Methodological Guide

for the Analysis of Teacher Issues

January 2010

Teacher Training Initiative
for Sub-Saharan Africa (TTISSA)
Teacher Policy Development Guide

United Nations
Educational, Scientific and
Cultural Organization

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Authors

Foreword

Launched in 2006, UNESCO's ten-year Teacher Training Initiative for sub-Saharan Africa (TTISSA) supports Member States to improve the quality and size of their teaching force. The focus is on the development of policies and programmes linked to teachers' status and working conditions, management and administration, and professional development.

In most sub-Saharan African countries, lack of a holistic vision of the different facets of the teaching profession, together with absence of dialogue and limited understanding of key issues such as absenteeism attrition and efficiency of training, has led to ineffective policies and practices. The 2008 TTISSA Policy Forum, held in Tunis in co-operation with the African Development Bank and the Association for the Development of Education in Africa's Working Group on the Teaching Profession, underlined the need for a user-friendly tool that would enable decision-makers to analyze the different dimensions affecting teacher policies and programmes.

UNESCO's Methodological Guide for the Analysis of Teacher Issues fills this gap. Using both quantitative and qualitative approaches, it enables stakeholders to analyze how a country's educational system fares on the full array of issues relating to teachers – from the general context in which they work to their education, conditions and management, as well as the social and professional context in which they operate – and to take steps to address the challenges identified. The Guide was developed through a participatory and field-based approach, tested in Benin and Uganda, and validated by an advisory group made up of national delegates and development partners. This process has engendered great interest in the Guide.

UNESCO, through this Guide, is now supporting national analyses of the 'teacher issue'. These analyses are being led by country teams and conducted through dialogue and information exchange. They include technical staff from relevant government ministries and departments – including education, finance and public administration – as well as from civil society organizations such as teachers' unions. In bringing the full range of actors concerned together, it is anticipated that capacity will be developed and consensus reached.

Well-trained, motivated teachers are the backbone of efficient education systems. By promoting the use of the Methodological Guide for the Analysis of Teacher Issues, UNESCO, through TTISSA, is supporting its Member States to develop effective and sustainable teacher policies and programmes.

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List of Acronyms

BEPC - Brevet d'études du premier cycle du second degré (similar level to the British GCSE)
BREDA – Regional Bureau for Education in Africa
CAR – Central African Republic
CARE - Cooperative for Assistance and Relief Everywhere
CEART - Committee of Experts on the Application of the Recommendations concerning Teaching Personnel
COSC – Cambridge Overseas School Certificate
CSR – Country Sector Report
ED/HED/TED – UNESCO Section for Teacher Education
EFA – Education for All
ELRC – The Education Labour Relations Council
ENAM - National School of Administration and Magistracy
ENI – Primary teacher training institution (Ecole Normale d'Instituteurs)
FCFA – CFA Francs
FIMG – Initial training for Guinean teachers (Formation Initiale des Maîtres en Guinée)
FTI – Fast Track Initiative
GDP – Gross Domestic Product
GER – Gross Enrolment Ratio
HIV/AIDS – Human immunodeficiency virus / Acquired Immunodeficiency Syndrome
IICBA – the International Institute for Capacity Building in Africa
ILO – International Labour Organization
MOE – Ministry of Education
MSCE - Malawi School Certificate Examination
NANTU – Namibian National Teachers Union
NGO – Non Governmental Organization
PASEC – the analysis program of educational systems from the CONFEMEN (Conference of Education Ministers of Countries Using French as a Common Language)
PETS - Public Expenditure Tracking Survey
PIRLS – Progress in International Reading Literacy Study
PPP – Purchasing Power Parity
PTA – Parent Teacher Association
PTC – Primary Teachers College
PTR – Pupil Teacher Ratio
SACMEQ - Southern and Eastern Africa Consortium for Monitoring Educational Quality
SNEP-BENIN - Syndicat National de l'Enseignement Primaire Public du Bénin
SSA – sub-Saharan Africa
SYNAPES - Syndicat National des Professeurs des Enseignements Secondaires
SYNEMP – Syndicat National des Enseignements Maternel et Primaire du Bénin
SYNESP - Syndicat National des Enseignants et Employés du Secondaire Privé
SYNESTP - Syndicat National des Enseignements Secondaire Technique et Professionnels
SYNTRA-MESRS - Syndicat National des Travailleurs du Ministère de l'Enseignement Supérieur et de la Recherche Scientifique
TIMSS – Trends in International Mathematics and Science Study
TSC – Teacher Service Commission
TTI – Teacher Training Institutes
TTISSA – Teacher Training Initiative for sub-Saharan Africa (TTISSA)
TVET – Technical and vocational education and training
UIS – UNESCO Institute for Statistics
UNATU – Uganda National Teachers' Union
UNESCO/OECD/WEI – United Nations Educational Scientific and Cultural Organization/Organization for Economic Cooperation and Development/World Education Indicators
UNICEF – United Nations International Children's Emergency Fund
UPE – Universal Primary Education
USH – Ugandan Shillings
VSO – Voluntary Service Overseas

Table of contents

Introduction

This guide was developed within the framework of the Teacher Training Initiative for Sub-Saharan Africa (TTISSA) which was launched in 2006. TTISSA is one of UNESCO's three high-level initiatives in education. Confronted with the challenge of increasing the number of teachers and improving their level of competence, African Member States requested UNESCO to develop and implement an initiative focused on teachers. TTISSA is UNESCO's response to this request. Planned for a period of ten years, it aims to increase the quantity and improve the quality of the teaching force in sub-Saharan Africa.

TTISSA advocates a holistic approach which includes the improvement of teacher status, working conditions, management and administration structures, the development of appropriate teacher policies and the enhancement of the quality and coherence of professional development.

Through TTISSA, different regional and international meetings including the Teacher Education Policy Forums for Sub-Saharan Africa in Paris in 2007 and Tunis in 2008, enabled the sharing of information and observations and the emergence of a consensus between countries and partner organizations concerning the issue of teachers. It is on the basis of these observations and this consensus that the decision was made to develop a Teacher Policy Development Toolkit. This methodological guide forms the major part of this toolkit.

It is clear to all that the teacher issue is a key part of the realization of the Education for All (EFA) goals. Nonetheless, there is still a lack of global vision concerning the teacher issue. It is all too often analysed in part, for example, teacher training within a pedagogical context or questions of remuneration and cost within an economic context, but never as a whole which leads to fragmented understanding and does not favour the emergence of global teacher policy. Furthermore, we often observe a lack of knowledge on several of the key dimensions of the issue (absenteeism, attrition, effectiveness of training, etc.). This can have negative implications for the identification of concrete paths of action as well as for dialogue on teacher policy, which is often deemed to be difficult. It is for these reasons that a consensus emerged around the idea of developing a methodological guide for analysis of the principal aspects of the teacher issue at the national level. Such a tool can contribute to forging the development of a global and shared vision of the issue. This guide was born from the idea of creating a technical tool to be used for a participative process of reflection on the teacher issue, with the view of facilitating the emergence of new teacher policies.

The guide aims to permit an analysis of the different dimensions of the teacher issue in various countries, with the objective of building a global vision of this issue. The work that it aims to support is thus not descriptive but rather analytical. In essence, the goal is not to describe how this or that aspect of the system, such as teacher deployment or training, functions, but rather to analyze existing situations and the results obtained and to attempt to identify the range of options possible in the country. Any analytical work, if it aims to be adopted, must be explicit in terms of the methodology used to reach its conclusions. A valid analysis, in this case, is one which permits us to understand not only the status quo but also the possibilities which exist for improving that status quo.

In order to carry out such analyses, the social sciences have contributed a tool which can be very effective when used with rigour: comparison, both at national level (between regions, training institutions, schools, etc.) and international level. Comparison between countries allows us to see if there is a range of options possible for improvement of those dimensions where a uniquely national perspective is not sufficient to understand the issue. One of the aims of this guide, and of the TTISSA approach in general, is exactly this: the provision of a common structure for analysis which can be applied to different countries and which thus offers the possibility of comparing national situations and learning from the experiences of others. The use of the guide permits the development of general knowledge on the teacher issue through its application in different contexts. What is true of one context is not necessarily true of another, and it is this variance in situations that can provide useful information for the analysis of education policies in general and of teacher policies in particular. It is thus important to share the outcomes of the different analyses which will be conducted in order to build upon the experiences and results.

The analysis methodology proposed is pragmatic[1], seeking to identify the main questions to which we wish to respond and to mobilize the data and analysis tools necessary in order to respond. For example, it is not very useful to consider teacher training without linking it to the quantitative needs of the education system and to the constraints in terms of the capacity of training institutions and trainers, both in the short and medium term. It is equally difficult to have a clear vision of the salary issue if we do not put into perspective teachers' aspirations (in terms of salary, career, training, etc.), the conditions of the national (and/or regional) labour market, recruitment needs (how many teachers do we need to meet the

goals of schooling?) and the financial capacities of the state. Of course certain questions, such as the salary issue which has just been evoked, are very sensitive. Some may be tempted to avoid studying this or that question and would thus miss the opportunity of providing a global vision of the teacher issue, a vision that is necessary to identify measures for improvement and to facilitate dialogue and the emergence of new policies. This is a crucial point: the analysis is not a partial exercise. It allows the identification of possible options and spaces for dialogue to define teacher policy. In this sense, the analysis is useful for everyone: it is a collective good.

This analytic method implies the exploitation of existing data, meaning all of the information available at country level. It is not a matter of producing new data or doing new surveys and studies, even if we cannot exclude envisaging such measures in certain contexts, but rather of analyzing all of the existing data (studies, data of the Ministry(ies) of Education, Ministry of Finance, Institute for Statistics, etc.).

It should be kept in mind that the quality of the analysis and especially its impact are closely linked to the methodology which is selected in the field. Here, a warning is necessary: limiting the use of this guide to its technical content only would mean restricting the impact of the work done and thus of its usefulness for countries. In the minds of its authors, this methodological guide for the analysis of the teacher issue is inseparable from a specific working methodology. Several guiding principles underlie this methodology. Firstly, this guide was developed for use and application by national teams, which implies that the analysis work must be guided first and foremost by a strong national will, which is necessary to put in place a process which can lead to the emergence of new teacher policies. Of course, certain analyses require technical expertise, and technical assistance will thus be necessary. However, such assistance will serve to support

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1 Opposing or separating the quantitative and qualitative dimensions is sterile in an analytical perspective and is counterproductive to reflection on new education policies.

the national team which will lead the exercise and will, in no case, form a substitute. The dimensions and the tools of the analysis are of such varied nature that it will be necessary to have a diverse team, both in terms of skills as well as institutional origin.[2] We cannot, for example, examine salary issues and their budgetary implications without involving officials from the Ministry of Finance as well as union members, in addition to Ministry of Education officials. Moreover, the team also requires people who are competent in carrying out analysis of teacher training, estimates of teacher needs, analysis of costs (of training, salaries, etc.), analysis of deployment and attrition issues, etc. It is for this reason that a diverse team, which will be described in greater detail at the end of this guide, is necessary in order for countries to work most efficiently. In involving actors with different perspectives who are not necessarily used to working together, this approach can establish milestones for future dialogue on the definition of new teacher policies. It goes without saying that the technical team which will be doing the analysis is limited in number, and that dialogue on the teacher issue will require the involvement of many more actors. This implies that the work undertaken will need to be broadly disseminated and shared at the country level in order to nourish such a dialogue. We cannot underestimate here the difficulty of dialogue in certain contexts, but it is because it can ultimately facilitate dialogue and help in building consensus that a diagnosis of the entire teacher issue may be considered as a vital part of the process of development of new teacher policies. The analytical work conducted can thus be applied towards a policy process, which it is up to countries to initiate.

Initially, given the constraints in the elaboration of this guide, the choice was made to concentrate on primary and secondary school teachers. It is, however, possible to expand the diagnostic to other sectors and to use similar techniques. Such

evolutions are envisaged for the future. We must, however, keep in mind that this analysis is not possible for all sectors and that supplementary methodological work must be envisaged.

It is important to highlight that the work of analyzing the teacher issue which is proposed here is complementary to an analysis of the entire education sector leading to a sector-wide framework. In this sectoral vision, certain aspects of the analysis will remain very approximate. A simple example is that of the estimation of teacher needs: without precise figures on the objectives of schooling at different levels of education, such an estimation will be difficult. These figures cannot be accurately estimated without proper consideration of the costs and overall efforts made in establishing balanced allocations and tradeoffs within the whole sector.[3] There are many examples of this type. Without a sectoral framework, we are limited to proposing hypotheses which are not necessarily in accordance with the challenges of the sector. It is thus essential that this analysis of the teacher issue be inscribed in a sectoral perspective.

Before presenting the content of the different chapters of the guide, a last comment must be made. This guide does not profess to be a document which will define once and for all the methodology to be used in analyzing the teacher issue. We must consider it, rather, as a common analysis structure that can be used in different countries but which does not rule out the need for other or additional analyses depending on the national context. On the contrary: the need to develop new analyses to respond to the needs of certain contexts or to complete those proposed in this guide is encouraged. In addition, as in any other domain, knowledge as well as analysis tools progress and evolve. It is thus essential to keep in mind the dynamic and evolving nature of the

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2   A description of the skills and profiles needed for the different members of a national team is given in Annex 1.

3   This is normally done through a financial simulation model and as the result of an analysis of the entire education sector.

guide proposed here. We can even consider that one of the measures of this guide's success will be regular updating and revision.

This guide proposes an analysis of the teacher issue under six headings which form the six chapters which are presented in the remainder of this section. **Chapter one, General context,** examines the broader global context in which the teacher issue is situated. After considering different development policies in the country, it is important to take into consideration the macro-economic and budgetary aspects which define the constraints and resources available for the education sector. The demographic context is also important in that it permits the definition of needs (how many children must be/will need to be educated?). The intersect between needs and resources as well as their potential evolutions traces the general context in which education policy is situated. It is then necessary to concentrate on the growth in school enrolment in order to measure the progress made and that which remains to be made. The analysis of enrolment profiles is particularly interesting in this perspective. Moreover, an analysis of repetition and dropout provides information on the internal efficiency of different schooling cycles which can be compared with what we observe in other African countries. The quality of learning is also considered here to the extent to which information is available, notably where assessments of pupil learning are available. Finally, a description of the teaching force and its evolution permits us to complete the analysis of the general context in which the teacher issue is situated.

Chapter two, Teacher needs, is devoted to the estimation of teacher needs at primary and secondary level in order to have as precise an understanding of the estimates as possible. The analysis will examine official estimates of teacher needs in each of the respective levels. Teacher needs should be examined in both a global perspective (how many teachers are necessary to reach the educational objectives set by the country?) as well as more specifically, particularly at secondary level in considering annual needs per subject. Naturally, the analysis at primary level should keep the prerogative of Universal Primary Education (UPE) in an EFA perspective in mind, in other words it should aim at the most precise estimate possible of the number of teachers needed to ensure that all children are able to enter and complete primary school.

Chapter three, Teacher education, explores this aspect both in terms of initial and in-service training of primary and secondary teachers. This firstly implies examining the ability of initial training to respond to the needs of the education system in both its quantitative and qualitative dimensions. Studying the effectiveness of initial training is thus crucial and includes the institutional aspect. In-service training implies a rather precise knowledge of the needs of teachers who are in post. These needs can be quite variable in those education systems in which some teachers have never undergone professional training. Here as well, it will be important to understand the effectiveness of the in-service training offered in terms of both quantity (number of teachers trained) as well as quality (duration, content, evaluation, etc.) dimensions. Given that the actors involved in this domain can be quite numerous, an emphasis must be placed on analyzing the supply of training (providers, coordination, trainers, costs, etc.).

Chapter four is titled **Teacher management: recruitment, deployment, absenteeism and attrition.** In a first phase, this involves analyzing the dynamics and modalities of recruitment. Next the chapter analyzes the coherence of teacher deployment in schools in a general and eventually regional perspective. An analysis of deployment procedures must also be conducted and considered along with the preceding results. In addition, there should be a focus on rural or marginalized areas, which are a major challenge for expanding school enrolment. Concerning absenteeism, several aspects must be closely

examined as far as data allow. Firstly, it is useful to quantify absenteeism (number of absences per year, number of hours of class time lost, etc.) in order to evaluate the problem it poses for the education system. Then, an analysis of the causes of absenteeism is very useful even if this generally implies doing complementary studies in order to complement school statistics which are rarely available. Finally, an analysis of the modalities of managing absenteeism (monitoring, procedures for replacing teachers, etc.) must be undertaken in order to understand the capacity of the education system to respond to this problem. The phenomenon of attrition must also be the object of careful analysis, as its consequences can be notable. As in the case of absenteeism, attrition must be quantified and its causes must be identified, as information on this issue is often lacking. We must also consider the measures that are taken to respond to the problem of attrition.

Chapter five considers **Teacher management: professional status, remuneration and careers.** The description and measurement of different teacher statuses within the system is a first step. Remuneration is a second dimension for analysis. When data are available (household surveys), it is interesting to make comparisons with the remuneration of people with the same levels of qualification as teachers but working in another area of the public or private sector. This allows for an appreciation of the situation of teachers in terms of remuneration and the attractiveness of the profession. The modalities of salary payment, as well as their regularity, should also be analyzed. The previous questions invite us to examine teachers' career perspective and, to this end, an analysis of the modalities for changing professional status, level of schooling taught and locale of deployment must be conducted. Finally, salary costs should be considered in light of the EFA goals, notably that of UPE. This implies a consideration of the existing options for attaining these objectives.

Finally, **Chapter six, Professional and social context,** is centred on professional satisfaction within the social context. Beyond objective considerations, it is interesting to consider teacher professional satisfaction. This question is addressed in certain studies such as those conducted by PASEC and answers provide a valuable indication of the morale of the teaching force. In addition, an analysis of the social context is necessary to understand the socio-political environment in which new education policies must be developed. This implies specific work with various social stakeholders in the education sector, such as teachers' unions, teachers' professional associations, NGOs, development partners and the media in order to understand their concerns as well as their knowledge of the situation. A retrospective picture of the preceding years must be drawn in order to understand the history of social dialogue as well as the major points of divergence and convergence that exist in order to better identify the key issues for dialogue in regard to new policies. The position of the government on the current concerns of teachers' unions and other social stakeholders allows for complementary information. Additionally, if need be, consultation mechanisms may be analyzed in order to understand which tools are at the disposal of social partners in pursuing dialogue.

Before proceeding, it must be noted that the guide has generously benefitted from two key sources. The first is the publication of the Pôle d'analyse sectorielle en éducation de Dakar (Pôle de Dakar) of UNESCO's Regional Bureau for Education in Africa (UNESCO-BREDA) entitled *Universal Primary Education in Africa: The Teacher Challenge*. The second is a piloting exercise that was undertaken in Benin and Uganda in partnership with the respective Ministries of Education. This explains the numerous examples presented in the guide from these two countries. We should however keep in mind that these examples have an illustrative purpose and do not constitute validated results of analysis.

Chapter 1

General context

Introduction

An analysis of the teacher issue, like all other educational issues, cannot be conducted without taking into consideration the general context in which the education system is situated. This general context determines both the challenges faced by the system as well as the possibilities at its disposal. Is it plausible to conduct a serious analysis of the teacher issue without considering schooling needs as determined by the national demographic situation, the resources available for the education sector as a factor of the economic environment or the country's political and administrative organizational systems, to cite just a few examples? It would be exceptionally difficult; for this reason this chapter is dedicated to those contextual elements which define the challenges as well as possibilities for the education system.

