EVALUATION AND PROSPECTS OF METHODOLOGICAL APPROACHES CONCERNING PRIMARY EDUCATION IN COUNTRIES OF THE SOUTH: THE POINT OF VIEW OF DEMOGRAPHERS

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Abstract

Scientific interest for family practices on school enrolment is relatively recent in Africa. The literature on this issue over the last ten years focuses mostly on demand for education, and this is linked to the persistent under-enrolment of girls. Yet establishing the links between family and school enrolment requires access to information about both elements. This poses, as we will see, major methodological challenges, notably in describing these complex social processes. The aim of this chapter is to evaluate recent methodological prospects developed by demographers and the data sources they use which will make it possible to link children's school history with certain components of family dynamics. After having revealed the inadequacy of current school statistics in addressing these challenges we will successively present the different methodological approaches we feel are adapted and the corresponding sources of data. Using the new paradigm made available by event history analysis

for the study of demographic behaviours, in the last section we will attempt to see what prospects this approach may offer for the analysis of children's school history.

1. Introduction

In the countries of the North, where universal school enrolment was achieved a relatively long time ago, many studies have been conducted and dealt mainly with the levels of access and attainments in secondary and higher education. Researchers and public, political and NGO partners are more concerned with countering dropout. They focus on actions to keep pupils in school until they finish their secondary education and obtain pre-university qualifications. In the countries of the South, especially in Africa, research in the area of education has so far been mostly centred on available services, on the way educational systems work, and on education policies aimed at increasing school attendance in the primary. Whereas in many countries access to primary school is still far from universal, family practices in terms of school enrolment or of "demand for education"[1] have aroused much less interest on the part of politicians and researchers. It is a fact that

> "education policies aimed at providing education for all (Jomtien, 1990), ignore the social and family characteristics influencing school enrolment" (Gérard, 1999, p. 5-6).

The prevailing view (as in the area of health) is that providing access to education should suffice in bringing about demand. But although building schools is obviously necessary, experience also proves that it is not enough as a condition for durably increasing school enrolment; there are many examples of schools, often situated in rural areas, that lack pupils or where attendance rates are relatively low.

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1. "Due to the absence of any recognised definition we propose to consider the demand for education as a product of all of the factors (educational, economic, social, demographic, political, religious, and cultural) that individuals and groups take into account, directly or indirectly, consciously or unconsciously, in their behaviour in terms of school enrolment; these factors therefore condition enrolment, education history and the number of years of school completed" (Pilon *et al.*, 2001, p. 8).

In fact, scientific interest in the study of family practises concerning school enrolment is relatively recent, especially in Africa. The literature reveals that research on demand for education has increased over the last ten years and this is due to a great extent to concerns about the persistent under-enrolment of girls.[2] Reference may be made here to the research programme financed by the African Academy of Sciences on the topic in nine African countries (Okodjie, 2001). But concurring with Lloyd and Blanc (1996) one may say that although it is the governments of Southern countries – with aid from international organisations – that allocate school facilities and equipment, it is the parents who determine whether a child will attend school (Zoungrana and Marcoux, 1999; Marcoux *et al.*, 2002). Yet establishing the links between family and school enrolment requires access to information about both elements. This poses, as we will see, major methodological challenges, notably in describing these complex social processes. The aim of this chapter is to evaluate recent methodological prospects which will make it possible to link children's school history with certain components of family dynamics. After having revealed the inadequacy of current school statistics in addressing these challenges we will successively present the different methodological approaches we feel are adapted and the corresponding sources of data. Using the new paradigm made available by event history analysis for the study of demographic behaviours (Courgeau and Lelièvre, 1996), in the last section we will attempt to see what prospects this approach may offer for the analysis of children's school history.

2. Inadequacy of current school statistics and the limits of conventional indicators

In the countries of the South the statistical departments of the ministries of education are entrusted with gathering data for producing different sets of indicators on education. The gross and net school enrolment ratios are surely the two indicators most often and most widely used to measure the performances of school systems. The gross

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2. It should be noted that for many international agencies improved school enrolment of girls has more to do with a utilitarian outlook – given the fact that the girls of today will be the women and mothers of tomorrow – than with the ethical issue of the fundamental right to education implying the reduction of inequalities.

school enrolment ratio in the first cycle is the ratio of the number of pupils enrolled in this cycle and the school age population corresponding to that cycle, or in most cases the number of children aged between 7 and 12. The net enrolment ratio is calculated in the same way as the gross enrolment ratio but this time using in the place of the numerator only the number of pupils who are part of the age group put in the denominator (pupils aged between 7 and 12). These two ratios make it possible to measure the capacities of primary education systems by assuming that at those ages all children should be at school.

