe yagarukiye he mw'ishure ni yaba yaragiye mw'ishure?									
7. Se atunzwe nakazi akahe?									
8. Nyina wewe akora uduki?									
AFTER THIS CHILD GO TO THE NEXT OLDEST.									

After finishing with the last relative living with the family, go to Q 4.4.

4.4. Uretse abana banyu hamwe nabo baba iwanyu hari abandi bana mufasha mukurihira amashure? 4.4. _____

0 = no. Go to question 5.1.

1 = yes. Go to next question

4.5. Mufasha bande?

Ico mupfana

umwaka arimwo

Iyo aba

Mumufashisha iki

A=Primary

1= city

1=financial

B=Secondary

2= rural

3=motivation

C=university

# 1	_____	_____	_____	_____
# 2	_____	_____	_____	_____
# 3	_____	_____	_____	_____
# 4	_____	_____	_____	_____
# 5	_____	_____	_____	_____

V. HOUSEHOLD EXPENDITURES

5.1. How much, on average, do you spend on:

	per month	last year
1. indya	_____	Not apply
2. ibinyobwa	_____	Not apply
3. ibikoresho vyo kurima	_____	_____
4. amase yo gutabira	_____	_____
5. impuzu	_____	_____
6. ibikoresho vyo munzu	_____	_____
7. kwivuza hamwe n'imiti	_____	_____
8. abanyeshure	_____	_____
9. tagisi hamwe nabo muha amahera	_____	_____
10. Amaafaranga ya transport	_____	_____
11. amafaranga y'inzu	_____	_____
12. kuriha abakozi	_____	_____
13. ibindi	_____	_____

5.2. Iyi nzu mubamwo niwanyu? YES/NO not applicable 5.2. _____

5.3. Ko atari rwanyu muyiriha angahe ku kwezi 5.3. _____

VI. AMAFARANG MURONKA

6.1. Ngira ndabasomere ingene abantu baronka. Maze muze murambarira ko muronka amahera muri ubwo buryo hamwe n'amahera muronka uko angana?

6.1. _____

choose all that apply 0 = no, 1 = yes

	yes or no	AMOUNT
1. kugurisha ivyimbura	: _____	_____
2. kugurisha ibitungwa	: _____	_____
3. kugurisha itongo	: _____	_____
4. Umushahara wawe	: _____	_____
5. umushahara w'umucance	: _____	_____
6. social security benefits	: _____	_____
7. Ayo abantu bampa)	: _____	_____
8. Ndaca ingero	: _____	_____
9. Abo ntunze baraja guca ingero	: _____	_____
10. Udandaza iki?	: _____	_____
11. Ayo bapanze ko inzu zawe _____	: _____	_____
12. Ubundi buryo ntavuze (tomora) _____	: _____	_____
_____	: _____	_____
_____	: _____	_____

6.2. Muri bino bintu ivyo mutunze ni ibihe?

0=no 1= yes

_____ iradiyo	_____ television
_____ ibinyamakuru	_____ umuduga canke ikamyo
_____ VCR	_____ ifirigo
_____ icuma cugufata amafoto	_____ robine y'amazi munzu
_____ umuyagankuba (amatara)	_____ inzu y'amabati
_____ inzuri hehe (rural/urb)	_____ isima
_____ inzu y'ivyatsi	_____ ikinga
_____ ipikipiki	

6.2. Muri ibi bintu mutunze ibihe? bingahe? 0 = none

	Number		Number
1.inka	_____	4. ingurube	_____
2.intama	_____	5.inkoko	_____
3.impene	_____	6.ibiti vy'akawa	_____

VII. AMASHURE INCUTI ZANJE ZIZE

7.1. Hari incuti ufise zize amashure?

7.1. _____

0 = no. Go to question 8.1.

1 = yes. Go to question 7.2.

7.2. mupfana iki? Bakora iki? Baba hehe? bize amashure angana iki?

	ico mupfana	akazai	iyobababura rural/urban	arubatsese oya /ego	Amashure
# 1		_____	_____	_____	_____
# 2		_____	_____	_____	_____
# 3		_____	_____	_____	_____
# 4		_____	_____	_____	_____
# 5		_____	_____	_____	_____
# 6		_____	_____	_____	_____
# 7		_____	_____	_____	_____
# 8		_____	_____	_____	_____
# 9		_____	_____	_____	_____
# 10		_____	_____	_____	_____

VIII. AMASHURE ABAYEYI BIZE

8.1. None wewe waragiye mw'ishure?

8.1. _____

0 = no. Go to question 8.3.

1 = yes. Go to question 8.2.

8.2. Wahejeje umwaka wa kangahe? 8.2. _____

8.3. Umucance wawe wewe yaragiye mw'ishure? 8.3. _____

1 = yes, go to question 8.4.

0 = no, go to question 9.1.