Firstly, it is important to consider the policy and administrative framework in the country, by examining the different policy documents in which education issues are addressed and the administrative system (centralization/ decentralization). Secondly, it is necessary to look at the demographic context, as it defines needs i.e. how many children must be educated, number of teachers needed. This point requires focus on population growth and structure and demographic projections. Because of the considerable financial constraints that many sub-Saharan African (SSA) countries often face in developing their educational systems, the macroeconomic and budgetary context is another key point to take into consideration since it determines the resources

available. At this stage, looking at both needs and resources available, as well as their potential evolutions, will allow us to understand the context in which teacher policies are to be developed. However, analysis of the general context should not be limited to these points. The school context is a fourth dimension, which must be analyzed by examining growth in enrolment, internal efficiency and learning outcomes. In effect, the teacher issue is not independent of progress to be achieved, in terms of enrolment, repetition, dropout and learning outcomes. Finally, a description of the teaching force and its evolution completes the preceding points, which should allow us to get an idea of the overall context in which teacher issues are situated.

1.1 General presentation of the country

This section requires a succinct presentation of the country (population, geographical situation, languages spoken, main economic sectors, human development index, etc.) in order to give the reader a snapshot of the country's situation.

1.1.1 Policy and administrative context

Two distinct but complementary elements should be considered here. The first concerns educational policy and its place within the overall policies implemented in the country. The second is in regard to the administrative organization of the country (administrative division, centralization/ decentralization).

The majority of SSA countries have formalized development policies in which the social sectors, including education, often occupy a major place. Broader policy documents exist side by side with specific documents on the social sectors. It is useful to consider how education policy is addressed in the different documents as well as to examine specifically the education policy document (sector strategy, ten-year plan, etc.) where it exists. Naturally, what relates to teacher issues in these documents will be examined with particular attention.

The administrative organization of the country is of particular importance when it comes to the implementation of education policy. The way in which the country is divided administratively, into regions, provinces, districts, etc. and more generally the organization of the territory is not without consequence for the analysis of the teacher issue, notably in regard to questions of teacher allocation in schools. Furthermore, the degree of administrative decentralization in the country is a major parameter, in the sense that local entities may play an increasing part which may sometimes include the recruitment and management of teachers. These are all aspects which must be carefully analyzed at this stage. Finally, it is important to also consider the organization of the education system, which can vary from country to country.

1.1.2   Demographic context

The demographic context is of major importance for the development and evolution of educational systems, as population growth determines to a large degree the increase in the school-age population, and consequently, teacher needs. Therefore, the demographic context is a key factor that must be taken into consideration when addressing teacher issues and the development of schooling. Two important points must be addressed here: how is the population growing, and as such, what is the

population structure? How many children are (or will be) school-aged?

Analyzing the demographic context first requires knowledge as to how the population is growing. Only census data can provide a "correct" answer to this question. However, such data are not always available or are outdated in most SSA countries. At the international level, it is recommended not to exceed ten years between censuses. But due to financial and other constraints, many countries do not meet this norm. In the absence of reliable data at the country level, United Nations population data are a source of information which can be used to get an idea of population growth.[4] The following examples aptly illustrate the issue of population data availability. While some countries such as Malawi have conducted censuses several times (two or three times) during the last decades, no census has been carried out in Guinea Bissau since 1991, undoubtedly because of its socio-political situation.

Table 1.1
Population growth in Malawi
and Guinea Bissau

	Malawi			Guinea Bissau	
Years	1987	1998	2008	1991	2007
Population (in thousands)	7 999	9 934	13 066	1 048	1 695
Population growth (in %)	---	2.0	2.8	---	3.0

Note: Data in coloured cells are projections; growth is computed between censuses for Malawi and between the census and 2007 projection for Guinea Bissau. For example, the figure for 1998 means population growth for 1987-1998.

Source: CSR (forthcoming), Malawi National Statistical Office (1998 and 2008).

Malawi is characterized by high population growth: 2.8 per cent between the last two censuses, while the rate was 2.5 per cent for SSA countries on

4   Follow the link: http://esa.un.org/unpp/index.asp for getting United Nation population data.

average between 1992 and 2002, and does not generally exceed one per cent in developed countries. In the case of Guinea Bissau, due to the unavailability of recent census data, projections were made based on United Nations population data with the agreement of national authorities. These projections are based on the last census and the trends in fertility, mortality and international migration to and from neighbouring countries with a similar context. It appears that the population reached approximately 1,695,043 inhabitants in 2007, compared to 1,048,379 in the census of 1991. This corresponds to an average annual growth rate of 3.1 per cent, which is relatively high in comparison with the SSA countries (2.5 per cent). On the whole, SSA countries are characterized by relatively high demographic growth rates. This high growth in population has direct consequences for the number of children who must be educated within a given period, and as a consequence, for the number of teachers who must be recruited.

To get an idea of the number of children who must be educated in a given period, information on age and other characteristics of identified individuals in census data should be used. This information can also help to examine the population structure and to see where the need for schooling is highest given the school-aged population. It is particularly important to examine school-aged population by zone (rural/urban), by region and by other relevant characteristics in the country when possible. Essentially, the global picture often masks important disparities within a country. This exercise is crucial for the planning of needs in teachers although such detailed data are often difficult to obtain.

Table 1.2 presents the school-aged population in the Central African Republic (CAR) and projections for the years to come.

Table 1.2
School-aged population and projections in CAR

Population (in thousands)	1988	2003	2008	2013	2018
Entire population	2 688	3 895	4 302	4 758	5 257
Population aged 6-11 years	440 (16.4%)	644 (16.5%)	715 (16.6%)	755 (15.9%)	792 (15.1%)
Population aged 12-15 years	252 (9.4%)	370 (9.5%)	416 (9.7%)	464 (9.8%)	491 (9.3%)

Note: Data in colourized cells are projections.

Source: extracted from CAR Country Status Reports.

It appears that the school-aged population for CAR (6-15 years) was 692,000 pupils in the 1998 census and 1,014,000 pupils in the 2003 census. This represents about 26 per cent of the population for the two periods. Thus, about a quarter of the population in CAR is young. In SSA countries, young people (under 15 years) represent on average 44 per cent of the population in 2006, compared to 30 per cent on average in Asia, Latin America and the Caribbean, and to 16 per cent on average in Europe (Haub, 2006). This significant proportion of youth shows the schooling challenge with which SSA countries are faced, both in terms of access to school by the school-aged population as well as the number of teachers to be recruited.

Examining the demographic context allows definition of schooling needs in view of demographical dynamics. However, this must be completed by an analysis of the macroeconomic and budgetary context in order to define the resources available for the schooling of the school-aged population and the recruitment of the number of teachers needed.

1.4 Macroeconomic and budgetary context

The potential and available resources for the education sector as well as their allocation between the different sub-sectors constitute key elements for the overall understanding of the context in which education policy and, in turn, teacher policy is made. It is obviously dangerous to judge a policy without taking into account the available resources; this leads to tensions with the Ministry of Finance, which is in charge of budgetary allocations. This section aims to provide the major information in terms of the macroeconomic and budgetary context in which all national policies are obligingly situated. However, it is not only a matter of considering the constraints, which are very real, but also of identifying possibilities, notably through the distribution made by the government between different sectors in allocating public resources.

The resources that governments allocate to the education sector are mainly based on three factors: (1) production or national wealth, corresponding to the gross domestic product (GDP), (2) the government's ability to raise fiscal and para-fiscal revenues on the GDP, meaning fiscal pressure, and to negotiate external resources; and (3) the share of public resources allocated to the education sector in relation to other collective functions of the state, meaning distribution between sectors.

If the state fiscal and para-fiscal revenues are SR and the domestic public resources for education are PRED, we can deduce:

SR = α. GDP (with **α** for the fiscal pressure)

PRED = β. SR (with **β** for the share of public resources allocated for education)

From the previous equations, domestic public resources for education can be directly inferred as a share of GDP:

PRED = α. β. GDP (with **α. β,** the share of public resources for education in GDP)

We see clearly that any evolution in GDP directly affects the public resources available for education. Analyzing the context of teacher issues thus requires examination of the evolution of GDP and of fiscal pressure. It is important to note here that these elements are exogenous to the education sector and can be considered as an external constraint. In addition, these elements do not depend on short-term policy and, in our perspective, must be considered as a given when we situate ourselves in the short or medium term. On the other hand, the share of public resources attributed to education depends on tradeoffs between the various sectors as allocated by the government. Once the amount of resources available for education is known, it becomes interesting to see how it is allocated within the education sector, which is directly determined by the choices made by the Ministry of Education. For this, we must analyze the structure of the education sector budget. In addition, one should consider that public expenditures are not the totality of education expenditures; families also spend a lot of money on their children's education. So, when data are available, an analysis of family or private expenditures should be conducted as well.

1.4.1 Evolution of GDP

The level and the evolution of domestic production or national income is obviously the first element to examine in order to understand what resources are available for education. These largely determine

the capacity of governments to cover the costs of education. How do we appreciate the evolution of GDP? The evolution of GDP over past years as well as the projections for the future must be mobilized and plotted on a graph in order to extract the trends. These permit us to see the extent to which the macro-economic environment is favourable or not to public resource mobilization. These data can be obtained from the Ministry of Finance, from the International Monetary Fund and from the World Bank (Cf. World Development Indicators), but this should not mask the difficulties in obtaining exact and reliable data.

The examples of Benin (whose data range from 1990 to 2007) and of Guinea Bissau (whose data range from 1997 to 2007) serve here as illustration. Guinea Bissau is a notable example because the state is considered fragile because of the many crises which have affected the country. This case permits us to highlight the non-predictability of resources in those contexts where the economic environment can largely fluctuate from year to year, depending on the socio-political situation in the country. Trends in GDP are plotted on Graph 1.1.

Graph 1.1
Evolution of GDP for Benin and Guinea Bissau
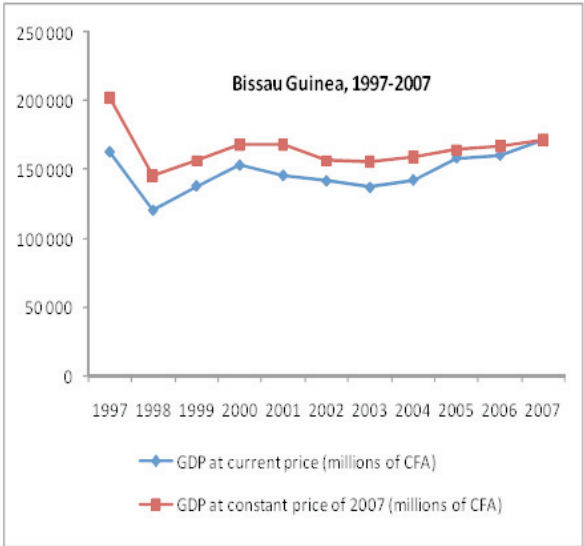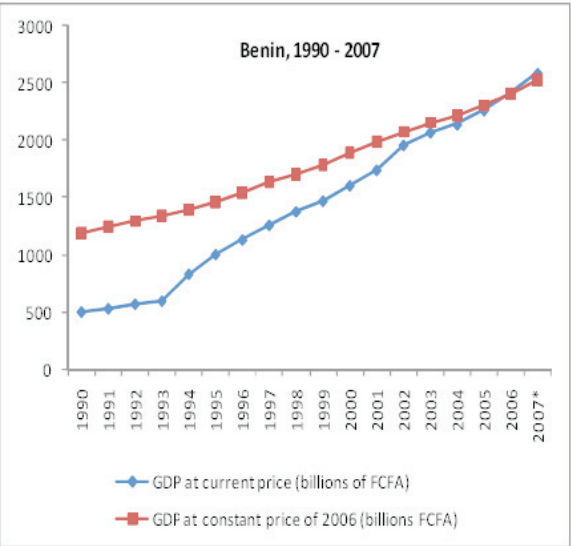
Sources: CSR (2009), CSR (forthcoming)

It should be noted that both GDP at current price and GDP at constant price are plotted. We note that GDP growth in Benin is high during the 1997-2007 period. On the other hand, Guinea Bissau during the same period is marked by a tendency towards stagnation, and even decline vis-à-vis the initial situation, with large fluctuations at the beginning of this period, corresponding to a period of socio-political instability. What should be retained is that the GDP of Benin in 2007 is almost 17 times higher than that of Guinea Bissau.

The interpretation of the evolution of GDP should be made with caution. It is particularly important to consider that the evolution of GDP at current price is affected by the evolution of prices, highlighting the importance of using GDP at constant price. We thus see that in Benin, real economic growth is much lower than that suggested by the evolution of GDP at current price.

Because of inflation, one hundred dollars today does not buy the same quantity of goods as one hundred dollars in 1990. However, budgetary constraints and macroeconomic aggregates are often provided at the current prices, thus making the evolution of aggregates over time biased by inflation. Addressing the "price effect" is therefore necessary in order to better appreciate the real evolution of aggregates. To this end, we can calculate a GDP deflator to correct evolutions. The GDP deflator is estimated by the World Bank (http://ddp-ext.worldbank.org/ext/DDPQQ/member. do?method=getMembers) and the IMF (http://www.imfstatistics.org/imf/, and subscribe to get access to data) for many countries. One can also easily calculate it, as it corresponds to the ratio of GDP at current price and GDP at constant price for any given year.

Computing aggregate from current prices to constant prices in a given year is made by using the following formula:

Aggregate at constant prices of a given year = Aggregate at current prices / GDP deflator

Source: Pole de Dakar (2003)

The level and the evolution of GDP define the constraints on the availability of public resources for the country. The key point now is to examine the capacity of the state to mobilize resources through fiscal pressure on the GDP.

1.3.2 Fiscal pressure and public resources available

Firstly, it should be underlined that public resources come primarily from fiscal and para-fiscal taxation that the state levies on the economy. Fiscal pressure thus represents the share of GDP that the government absorbs through fiscal and para-fiscal revenues. There is no international standard for fiscal pressure, even though some convergence criteria can be found at the regional level (for example, a benchmark of more than 17 per cent of fiscal pressure is defined in the West African Economic and Monetary Union). Graph 1.2 presents fiscal pressure in some SSA countries.

Graph 1.2
Fiscal pressure: Government revenue as per cent of GDP in some countries in 2004/05
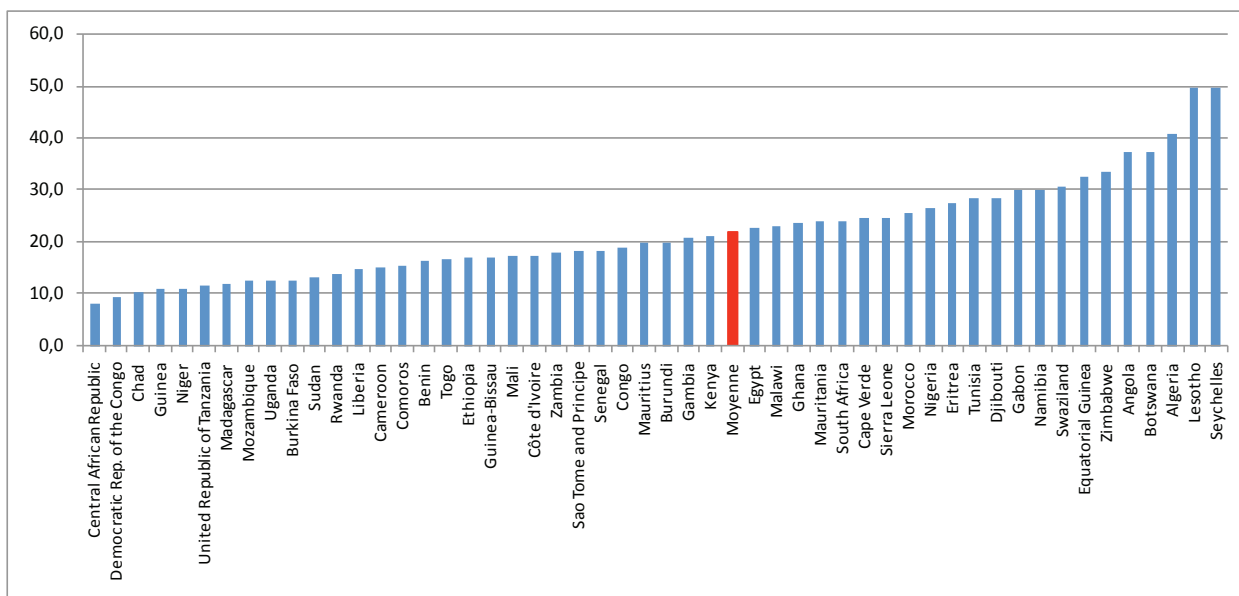
Source: Data are extracted from Table 4, Appendix 2, UNESCO-BREDA (2007)

If the African average is situated at more than 20 per cent, it should be noted that fiscal pressure greatly varies across countries. For example, while the CAR is mobilizing only 8 per cent of its GDP as government resources, the percentage is twice as high in Benin and Guinea Bissau, three times higher in Mauritania and South Africa and six times higher in Lesotho and Seychelles. However, beyond these percentages, the most important thing is to have sufficient resources to cover all of the collective functions of the state. One of these collective functions is education, but there are other key sectors (such as health, security, etc.) that require public funding. Thus, the share of public resources that goes to education will depend on the tradeoffs with other sectors. It is therefore important to document the distribution of public resources between different sectors in order to understand the choices made, particularly for the education sector. Data from Benin and Guinea Bissau are used here as an example (see Graph 1.3).

Graph 1.3
Allocation of public resources between sectors in Benin and Guinea Bissau
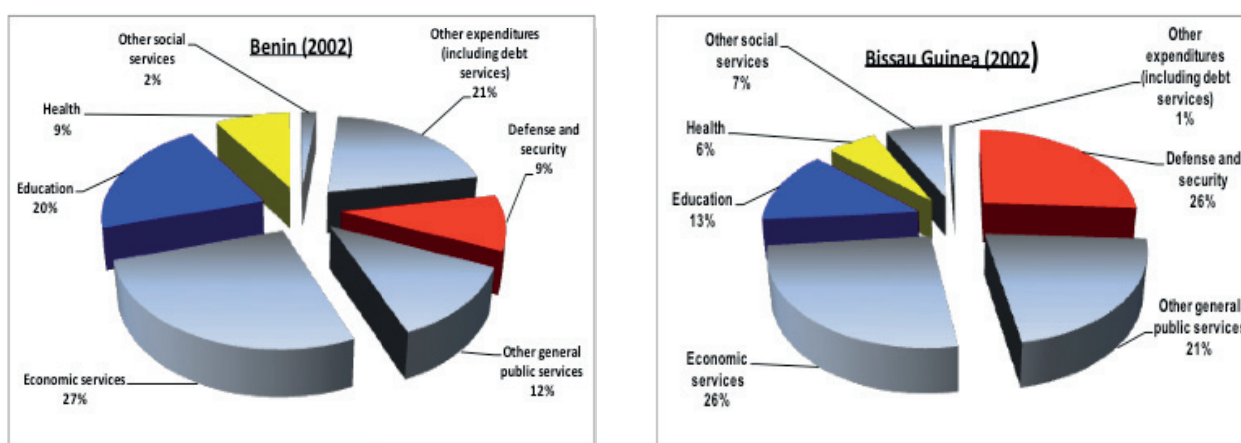
Sources: Data are extracted from Table 2.3 of the Benin Public expenditure review (World Bank, 2004, report n° 29656 – BEN) and from Table A9 of the Guinea Bissau Public expenditure review (World Bank, 2004, report n°27175-GW).

It appears that for the two countries, the choices are different in allocating public resources. Beyond the important share allocated to the economic sectors (public works, transportation, agriculture, natural resources, fisheries, etc.) in the two countries in 2002, the Government of Guinea Bissau's choice reflects a prioritization for security concerns, while the Government of Benin has chosen to focus on social sectors and most particularly on education, as reflected by a share for education of 20 per cent in Benin, compared to 13 per cent in Guinea Bissau. In contrast, defence and security represent 26 per cent in Guinea Bissau, compared to only 9 per cent in Benin. This choice in Guinea Bissau is a consequence of the socio-political situation of the country.

Budgetary constraints often lead to reliance on external capital (in the form of grants and/or loans), with the hope to cover entirely the key collective functions of the state. Naturally, incoming external capital flow results in increasing the volume of public resources available for government actions. At the same time, in the case of loans, this implies the payments of interest and reimbursement of capital (debt service) in the future, as it is often allocated with interest. For example, it appears in Graph 1.3 that some expenses in non-classified expenditures are used for the payment of debt service in the two countries. Depending on the country, these two elements (capital flow and debt service) may play a relatively modest or a very significant role in affecting the government's budget. It is therefore essential to document them when examining the public resources available for domestic services.