The indicators presented here may be criticised at three levels. Firstly, they rely on population estimates from projections providing very approximate results. Although the data used in the numerator for each of these ratios may sometimes be considered to be of good quality – which is not always verified – this is definitely not the case of the data used for the denominator. These data come from population projections using basic data which are often relatively old. For example, the data used in Mali in many publications for the end of the 1990s came from a projection made using data from the 1987 census, whereas in Togo the last census dates from 1981. Basically, the data used to develop these indicators are relatively sensitive to the hypotheses adopted in the projections. Secondly, these indicators are strictly normative in their conception insofar as they are based on age categorisations that may well depart from reality. For example, although the school-starting age is theoretically 6 or 7, many children start school at older ages, as in Mali (Marcoux *et al.*, 2002), or in some cases at younger ages. This is apparently the case in Ouagadougou where in 2001, 63% of children entering school in first grade were under 7 (the official age); and this proportion reached 77% in the private sector (Pilon, 2002). Moreover, given the high repeat and interruption ratios found in countries experiencing high under-enrolment the school histories of the children will often differ from the so-called "theoretical" histories the indicators are based on.

Thirdly, the analysis of these ratios poses even more problems when they are examined at more refined geographical levels. An example of this triple bias is presented in Figure 1 concerning the gross school enrolment ratio per region in Mali. The marked inequalities in enrolment capacities in the Malian territory are clearly revealed here. Although all the regions seem to have improved their enrolment capacities, wide differences persist between areas. However, one may be

Figure 1
Changes in the gross school enrolment ratio in the primary by region in Mali (with *medersas*)
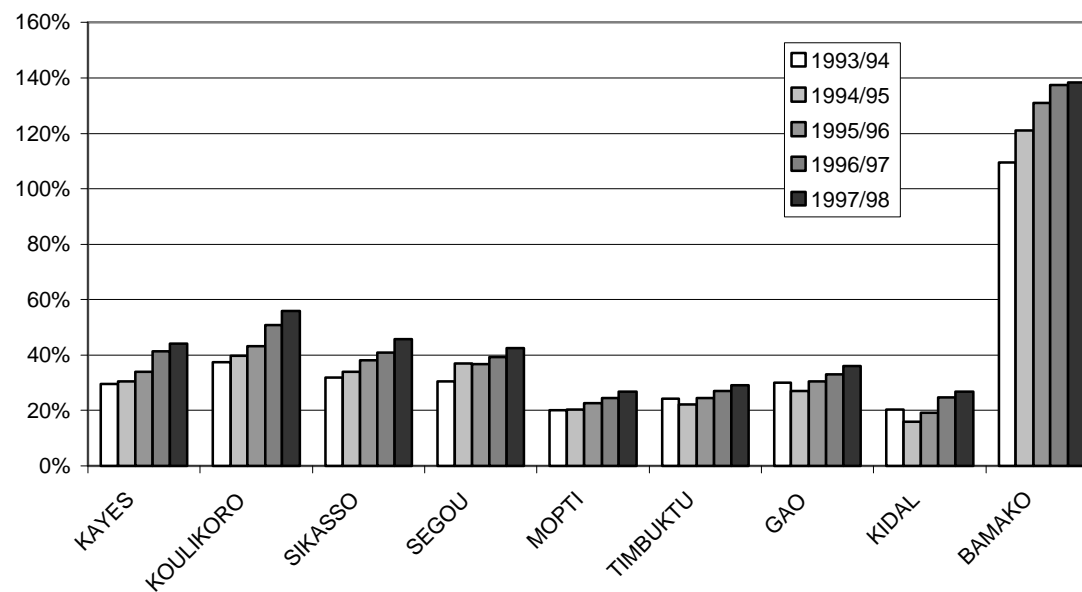
Source: Mali, *Tableau de bord du système éducatif du Mali,* 1999.

led to believe no further efforts need to be made in the case of Bamako since from 1993 the Malian capital has had gross enrolment ratios in excess of 100%. It would seem, however, that this is wrong since other sources reveal that a relatively large segment of the child population in Bamako does not attend school and in some cases has never attended school (Marcoux *et al.,* 2002). This apparent contradiction may be explained by an underestimation of the population of children in Bamako aged between 7 and 12 (gross ratio denominator) and/or by a large proportion of students enrolled in the primary aged under 7 or over 12. For example, the population projection based on data from the 1987 census estimated the population of Bamako in 1998 at a little over 800,000 people, whereas the census made in 1998 produced the figure of over a million inhabitants for the Malian capital.

In fact, based on these indicators, the demand for education is generally only taken into account through the demographic weight of the population of school age, the denominator of gross and net school enrolment ratios. Very often the results will be presented by distinguishing masculine and feminine populations which leads, for example, to considering

> "implicitly but arbitrarily that the two masculine and feminine populations are independent; [this approach] prevents measuring variations in the likelihood that a boy and a girl may have of going to school as a function of the characteristics of the household to which they are attached" (Clignet and Pilon, 2001, p. 4).

Studying the factors influencing school enrolment practices requires re-situating the children, enrolled or not, within their family context. However, by their very nature education statistics only concern children receiving schooling who are in the school system ignoring all those who are not or are no longer in school. Apart from the age and the sex of the pupils these statistics, which are produced in an aggregate manner, do not give any indications on the other individual and family characteristics of the pupils: their place of birth, their family status, whether or not they co-reside with their parents; the age, marital situation, ethnic group, religion, the level of education, economic activity, etc. of the head of the household, of the father and the mother; the size and composition of the household of residence, etc. Because of this, school statistics are insufficient and inadequate for dealing with the question of the demand for education or for under-

standing at the level of the families the factors that may have an impact on school enrolment practices (Pilon, 1995).