8.4. Umucance yahejeje umwaka wa kangahe?

IX. AKAZI ABAYEYI BAKORA

9. None ko twayaze kera wewe ukora canecane akazi akahe? Titre yawe ni iyihe? (akarorero: deregiteri w'amashure matoya) 9.1. _____

9.2. Akandi kazi woba ukora ni akahe? 9.2. _____

9.3. Umucance wewe akora akazi akahe? Titre yiwwe ni iyihe?

9.3. _____

9.4. Akazi kandi yoba akora ni akahe? 9.4. _____

X. ICO MWIYUMVIRA KU MASHURE MAKURU

10.1. Muri bino vyiyumviro kuvyerekeye amashure makuru ni ikihe gihuye nivyoyumvirako (Tora kimwe gusa).

10.1. _____

1. ntazimye noa gatoyi : _____
2. arazinmye buhoro buhoro : _____
3. arrazinmye : _____
4. arazinmye cane gose : _____

10.2. Mubona bifise akamaro gutanga amahera yo kurungika umwana mu mashure makuru? 10.2. _____

1. ntaco bimaze
2. birakimaze gatoyi
3. birakimaze
4. birakimaze cane gose

10.3. Ko wavuze ngo ntaco bimaze ni kuki (tora kimwe muri ibi ngira ngusomere. 10.3. _____

1. Abize ntibaronka amahera menshi nkabatize : _____
2. Abize ntibafasha abavyeyi babo : _____
3. Abize ntibaronka akazi : _____
4. Ibindi mwitoreye _____ : _____

10.4. Ko wishuye ngo hari ico bimaze ni kuki? (Tora muri ivyoyumvirako). 10.4. _____

1. abize baronka amahera menshi gusumba abatize : _____
2. Abize baba ho neza : _____
3. Abize barafasha abavyeyi : _____
4. harimwo akarusho. : _____
5. Ibindi witoreye _____ : _____

10.5. Mwuyumvira ko mwoshaka kwongerako ku mafaranga mukoresha mukurungika abana mw'ishure? yes or no. 10.5. _____

0 = no go to Q10.8. and skip Q10.6,7.
1 = yes Continue with Q10.6.

10.6. Kuki? 10.6. _____

10.7. Kowemeye Wumva worenzako angahe kuyo utangira umwana umwe ubu? Tora kimwe muri ibi.

- 10.7. _____
1. ari munsu y' amafaranga 100 ku mwana umwe ku mwaka
2. Hagati y' amafaranga 100 n' 1000 ku mwana umwe ku mwaka
3. Hagati y' amafaranga 1000 n' 5000 ku mwana umwe ku mwaka
4. Arenga amafaranga 5000 ku mwana umwe ku mwaka

10.8. Ushobora gusomesha umwana umwe gusa wosomesha umuhungu canke umukobwa? 10.8. _____

- 1 = umuhungu
- 2 = umukobwa

10.9. Kubera iki (vuga igituma kimwe gusa)?

10.9. _____

XI. AGE OF RESPONDENT

11.1. Urashobora kumbarira imyaka yawe? 11.1. _____

11.2. Umucance afise imyaka ingahe? 11.2. _____

APPENDIX D:

LETTERS OF PERMISSION TO CONDUCT STUDY IN BURUNDI

LETTER FROM THE MINISTRY OF INTERIOR

REPUBLIQUE DU BURUNDI

Bujumbura, le 20 avril 1993

MINISTRE DE L'INTERIEUR ET DU
DEVELOPPEMENT DES COLLECTIVITES
LOCALES

A Madame MAYOYA Marie
B.P. 1317 BUJUMBURA.

CABINET DU MINISTRE

B.P. 1990
Tél. 22 42 42

N° 205.011/ 521

Madame,

Faisant suite à votre lettre du 12 avril 1993 demandant l'autorisation de mener des enquêtes en milieu rural pour une étude relative au coût direct de l'éducation au Burundi dans les Provinces de Karuzi et Gitega, ainsi qu'à la Mairie de Bujumbura, j'ai l'honneur de vous informer que je marque mon accord.

Les autorités administratives qui me lisent en copie peuvent vous faciliter la tâche.

Veuillez agréer, Madame, l'assurance de ma considération distinguée.

COPIE POUR INFORMATION A :

- Monsieur le Gouverneur de Province de et à
- Monsieur le Maire de la Ville de Bujumbura à BUJUMBURA.
- Monsieur l'Administrateur Communal de et à
- Monsieur le Directeur du CURDES
- Monsieur le Chef de Zone (TOUS)

LE MINISTRE DE L'INTERIEUR
ET DU DEVELOPPEMENT
DES COLLECTIVITES LOCALES.

François NGEZE.

P. S. [Signature]

LETTER FROM THE RESEARCH CENTER: CURDES



Centre Universitaire de Recherche pour le Développement Economique et Social

A T T E S T A T I O N
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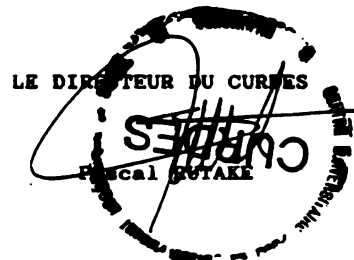
Je soussigné, Pascal RUTAKE, Directeur du CURDES (Centre Universitaire de Recherche pour le Développement Economique et Social), atteste que la nommée MAYOYA Marie, Etudiante à l'Université de Michigan, effectue un travail de recherche sur le "Coût supporté par les parents pour l'enseignement secondaire de leurs enfants au Burundi", dans le cadre d'une convention entre l'Université de Michigan et le CURDES.

Le travail de recherche se fera sur base d'enquêtes qui se dérouleront du 5 octobre 1992 à Août 1993 dans les provinces suivantes :

Bujumbura rural
Mairie de Bujumbura
Province de Karuzi
Province de Gitega.

La présente attestation est à faire valoir à qui de droit.

Fait à Bujumbura, le 5 octobre 1992



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