1.3.3 Public resources allocated to education and their distribution

The share given to education in the national budget obviously reflects the importance given to the education sector in the country. A reference of 20 per cent has been established on the basis of analysis of countries which have attained or are close to attaining UPE and then suggested as a benchmark by the Fast track Initiative (FTI). It is thus useful and interesting to know how near or far from this benchmark countries are. Graph 1.4 presents the proportion allocated to education in various countries.

Graph 1.4
Share of education in government revenues (per cent) in various countries in 2004/05
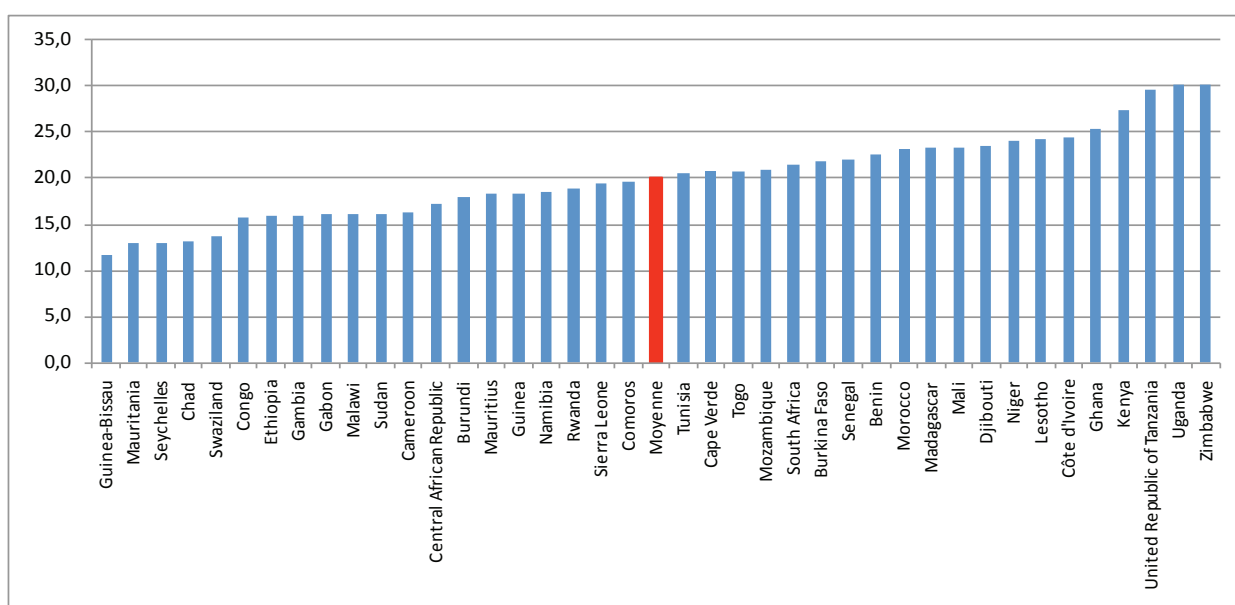
Source: Data are extracted from Table 4, Appendix 2, UNESCO-BREDA (2007),

It may be noted that the priority given to education varies greatly between countries. If the average is around 20 per cent, the proportion of budget allocated to education was about 12 per cent in Guinea Bissau in 2004/05 and about two times higher in Kenya, Lesotho or The Ivory Coast during the same period. Countries such as Benin, Lesotho, Madagascar and Mauritius are close to the FTI reference, while Guinea Bissau and Mauritania are largely below. Tanzania, Uganda and Zimbabwe present the highest figures, at around 30 per cent.

In order to get another view of the importance given to education, we may consider education spending as a percentage of GDP. The idea here is to understand what proportion is allocated to the education sector in the national revenue or GDP.

Table 1.3
Per cent of GDP allocated to education in some African countries

	% of GDP for education
Benin (2006)	3.6
Ivory Coast (2002)	4.3
Bissau Guinea (2006)	2.6
Burkina Faso (2005)	2.8
Malawi (2004)	3.7
Chad (2003)	1.4
Burundi (2004)	3.6
Madagascar (2004)	2.8
Mauritius (2004)	3.6

Source: CSR (2009), CSR (upcoming) and from Table 4, Appendix 2, UNESCO-BREDA (2007).

It appears that as in the share of education in the national budget, the proportion allocated to education in GDP varies largely, from 1.4 per cent in Chad in 2003 to 4.3 per cent in the Ivory Coast in 2002. It is interesting to note that successful countries such as Mauritius, which have more or less attained UPE completion, spend about 3.6 per cent of GDP on education, while with the same proportion or more, some countries such as Burundi, Malawi and Côte d'Ivoire are still lagging far behind. Of course, in this comparison, it should be kept in mind that these countries do not have the same level of GDP. It should also be kept in mind that UNESCO recommends that 6 per cent of GDP should be spent on education.

Another key point to be considered is how the resources available for education are distributed. One can look first at the distribution between levels of education. Due to the emphasis on UPE, it is often recommended to allocate a larger share to primary education. The indicative benchmark suggested by the FTI on this point is 50 per cent, but some countries are still below this threshold (see Table 1.4 below). However, this should depend on the country level of coverage of primary education schooling. For example, a country such as Mauritius which has almost achieved UPE should no longer allocate half of its education budget to primary education. In this case, the effort should focus on other levels of education. But other countries such as Madagascar or Benin, which are still far from UPE, should allocate a large share to primary education. Table 1.4 shows that the Ministries of Education of Madagascar and Benin allocated at least half of their resources to the primary level. At the same time, there are other countries which are far from UPE and which are allocating less than 50 per cent of education resources to the primary level, such as Guinea Bissau and Lesotho.

Table 1.4

Distribution of resources available for the education sector by levels
of education in some African countries

	Percent for primary (adjusted to 6 grades)	Percent for secondary (adjusted to 7 grades)	Percent for tertiary
Benin (2005/06)	51	27	22
Botswana (2004/05)	44	38	18
Guinea Bissau (2002/03)	33	43	24
Lesotho (2004/05)	34	30	36
Malawi (2004/05)	45	37	18
Madagascar (2004/05)	59	24	17
Mauritius (2004/05)	36	46	18
Africa (simple average)	44	36	20

Source: Extracted from Table 4, Appendix 2, UNESCO-BREDA (2007),

Besides the distribution by level of education, the structure of the education budget by spending must also be examined. Indeed, it is useful to know the main sources of spending which affect the education budget. In any educational system, especially in primary education, salary costs represent the largest share of the education budget, leaving few resources for other keys costs such as training or textbooks.

Graph 1.5

Share of primary teachers' salaries in current education budgets
of some countries, 2004/05 or closest
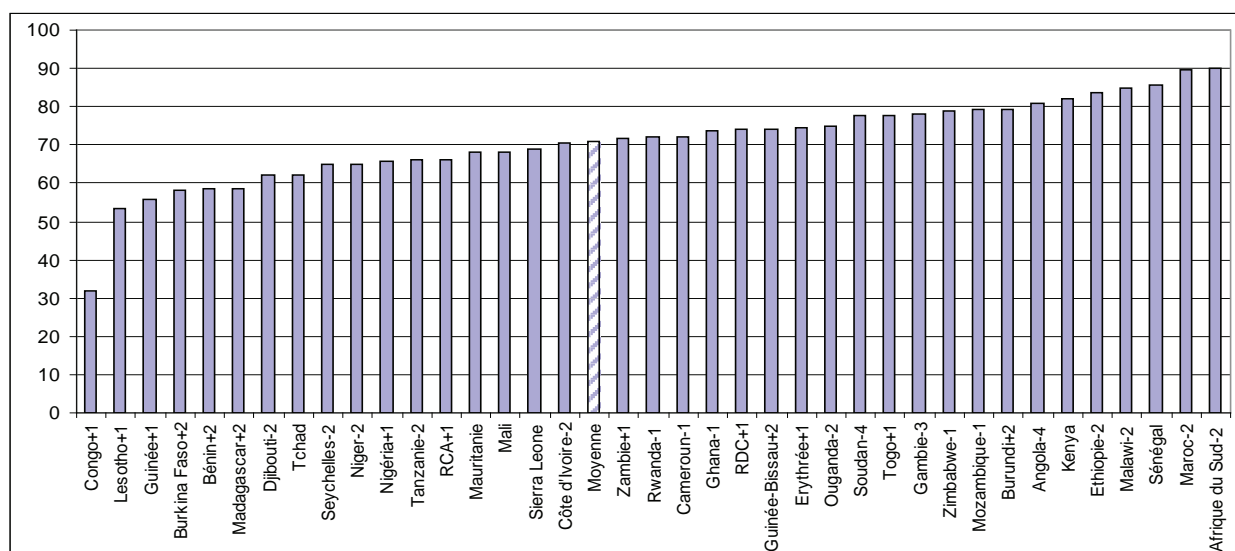
Note: Data are for 2004 year, but, (-t) refers to the year 2004-t; and (+t) to the year 2004+t.

Source: Various sectional studies, World Bank, Pole de Dakar, UNESCO Institute for Statistics, authors' calculations.

One can observe from Graph 1.5 that, on average, SSA countries spend about 70 per cent of their education budgets on teachers' salaries. However, the patterns vary widely between countries, from 30 per cent in Congo to 90 per cent in Morocco and South Africa. The trade-off between salary spending and non-salary spending is therefore essential. The FTI, in its indicative framework, has suggested a salary benchmark of 3.5 times GDP per capita[5] for teachers' salaries and of 33 per cent of current expenses for non-salary spending. The idea is that resources are needed for non-salary spending in order to allow the education system to provide satisfactory learning conditions for pupils and adequate working conditions for teachers. Naturally, the reference of 3.5 times GDP per capita is an indicator of reference which must be adjusted as a function of the country's GDP. A country with a very low GDP such as Guinea Bissau can aim to pay salaries at a rate of 4 times the GDP per capita. The analysis here will focus on where the country is situated in terms of these references.

The various components described above are certainly not exhaustive. Depending on data availability, the budgetary context could be more detailed by considering other parameters such as external resources and family expenditure.

1.3.4 Family expenditure

Families are also involved in education financing, and this must be taken into account in the analysis whenever relevant data are available. The contribution of families to education varies greatly across countries and takes various forms. The best known types of family contributions are for school fees, textbooks and supplies, school uniforms, and in some cases, the salaries of community teachers (in cash or in kind), school construction, transportation, etc. It is important to document

these elements. We must recognize that data are difficult to mobilize on these points although some information can be gathered by using household surveys.

Table 1.5
Household contributions to total current education expenditure, 2006 estimates

Countries	Percent
Benin	34.5
Guinea Bissau	48

Source: CSR (2009), CSR (forthcoming)

For example, estimations from household surveys conducted in Benin showed that in 2006, family expenditures for education represent 34 per cent of total current spending on education. Similar estimates show that this percentage is about 48 per cent in Guinea Bissau (see Table 1.5). These results show that families directly bear a large part of education expenditure. This is a factor which is obviously important to take into account in the analysis.

Overall, the analysis of the macroeconomic and budgetary context permits us to have an appreciation of what resources are available for the education of children and the possibilities for recruiting the number of teachers needed. Finally, putting into perspective the macro-economic and demographic contexts, as well as their potential evolutions, allows us to better understand the context in which teacher policy is developed. In order to complete this picture, the school context must be taken into account.

1.4 School context

An analysis of the school context can provide information which has a more direct link to the teacher issue. Such an analysis can inform us about schooling coverage, which allows us to understand the progress which must be made in quantitative terms and to link this to the evolutions

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5   This figure should be considered with the GDP/inhabitant level of the country, 3.5 GDP/inhabitant is not the same thing when GDP per inhabitant is 400$ or 2000$.

underway. This information is essential for estimating teacher needs. In addition, an analysis of internal efficiency can inform us on dropout and repetition in the system, both of which have direct links with teacher needs. Finally, examining the quality of learning informs us about the capacity of the education system to ensure that students acquire the knowledge and competencies required. Teachers play a major role in this area.

1.4.1   School coverage

The level of school coverage and its evolution are certainly the first elements from which teacher needs should be defined. Describing the level and the trends in school coverage is therefore necessary to understand the challenges that countries face in terms of teacher recruitment.

The evolution of school coverage can be described initially by looking at the evolution of the number of pupils in school in the last years. The easiest thing to do is to plot this evolution on a graph as illustrated by the examples of Malawi and Benin.

Graph 1.6
Evolution of the number of pupils in school in Malawi and Benin
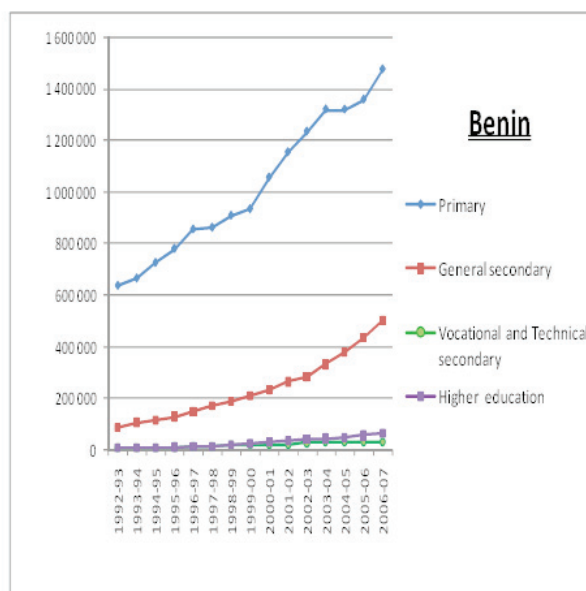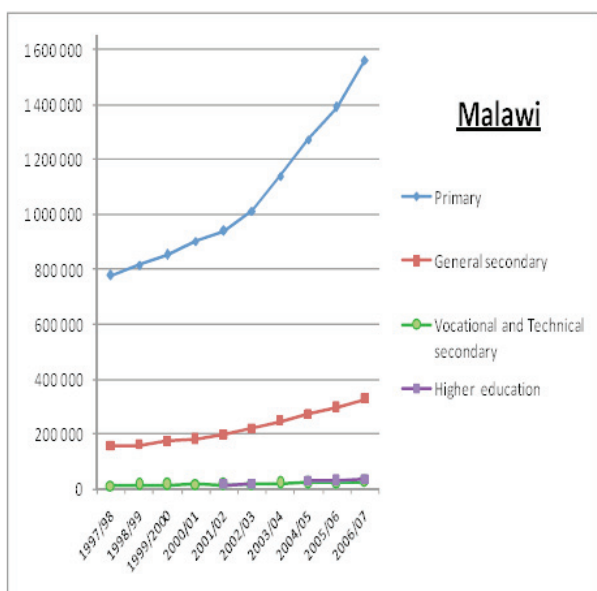
Source: CSR (forthcoming), CSR (2009)

School enrolments have significantly increased in both countries at the different schooling levels. However, the graphs particularly underline the evolutions at primary and secondary levels because of their higher enrolments, though growth is notable for all levels. As such, growth at the primary level is not necessarily the most pronounced. In Malawi, the rate of annual average growth between 1997/98 and 2006/07 is 8.7 per cent for general secondary and 8.2 per cent for secondary technical and professional, as opposed to 8.1 per cent for primary. We observe similar tendencies in Benin, where between the period of 1992/93 and 2006/07, there is a annual average growth rate of 6 per cent for primary, whereas it rises to 13 per cent for general secondary, 9 per cent for secondary technical and professional and 14 per cent for higher education. This extension of schooling, in particular at the primary level given

the enrolment, naturally has implications in terms of schooling and the recruitment of teachers.

However, knowing how many children have access to school and the evolution of this figure is not sufficient in order to have a full vision of the challenges concerning teacher needs. Beyond the availability of seats or places in school, it is important to also consider possible class organization (possible modes of grouping) and the programmes and curriculum to be achieved. Furthermore, the evolution of the number of pupils

in school at each level of education does not provide information on access and retention within levels. An examination of schooling profiles thus appears to be indispensable.

A schooling profile for a given level of education is a sequence of access rates to different classes of this level. It is extremely helpful for identifying current problems of access and retention within levels of education. Graph 1.7 presents the schooling profiles of primary and secondary levels obtained in Togo and the Central African Republic.

Graph 1.7
Schooling profiles of primary and secondary levels in Togo and CAR
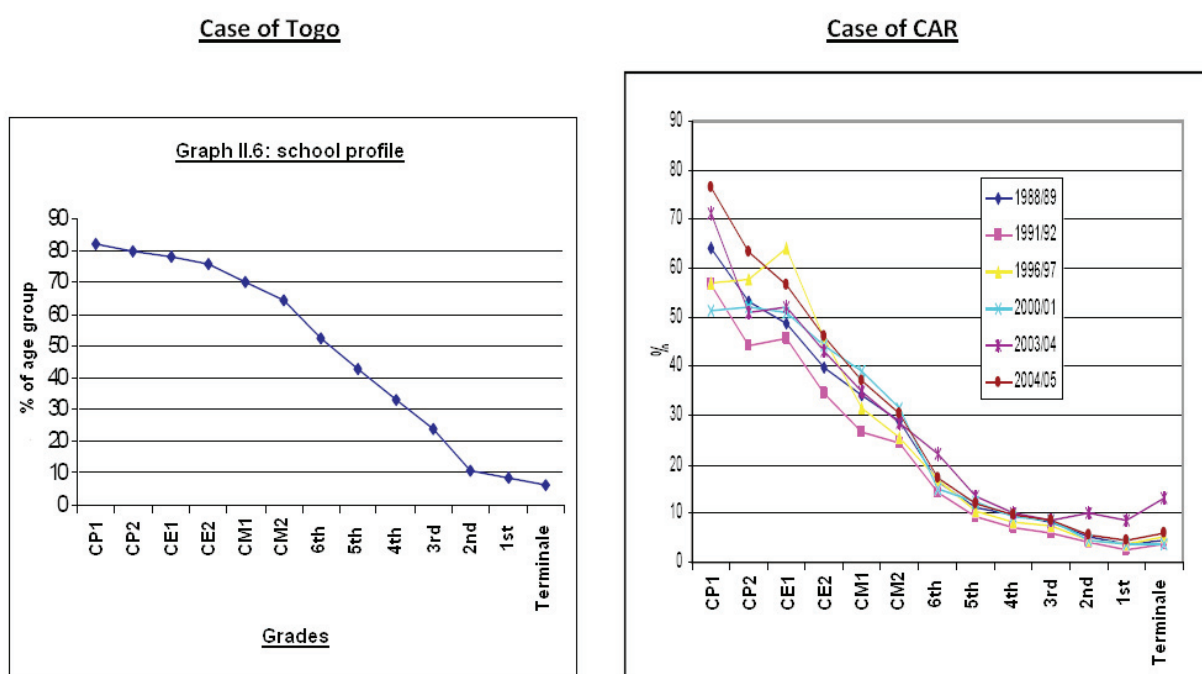
Source: CSR (2006b), CSR (2007a)

First, it should be noted that for CAR, schooling profiles have been plotted for many years, but the following comments focus only on the most recent school year, that is 2004/05 for CAR and 1999/00 for Togo. We estimate that about 78 per cent of school-aged pupils in CAR and about 83 per cent in Togo had access to the first grade of school. These results are poor, as all school-aged pupils should normally access primary school. In

addition, only 31 children out of 100 in CAR and 52 out of 100 in Togo finish primary education in the years in question. About half of the children in Togo and about two-thirds of the children in CAR do not reach the end of primary education. The same observations can be made for the secondary level (only 6 per cent of students in CAR and in Togo reach the end of secondary education), but this cannot be attributed to dropout only, because

some students may leave general schooling in favour of technical and vocational education (TVET) or informal systems of training.

Dropout is certainly one of the main problems for African education systems. This poses the question of internal efficiency, meaning the capacity of education systems to retain during schooling cycles all of the students who entered for the duration of that cycle.