3. Research potential of secondary analysis of demographic data sources[3]
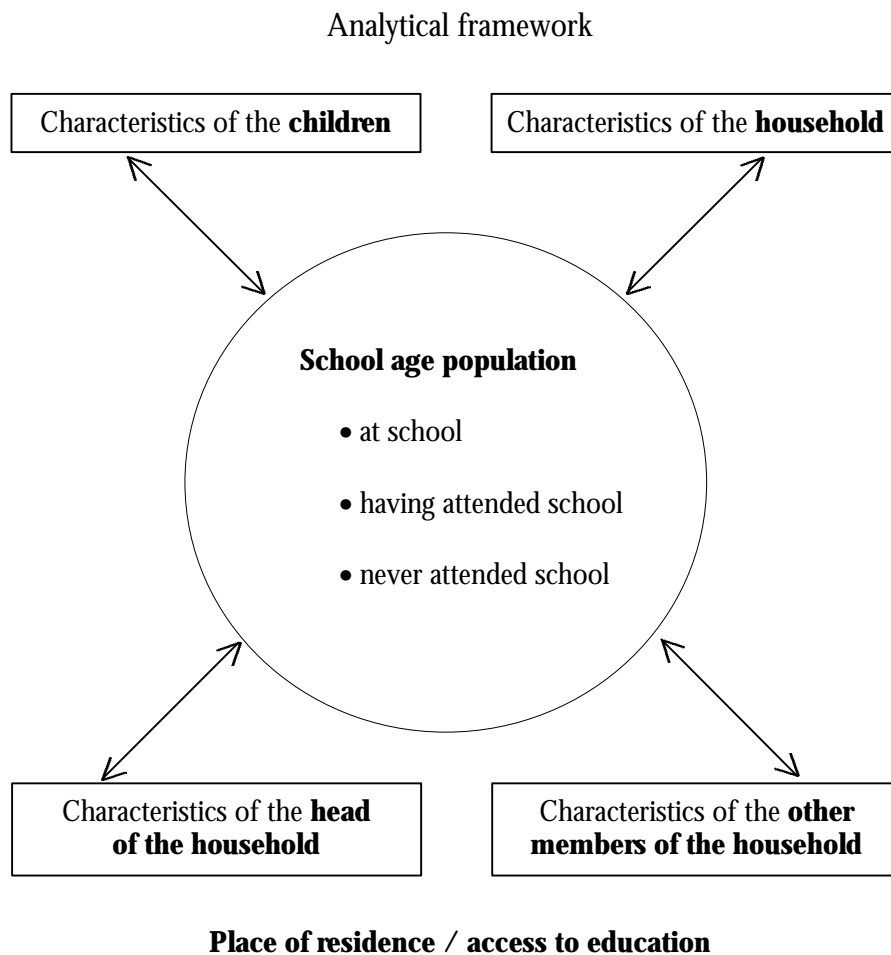
For demographers,

"school enrolment is not a field of study in itself; data concerning education (developing literacy, school attendance and level of education) are gathered to be used as explanatory variables of individual behaviours in terms of fertility, health, migration, etc." (Pilon, 1995, p. 699).

Yet, although not intended to be the object of the study of school enrolment in itself, the data collected in the censuses and most of the surveys (those using the "household" as a unit for the collection of data) confers on these sources of data important potential for analysis of school enrolment, <u>especially in countries where universal enrolment has not yet been achieved</u>. Beyond the few data mentioned here concerning education other socio-demographic and housing characteristics are also collected on all of the members of the households. All of the information gathered may be divided into four categories (CEPED-UEPA-UNESCO, 1999): the individual characteristics of the children; the individual characteristics of the head of the household; the individual characteristics of the other members of the household;

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3. This methodological approach was initiated within the framework of the FASAF ("*Famille et scolarisation en Afrique*": Family and school enrolment in Africa) network created in 1997. By promoting the secondary analysis of data from censuses and surveys already conducted the FASAF network seeks to renew the scientific approach for studying the demand for education, to improve the gathering of data on education, to build up national research capacities, and to foster closer collaboration between research institutions and national Statistical and Education departments. The network is composed of researchers, statisticians and education planners from nine African countries (Benin, Burkina Faso, Cameroon, Côte d'Ivoire, Mali, Morocco, Niger, Democratic Republic of Congo, Togo), as well as researchers from the North (France, Canada, United States) and collaborates with the Statistical Institute of UNESCO. It has published a *Guide d'exploitation et d'analyse des données de recensement et d'enquêtes en matière de scolarisation* (Guide for the use and analysis of census and survey data in education) (CEPED/UEA/UNESCO, 1999), and a synthesis on demand for education in Africa (Pilon and Yaro, 2001).

the characteristics of the household (size, composition, housing conditions, etc.).

To this must be added information on the place of residence and access to education which, according to available data, can be evaluated quantitatively and qualitatively. Beyond the initial distinction between rural and urban areas such information can also provide indicators at different geographical levels according to the nature of the data source: region, province, district, village, urban area.