1.4.2   Internal efficiency

In a strict sense, internal efficiency refers to the optimal use of resources within the educational system. Under this definition any repetition or dropout appears to be a non-efficient utilization of resources.

First, it should be noted that repetition implies the mobilization of additional seats in the school which could have been used for enrolling new children. As a consequence, repetition involves an increase in the number of pupils to educate, and hence, the number of teachers that are needed. The FTI, in its indicative framework, has fixed a benchmark of 10 per cent for the maximum rate of repetition at primary level. However, Africa is the continent where the practice of repetition is the most common. This comes from the fact that repetition has often been perceived as an efficient means of improving students' learning.

Table 1.6
Percentage of repeaters at primary and secondary levels in some SSA countries

Countries	Years	Primary	Lower Secondary	Upper Secondary
Benin	2003/04	24	15	17
	2004/05	17	-	-
	2005/06	8	-	-
	2006/07	11	-	-
Guinea Bissau	1999/00	23.6	20.2	15.1
	2000/01	21.2	22.5	14.7
	2004/05	14.2	11.2	3.9
	2005/06	18.7	16.0	5.5
Cameroon	1999/00	27.5	-	-
	2000/01	24.8	24.6	21.8
	2002/03	25.8	15.3	26.2
Ethiopia	1992/93	11.6	19.3	8.5
	2001/02	16.4	20.8	0.4
CAR	2000/01	33	27	28
	2003/04	31	17	15
	2004/05	30	21	20
Chad	1998/99	25.9	16.3	17.0
	1999/00	24.6	15.8	17.0
	2000/01	25.5	-	-
Togo	1998/99	31.2	21.1	30.8
	1999/00	27.0	18.4	31.1
	2000/01	24.0	17.9	28.5

Source: extracted from Country Status Reports of such countries

Over the course of recent years, some countries have tried to put into place policies aimed at reducing repetition. As a result, countries such as Benin have sharply reduced their repetition rate in primary education by about half (from 24 per cent to 11 per cent) between 2003/04 and 2006/07 (Table 1.6). In other countries such as Guinea Bissau, Cameroon and Togo, the decline is not as important as in Benin, implying that the reduction of repetition remains one of the core challenges of the educational system in these countries. Unlike these countries, repetition rates in primary schools have remained stable in Chad and CAR.

A key point is that repetition and dropout are very expensive for educational systems. Paying for repeated years or years of dropout by students before the end of the cycle is considered to be a very inefficient means of using resources. An efficiency indicator, called the coefficient of internal efficiency, may be computed to this end (Cf. Annex). It ranges from 0 (for a system that would produce no leavers) to 1 (for a system with no repetition and no dropout). Therefore, a ratio of 0.7 or 70 per cent, for example, means that 30 per cent of resources mobilized are used to finance the costs of repetition and the education of pupils who drop out before the end of the cycle. The following table presents some estimates in Benin, Guinea Bissau and Malawi.

Table 1.7
Coefficient of internal efficiency in primary and secondary levels
in Benin, Guinea Bissau and Malawi

	Benin		Guinea Bissau	Malawi*
	2001/2002	2005/2006	2005/06	2006/07
Primary	58%	76%	54%	35%
Lower secondary	62%	64%	67%	66%
Upper secondary	73%	78%	79%	

Note: * Malawi has a primary cycle of eight years. Data in coloured cells are for the overall secondary cycle.

Source: CSR (2009),CSR (forthcoming)

The coefficient of internal efficiency has grown very positively in Benin, at the primary level from 58 per cent to 76 per cent between 2001/02 and 2005/06, meaning that efforts have been made to reduce spending linked to repetition and dropout. However, no significant change can be observed at the secondary level. In the case of Guinea Bissau, data are not available to examine trends in internal efficiency, but it is particularly surprising to observe that about half of education resources are absorbed by repetition and dropout at the primary level in 2005/06. The coefficient of internal efficiency appears particularly weak at the primary level in Malawi, where the cycle is 8 years. It is equal to about 35 per cent in 2007, implying that 65 per cent of public resources are absorbed by

repetition and dropout, a figure that is worrying to say the least.

Internal efficiency considers both the completion of the schooling cycle and the number of years to do so. However, it is also important to take into account the knowledge and competencies which students are supposed to acquire.

1.4.3   The quality of learning

Regional evaluations (PASEC, SACMEQ) as well as international evaluations (TIMSS, PIRLS) show the shortcomings of African education systems. Without a doubt, the situation is not identical in all countries and even within countries. Nonetheless,

it is evident that this is a key aspect of any education policy in Africa. Teachers are obviously the key actors in policies to improve the quality of learning.

The analysis of this question requires us to examine whether students have acquired the competencies and knowledge that they are supposed to acquire at school. In order to do this, data on learning outcomes must be mobilized. For this purpose, we prefer to refer to standardized evaluations which respect a number of criteria[6] and which permit us to ensure the reliability of their results.

In Africa, two regional programmes produce regular evaluations and furnish information on a total of about 30 countries. The SACMEQ programme has conducted evaluations on students in sixth grade in countries in East and Southern Africa between 2000 and 2006 (SACMEQ II). These tests covered English and mathematics. There were eight levels of competency for each subject area, organized hierarchically, with level 4 established as the minimum desired level. These levels can be used to identify the competencies which the students acquired or did not yet acquire. Table 1.8 presents the proportion of sixth grade students who did not acquire the desired minimum SACMEQ competencies in certain countries.

Standardized assessments, whether in a national or international framework, seek to evaluate the learning outcomes not of individual pupils but of the entire educational system or a clearly defined part of the system (such as students at fourth grade level or 15- year old students). In this regard, they are based on standardized tests accordingly constructed and administered in the

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6 Ces évaluations cherchent généralement à évaluer les résultats d'apprentissages pour un niveau donné mais pour l'ensemble du système éducatif (exemple les élèves de 4ème année du primaire), ce qui implique une méthodologie d'échantillonnage bien spécifique. De plus, elles sont basées sur des tests standardisés qui sont administrés dans les mêmes conditions à tous les élèves retenus. Enfin, la correction est également normalisée.

same conditions. Correction is also standardized with the same codification, and no place is given to teacher discretion. For these reasons, it is commonly used to situate the level of learning outcomes at national level and for international comparisons. However, such assessments are rare and require significant costs. SSA countries have only very timidly ventured into this type of exercise. When these data are not available in a country, national examination data can be used.

Table 1.8
Proportion of sixth grade pupils not reaching level 4 in English and mathematics

Countries	Proportion not reaching level 4 in English	Proportion not reaching level 4 in mathematics
Botswana	26.2%	64.9%
Kenya	16.4%	41.4%
Lesotho	63.2%	92.7%
Malawi	78.1%	97.8%
Mauritius	32.4%	42.4%
Mozambique	17.4%	54.7%
Seychelles	19.2%	46.8%
South Africa	50.1%	76.0%

Source: computation from SACMEQ II data.

It appears that in the countries considered, a large proportion of children end primary education without the minimum desirable skills in English and mathematics. The proportion varies considerably between countries and disciplines. We see that the proportions are much higher for mathematics, indicating that many students do not achieve level 4. Moreover, the figures vary from 16 per cent to 78 per cent in English, and from 41 per cent to 98 per cent in mathematics. The figures are particularly high in Malawi, Lesotho, and South Africa, both in English and mathematics.

In certain French-speaking SSA countries, learning in French and in mathematics for second and fifth grade pupils of primary education has been studied by the PASEC programme. These

tests were not organized by skill levels as in the case of SACMEQ. But considering the structure of the tests, an arbitrary threshold of 40 per cent of correct answers is used as a minimum desirable. Results in some countries are presented in Table 1.9.

Table 1.9
Proportion of fifth grade pupils with less than 40 per cent of correct answers in PASEC tests
(French + mathematics)

Years of evaluation	Countries	Proportion with less than 40% of correct answers
2003-2004	Mauritania	88.6
2003-2004	Chad	82.5
2004-2005	Benin	80.0
2004-2005	Cameroon	39.5
2004-2005	Madagascar	43.4

Source: PASEC

Here also, it appears that in the countries considered, a significant proportion of pupils almost at the end of primary education do not have the minimum desirable level in French and mathematics. The proportion is particularly high in Benin, Chad and Mauritania.

Macroeconomic and budgetary aspects, the demographic context and the school context have allowed us at this stage to have a reasonably realistic vision of the general context. We must now complete this analysis with a description of the teaching force.

1.5 The teaching force

Over the last ten years, because of the rapid expansion of schooling but also because of the various financial constraints in SSA countries, changes have been observed in the teaching force. In order to situate teacher issues more broadly, it is important to document these changes, and firstly in terms of the growth in teacher numbers. It should be emphasized that any growth in school enrolment generally implies recruiting more teachers or increasing the number of students per teacher (Pupil-Teacher Ratio or PTR). Consequent to the growth in enrolment observed in most SSA countries, knowing the growth in teacher numbers is necessary in order to appreciate government efforts to improve schooling conditions. Graph 1.9 presents the case of Benin in primary education.

Graph 1.9
Growth in teacher numbers in Benin, 2000-2007
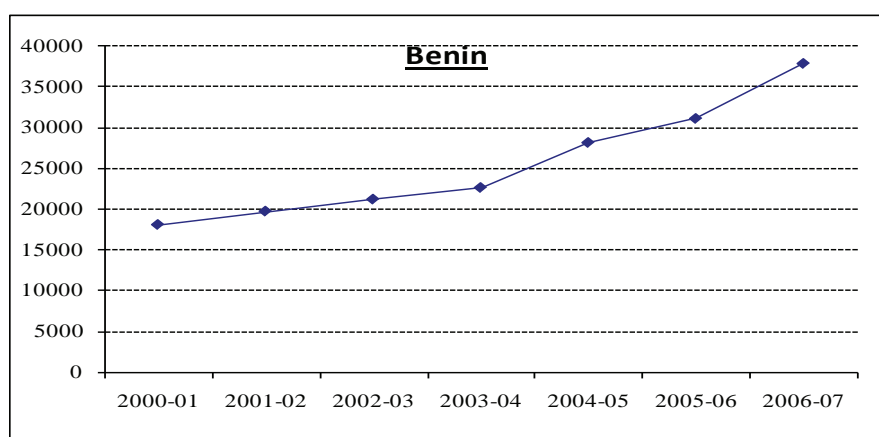
Sources: CSR (2009)

The number of teachers has doubled in the course of the period, from about 18,064 teachers in 2000/01 to 37,871 teachers in 2006/07. It is important to document the evolution of teacher numbers, not only in primary education but also at other education levels. Table 1.10 presents the number of teachers in various countries, by level of education.

Table 1.10
Numbers of teachers in various countries, by level of education

	Pre-primary	Primary	Secondary	TVET	Teacher training school	High education
CAR (2005)	229	4826	1435	232	187	918
Togo (1999/00)	-	24351	7611	960	89	1505
Cameroon (2002/03)	2351	26456	15784	6198	1992	-
Guinea Bissau (2006/07)	89	4327	1403	50	32	25
Mali (2004)	318	23718	1895	932	324	724
Mauritania (2006)	-	10150	3187	23	121	262
Rwanda (2003)	-	24982	3257	-	-	-

Sources: Extracted from CSR of different countries

The primary level shows a high number of teachers in all of the countries, certainly because of the emphasis on this level. Naturally, it is interesting to examine these teacher numbers in light of student numbers to see if the number of teachers and its evolution responds to the needs linked to the extension of schooling observed in the majority of countries. It is thus useful to examine the PTR.

Table 1.11
Pupil-teacher ratios in some African countries

Countries	Years	Primary	Secondary			TVET
			Lower Secondary	Upper Secondary	All	
Benin	1990 1999 2005/06	48 54 47 (73)	- - 36 (200)	- - 19 (64)	35 52 32 (149)	- 17 13 (33)
Guinea Bissau	2006	48	-	-	22	13
Cameroon	1990-93 1993-96 1996-99 2001-02 2004/05	51 52 52 58 48			30 28 25 35 -	15 14 16 17 -
Ethiopia	2001-02	65.3	-	-	51.5	-
Chad	2003	72	39.1	47.7	-	-
Malawi	1999 2007	64 80 (86)	- -	- -	- -	- -
CAR	1981/82 2004/05	61 92				
Togo	1999/00 2004/05	40.4 34	53.8 -	29.2 -	47.7 -	11.7 -

Note: In brackets, PTRs do not take into account community teachers (case of Benin) and volunteers (case of Malawi).

Sources: CSR (2009), CSR (forthcoming)

It appears that the PTR varies between countries, and in a given country, by level of education. For example, there was an average of 47 students per teacher in primary, 32 in secondary and 13 in TVET in Benin in 2005/06. Some countries have been able to decrease their PTR, notably by recruiting contract and/or community teachers. This is the case in Benin, Cameroon and Togo. Without the recruitment of community or contract teachers, the PTR would have been worse, for example up to 73 students per teacher in primary, 149 in secondary and 33 in TVET in Benin. In contrast, some other countries such as Malawi and CAR have recorded degradation in PTR over time in the primary level. The need for teachers thus appears more important in such countries. However, these average results should not hide the fact that very significant differences are noticeable between schools and geographical areas, as will be further explained in Chapter 4. An indicative benchmark of 40 pupils per teacher has been established in the indicative framework of the FTI. The majority of countries are largely over this figure.

In order to have a more precise vision of teacher needs in the framework of the goal of UPE, we can use an indicator other than PTR, based on the same principle. Essentially, instead of relating the number of students to the number of teachers, we can relate the number of primary school-aged children to the number of teachers (Nkengne Nkengne, 2009). We can thus obtain an indicator of the intensity of the teacher shortage vis-à-vis UPE. Table 1.12 presents the results obtained for this indicator in different countries.

Table 1.12
Intensity of teacher shortage in some African countries

Countries	Year considered	Indicator
Benin (BN)	1997	72.2
Burkina Faso (BF)	1999	111.7
Burkina Faso (BF)	2001	104.3
Cameroon (CM)	1999	58.2
Cameroon (CM)	2003	51.6
Central African Republic (CA)	1999	116.0
Central African Republic (CA)	2005	132.0
Chad (CH)	1999	106.8
Chad CH)	2003	94.7
Ivory Coast (IC)	1999	57.1
Ivory Coast (IC)	2005	63.6
Guinea (GN)	1998	89.7
Mali (ML)	1998	168.2
Niger (NG)	1998	135.8
Senegal (SN)	1995	105.3
Togo (TG)	1991	62.2

Source: Nkengne Nkengne (2009)

The sample of Francophone African countries considered here presents an indicator of the intensity of teacher shortage, which varies from 51 (in Cameroon) to 168 (in Mali). This signifies that if all children had been enrolled in school during the year 1998, each teacher would have had to take on an average of 168 students, which shows clearly that there was a large teacher shortage. If we take the standard of 40 students per teacher, it would then have required four times more teachers in Mali in 1998. This indicator thus permits us to rapidly measure the amplitude of the teacher shortage in a given country.

Conclusion

This chapter has a goal of providing the general context in which the teacher issue is situated. It is likely that other elements not examined here may appear pertinent to take into consideration in the general context in certain countries. The point here is to have the key elements rather than act as an exhaustive guide.

The different elements considered here will be evoked again and further developed in the following chapters. This initial chapter establishes the overall plot, the others must tell the story. The second chapter will thus present the first act; it will focus on a crucial aspect that has been evoked several times in this chapter, the estimation of teacher needs.

Chapter 2

Teacher needs

One major constraint for many SSA countries is having enough teachers to meet goals relating to expansion of enrolment. This constraint is particularly apparent in countries which are still a long way from having achieved UPE. Thus particular attention must be given to estimating the number of teachers needed. To do this, specialists make use of projection techniques described in this chapter.

Various projections of the number of teachers needed to achieve UPE have been made in order to make the international educational community aware of the implications. Thus according to the UNESCO Institute for Statistics (UIS), approximately 10.3 million new teachers will have to be recruited across the world between 2007 and 2015 to achieve UPE. The figure is 2.3 million for SSA. This type of projection is a useful tool for raising awareness and a means of comparing the current recruitment rate with expected needs. These projections provide the authorities with information on the teacher gap that must be filled if UPE is to be achieved on schedule. The projections must nevertheless be supplemented and contextualized nationally to provide the more detailed information that each country needs to plan and implement teacher recruitment. The first step is therefore to estimate the number of teachers needed for future years for each level of education and each subject in line with the country's education goals.

This chapter provides a simplified introduction to the general framework used for estimating teacher needs. A distinction is drawn between one teacher in charge of a single pedagogical group (as is generally the case in primary education), a teacher teaching a number of pedagogical groups, and where one pedagogical group has several teachers (as in secondary education). At the end, comments on the projections are included to enable readers to scrutinize any projections that may come their way. In practice, it is first necessary to study existing projections of the number of teachers needed in future years at all levels of education in a given country, bearing in mind the model selected and used by the country where these projections exist. Study of the model will focus on the choices made for the main variables (enrolment and pupil/teacher ratios, attrition, repetition, etc.). New projections may be made if necessary to test new assumptions, for example, or simply to update existing projections. If there are no official projections, the first step will be to produce them together with specialists from the Ministry of Education on the basis of the country's education goals. The object is to ensure that a reliable range of teacher numbers needed in the country is available for each level of education and for core secondary-school subjects.

2.1 Estimating teacher needs: one teacher per class

In most countries, pre-school and primary education is so structured that a single teacher is in charge of just one pedagogical group. This type of organization has implications for the projection of teacher needs.

There are three steps to estimating teacher needs for an organizational structure with just one teacher per class. Firstly, it is necessary to ascertain the

number of children requiring school places each year. This requires information on the school-age population and its growth, as well as enrolment ratios and completion rates. It is also important to consider repetition rates where repetition exists, since it entails additional pupils in the system. Once the number of pupils requiring school places each year has been estimated, the second step is to combine these estimates with the system's main operational variables, such as PTR and average number of pupils per pedagogical group, number of pedagogical groups and share of private education. This makes it possible to determine the number of teaching posts needed in the system. The final step is to work out the number of new teachers to be recruited annually in the light of attrition and the number of posts needed.

To illustrate this procedure, we shall now take an imaginary example in primary education, the level on which attention is focused. It has the additional advantage of a clear quantitative target shared by every country: the goal of UPE adopted in Dakar in 2000.

Step 1: Determining the number of children requiring primary school places every year

This is the first factor to be considered when determining teacher needs. To this end, population data (on growth and age structure) must be used to identify the school-age population. Reference should usually be made to projections produced by demographers working at national level[7] or else at the international level (such as those from the United Nations Population Division). Since the aim is to provide primary education for the whole of the school-age population, it is also necessary to consider rates of gross intake and current completion and calculate how much they would have to rise each year to achieve universal primary completion. A linear projection is often used for this purpose.

7   However, the reliability of the available data should be checked. Age data are not always available and require additional work.

Box 2.1
The principle of linear projection

Let us take the imaginary example of Country A with a 70% completion rate in primary education for 2009 and with UPE to be achieved by 2015. UPE entails the country increasing its core completion rate from the current 70% level in 2009 to 100% in 2015, a 30% increase over the next six years. A linear projection assumes a steady rate of change; in this case the annual increase for the next six years would be five per cent (30% divided by six). This means that the completion rate should be 75% in 2010, 80% in 2011, 85 per cent in 2012, 90% in 2013, 95% in 2014 and, finally, 100% in 2015. Graph 2.1 illustrates this example.

Graph 2.1
An example of linear projection of completion rates in Country A
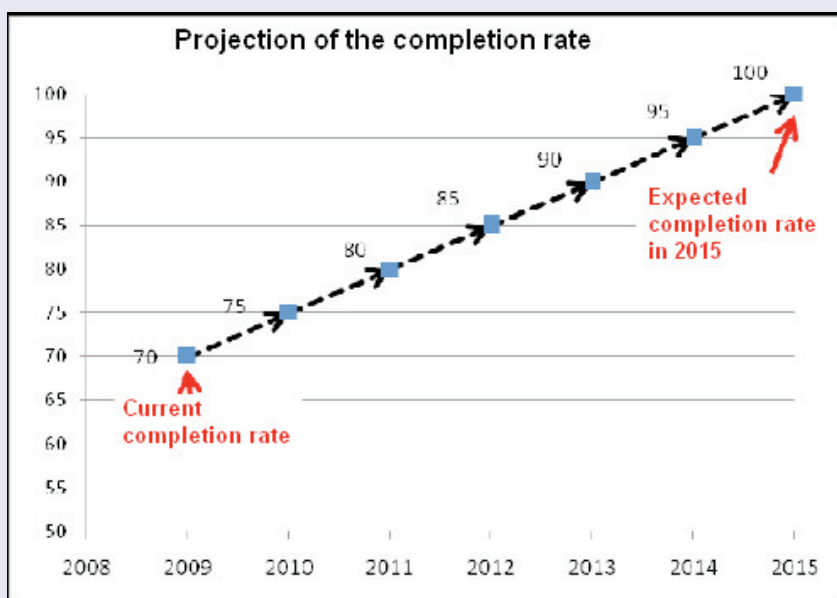
Projections for school-age population are based on demographers' own models and take account of assumptions regarding birth and death rates, migration, etc. These projections are often made for population groups which do not match school age groups. Additional work is then necessary to obtain age data that can be used to reconstruct these groups. This exercise may reveal inconsistencies in the projections because of technical problems with population projections and also age misreporting. One well-known phenomenon is "rounded age', where respondents tend to round off an age rather than report the actual age; for example, they will report an age of 10 rather than 9 or 11. This leads to bias, which should be corrected. Smoothing techniques are often used in such cases to obtain data consistency. However, ideally, population projections should be repeated to take account of these problems, although unfortunately this is not always possible for studies of this sort.

To simplify matters, we shall here take the example of a fictitious country where we assume that there are no problems with population data and where the school-age population (7-12 years of age) is 100,000 in 2009 and increasing by an annual average of 3 per cent.

Table 2.1
Growth of school-age population in a fictitious country

Year	2009	2010	2011	2012	2013	2014	2015
School-age population (7-12 years of age)	100,000	103,000	106,090	109,273	112,551	115,927	119,405

Since the school-age population data are known, projections should be made for intake, completion and repetition rates with the aim of achieving UPE by 2015. The 2009 column in Table 2.2 provides the information on the initial situation. Linear projections are made for the above three rates.

Since the intake rate is already high, 2011 is the year set for reaching the 100 per cent mark. The completion rate will reach 100 per cent in 2015. As for the repetition rate, the target is 10 per cent in 2015 as against 16 per cent in 2009.

Table 2.2
Linear projection of main education variables for UPE

Year	2009	2010	2011	2012	2013	2014	2015
Intake rate	92%	96%	100%	100%	100%	100%	100%
Completion rate	70%	75%	80%	85%	90%	95%	100%
Repetition rate	16%	15%	14%	13%	12%	11%	10%
Gross enrolment ratio	96%	101%	105%	106%	108%	110%	110%

It should here be pointed out that the gross enrolment ratio (GER) is derived from the above three rates; it is therefore not a projection but an estimate (see Box 2.2). The GER is defined as the ratio between the number of pupils enrolled and the total number of school-age pupils - essential information that has to be estimated.

Box 2.2
Formulas for estimating gross enrolment ratio (GER)

If repetition rate > 10%

GER = (intake rate + completion rate)/2/(1 − (repetition rate/100))

If repetition rate < 10%

GER = (intake rate + completion rate)/2 x (1+ (repetition rate/100))

The above projections are based on assumptions that take account of the national context. For example, if we anticipate a decrease in the repetition rate, as in our example, this must relate to a measure to bring this about, otherwise the assumption of a fall will be unjustified. It is very important to ensure that assumptions are realistic if the projections are going to provide forecasts that can be used by decision-makers. They may also prompt these decision-makers to introduce

certain measures; we shall return to this aspect at the end of the chapter.

Knowledge of population and education projections can be used at this stage to determine the number of pupils to be enrolled annually in primary education in our imaginary country up to 2015 in order to achieve UPE. If we know the GER and the population of primary-school age, we simply have to multiply these two variables together to find the number of pupils to be enrolled in any given year.

Table 2.3
Projection of number of children to be enrolled each year to achieve UPE

Year	2009	2010	2011	2012	2013	2014	2015
School-age population (7-12 years of age)	100,000	103,000	106,090	109,273	112,551	115,927	119,405
Gross enrolment ratio (percentage)	96%	101%	105%	106%	108%	110%	110%
Number of children enrolled	96,000	104,030	111,395	115,829	121,555	127,520	131,346

Table 2.3 shows the results for our chosen example. However, the number of pupils to be enrolled is not enough to determine teacher needs. A further factor to be taken into account is average number of pupils per teacher in the system and therefore the number of teachers needed in the system.

Step 2: Determining the number of teachers needed in the system

The most important variable to be taken into account in primary education is the PTR or, in other words, the average number of pupils per teacher. The greater the number of pupils per teacher, the fewer teachers will be needed, but at the risk of jeopardizing educational quality if pupil figures are high.[8] The FTI has laid down a benchmark of 40 pupils per teacher in primary education. This figure is often taken as a target, but it goes without saying that PTR must be considered in the context of each individual country. As in the case of the other variables, its likely change over future years must be determined. In our imaginary country, the PTR is 70 in 2009 and we assume a target of 40 for 2015 (see Table 2.4).

Table 2.4
Projection of average number of pupils per teacher

Year	2009	2010	2011	2012	2013	2014	2015
Average number of pupils per teacher	70	65	60	55	50	45	40

Achieving the benchmark of 40 means reducing the average number of pupils per teacher by five per cent every year up to 2015.

Knowing the average number of pupils per teacher means that the average number of teachers needed annually can be worked out by simple logic, being obtained by dividing the number of children enrolled each year by the average number of pupils per teacher. Thus in our example there ought to be 3284 teachers in 2015 – a steep increase, by a factor of 2.4, between 2009 and 2015.

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8   This comment also applies to the multiple-shift system, where one teacher teaches several groups of pupils.

Table 2.5
Projection of overall teacher needs

Year	2009	2010	2011	2012	2013	2014	2015
Number of children enrolled	96,000	104,030	111,395	115,829	121,555	127,520	131,346
Average number of pupils per teacher	70	65	60	55	50	45	40
Number of teachers	1371	1600	1857	2106	2431	2834	3284

This is a projection of overall teacher needs annually. It shows how many teachers are needed each year but does not tell us whether they are in the public or the private sector, which a decision-maker needs to know, if only for labour costs. It may be useful to refine this projection a little by distinguishing between the private sector and the public sector. To do this, we only need to know the proportion of children enrolled in the private sector and project the change in this proportion. A private sector PTR must also be taken into account; to simplify matters, we shall here take the same PTR for both public and private sectors.

Table 2.6
Projection of overall teacher needs by sector (public/private)

Year	2009	2010	2011	2012	2013	2014	2015
Number of children enrolled	96,000	104,030	111,395	115,829	121,555	127,520	131,346
Percentage of private-sector pupils	10%	10%	10%	10%	10%	10%	10%
Private-sector PTR	70	65	60	55	50	45	40
Public-sector PTR	70	65	60	55	50	45	40
Number of private-sector teachers	137	160	186	211	243	283	328
Number of public-sector teachers	1234	1440	1671	1895	2188	2550	2955

Table 2.6 provides data for the fictitious example used to illustrate this approach. In this fictitious country, 10 per cent of pupils are enrolled in the private sector in 2009 and it is assumed that this proportion will remain constant until 2015. Moreover, the PTR is the same as in the public sector (70 pupils per teacher), and we are keeping the target of 40 pupils per teacher by 2015. Taking these factors, it is estimated that 2955 teachers will be needed in the public sector and 328 in the private – a significant increase between 2009 and 2015. However, at this stage we do not yet know how many teachers must be recruited to attain this total. This is determined in the last step.

Step 3: Determining annual recruitment needs

The previous steps were used to determine the number of teachers needed to achieve UPE by 2015. However, planning recruitment means determining the number of teachers that must be recruited annually. To this end, account must be taken of both the number of new posts needed each year and the number of teachers who will have to be replaced annually because of retirement, career change or death. The latter aspect, covered by the attrition rate, is often hard to estimate owing to lack of information. Attrition will be studied in greater detail in Chapter 4, but the results of that analysis are used for the projections in this chapter. For our imaginary example, we shall take a constant attrition rate of 3 per cent over the whole period (see Table 2.7).

Table 2.7
Projection of number of new teachers to be recruited annually

Year	2009	2010	2011	2012	2013	2014	2015
Number of private-sector teachers	137	160	186	211	243	283	328
Number of public-sector teachers	1234	1440	1671	1895	2188	2550	2955
Attrition rate	3%	3%	3%	3%	3%	3%	3%
Total number of teachers to be replaced		41	48	56	63	73	85
Number of new private-sector teachers to be recruited		27	30	31	39	48	53
Number of new public-sector teachers to be recruited		243	274	275	349	428	481

Using the various assumptions made in the previous steps, we can obtain projections of annual requirements for new teachers. These projections are of immediate use for planning. However, annual fluctuations in the number of teachers to be recruited may not be consistent with the constraints of the system, and it may be preferable to work out an average over several years. For example, taking a five-year average in this case, it will be necessary to recruit an annual average of 361 teachers between 2011 and 2015 for the public sector.

To make things simpler, the various steps of the projection have been presented separately. However, the factors that have been presented are the components of what is commonly called a model. Their interdependence means that they must all be considered at the same time, which also makes it easy to test the implications of the various assumptions (see Table 2.8).

Table 2.8
Example of a projection model for teacher needs

Year	2009	2010	2011	2012	2013	2014	2015
School-age population (7-12 years of age)	100,000	103,000	106,090	109,273	112,551	115,927	119,405
Intake rate	92%	96%	100%	100%	100%	100%	100%
Completion rate	70%	75%	80%	85%	90%	95%	100%
Repetition rate	16%	15%	14%	13%	12%	11%	10%
Gross enrolment ratio	96%	101%	105%	106%	108%	110%	110%
Number of children enrolled	96,000	104,030	111,395	115,829	121,555	127,520	131,346
Percentage of private-sector pupils	10%	10%	10%	10%	10%	10%	10%
Private-sector PTR	70	65	60	55	50	45	40
Public-sector PTR	70	65	60	55	50	45	40
Number of private-sector teachers	137	160	186	211	243	283	328
Number of public-sector teachers	1234	1440	1671	1895	2188	2550	2955
Attrition rate	3%	3%	3%	3%	3%	3%	3%
Total number of teachers to be replaced		41	48	56	63	73	85
Number of private-sector teachers to be recruited		27	30	31	39	48	53
Number of public-sector teachers to be recruited		243	274	275	349	428	481

This framework for determining teacher needs can be used only when education is so organized that a single teacher teaches just one group of pupils, as in the case of primary education in the example studied. A similar procedure can be followed for pre-school education. However, in secondary and tertiary education, teaching is generally organized by subject. Thus a teacher may be given several pedagogical groups, and one group may require several teachers. The following section explains how to estimate teacher needs for this type of organization.

2.2 Estimating teacher needs: subject-organized education

Organization by subject has some special features which must be considered when using the approach described above to estimate teacher needs. In the first place, other than for primary education, there are no clearly defined quantitative goals with a precise timetable at international level. Reference should therefore be made to national targets when estimating teacher needs. Secondly, it should be remembered that children enrolled in secondary and tertiary education come mainly from the level of education below. For example, children enrolled in lower secondary education come from primary education, children in upper secondary education come from lower secondary education, and children in tertiary education come from upper secondary education. Consequently, transition rates between the different stages of the system are an important new variable to take into consideration when estimating teacher needs. Lastly, one teacher is often allocated to several pedagogical groups. For example, the same mathematics teacher will teach a number of classes in the same subject according to the contact hours laid down for each class. PTR is therefore no longer suitable for determining the number of teachers needed in the system. Estimates must take account of average contact hours per teacher and per pedagogical group for the various subjects taught.

As in the previous section, there are three main steps to estimating teacher needs. The first step is to ascertain how many pupils will require school places at the relevant level of education each year to meet national quantitative targets. This requires data on the school-age population for the level of education in question (lower secondary, upper secondary, etc.) and how this population will change, as well as information on current transition and survival rates, enrolment ratios and completion rates. Here again, it is important to take account of the repetition rate for a more accurate projection of the number of children requiring school places each year. This first step differs little from the method for primary education. It is just necessary to take account of transition rates now because the children requiring school places each year come from the levels of education below and will not necessarily all have access to the level being considered. The second step is also similar to that described in the previous section, since it consists in combining estimates of the number of children requiring school places each year with the system's main operational variables, such as average number of pupils per pedagogical group, to obtain the total number of pedagogical groups required. At this stage, it should, however, be remembered that one teacher may be allocated to several pedagogical groups and one pedagogical group may require several teachers. Just knowing the number of pedagogical groups is not enough to work out the number of teachers needed in the system. Other variables come into play, including the average teacher contact hours and the total contact hours for the various pedagogical groups in each of the curriculum subjects. The last step is to work out the number of new teachers needed taking into account attrition.

Below we shall take the example of lower secondary education to illustrate this method of making projections.

Step 1: Determining the number of children requiring school places each year

This step is virtually the same as that described for primary education. Population data (on growth and age structure) must therefore once again be used to identify the school-age population for this level of education. Projections made by demographers working at the national or international level can again be taken for this purpose. However, it should be remembered that age data are not always available, or may be problematic if they do exist, and additional work may be necessary to make these data usable.

Let us again take the example of a fictitious country without any population data problems and consider the case of lower secondary education. Assuming the school-age population for this level of education (13-16 years of age) to be 75,000 pupils in 2009 and rising by an annual average of 3 per cent, the projections for the next six years are shown in Table 2.9.

Table 2.9
Growth of school-age population for lower secondary education
in a fictitious country

Year	2009	2010	2011	2012	2013	2014	2015
School-age population for lower secondary education (13-16 years of age)	75,000	77,250	79,568	81,955	84,413	86,946	89,554

The principle is the same for the other levels of subject-organized education; care must simply be taken to consider the school age groups for the level in question. When school-age population data are available, projections should be made for intake, completion and repetition rates with reference to national quantitative targets for the different levels of subject-organized education.

It should here be stressed that children enrolled at any level of education come mainly from the level below. Therefore the intake rate for any level of education can be worked out from the completion rate for the previous level and the transition rate between this level and the next. The intake rate for lower secondary education, for example, will be derived from the completion rate for primary education and the transition rate between primary and lower secondary education. Consequently, intake rates are not projected directly but are obtained from the projections of transition rates and completion rates for the level below.

Box 2.3
Formula for estimating/approximating intake rates for subject-organized education

By approximation:

Lower secondary intake rate ≈ Primary completion rate × transition rate between primary and lower secondary education

Upper secondary intake rate ≈ Lower secondary completion rate × transition rate between lower and upper secondary education

Tertiary intake rate ≈ Upper secondary completion rate × transition rate between upper secondary and tertiary education

On the other hand, changes in the other education variables (completion and repetition rates) can be obtained directly by projection with reference to the current situation and national quantitative targets for the relevant level of subject-organized education. These various data (changes in intake, completion and repetition rates) can ultimately be used to work out GERs for subject-organized education employing the formula previously described.

By way of illustration, let us return to the example of our fictitious country and assume that the transition rate between primary and lower secondary education is 40 per cent in 2009. The country may set the goal of raising this to 70 per cent in 2015 in anticipation of the expected achievement of UPE by that date. The projections thus obtained for transition and completion rates for primary education can be used to work out the change in intake rates for lower secondary education over the next six years. Similarly, the country may set the goal of raising its lower secondary completion rate to 40 per cent from its current 10 per cent and bringing down the repetition rate for this stage of education to 10 per cent from its current 16 per cent.

Table 2.10
Linear projection of main education variables in lower secondary education

Year	2009	2010	2011	2012	2013	2014	2015
Primary completion rate	70%	75%	80%	85%	90%	95%	100%
Transition rate between primary and lower secondary education	40%	45%	50%	55%	60%	65%	70%
Lower secondary intake rate	28%	34%	40%	47%	54%	62%	70%
Lower secondary completion rate	10%	15%	20%	25%	30%	35%	40%
Lower secondary repetition rate	16%	15%	14%	13%	12%	11%	10%
Lower secondary gross enrolment ratio	23%	29%	35%	41%	48%	54%	61%

Of course, the method used in this example is based on lower secondary education, but it remains the same for the other levels of subject-organized education. Care must simply be taken to consider the relevant national education variables and quantitative targets. When making projections, it is essential for the assumptions to be realistic if the forecasts are to be of any use for policy-making. Particular attention must be paid to whether national quantitative targets are realistic.

Taking the population projections (Table 2.9) and the education projections (Table 2.10), it is easy to determine the number of pupils requiring school places in future years. We simply have to multiply the school-age population by the GER to find the number of pupils requiring school places in a given year. Table 2.11 shows the results for the example chosen.

Table 2.11
Projection of number of children requiring lower secondary school places

Year	2009	2010	2011	2012	2013	2014	2015
Lower secondary school-age population (13-16 years of age)	75,000	77,250	79,568	81,955	84,413	86,946	89,554
Gross enrolment ratio for lower secondary education	23%	29%	35%	41%	48%	54%	61%
Number of pupils enrolled in lower secondary education	16,964	22,153	27,756	33,795	40,288	47,259	54,180

The number of children requiring school places will increase substantially, rising by a factor of 3.2 from 16,964 to 54,180. This is entirely consistent with the liberal assumptions made regarding intake and completion.

However, the number of pupils requiring school places each year is not enough to determine teacher needs. For the second step, it is necessary to take account of other variables, such as average number of pupils in a pedagogical group, total pedagogical-group contact hours and average teacher contact hours.

Step 2: Determining the number of teachers needed in the system

The most important variable to be taken into account here is the average number of pupils in a pedagogical group. The greater the number of pupils per pedagogical group, the fewer the number of these groups and the fewer teachers needed, but this carries the risk of jeopardizing educational quality if pupil figures are high. While

there is the guideline of 40 pupils per pedagogical group for primary education, no international benchmark has yet been set for secondary education, and so we shall use the same figure here. It goes without saying that the number of pupils per pedagogical group must also be considered in the context of the individual country.

Taking the example of our fictitious country, let us assume that the average number of pupils per pedagogical group in lower secondary education is 70 in 2009 with the aim of bringing it down to 40 in 2015. The projections for meeting this target and the previous estimates of the number of pupils requiring school places each year are used to determine the total number of pedagogical groups required at this level of education. Thus in our example there ought to be 1355 pedagogical groups in lower secondary education in 2015, i.e. 5.6 times more than the initial number of such groups. It must of course be considered whether such growth is physically and financially sustainable.

Table 2.12
Projection of average number of pupils per pedagogical group and total number of pedagogical groups in lower secondary education

Year	2009	2010	2011	2012	2013	2014	2015
Number of pupils enrolled in lower secondary education	16,964	22,153	27,756	33,795	40,288	47,259	54,180
Average number of pupils per pedagogical group in lower secondary education	70	65	60	55	50	45	40
Total number of pedagogical groups in lower secondary education	242	341	463	614	806	1050	1355

We must here remember that it is a feature of subject-organized education that one teacher is usually allocated to several pedagogical groups and one pedagogical group requires several teachers. In fact, just knowing the number of pedagogical groups is not enough to work out the number of teachers needed in the system. Other variables must be taken into consideration, including average teacher contact hours and total contact hours for the various pedagogical groups in each of the curriculum subjects.

To understand the role of these variables in determining teacher numbers, it should first be borne in mind that, for a given subject over the school year, total pupil contact hours are necessarily the same as teacher contact hours. Total pupil contact hours for the whole education system are equivalent to the average pedagogical-group contact hours multiplied by the total number of pedagogical groups. Similarly, total teacher contact hours are equivalent to average teacher contact hours multiplied by the total number of teachers. Using these equivalences, we can work out the total number of teachers needed for each subject at the relevant level of education. The reasoning is illustrated below.