Analytical framework

Characteristics of the **children**			Characteristics of the **household**

School age population

• at school

• having attended school

• never attended school

Characteristics of the **head of the household**		Characteristics of the **other members of the household**

Place of residence / access to education

Three case scenarios, which can also be combined over time, thus characterise, at a given date, children of school age (school age popula-

tion): enrolment, non-enrolment, withdrawal (desired) or dropout. Which thus defines three disconnected sub-sets of the school age population: children in school; children who were in school but who no longer are; children who have not yet been to school.

Analyses already conducted based on these sources of data thus provide very interesting results which confirm the strong potential for analysis. Differences in school enrolment are observed according to the family status of the children (the relation between child fostering and school enrolment), the sex of the head of the household, the demo-economic structure of the households, housing conditions, etc. The problem of gender issues seems to be essential in understanding family behaviours concerning school enrolment. Several chapters of this book present some of these results.

One of the major benefits of using these sources of data is also that it makes it possible to go beyond the individual level – in this case that of the children – generally studied in analyses, and to consider the level of the household as well. Thus it also becomes possible to identify, for example, which households send all their children to school, which households send none of their children to school, or those that only send some of their children to school. The production of indicators at the level of the households could prove very useful in education planning and in the elaboration of accompanying social policies. Data from a population census can also give the distribution of households according to the number of children of school age, as well as their socio-demographic characteristics; information that would be essential, for example, for developing a policy for the allocation of school allowances to households (and notably to the neediest).

Censuses provide another precious advantage, exhaustiveness, that surveys do not provide. Census data therefore offers the possibility of conducting analyses on population subsets with small numbers (ethnic minorities, specific social groups, etc.) and at very detailed geographical scales. The census is therefore the appropriate source of data for documenting intra-urban spatial disparities that are rarely revealed whether it is in terms of school age, in-school or out-of-school populations. Map 1 clearly reveals the differences for the city of Ouagadougou which result in a very unfavourable school situation in areas around the capital (Pilon, 2002).

However, the secondary analysis of these sources of data also has limitations that should be mentioned (Pilon, 1995; CEPED-UEPA-UNESCO, 1999). Not being specifically intended for the analysis of

Map 1
Percentage of children enrolled in school (among the 7-12 years-olds)
by administrative sector in Ouagadougou (census of 1996)
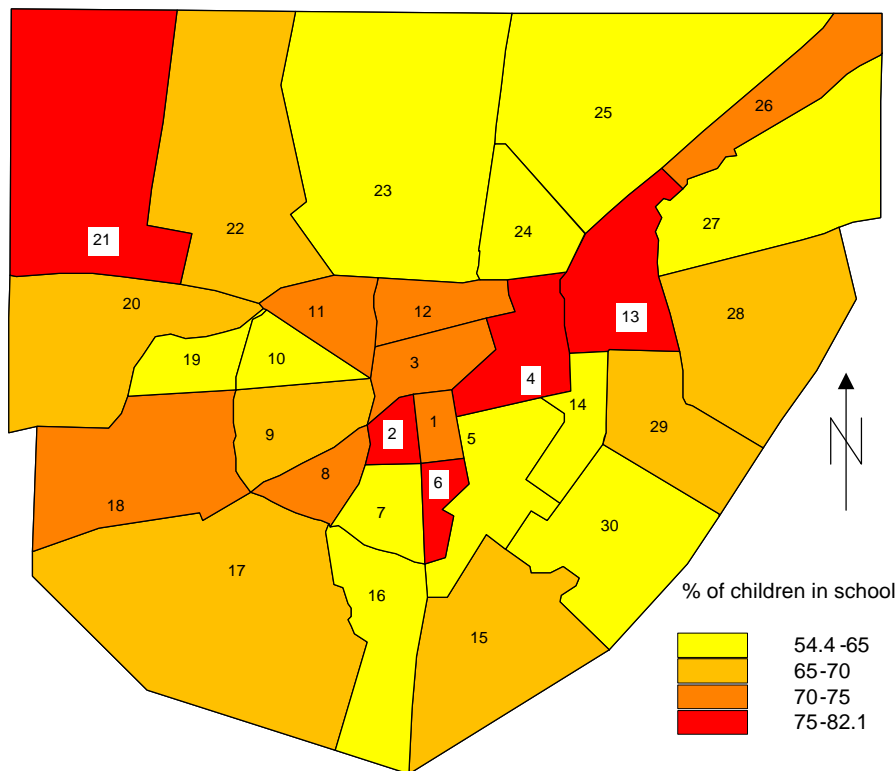
school enrolment, the gathering and the subsequent coding of data may turn out to be inadequate or too imprecise. This concerns questions regarding school enrolment, family relationship and occupation.

Other variables which would be important for understanding school enrolment behaviours are not often collected, such as birth order and income; getting information on the latter through the occupation is difficult. Success (or failure) at school and especially at work for the elder children has an impact on the educational strategies of the family for the younger children. Moreover it is not known whether the children of the household have been fostered in other families, precisely for sending them to school; these children would therefore be counted elsewhere, in the household of residence.

In addition to the sex of the children their family status within the household is an important factor for school enrolment. The practise of fostering children has a strong but ambivalent link with school enrolment: the children can be fostered in other households to be sent to school; others, especially the girls, are placed as domestic help and can thus enable the receiving households to send more children to school, especially the children of the head of the household. But uncertainties remain concerning the family status of the children who are not the children of the head of the household. Determined based on the family relationship with the head of the household, precision as to family status depends directly on how the data on this relationship were collected, and subsequently coded. In addition, in the case when it is possible to distinguish the children with no parental presence – who can be qualified as "foster children" –, the reason for this family situation is unknown: it may result from the departure of the parent(s) (due to migration), or even from their death, but also from the fostering of these children from another household, that of their parents (whatever the reasons fostering them may be); these are different situations representing very different realities.

One may also wonder whether the household is relevant as a unit of observation and analysis of family strategies for school enrolment. The often "extended" nature of the households (partly due to the phenomenon of fostering) means that the head of the household is not necessarily the person who "decides" or "pays" for sending to school the children who are not his but who reside in his household. The very notion of "head of the household" may thus pose problems.

Another possible problem is the period for the collection of the data. The censuses and surveys sometimes take place at times that are not favourable for the direct observation of school attendance: how should one interpret the meaning of the answers to the question "*Is X at school?*" if the survey is being conducted during the school holidays that separate the two school years? Yet more problematic is the use and the interpretation of the data collected during the period covering two distinct school years and for which the questions concerning school attendance only refer to the moment of the observation and not to that of a precise school year or precise date.

In spite of these limitations this methodological approach based on survey and census data undeniably provides interesting possibilities for the analysis of school enrolment determinants. The existence of many censuses and surveys, and often at different dates for a given

country, enables comparative approaches spatially and over time that can provide a great deal of information. The realisation of specific surveys remains essential but exploiting and analysing data from censuses and surveys (of which the study of school enrolment is not the objective) can also provide precious insight.

On the basis of the results obtained and the analytical problems encountered proposals may be made for improving the quality of the data that will be collected in future censuses and surveys: either by reformulating the questions usually asked, by changing the modalities, or even by adding new questions. For example, so as to better measure the overall effort in terms of school enrolment at a given point in time, of the number of children enrolled and of financial cost, it would be important to also take into account *all of the children of the household sent to school elsewhere* (who are therefore non-resident); it would also be interesting to know *whether the children of the head of the household, who are of school age but are not in school, are fostered in other households* (and therefore reside elsewhere).

4.   New methodological prospects for research: studying the children rather than the pupils and integrating the dimension of time

In the countries of the North cohort surveys of pupils are quite frequent and the methodological approaches adopted are made relatively easy by the fact that school is obligatory as from the primary. Based on the school, the objective is to survey the pupils and to analyse their performances, curricula, the school environment, the equipment they have access to, the types of institutions attended (private or public, religious or non-religious), etc. In countries where school attendance ratios are low this approach, which focuses essentially on the pupils, leads to setting aside a large segment of the population, a segment composed of those pupils who do not go to school and who have sometimes never been to school. In Mali, for example, it was estimated that 72% of girls aged between 12 and 16 in rural areas had not yet been to school in 2000 (Marcoux *et al.*, 2002). There is no doubt therefore that an approach based on the pupils – in other words those who attend school at a given time – leads to excluding from the survey a large proportion of children, those who in all likelihood are and will be excluded from primary education. In such a context, it is

therefore necessary to base our research on the children rather than on the pupils and to do so by conducting surveys in the places where children are rather than starting research within the school.

As we have just seen in the previous section, the secondary analysis of population survey data often makes it possible to adopt the household as the unit of analysis. This also offers the possibility of re-situating the child – in or out of school – within his or her family context. The cross-sectional nature of the data certainly reduces the scope of analysis in terms of family strategies. We obtain the situation at a given moment, in other words the data report information on individuals who are residents within a household at the time of the survey or the census. This is a sort of "snapshot" of the educational situation of the children in a given country, however, as we already know, the school histories of the children are often sinuous, punctuated by failures and dropouts, interruptions and returns. Therefore, cross-sectional data, such as those obtained from censuses, do not make it possible to describe the process over time.

Demographers have also developed analytical methodologies which make it possible to describe population phenomena within the perspective of changes over time. This is longitudinal analysis (or cohort analysis) which was developed mainly during the 1940s and which came to complete the so-called cross-sectional methods of analysis (Lelièvre and Bringué, 1998). Life tables are undoubtedly the most well known illustration of this. The principle of the attrition table is also widely used by demographers for studying other demographic phenomena. For instance, reference is made to nuptiality tables or even to order-specific migration. The study of the birth history of a generation or a cohort of women (cumulative fertility) or of the calculation of parity progression ratios are other ways of integrating changes over time in demographic analysis. It is thus possible to calculate the age of entry into a given state or even the duration or the age at the exit of a state (death, separation, divorce, etc.).

The so-called longitudinal or cohort approach, at the heart of demographic research, has rapidly spread to other disciplines in recent years. This is the case notably in the area of education. The monitoring of cohorts of pupils makes it possible to calculate success rates, repeat rates and failure and dropout rates. The principle is the same, only the events studied change. Reference is made in this case to tables of educational success (survival table of the state of pupil without failure) or

even of repeat tables. It might be said that demographers and education specialists are increasingly using similar tools for analysing data.