Total pupil contact hours	=	Total teacher contact hours

$\Downarrow$

Total number of pedagogical groups × Number of classroom hours per pedagogical group	=	Total number of teachers × Average teacher contact hours

$\Downarrow$

$$\text{Total number of teachers needed} = \frac{\text{Total number of pedagogical groups} \times \text{Number of classroom hours per pedagogical group}}{\text{Average teacher contact hours}}$$
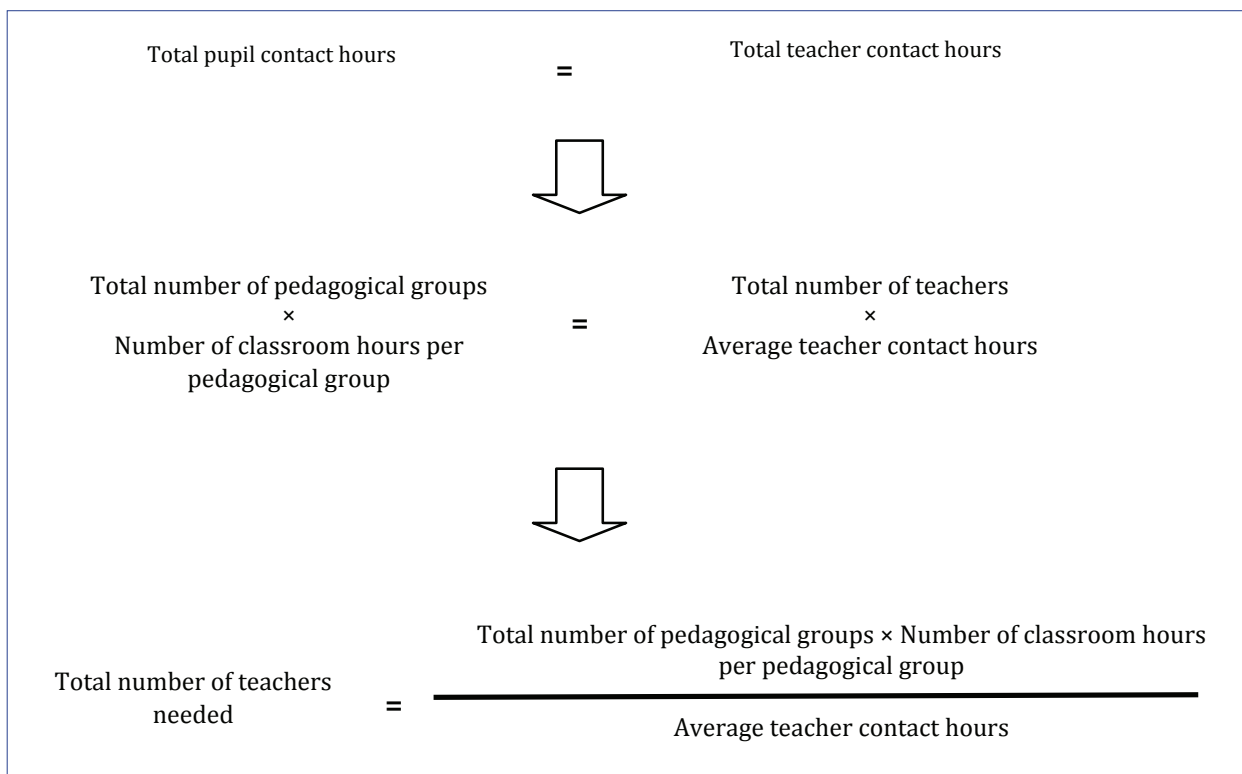
It is therefore necessary to ascertain the number of classroom hours per pedagogical group and teacher contact hours to determine the number of teachers needed. The former can usually be established from current official curricula and remain virtually unchanged in the short and medium term unless a radical reform is undertaken. Teacher contact hours, on the other hand, are also subject to the official norm, but their actual number almost always depends on the efficiency of teacher management and the organizational structure of schools. It is therefore important to consider teachers' actual, rather than theoretical, contact hours. To do this, the number of pedagogical groups must be multiplied by the number of hours of tuition and then divided by the number of classroom teachers in the relevant subject. A more detailed study may be made of schools, particularly to determine whether some of them raise special

problems, as is sometimes the case with small schools.[9] Of course, the lower the average teacher contact hours, the more teachers will be needed.

In our example we shall assume that the country under utilises its lower secondary teachers and is taking steps to increase actual teacher contact hours from the current level of 16 hours a week to 18 hours a week in 2011 by introducing more efficient management. Let us also assume that the number of classroom hours per pedagogical group is 30 hours a week, in line with the current official curriculum. We note (Table 2.13) that the overall teacher need will rise from 454 in 2009 to 2258 in 2015 – a very steep (fivefold) increase.

Table 2.13
Projection of overall teacher needs in lower secondary education

Year	2009	2010	2011	2012	2013	2014	2015
Total number of pedagogical groups in lower secondary education	242	341	463	614	806	1050	1355
Number of classroom hours (per week)	30	30	30	30	30	30	30
Teacher contact hours (per week)	16	17	18	18	18	18	18
Teacher needs	454	601	771	1024	1343	1750	2258

This projection of overall teacher needs only tells us how many teachers are needed each year. It does not tell us how many teachers are needed for individual subjects. However, this is essential information, since planning is carried out by subject. It is therefore very important to refine this projection by calculating the number of teachers needed every year for each subject.

The formulas for calculating the number of teachers overall can be re-used to determine the number of teachers per subject, since total pupil contact hours are simply an aggregation of contact hours for individual subjects. Similarly, total teacher contact hours are the sum of contact hours for individual subjects. The same reasoning can therefore be repeated here, taking the curriculum subjects one by one. Thus the following equivalences can be used to calculate the number of teachers for a given subject.

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9   The existence of all-round teachers must be taken into account here, since it can have a significant impact on teacher needs.
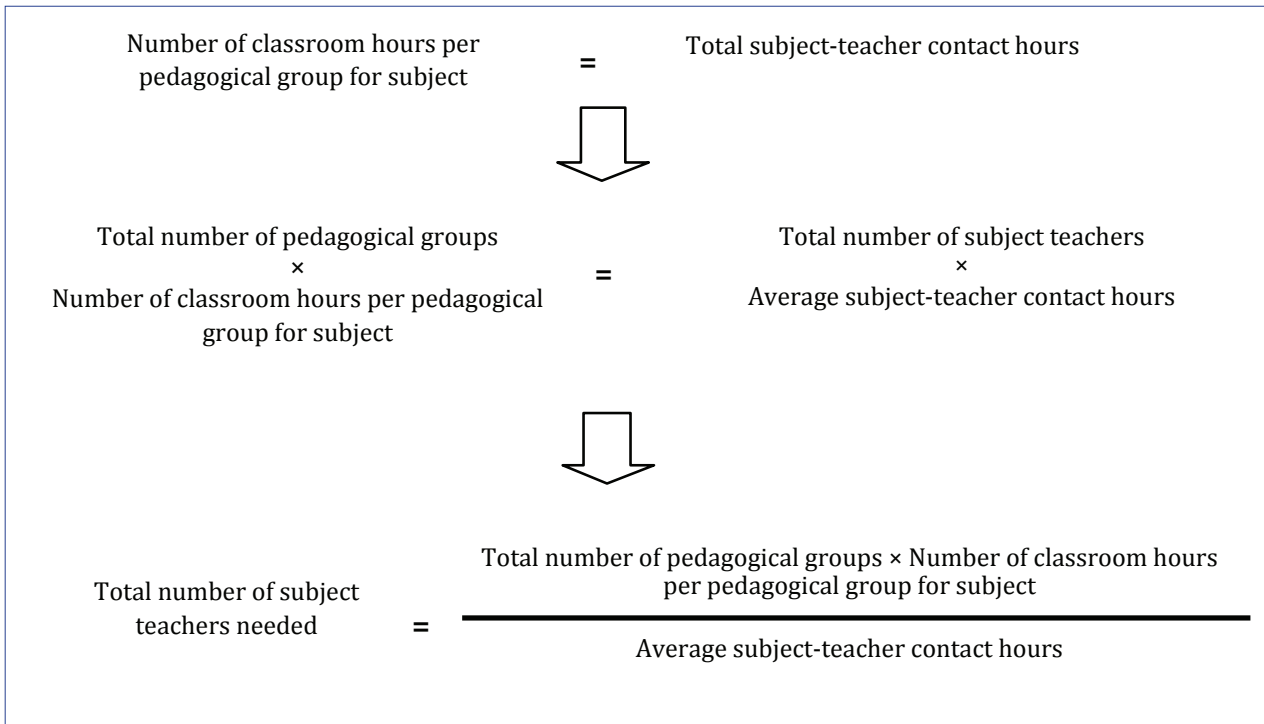
Thus we assume that the number of classroom hours per pedagogical group in French is 6 hours a week in our example[10] and that average French teacher-contact hours will rise from 16 hours a week in 2009 to 18 hours a week in 2011. The projection shows an overall requirement for 508 French teachers in 2015.

Table 2.14
Projection of overall French teacher needs in lower secondary education

Year	2009	2010	2011	2012	2013	2014	2015
Total number of pedagogical groups in lower secondary education	242	341	463	614	806	1050	1355
Number of classroom hours per week for French	6	6	6	6	6	6	6
Teacher contact hours (per week)	16	17	18	18	18	18	18
French teacher needs	91	128	173	230	302	394	508

Projections of teacher needs in other subjects can be obtained in the same way, taking care to take account of the corresponding average contact hours. Ultimately, the sum of teacher needs in the core subjects should correspond to the country's overall teacher needs.

In addition to having an estimate of teacher needs per subject, it is also important for decision-makers to be able to separate the share of the private sector from that of the public sector, if only for labour costs. As in the case of primary education, we just need to know the proportion of pupils enrolled in private education and project the change in this

10 It should be noted that classroom hours in a subject may vary according to the level; there may very well be 6 hours of French in the first year of secondary school and 5 hours in the second year, for example. Separate calculations should therefore be made for each level.

proportion. It should also be remembered that the number of pupils per pedagogical group and pupil/teacher contact hours may be different in the private sector.

Table 2.15 offers an example where 25 per cent of lower-secondary pupils are enrolled in private education in 2009 and we assume that this proportion will remain constant for the next six years. To simplify matters, the number of pupils per pedagogical group is assumed to be the same as in state education (70 pupils), with the same target of 40 pupils per pedagogical group by 2015. The number of classroom hours per pedagogical group is also the same (30 hours a week), and teacher contact hours are 18 hours a week.

Table 2.15
Projection of overall teacher needs by sector (public/private) in lower secondary education

Year	2009	2010	2011	2012	2013	2014	2015
Number of pupils enrolled in lower secondary education	16,964	22,153	27,756	33,795	40,288	47,259	54,180
Percentage of private sector pupils education	25%	25%	25%	25%	25%	25%	25%
Average number of pupils per pedagogical group in public sector	70	65	60	55	50	45	40
Average number of pupils per pedagogical group in private sector	70	65	60	55	50	45	40
Total number of pedagogical groups in public sector	182	256	347	461	604	788	1016
Total number of pedagogical groups in private sector	61	85	116	154	201	263	339
Teacher contact hours (per week) in public sector	16	17	18	18	18	18	18
Teacher contact hours (per week) in private sector	16	17	18	18	18	18	18
Number of classroom hours per pedagogical group	30	30	30	30	30	30	30
Public sector teacher needs	341	451	578	768	1007	1313	1693
Private sector teacher needs	114	150	193	256	336	438	564

According to these data, 1693 teachers will be needed in the public and 564 teachers in the private sector in 2015 – a significant increase between 2009 and 2015. These overall needs by sector (public/private) must also be disaggregated by subject using the formulas produced for this purpose. The number of new teachers needed to meet the targets set remains to be determined. This is the purpose of the next step.

Step 3: Determining the number of teachers to be recruited annually

In this last step we determine annual recruitment needs, taking account of the number of teachers already employed as well as the number of teachers who will have to be replaced because of retirement, career change or death. It is therefore necessary to ascertain the attrition rate for teachers in the relevant stage of education, which is notoriously hard to estimate owing to lack of information. We shall here use the more detailed study of attrition in Chapter 4 for our projections. By way of illustration, we shall take up our example again and assume a constant attrition rate of 3 per cent up to 2015.

Table 2.16

Projection of number of teachers to be recruited annually in lower secondary education

Year	2009	2010	2011	2012	2013	2014	2015
Number of public sector teachers	341	451	578	768	1007	1313	1693
Number of private sector teachers	114	150	193	256	336	438	564
Attrition rate	3%	3%	3%	3%	3%	3%	3%
Total number of teachers to be replaced		14	18	23	31	40	53
Number of new public sector teachers to be recruited		120	141	207	262	336	420
Number of new private sector teachers to be recruited		40	47	69	87	112	140

Using the assumptions made in the previous steps, we find a recruitment requirement of 120 teachers[11] in the public and 40 teachers in the private sector in 2010, 141 teachers in the public and 47 teachers in the private sector in 2011, and, eventually, 420 teachers in the public and 140 teachers in the private sector in 2015. Of course, this analysis must be supported by the above data disaggregated by subject if the results are to be of immediate use for planning. To make things simpler, the main steps have been presented separately. It is nevertheless helpful to show all the main components together in order to be able to test the implications of the key assumptions and to visualize them. Table 2.17 shows a projection model for teacher needs in lower secondary education for the imaginary country in question.

Table 2.17

Projection model for teacher needs in lower secondary education

Year	2009	2010	2011	2012	2013	2014	2015
Lower secondary school-age population (13-16 years)	75,000	77,250	79,568	81,955	84,413	86,946	89,554
Primary completion rate	70%	75%	80%	85%	90%	95%	100%
Transition rate between primary and lower secondary education	40%	45%	50%	55%	60%	65%	70%
Lower secondary intake rate	28%	34%	40%	47%	54%	62%	70%
Lower secondary completion rate	10%	15%	20%	25%	30%	35%	40%
Lower secondary repetition rate	16%	15%	14%	13%	12%	11%	10%
Lower secondary gross enrolment ratio	23%	29%	35%	41%	48%	54%	61%
Number of pupils enrolled in lower secondary education	16964	22153	27756	33795	40288	47259	54180
Percentage of pupils in private sector	25%	25%	25%	25%	25%	25%	25%
Average number of pupils per pedagogical group in public sector	70	65	60	55	50	45	40
Average number of pupils per pedagogical group in private sector	70	65	60	55	50	45	40
Total number of pedagogical groups in public sector	182	256	347	461	604	788	1016

11 The figure of 120 was obtained on the basis of attrition for the previous year (341 x 3%=10) and the additional posts to be created (451 - 341 = 110) to keep pace with the increase in school enrolment.

Year	2009	2010	2011	2012	2013	2014	2015
Total number of pedagogical groups in private sector	61	85	116	154	201	263	339
Teacher contact hours (per week) in public sector	16	17	18	18	18	18	18
Teacher contact hours (per week) in private sector	16	17	18	18	18	18	18
Number of classroom hours per pedagogical group	30	30	30	30	30	30	30
Public-sector teacher needs	340.8	451.1	578	768	1007	1313	1693
Private-sector teacher needs	114	150	193	256	336	438	564
Attrition rate	3%	3%	3%	3%	3%	3%	3%
Number of teachers to be replaced		14	18	23	31	40	53
Number of new public-sector teachers to be recruited		120	141	207	262	336	420
Number of new private-sector teachers to be recruited		40	47	69	87	112	140

This framework can obviously be used for other levels of subject-organized education. However, the assumptions must be in keeping with the level of education considered and take into account the national context.

We have here attempted to present the general procedure for projecting teacher needs according to the type of education. This is not the only method: variations exist, with sundry sophistications, but all projection methods use a similar framework to the one described here.

2.3 A few remarks on the projections

We have seen in previous sections that estimates of teacher needs rely largely on three groups of factors:

(i) Population growth: This largely dictates the increase in the school-age population. For primary education, in particular, it is necessary to determine the number of children who have to be enrolled annually in order to achieve UPE.

(ii) School coverage: Countries may vary in their progress towards UPE goals and therefore in the amount of effort needed to attain these goals.

(iii) The main variables for operation of education systems, such as PTR, classroom organization (single-shift or double-shift), repetition rate, transition rate between levels of education, and attrition: For example, by raising the PTR, countries can reduce their teacher needs, but there is a risk that quality will be jeopardized with very high PTRs. Conversely, a high repetition rate automatically means more pupils to educate and therefore greater teacher needs.

To illustrate how sensitive the choice of variables is, Table 2.18 shows the variation in the number of teachers needed to achieve UPE for a number of assumptions concerning repetition in four countries. Quite obviously, for countries with high levels of repetition, a significant decrease in the repetition rate (between 17 and 22 per cent) will substantially decrease the number of teachers needed to achieve UPE. This is a crucial aspect for key variables: an

attempt must be made to assess the relevance of an assumption but also to make more than one assumption in order to have a range of estimates.

In the case of repetition, it should be ascertained whether there is a policy to reduce repetition, and more than one assumption should be entertained.

Table 2.18
Impact of repetition rates on total number of teachers needed for UPE in four countries

		Status quo	Scenario 1	Scenario 2	Scenario 3
Burundi	Percentage of repeaters	29	20	15	10
	Teachers needed	71,939	63,994	60,230	56,315
	Savings in comparison with status quo scenario	-	-11%	-16%	-22%
Cameroon	Percentage of repeaters	25	20	15	10
	Teachers needed	85,499	80,038	75,239	70,433
	Savings in comparison with status quo scenario	-	-6%	-12%	-18%
CAR	Percentage of repeaters	26	20	15	10
	Teachers needed	19,166	17,657	16,618	15,851
	Savings in comparison with status quo scenario	-	-8%	-13%	-17%
Comoros	Percentage of repeaters	27	20	15	10
	Teachers needed	5,313	4,840	4,556	4,259
	Savings in comparison with status quo scenario	-	-9%	-14%	-20%

Source: UNESCO-BREDA (2009)

Despite the existence of these overall estimates of teacher needs, it is helpful to have more detailed national estimates in order to provide more information for decision-makers. Table 2.19 shows that PTR assumptions have an enormous impact on estimates, and aiming at a PTR of 40 is not always realistic in some contexts. This also applies to the other variables.

More generally, caution must be exercised when making estimates of teacher needs because of the variability of projection outcomes as a result of the assumptions (about PTR, repetition, etc.). Assumptions must be adjusted according to country context. Moreover, it is advisable to have several projections in order to have a range of estimates for national needs.

Table 2.19
New teachers needed in Uganda

	2008-2015	
	PTR=40	PTR=45
Teachers needed	138,612	116,889

Table 2.20
Checking some of the key variables used in projections of teacher needs

Key variables	Check (whether data are reliable and target figures realistic)
Population data	- Data sources - Whether age projections are reliable
School coverage indicators	- Whether indicators used are accurate
Pupil/teacher ratio (PTR)	- Whether PTRs used in projections are realistic
Repetition	- Whether repetition rates used in projections are realistic
Attrition	- Whether attrition rates used in projections are realistic[12]
Share and growth of private sector in education	- Whether assumptions about private-sector share used in projections are realistic
Average actual teacher contact hours	- Whether an estimate for actual contact hours is being used, rather than an official norm

It is also worth providing national authorities with estimates of the number of teachers needed in the light of policies relating to such matters as repetition, PTR and attrition. The example of repetition used above shows that policies can make a difference.

It should be noted that each level of education has technical specificities which must be taken into account in an estimate. For example, demographic constraints (growth of school-age population) are fundamental to estimates for primary education, whereas this factor must be combined with the transition rate for secondary education. Furthermore, at primary level a teacher is often allocated to one group of pupils throughout the school year (except in the rare cases of double or multiple shifts), which is not the case at other levels. It is therefore essential to have a methodology for estimating teacher needs at each level. The following section deals with primary education, while the third and fourth sections deal with lower secondary education and upper secondary education respectively.