Cohort analysis and the use of attrition (or survival) tables makes it possible to obtain estimations of what might be referred to as the timing and intensity of different events. In the area of primary education, for instance, it is possible to measure the proportions of children who remain within the education system (intensity) and to estimate the mean duration of attendance or even the mean duration before attaining a certain level of schooling (timing). It is therefore assumed that the populations studied are homogeneous. Of course, it is possible to make calculations by distinguishing, for example, birth cohorts or populations according to sex and thus to calculate "durations" and "intensities" distinct from one another for each of these sub-populations; these sub-sets offer obvious advantages in analytical terms. However, the multiplication of "variables" which account for the different characteristics within populations can also set limits and the use of multivariate analysis then becomes necessary. Moreover, from the moment demographers became interested in trying to explain changes in a given phenomenon over time (change of status), came the need to integrate other changes in attributes that change with time too but are not strictly demographic (occupation, education, age, etc.) Some demographers therefore proposed to widen the demographic approach in order to better describe the heterogeneity of populations and the effects of interactions between the different phenomena studied (Lelièvre and Bringué, 1998). Courgeau and Lelièvre (1996) even mention that this approach leads to a real paradigm change in demography: the aim is no longer to study an event in its pure state (cohort analysis) but rather to examine a set of histories (event history analysis) approached as a complex social process. This approach has become widespread in the work of demographers since the beginning of the 1990s and has been dealt with in many syntheses (Courgeau and Lelièvre, 1989; Bocquier, 1996; Lelièvre and Brinqué, 1998; Trussell *et al.*, 1992; Antoine *et al.*, 1998; Groupe de réflexion sur l'approche biographique, 1999; Antoine, 2002).[4]

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4. "In non-technical terms the method of analysis used (...) may be compared with a race. At the starting line everyone leaves at the same time and is in the same category or has the same status (single, unemployed, homeless). Once the race is started some individuals will reach the finishing line sooner, defined here as a change of status (for example, the single person has got married, the unemployed person has become employed, the homeless person has become a tenant or a home-

5. The gathering of data: retrospective life event surveys and observatories

As we specified earlier, the main limit to most surveys (and of course censuses) for studying a temporally dynamic phenomenon has to do with the cross-sectional character of the data collected, whereas school enrolment is a process which extends over time and for several years at the level of the individuals concerned as well as at the level of the families. Because of this, new methodological methods for data collection are required.

5.1. *Retrospective event history surveys*

The application of the life event history approach to the question of school enrolment offers very promising results. This approach has developed rapidly for the study of several themes in social sciences in recent years: entry into the labour market, job precariousness and social exclusion, health, children's development, social integration of the young, etc.[5] In Africa the surveys on urban integration in several major capitals of the continent (Antoine *et al.*, 1998; Antoine, 2002) have paved the way for other life event history surveys. Among these is the one on migration dynamics and environment in Burkina Faso (Poirier *et al.*, 2001; Schoumaker and Dabiré, 2002). In Latin America, the *Encuesta demográfica retrospectiva* (retrospective demographic survey, EDER) and the life event history survey on the Northern Frontier of Mexico have made it possible to collect very interesting life event data from

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owner). This is already a first level of analysis, measuring how fast the finishing line is reached (...). But one can go one step further to ask which factors are the reasons for the greater speed reached by certain individuals. Thus with the analysis of regression, it is possible to find out whether age, sex, ethnic group, etc. has any significant impact on the speed. But one of the main advantages of event history analysis is the possibility of including among the factors characteristics which may change during the process. For example, it may be that during the race, a person changes occupation or residence (...) [it is thus possible] to see if these changes speed up or slow down the runners" (Antoine and Piché, 1998, p. 37-38).

5. For French-speaking countries it is possible to consult the documentation concerning the research unit "Life event histories and multilevel spaces" on the INED website (www.ined.fr) and the documentation on the website of the *Centre interuniversitaire québécois de statistiques sociales* (CIQSS) concerning the Canadian and Quebecois surveys (www.ciqss.umontreal.ca). In Spanish there is a great deal of information on the website of EDER (*Encuesta demográfica retrospectiva*): www.gda.itesm.mx/cee/eder.

Mexican populations (Cosio *et al.*, 1999). Mier y Teran and Rabell Romero (2002) have already succeeded in revealing, based on EDER data, intergenerational changes concerning the occupations of children and education in Mexico. In terms of specific research on education using the life event history approach there is also the example of the work done on inequality in education in Bamako (Zoungrana *et al.*, 1998) which has largely inspired the wider survey on education and occupation of children in Mali (Marcoux *et al.*, 1999; Marcoux *et al.*, 2002; see the box on EDFEEM-2000). Some of the results from these two surveys have led to publications and presentations at international conferences. These data are still the object of analyses by researchers from different research institutions, notably the *Institut du Sahel* in Bamako and the University of Montreal and the University of Laval in Canada.

Survey on family dynamics and the education of children in Mali (EDFEEM-2000)

In spite of the efforts made to develop access to education school attendance is still far from being the rule for all the children of school age in Mali as in many countries in the region of the Sahel. The lack of schools and of funding is not the only reason for low school enrolment. ***The school enrolment process is complex and involves a great many different economic, political, demographic, social, cultural and religious factors.*** Beyond noting the general under-enrolment in rural areas and among females, still little is known about the school enrolment practices of Malian families: which child(ren) in households are sent to school? What are the family statuses of the children, the characteristics of the heads of households, housing conditions, labour needs for domestic chores or production? What is the real impact of financial constraints at the level of the families? These questions, which refer to complex aspects of the demand for education are largely ignored by education statistics. However, they must be taken into account in order to remove the obstacles that prevent children from going to school. In such a context, the ***Programme Population et Développement au Sahel*** (Programme for Population and Development in the Sahel - PPDS 1 and II, 1988-2001), financed by the *Agence canadienne de développement international* (ACDI) and associating the *Institut du Sahel* and the University of Montreal, has conducted important research in Mali on family dynamics and children's education. This research is not only inspired by work conducted by researchers from both institutions but is also based on the work done in 1999 at a workshop attended by researchers, public, political and NGO partners, and

decision-makers on the problem of "Education, school enrolment and family dynamics in Mali" organised in collaboration with the *Cellule de Planification et de Statistique* (CPS) of the Ministry of Education in Mali, with more than thirty participants (ministries, NGOs, university researchers, etc.) This led to the development of a vast operation for the gathering of data: ***Enquête sur les dynamiques familiales et l'éducation des enfants au Mali (EDFEEM-2000)*** (Survey on family dynamics and the education of children in Mali). This survey is based on the collection of data on the children and the parents' life event histories. ***This is a new method for the gathering of data integrating the dimension of time thus enabling more dynamic analyses of the school enrolment process. It leads to the elaboration of indicators integrating the dimensions of the demand for education which are absent in conventional indicators.*** These new indicators will provide important tools which will help planning and decision-making for public, political and NGO partners in the area of education and the other stakeholders for social development.

An innovative approach of identification of the obstacles to school enrolment

By placing the activities conducted by the children at the heart of education issues this research will make it possible to answer these crucial questions: ***What are the family characteristics which seem to facilitate access to school and to sustain children's success at school? Do these characteristics intervene in the same manner for boys as they do for girls? What value do families attach to sending their children to school? To what extent do the children's contributions to the economic activities and domestic tasks of the household affect their school history?***

The approach adopted favours a wider concept of the notion of work attributing a great deal of importance to domestic tasks by integrating a gender dimension. To understand the children's work it is also important to situate their activities within the overall framework of the activities of the household. The objective is therefore to examine the role and the status of the child in the division of labour: between men and women and between adults and children. In this perspective the identification of the obstacles for children's school enrolment cannot be limited to the educational services on offer. The study of the determinants of school enrolment must integrate the essential contribution made by children to the subsistence of the households in a context of deep social changes affecting family dynamics in Mali.

A national survey in Mali among 3,000 children and 5,500 parents

The general objective of this survey was to investigate in greater depth the characteristics of the households and to study family dynamics and the transformations operating within Malian society to attempt to gain a clearer understanding of the obstacles which appear to be limiting the school enrolment of many children, especially girls and to gain a clearer understanding of the mechanisms which lead children to work. To do this we conducted a national survey from December 1999 to May 2000 with a representative sample including:

- 4,000 households, representing more than 37,000 people on whom we had socio-demographic and economic data as well as information concerning their housing conditions;
- close to 3,000 children aged between 12 and 16 were questioned in order to reconstruct, over time, their event histories in terms of education, economic activity and domestic tasks from the age of 6;
- close to 5,500 adults, most of them parents and guardians of the children, were also questioned so as to reconstruct retrospectively the family environment of the children based on all of the migratory, economic (educational and employment background) and family event histories (birth and matrimonial histories) of their parents and/or guardians;
- over a hundred children, in or out of school, and parents were questioned about their perceptions of school and the work of children through fifteen focus groups.

5.2. *Population observatories*

A number of more or less recently established population observatories around the world (in Asia and Africa) are essentially focused on the issue of the health of mothers and children. They are based on a "demographic surveillance system" mode of operation which consists of monitoring a population by recording during quarterly rounds all the "vital" events: pregnancies, births, marriages, migrations, illnesses, deaths. Demographic surveillance is the key part of longitudinal surveys aimed at measuring the changes over time of a phenomenon or the effect of an intervention on a population because it provides very precise data on the population exposed (notably the size of the population being monitored expressed in person-days) and the phenomenon itself[6].