The institutional framework must also be considered: which department in the Ministry of Education is responsible for the estimation?

How often are these estimations produced? How are they made available to, and used by, other departments and ministries? These aspects are useful in understanding the teacher recruitment process.

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12 This aspect will be dealt with at greater length in Chapter 3.

APPENDIX

Underlying assumptions of teacher projection models

	UIS, 2006	Colclough & Lewin, 1993	Mehrotra & Buckland, 1998	Brossard & Gacougnolle, 2001	Bruns, Mingat & Rakotomalala, 2003	UNESCO BREDA, 2005
Coverage	Global	97 countries	Global	Global	47 countries	52 countries
Base year	2004	1990	1994	1998	2000	2003
Overall target	NER =100%	GER =100%	NER = 100% and GER =100%	NER =100%	Primary completion rate =100%	Primary completion rate =100%
Repetition	10% or 0.5* country specific rate	0.25* base repetition rate	No assumption made	Implicit assumption based on past trends	Current if <10%, otherwise 10%	Current if <10%, otherwise 10%
Pupil/teacher ratio (PTR)	Current if ≤ 40:1, otherwise 40:1	0.85* base PTR by year 2000	Current, 40:1 and 30:1	Current, 0.90* base PTR by year 2015	40:1	Current if <40:1, otherwise 40:1
Private education	Included	Reach 10% by year 2000	Included	Included	10%	Current if 0% or <10%, otherwise 10%
Source of population data	UNPD* estimates, 2004 revision	World Bank estimates	Does not take into account population growth	UNPD estimates, 1998 revision	World Bank estimates	UNPD estimates, 2002 revision
Attrition	5.0/6.5/8.0	National rate	No assumption made	No assumption made	No assumption made	No assumption made

Source: UIS, Teachers and Educational Quality: Monitoring Global Needs for 2015

* UNPD: United Nations Population Division

Chapter 3

Teacher training

Teacher training is probably one of the most debated issues in the domain of education, particularly in SSA countries. It is, however, an issue on which we have very little information and which, in addition, is quite complex to analyze. The expectations vis-à-vis this chapter will thus necessarily be multiple and difficult to satisfy in the framework of a general analysis of the teacher issue. Essentially, a detailed analysis of teacher training requires specific studies which go much further than is possible here. Of course, when such studies become available, they will be mobilized to enrich this chapter and thus give as complete an image as possible of teacher training. For the time being, we must limit ourselves to the types of analysis proposed in this chapter, which are based on data generally available in Ministries of Education and/or Teacher Training Institutions (TTIs).

The aim of this chapter is to propose different types of analysis in order to attempt to clarify certain issues regarding teacher training. It concerns both initial and in-service teacher training at different schooling levels.

After a first section presenting an overview of teacher training in a given country and the main challenges in this domain, the chapter will first focus on initial teacher training and then on in-service teacher training. The same analytical method will be followed for each category of training. As a first point, the capacities of the training system will be put into perspective with training needs, both in terms of new teachers and initial training and teachers already in post and in-service training. This allows us to see whether the country is prepared for the quantitative challenge with which it is faced. However, the challenge is not only quantitative; in several countries, it is not only a matter of doing more but also doing better, that is, searching to improve what exists or to develop new training. In addition, a second dimension of analysis is reproduced at the same time for each type of training, with the necessary adaptations, and for each level of schooling. The examples cited here aim to illustrate the different types of analysis which can be carried out in the context of a diagnostic exercise.

3.1 Overview of challenges regarding teacher training

It is first useful to examine the global picture regarding teacher training. It is important to identify the numbers of teachers who are untrained or who are insufficiently trained[13] in the education system in order to evaluate the needs in terms of continuous or in-service training. This information completes the estimation of needs in initial training for new teachers as discussed in the previous chapter. Essentially, in knowing the number of teachers who must be trained in the education system and the number of future teachers to train, we obtain an overall vision of the main training needs[14] for a given country. However, it is also interesting to have a more precise vision of training needs in order to examine the quality of teacher

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13 Some teachers have followed very short training sessions (from a few weeks to a few months) which are judged to be insufficient.

14 We note here that challenges in regard to traditional continuous/in-service training will be examined later in this chapter.

training and their competencies where such data are available.

Table 3.1 shows the situation of initial teacher training at the primary level in Southern and East African countries. In this sub-region, Mozambique is the country with the highest share of unqualified teachers (21.9 per cent). However, more than 90 per cent of teachers received at least one year of initial training in these countries, whereas it is on average about 54 per cent in Francophone SSA countries (Bonnet, 2007). One can also face very different situations from one country to another.

Table 3.1
Duration of initial teacher training in primary education in some SACMEQ countries

Countries	Initial training duration					
	No training	< 1 year	1 year	2 years	3 years	>3 years
Botswana	4.8	1.3	0	74.4	10.5	9.0
Kenya	1.3	0.8	0.5	87.3	7.9	2.1
Lesotho	10	3.5	4.2	8.7	44.4	29.2
Malawi	6.3	20.9	22.4	41.0	6.5	3.0
Mozambique	21.9	14.2	3.3	23.2	31.0	6.4
Namibia	3.5	2.3	4.3	26.3	44.9	18.8
South Africa	0.5	0.0	2.8	15.8	42.4	38.5
Tanzania	0.0	1.3	5.1	67.9	23.2	2.5
Uganda	4.1	4.4	3.4	56.8	12.7	18.6
Zambia	2.3	0.8	1.8	91.6	1.3	2.3
SACMEQ	4.7	4.7	5.2	**48.9**	22.7	13.9

Source: Bonnet (2007)

**Evaluation conducted by SACMEQ in 2000/01

To take the concrete example of a country, in Uganda more recent and more complete data show that the percentage of untrained teachers who are in post in primary schools decreased from 8.8 per cent in 2006 to 5.1 per cent in 2008 (Cf. Table 3.2). Despite this improvement, one can see that around 8,000 teachers still lack professional training in Uganda, and more than 2,000 are considered to be insufficiently trained, which is a significant number. At secondary level, there is no improvement during the period, although the total number of untrained and under trained teachers is much lower than at the primary level.

Table 3.2
Untrained and under trained teachers in primary and secondary education in Uganda

Years	Education level	Untrained		Insufficiently Trained	
		Number	%	Number	%
2006	Primary education	13 406	8.8%	2 246	1.5%
	Secondary Education	1 689	3.9%	57	0.1%
2007	Primary education	9 651	6.4%	2103	1.4%
	Secondary Education	1778	3.5%	66	0.1%
2008	Primary education	8095	5.1%	2092	1.3%
	Secondary Education	2129	3.8%	131	0.23%

Source: EMIS data, Department of Planning, MoES

The lack of professional training for certain categories of teachers is obviously an important problem which must be addressed by education policy. But the problem is not only limited to professional skills, as one must also consider the academic level of teachers. In fact, there are teachers in the education system of certain countries whose academic level is clearly insufficient to teach. This phenomenon has been studied by the SACMEQ programme, which administered English and mathematics tests to primary teachers in 12 Southern African countries (Cf. Table 3.3). Eight levels of competencies were identified by SACMEQ. Teachers are all supposed to be at the highest level, meaning level 8. However, the two highest levels were considered satisfactory for teaching at the primary level. A lower level raises serious questions as to the teachers' command of the language of instruction.

In the 12 countries where the study was conducted, the large majority of teachers were at level 8 (65 per cent) or level 7 (28.1 per cent). Nonetheless, around 7 per cent of teachers in these countries did not attain level 7 and thus did not have an adequate level for teaching. There are, however, considerable differences from one country to another. In Kenya or the Seychelles, around 94 per cent of teachers were at level 8 compared to only 19.1 per cent in Zanzibar (Tanzania). In Uganda and Zanzibar, over 20 per cent of teachers did not have the level of English required for teaching, while the proportion was below 1 per cent in the Seychelles. It is thus evident that countries do not necessarily face the same difficulties in terms of teacher training. This is an important point to keep in mind in conducting an analysis of existing data.

Table 3.3
Percentage of teachers per level of skills in English

	% of teachers with a satisfactory level			% of teachers with an unsatisfactory level
	Level 7	Level 8	Total	
Botswana	17.5	82	99.5	0.5
Kenya	6.4	93.5	99.9	0.1
Lesotho	36.3	59.8	96.1	3.9

	% of teachers with a satisfactory level			% of teachers with an unsatisfactory level
	Level 7	Level 8	Total	
Malawi	35.9	58.4	94.3	5.7
Mozambique	37.1	52	89.1	10.9
Namibia	34.1	58.8	92.9	7.1
Seychelles	5.8	94.2	100	0
Swaziland	20.5	76	96.5	3.5
Tanzania	51.1	46.1	97.2	2.8
Uganda	21.9	57.1	79	21
Zambia	15.7	82.4	98.1	1.9
Zanzibar	54.4	19.1	73.5	26.5
SACMEQ II	**28.1**	**65**	**93**	**7**

Source: SACMEQ II

If we consider again the case of Uganda, one can see that the proportion of untrained teachers varies between 4 and 8 per cent depending on the year and the level of education considered (Cf Table 3.2), and this figure evolves to between 8 and 10 per cent if we take into consideration insufficiently trained teachers. In addition, with 21 per cent of teachers who do not attain level 7, it is obvious that an important proportion of trained teachers[4] do not have the required level in English. This raises questions about the recruitment and training of these teachers. We can raise certain concerns about the quality of teacher training when a non-negligible share of teachers having completed professional training become teachers without having the academic level required to teach. This situation also clearly highlights a major challenge in terms of in-service teacher training

This section permits us to study the global situation of teacher training within the education system. It is now important to examine more specifically initial teacher training.

3.2 Initial teacher training

The analysis of teacher training here has three components. The first focuses on the capacities of the education system in terms of initial teacher training. Here, we should compare the existing capacities to the needs of the system as identified in Chapter 2. This will allow the identification of eventual gaps between the needs and the capacities of the system and thus the difficulties which should be anticipated. The second component is more qualitative and considers several criteria in order to characterize the training (student-teacher selection, share of professional experience/teaching practicum during the training, modalities of assessment, etc.). The last component seeks to analyze the effectiveness of the training.

3.2.1   Initial teacher training capacities

It is necessary to examine the current capacity of the training system. For this, it is useful to compare the number of persons trained each year with the needs of the education system at each level. To illustrate this aspect, we consider here the case of Benin. According to UNESCO-BREDA (2009)

projections, the need in terms of primary teachers in the country between 2006 and 2010 in order to reach UPE in 2015 is around 2,300 new teachers per year for public schools. From 2005 to 2008, the global capacity of training institutions in Benin was less than 1,000 seats (including one private institution). Table 3.4 shows that public primary TTIs (called ENI)[15] have capacities of around 300 students each, and the private TTI is smaller with a little more than 80 students. One can note that less than 20 per cent of the students in these institutions are women, which should be a concern for the Ministry of Education not only in a parity perspective but also in terms of girls' retention in school, which is demonstrated to be positively linked to the presence of women teachers.

Table 3.4
Primary student teachers in 2007-2008
by TTI and gender in Benin

ENI	Male	Female	Total
Abomey	241	69	310
Djougou	277	20	297
Djougou II (private)	30	53	83
Porto Novo	235	48	283
Total	783	190	973

Source: Direction des examens et concours, Ministère des enseignements maternel et primaire.

One must take into consideration that TTIs were closed for 20 years in Benin and only three public TTIs reopened in 2005. In 2008, two other TTIs opened, which should increase the total number of teachers trained each year to 1,500[16], still far below the number needed. If we consider these figures for the future, beyond any other consideration, there would be between 10,500 and 15,300 teachers who could not be trained, meaning between 48 per cent and 57 per cent

of the teachers to be recruited according to the estimation retained (Cf. Table 3.5).

Table 3.5
Estimated gap between needs
and capacities of initial training of primary
teachers in Benin

	2008-2015	
	Low estimate	High estimate
Teachers needed	22,041	26,819
Training capacities	11,500	11,500
Gap	10,541	15,319

Source: UNESCO-BREDA (2009) and calculation of the authors

Of course, one should be cautious in regard to the estimated figures for teachers needed because of the variability of the projections according to the assumptions made (on PTR, repetition, etc.). We have considered here two different estimations in order to have a relatively reliable interval of needs. Obviously, the observed gap is too big to deny the fact that there is a large capacity problem for the initial training of primary teachers in Benin in coming next years. The analysis is limited in this chapter to the training capacities of the system, but one should take into consideration the financial aspects of the recruitment of the teachers needed. This is examined in Chapter 5 of this guide.

A complementary aspect to be considered here concerns the attractiveness of the training courses: is the system able to attract enough candidates? The comparison between the number of available places and the number of candidates is a good indicator of attractiveness. For Benin in 2007, 5,850 persons were candidates to access primary teacher training, while only 980 were admitted. One can thus conclude that teacher training is quite attractive in this country. Furthermore, these figures allow us to suppose that if the capacities of TTIs increase, it would be possible to recruit enough student teachers to reach the country's goals.

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15 Ecoles normales d'instituteurs (ENI) are primary teacher training institutions.

16 Since school year 2008-2009, the duration of the training increased from one to two years, but during the second year the student teacher is in charge of a class.

Naturally, the same type of analysis must be conducted for secondary education according to the specific goals for this level of education.

These elements inform us about the quantitative challenges which are faced by the training system in order to ensure the achievement of the education goals which the country has fixed for itself.

3.2.2 Initial teacher training effectiveness

This section aims to clarify the issue of training effectiveness. The aim of initial teacher training is to provide good teachers to the education system, which implies that pupils have good learning achievement with these teachers. This is a relatively complex issue which requires specific research work that goes well beyond what can be done in the framework of a diagnostic as proposed in this guide. However, it is desirable, with some precautions, to mobilize the results of past studies when they exist. Essentially, evaluations that relate the teacher's professional training to what pupils learn in school can provide us with useful information in regard to this issue. Unfortunately, these kinds of evaluations are scarce and often give only limited information. In most of these studies, which were not conceived specifically to analyze this dimension (for example, the standard evaluations of PASEC), pre-service training is measured on the basis of duration, as such mixing up several types of training of the same duration and not always controlling all of the parameters necessary for reliable comparisons (Cf. Annex). Without specific experimental protocol, most of these studies provide us with a rather general image of the effectiveness of teacher training. In place of this, other, less ambitious analyses can be carried out in order to complete our knowledge of this question.

Two types of analysis have been considered in this section. The first is a qualitative analysis which aims to characterize the training on the basis of several criteria, permitting us to establish an analytical grid. The analysis focuses not only on the way in which candidates for teacher training are chosen and evaluated to access the training, but also on the course of the formation and methods to ensure that they acquire the necessary competencies to become teachers. It also examines the modalities of teacher training (duration, organization, share of teaching practices during the training, etc.). The second type of analysis studies the relation between the results of the professional exam and the characteristics of the student teachers, the training institutions and other factors in order to identify the principal determinants of success in these exams. The examples chosen to illustrate the process of analysis come from primary education, but obviously the same analysis must be conducted for secondary education.

(i) The characterization of teacher training

The first aspect to take into consideration is the academic level of the future teachers. While everyone agrees that there is a minimum academic requirement for teaching, there are often diverging opinions about what that minimum is. The studies conducted on the African continent generally push us to consider a minimum threshold corresponding to 10 years of certified schooling for a primary school teacher for example. These studies tend to indicate that the completion of the next cycle is the minimum requirement to teach in a given level of education. Naturally, the information available for each country must be considered here, as there may be differences from one to another. Moreover, we know that, on the one hand, the knowledge of individuals may vary significantly for a given academic level and that, on the other hand, social expectations rise along with the level of education and can sometimes have a negative influence on individual motivation to teach.[17] These two elements should not be ignored in the recruitment process.

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17 Individuals with higher diplomas often have other ambitions instead of that of becoming teachers.

In this respect, we carefully examine how the real academic level of the candidates and their motivation are taken into account in the training. Admission to teacher training is not always very selective (Cf. Table 3.6). If a candidate has the required academic qualification, then he/she is accepted, with a selection based on school records if there are more candidates than places available. Candidates must have completed lower or upper secondary education and be in possession of their diploma (e.g. BEPC, *Baccalauréat*, O-levels, COSC, MSCE) with, for English-speaking countries, a minimum number of "passes" or "grades", particularly in English and mathematics. Amongst the countries considered in Table 3.6, only The Gambia has a more complex system of selection, with an entrance examination and interviews, in order to assess whether the student is really motivated to teach. It must be highlighted that Francophone countries more often use an entry test as we will see with the example of Benin.

Table 3.6
Admission criteria in pre-service training for primary teachers in several countries

	Eritrea	The Gambia	Lesotho	Malawi	Uganda	Zambia
Entry level	End of secondary (grade 12)	End of lower secondary (O Level)	End of secondary, 4 credits (to include English)	End of secondary/ MSCE with a credit in English, a pass in maths	End of lower secondary (O Level and 6 passes including English and maths)	End of secondary with a pass in English and maths
Basis of selection	Academic grades	Academic grades/ entrance exam/ interview	Academic grades	Academic grades	Academic grades	Academic grades

Source: Lewin (2004), World Bank (2007a-g), Authors

However, teaching does not only require a satisfactory academic level and good motivation but also specific pedagogical skills. This means that a student teacher must undergo a professional training which permits him/her to acquire the necessary skills. It is therefore advisable to proceed with the final recruitment of teachers after the assessment of the skills specific to teaching. This means that the candidate should be evaluated during and at the end of training and especially in the course of teaching. In professional training, the assessment of theoretical knowledge cannot replace the assessment of practical skills. It is not a question of the candidate's knowledge of the different pedagogical theories or classroom practices but rather of his/her ability to teach using effective practices that are adapted to a given context. Theoretical knowledge should not be neglected but should rather be considered as fuelling teacher practice.

There is still much to be done in the domain of research to determine the contours of appropriate professional training. The fact is that the ultimate evaluation lies in the ability of the teacher to enable pupils to acquire the knowledge and skills indicated by the curriculum. This evaluation of professional skills proves particularly delicate. In this respect, education systems usually base their evaluation on the observation of the teacher's classroom practice. In this case, an evaluator (trainer, inspector, etc.) attends one or several of the student teacher's lessons. This person's judgment will constitute the reference for evaluation. This practice has several limitations. First of all, the student teacher may adapt his/her behaviour on the day of the assessment in

function of what he/she thinks is expected of him/her and thus not necessarily show what he/she does, or will do, in the classroom but rather what he/she is capable of doing.[18] This problem is particularly accentuated when the observation is limited to one lesson in a class not belonging to the teacher being evaluated. This may be the case for student teachers who are doing internships in a class belonging to another teacher during the course of their professional training. Another limitation concerns the judgment made, which in spite of the use of rigorous assessment models, can vary tremendously from one individual to another, given relatively diverse judgments of what is good pedagogical practice depending on the person concerned. Thus, there is a share of subjectivity which can jeopardize the legitimacy of the evaluation. One way of limiting the scale of this problem is to use several evaluators for each teacher. In any case, assessing the professional skills that give access to the teaching profession cannot just be limited to a one-off classroom evaluation during training.[19] While this is essential, it is not sufficient for pronouncing a definitive judgment on someone's professional skills.[20] To make an evaluation of a student teacher in a real-life situation, he/she must have complete responsibility for a class. It is essential to

scrutinize this important issue of professional skill assessment. Benin and Uganda, where analysis has been conducted for the preparation of this guide, are quite representative of SSA teacher training systems. In both cases, the assessment of professional skills exists but it is limited to a one-off evaluation during training.[21] Furthermore, the weight of teaching practice evaluation is not very important in final examination of the training which allows one to become a certified teacher. As a general rule, the assessment of professional skills is not really a determining factor for gaining access to the teaching profession in many countries. This issue of professional skills gives arguments for analyzing teacher training modalities and in particular focusing on practice in the classroom. The most common form of initial training for new teachers takes place in specialized institutions (teacher training colleges, *écoles normales d'instituteurs*, etc.). This type of training is delivered by public or private structures and is sometimes subject to fees. Training is of variable duration, generally lasting from one to three years. This usually includes a period of practical experience in the classroom, which may last from several weeks to two years (Cf. table 3.7).