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6. For example the observatory of the region of Niakhar in Senegal has made it possible to collect extremely detailed demographic and social data from among the

The introduction of questions on school enrolment and the systems for the gathering of data used by the observatories can make it possible to monitor cohorts of pupils and to thus establish links between the educational histories and the other social and demographic events. Beyond an economy of scale obtained by using existing data collection systems, this approach presents several scientific advantages:

- *The introduction of the dimension of time*: the methodology of the observatories makes it possible to monitor school attendance during a given year and enables the monitoring of cohorts of pupils which could be extended to the whole of the primary, and even beyond, for the children who remain within the area of the observatory.
- *The possibilities of comparative analysis and of a contextualisation of the approaches*: the application of a common methodology for the gathering of data by different observatories enables original comparative analyses between several "sites", but within different geographical, economic and socio-cultural contexts.
- *Cooperation with existing databases*: these new data tools complement a data gathering system which already gathers a great deal of information that can therefore be interrelated (data on the structure and the living conditions of the households, on health, etc.).
- *The possibility of conducting complementary quantitative or qualitative surveys*: on the basis of results from the analysis of the data provided by the demographic (and educational) warning system more in-depth quantitative surveys on specific populations and subjects can be conducted; in the same way statistical analysis can help orient qualitative approaches essential for a more detailed understanding of the factors influencing family practices concerning school enrolment.

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populations of 8 villages since 1962 and of 30 villages since 1983 (www.ird.sn/activites/niakhar/donnees.shtml).

The example of the three West African observatories

Since 2001, three population and health observatories situated in Western Africa have taken into account the education issue in their data collection system:

- the observatory of Niakhar, in Senegal, managed by IRD, covers a rural area of 200 km² including 30 villages and a population of 31,000 inhabitants;
- the observatory of the *Centre de Recherche en Santé* (Health Research Centre) in Nouna (CRSN), in Burkina Faso, covers an area of approximately 1,756 km². It includes 41 villages (rural area) plus Nouna, a semi-urban area in the province of Kossi; the total population covered by the observatory is 60,000 inhabitants;
- the observatory of population, health, education and housing conditions in Ouagadougou, managed by the *Unité d'Enseignement et de Recherche en Démographie* (UERD), which is in its starting up phase in two neighbourhoods in the capital.

A collective approach which from the outset has been the aim of scientific collaboration between the three observatories has led to the elaboration of a new data gathering system. The questionnaires prepared for the quarterly rounds will make it possible to study the phenomenon of absenteeism among the pupils about which very little is known but which weighs heavily on schooling. The information collected will provide data on the frequency, the duration, and the motives of these absences, which may just as much be due to the educational system (teacher absenteeism for example) as to the children themselves or the family. The information gathered at the beginning of each new school year will make it possible to know in detail the outcome of each previous school year (passing into a higher class, repeating a class, dropout; success or failure in an exam) to find out whether or not schooling will continue and to measure possible changes to other schools (notably the passage from public to private, and vice-versa); all these are indicators which may be linked to the characteristics of the children and of their households.

Also planned is the measuring of the impact of problems of health (of teachers, of children themselves and of their family environment) on schooling. This impact is certainly important but it is very poorly documented; situations differ extremely and the interrelations are complex. Entire classes repeat a year because of prolonged absences of the teacher; children are not enrolled or have to abandon because of severe health problems affecting them directly or affecting members of their family (due to insufficient resources, the payment of medicine takes precedence (logically) over the pay-

ment for schooling); other sometimes minor problems of health lead to absences from school which have a negative impact on the pupils' results in school and may result in repeating a year and/or dropping out; etc. A better understanding of the impact of these health problems on schooling is certainly needed and the population observatories provide interesting prospects for the observation and analysis of such problems.

6. Conclusion

For researchers trying to gain a clearer understanding of the education process the children experience one of the main concerns from a methodological point of view is to find adequate sources of data. As we have stressed, conventional sources of education statistics are inadequate for the scientific purposes of demographers and other social science researchers. One of the most important limitations of these sources is that they do not make it possible to describe the characteristics of the households the pupils belong to. Furthermore, in societies where school attendance concerns only a part of the children – sometimes a minority as in the case of certain African countries – these statistics lead to ignorance about very large segments of children and of their families. It is therefore essential, in methodological approaches of the investigation of school processes, to start with the children and the unit they belong to, that is the family or the household. Some of the following articles will make it possible to assess the potential for the use of survey and census data. This is clearly illustrated by the articles concerning Mexico, Tunisia, Burkina Faso, Cameroon, the Democratic Republic of Congo, as well as the city of Quebec a century ago; in this last case, the insight provided by the use of former censuses shows all the potential for the analysis of historical data.

We have also stressed that the schooling processes and family dynamics operate over time and it is important therefore to adequately take into account the dimension of time and the markers of the life event histories of the children and their families. For a long time now demographers have been interested in revealing the changes in demographic behaviours of different cohorts and have thus been able to develop what is referred to in demography as cohort analysis. Since then progress made in statistics and new methodological tools make it possible to take into account the heterogeneity of populations and of the interactions between different social phenomena, and to do so

over time. Event history analysis has developed in demography and in other social sciences to give rise to what Courgeau and Lelièvre (1996) refer to as the new paradigm. Two of the following contributions, which make up the last two chapters of this book, use this approach; one deals with Mexican migration to the United States and the other with the development of children in the United States and in Great Britain. There is no doubt that this event history analysis approach offers very interesting potential for understanding schooling processes in all of their complexity. This is a relatively new field in which a great deal of research currently being done using the data presented in the last section of this chapter should soon demonstrate the potential of this methodological approach in the area of education.

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