Table 3.7
Some characteristics of the pre-service training system for primary teachers
in some Anglophone countries

	Benin	Eritrea	Gambia	Ghana	Lesotho	Malawi	Uganda	Zambia
Duration	1 year + 1 year in classroom	1 year inc. classroom practice (2 weeks and 1 month)	1 year + 2 years in classroom	2 years + 1 year in classroom	3 years	1 year + 1 year in classroom	2 years + 6 weeks in classroom	1 year + 1 year in classroom

Source: Lewin (2004), World Bank (2007a-g), Authors.

18 This risk can be limited by analyzing the pupils' exercise books if the teacher has full responsibility for the class.

19 It can however allow us to note those student teachers with large gaps which prevent them from teaching.

20 Marginally, it can help to identify people whose shortcomings are too severe for them to teach.

21 Benin is changing the organization of pre-service teacher training to a two-year course in which the student teacher has complete responsibility of a class during the second year.

If we compare, for example, Benin or Malawi with Uganda, we can see that for the same total duration of pre-service training, the approach to professional training is very different. In Benin or Malawi, student teachers spend one year in the field with full responsibility for a class. In Uganda, student teachers spend only six weeks in a classroom, and they are not fully responsible because of the presence of the regular classroom teacher. In addition, two or three students are generally together in the same classroom. The Benin and Malawi models seem to be clearly more focused on professional skills than Uganda's model. Nevertheless, before any conclusion, one should take into consideration the support provided to student teachers during their training year in the classroom and, as mentioned earlier, the way in which the professional skills are assessed and weighted in order to have access to the teaching profession. In order to be effective, this training model should provide strong support to student teachers when they are in the classroom. And finally, professional skills should be a determining factor in accessing the teaching profession. This implies examination of these aspects in the analysis.

More generally, there are significant differences in training content (the balance between theoretical subjects and teaching practice), the way in which classroom practice is organized (with or without a mentor, in reference schools, in rural areas, etc.). Even if these aspects are more descriptive, it could be useful to examine them carefully. Furthermore, it is interesting when possible[22] to compare official training programmes and real practices in training institutions. However, this requires surveying a sample of these institutions.

As discussed previously, the additional needs for qualified teachers are going to further accentuate pressure on pre-service teacher training systems in SSA, which will multiply the number of teachers to

be trained by two, three or even four in the years to come, depending on the country. Special attention will be given to this question in this section in order to see if alternative models of training could be suitable to the contexts being studied.

(ii) Effectiveness of Teacher Training Institutions (TTIs)

In many countries, there is an examination at the end of the teacher training course, which allows those who pass it to become certified teachers. Some analysis can be made in order to identify the determinants of the final examination results and to scrutinize the effectiveness of the TTIs. Moreover, if there are data on student results, student characteristics and TTI characteristics and if it is possible to link all of these, then one can analyze the determinants of students' results. Let's illustrate the kind of analysis possible with the example of Benin. In this country, for primary teacher training, there is an entry exam and a final exam. It is thus possible to take into consideration the initial level of student teachers. They are tested in mathematics and French for the entry exam, and then there are three subjects in the final exam: general pedagogy, applied pedagogy and legislation and professional ethics. The other components of the final examination, which are marks during the year and a mark on a professional dissertation, are not included in the analysis because the lack of standardization of these marks does not allow us to make comparisons.

As a first step of the analysis, we can scrutinize student teachers' results on entry tests and on the final examination. In order to simplify the presentation, only averages are analyzed here, but of course results by subject should be examined when doing country level analysis. Table 3.8 shows that there are no significant differences between public TTIs at entry test (9.1-9.6) and at final examination (10.5-10.6). But one can see a huge gap when it comes to the private institution (Djougou II), where the results of students on

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22 It is difficult to get this information without a specific study.

entry tests in mathematics and French seem to be comparatively very low (4.8). Thus the private institution is recruiting students with a lower academic level than public institutions. At the end of the year, there is still a difference but it is a small one (9.6 against 10.6), and one cannot conclude that the private institution is less effective than the public ones because of the lower level of the students. It is even quite surprising to find such a thin gap at the final examination given the larger gaps on the entry test. Naturally, the subjects are not the same for the entry test and the final exam. It is possible that the professional subjects of the final exam have a tendency to reduce the differences between students, but with such low results on the entry tests one can expect lower results at the end of the year for student teachers in the private institution. This raises questions regarding both the pertinence of the initial tests and the final exam as well as the effectiveness of the private institution.

Table 3.8
Primary student teacher results on entry tests and final examination in Benin (2007-2008)

TTI	Average score on entry test* (/20)	Average mark on final exam** (/20)	Number of students
Abomey	9.6	10.6	303
Djougou	9.1	10.6	292
Djougou II (private)	4.8	9.6	51
Porto Novo	9.6	10.5	276

*French and Mathematics

**General pedagogy, applied pedagogy and legislation and professional ethics

Source: Direction des examens et concours and calculation of authors.

To better understand these results, it is necessary to go further in the analysis and to use more sophisticated statistical tools. Several factors are simultaneously involved in the teacher training process and must be taken into account in the analysis in order to disentangle and evaluate the effect of each one. For this purpose, analysts use multivariate analysis which is based on different statistical models (linear or non linear).[23] These models are able, under certain requirements, to separate the effects of a set of factors or variables on another variable (such as exam results).

Table 3.9 presents several complementary models in order to explain the results of the final examination for primary teacher education in Benin. In the first model, initial test results in French and mathematics are introduced. One can see the link between the initial level and the final exam results through positive and very significant coefficients of French and mathematics scores (0.29 and 0.12). The level in French seems to have a stronger impact on final results since its coefficient is more than twice as large as the mathematics coefficient. It is not surprising that language tests, which inform us on the mastery of French, are linked to the result in the final exam. It is also important here to look at the R^2 which is an indicator of the capacity of the model to explain the diversity of the results observed, meaning its capacity to explain the reality. Model 1 explains a little more than 9 per cent of the variance of the final scores. This is not very high but quite usual for this kind of model. The academic level allows us to explain a substantial part of the variance in scores but not as much as one would think.

23 Numerous statistical reference books present these models.

Other variables are progressively introduced in order to see to what extent they improve the initial model. Thus, Model 2 adds the characteristics of students (age, gender and failure on public TTI entry test). R^2 increases by nearly 3 per cent to 12.2 per cent, meaning a significant gain. The older student teachers achieve better results, whereas there is no significant difference between men and women. In addition, students unable to access the public TTIs have, on average, lower results than their fellow students. Naturally, they failed the entry test because of lower results at initial tests and it explains the changes in French and mathematics coefficients. Finally, Model 3 introduces variables identifying the TTIs. One can see that there is no significant change of R^2, which means that there is no difference between TTIs. This result is confirmed by weak and non-significant coefficients. In Benin, TTIs do not make a difference to students' results.

Table 3.9
Multivariate analysis[24] of the results of primary teacher training
final examinations in Benin in 2008

Variables	Standardized[25] mean of final tests results		
	Model 1	Model 2	Model 3
Initial score in French (standardized)			0.21 ***
Initial score in maths (standardized)	0.29 ***	0.22 ***	0.07
The student teacher is a man	0.12 ***	0.06	0.07
Age of the student teacher		0.08	0.04 ***
Failure to enter public TTI (ENI)		0.04 ***	-0.27 ***
TTI = Abomey		-0.27 ***	REF
TTI = Djougou			-0.03
TTI = Djougou II			-0.01
TTI = Porto Novo			-0.10
R^2	9,4	12,2	12,5
Observations	922	922	922

*** = significant at 1% ; ** = significant at 5% ; * = significant at 10%.

There are very few primary TTIs in Benin, and they have little experience in terms of years at the time of the analysis, which can explain the lack of differences. But of course, this is not a typical result. For example, in Uganda where the same kind of analysis has been done, there are huge differences in TTI performance since 15 per cent of the variance in the scores on the primary teacher training final examinations is explained by TTI. Naturally, such large differences between institutions merit the attention of educational authorities.

Another aspect to investigate here is in regard to teacher trainers. Profiles of the trainers are very different from one country to another, and since they are supposed to have an effect on the quality of training, it is worthwhile to collect this information. One can see if there are differences between TTIs and it can also be used in the previous analysis when data are available in order to see the link with students' final results.

To complete the analysis of TTI effectiveness, it is useful to consider costs. First, one can compare teacher training costs to other training costs. In Benin for example, the annual cost per student for primary teacher training is low in comparison to other training costs (Cf. table 3.10). On the other hand,

24 Robust ordinary least squares.
25 Standardized with a mean of 0 and a standard deviation of 1 in order to facilitate the interpretation of the models coefficients.

the cost of secondary teacher training appears very high. In cases where there are large differences in costs, it is interesting to seek information in the field in order to explain them. These differences can be attributed to issues of organization which may be of interest in terms of teacher training policy.

Table 3.10
Training costs in Benin

	Annual cost per student (1000 Fcfa)
ENI (primary teacher training)	258
ENS (secondary teacher training)	1832.9
ENAM (administration and judge training)	532,3
Higher education	406.2

Sources: CSR (2008) and authors

A second category of analysis seeks to link unit cost with results; this is called a cost-efficiency analysis. In Graph 3.1, the analysis is done for primary TTIs (primary teachers colleges or PTC) in Uganda. On the horizontal axis, we have the current expenditure per student and by year, and, on the vertical axis, the percentage of students who passed the final examination. Each dot represents a single TTI. The first remark is about the variety of situations. One can see no clear relationship between expenditure per student and results in the final exam. TTIs with annual current expenditures per student of about 500,000 Ugandan Shillings (USH) (around US $240) obtain very good results in the final exam (nearly 100 per cent), but the same can be said of other establishments with two or three times this amount of expenditure.

Graph 3.1
Relationship between annual current expenditure per student
and percentage of students who passed primary teacher education
final examination in Uganda (2006)
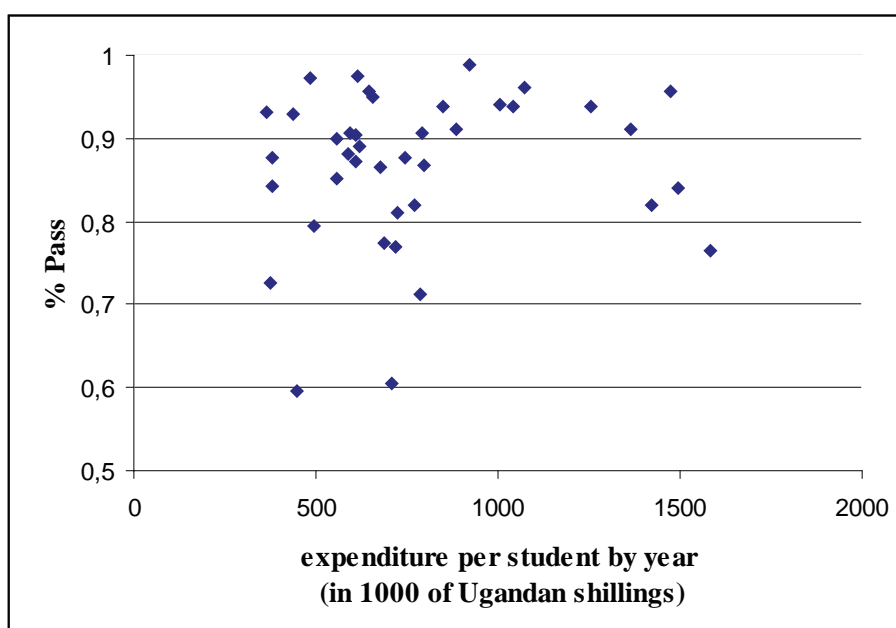
Sources: Department of Planning (MoES), Kyambogo University and calculation of the authors

In addition, if one considers a given amount of expenditure per student, for example around 800,000 Ugandan Shillings (Cf. Ellipse in Graph 3.1), one can observe a variety of results in the final examination, which range from 70 per cent to 95 per cent. Thus with comparable resources, the TTIs obtain different results. Obviously, there are issues of effectiveness and efficiency to address regarding these TTIs. It is necessary to be cautious in the interpretation of these results: the aim is not to rank TTIs in terms of being bad or good. In fact, marked differences inform us about specific situations which should be explored in order to identify paths for improvement. Thus, to go further, it is useful to draw a map of the individual situation of each TTI, in an attempt to characterize them and identify their specificities. We can envisage here doing a complementary survey of a qualitative nature in several establishments in order to better understand their functioning and to clarify the previous results.

The methodology here was illustrated with primary TTIs but similar work must obviously be done for secondary education, with secondary TTIs.

3.3 In-service teacher training

In-service teacher training is a critical issue in many SSA education systems since, as we have seen before, many teachers who are in post in classrooms are untrained, as shown in the previous section. It is thus important to consider the capacity of in-service training to respond to this challenge. In addition, in-service training does not only concern untrained teachers but is also a part of the global management of teacher quality. These two categories of in-service training must be taken into account. The analysis follows the same framework as that explained in the section on initial training; it is thus not useful to repeat it here. The focus here is on the specificities of in-service training.

3.3.1 In-service teacher training system capacities

Firstly, it is useful to have a global vision of in-service teacher training. To that end it is necessary to find information on the number and proportion of teachers who have had in-service training each year during at least the last five years. There are often a lot of stakeholders involved in this domain, and it is not always easy to gather exhaustive data on in-service training. It will be important to dissociate training for untrained teachers from more classical in-service training. One could then assess the capacity of the system to train untrained teachers as well as provide additional training to trained teachers.

In Benin, an important programme of training for untrained primary teachers[26] was put in place in 2007. During a period of three years, all untrained teachers who have the minimum level required (diploma at the end of lower secondary, BEPC) will participate in the training. More than 10,000 teachers are involved. At the end of the training, they will take the same professional exam as that given to student teachers at the end of pre-service training in order to become certified teachers. In Uganda, there is also a specific training for untrained teachers but organized differently in that it is based at TTIs (primary teachers' colleges or PTCs) and more specifically at TTIs which are called "core PTCs". A minimum academic level is also required (O-level), but not all the untrained teachers are involved at the same time. The system's capacity is under 4,000 persons (years 1 and 2), where 15,600 and 11,700 teachers were untrained and under-trained in 2006 and 2007 respectively. Whereas in Benin, the goal is training all untrained teachers in three years, in Uganda the goal is to progressively reduce the number of untrained teachers through an in-service training system linked to the initial training system. Thus there exists two quite different strategies for

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26 These are teachers recruited directly by communities.

dealing with an issue which concerns many African countries.

3.3.2 Effectiveness of in-service teacher training

The existence of several kinds of in-service training in most countries, with different suppliers at times, implies that the analysis should take into account each kind of in-service training. As such, the points elucidated below should be replicated for each type of training.

The first aspect to consider is how the candidates for in-service training are chosen. It is interesting to check if there are priorities and if individuals are selected based on an analysis of training needs. For example, when a large number of teachers are untrained, it is pertinent to examine if they are targeted by in-service training. On this point, it is useful to have a global picture of in-service. It is thus necessary to gather data which are not always readily available.[27]

The next step is to focus on training modalities and particularly the duration of training, its content, the time period, etc. Table 3.11 provides examples of training for untrained practising teachers in five countries. Different modalities can be observed. These involve training during the school holidays and support from tutors at school level in The Gambia and mixed-mode systems comprising a distance learning module and conventional study sessions in Lesotho and Zambia. This type of mixed training consists of distance education (delivered via distance learning aids), training at TTIs during the school holidays and sometimes at the weekend and support from tutors at the school level. Conventional training sessions are usually decentralized and organised close to the teachers' workplaces. The duration of training varies, ranging from 18 months in Zambia to three years in Gambia. This training is intended for teachers who have had little or no training and who have already been teaching for at least two years. The curriculum is generally along the lines of what is taught in full-time, pre-service training, but with the emphasis on practice (Lesotho), and the training is adapted to the learners' needs (Eritrea). These training programmes must take into account the experience already accumulated by the learners, as this is definitely an advantage. However, there is still the difficult issue of the teachers' heterogeneous academic levels. This argues in favour of modular training programmes.

Table 3.11
Characteristics of training for untrained teachers (Distance and work-based learning)

	Benin	Gambia	Lesotho	Uganda	Zambia
Prerequisites	**At least X years of teaching**	**At least 2 years of teaching**	**At least 2 years of teaching and 5 *passes* in the examination at the end of secondary education**		**/**
Modalities	Distance learning module; decentralized conventional sessions	Tutor system at school level; conventional sessions: 9 weeks of lessons distributed throughout the year	Distance learning module; decentralised conventional sessions: 2 weeks and weekends	Tutor system at local level (CCT), conventional sessions in primary teacher colleges (PTCs)	Distance learning module; tutor system at school level; local college-based conventional sessions during holidays
Duration		3 years	/	3 years	18 months
Qualification		Examination: Certificate	Diploma	Certificate (grade 3)	Certificate Diploma

Source: World Bank (2007a-f), Lewin (2004), Authors.

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27 This implies collecting information from NGOs and bilateral/ multilateral cooperation projects.

Finally, an analysis of the effectiveness of different in-serving training should be undertaken when data are available. This means considering the effectiveness and the costs associated with the training conducted by different entities (ministry, NGOs, projects, etc.) When there is a final exam common to all trainings and if data are available, it is possible to use the same approach of analysis as for initial training (Cf. previous section on teacher training institution effectiveness). It is moreover equally interesting to compare the costs of in-serving service training with those of initial training.

Classic in-serving training which targets teachers who have already undergone professional training is more complex to analyze. Firstly, there is often a multiplicity of actors in this sector (often many NGOs), which are not all known and classified. It is thus very difficult to have exhaustive information beyond the number of providers. We must of course collect the maximum information possible on the main providers and their activities, but we must be aware that this is a rather delicate task. It is generally possible to collect descriptive information on the modalities of organization of these trainings (duration, public targeted, content, etc.). However, generally speaking there are no common examinations which allow an analysis on the effectiveness of the trainings provided as explained previously. As such, beyond a specific evaluation framework, which we rarely find, we will not be able to have specific elements in regard to the effectiveness of these trainings. The issue of evaluation is moreover a key element in the analysis of this type of training. The absence of an evaluation process which allows us to appreciate the effect/impact of a training course or session

seems to be a weakness for the coordination of in-service training, which should be pointed out if need be. It is also essential to verify the coherence of the different interventions, notably in regard to content and the public targeted with, among others, the reach of these trainings (number of teachers, categories of teachers, geographical areas concerned). This question of the coherence of the interventions recalls again the modalities for organizing and coordinating in-service training. In effect, in-service training is rarely characterized by a level of organization similar to what we observe for initial training. This is an essential aspect to consider in the analysis.

Finally, it is important to examine the linkages between in-service training and teachers' career progression. This latter aspect is examined in more detail in Chapter 5, but it is nonetheless necessary at this stage to note whether participation in the different in-service trainings considered have an impact on teachers' careers.

It is evident that the different analyses proposed here do not allow us to consider all of the issues in regard to teacher training. A more profound treatment of teacher training is naturally desirable, though beyond the scope of what is possible in the context of an analytical process such as the one proposed here. Nonetheless, the analyses proposed provide us with a certain number of keys to appreciate the challenges concerning teacher education, both in qualitative and quantitative terms. We can anticipate that in certain cases, these analyses will reveal further questions, which will encourage additional analytical work in order to respond to them.

Annex

Teachers' professional training in question

In the previous section, it was stressed that a high academic level was not a guarantee for effective teaching in primary school education. Indeed, the pedagogical dimension is essential and implies specific training for the teacher. This is a more sensitive and complex area than that of academic education. There are diverging opinions on what a good professional training for teachers should consist of, and disputes between specialists can be quite difficult to follow with questions posed about training content, the share of practical and theoretical training and how long training should last. Once again, evaluations that relate the teacher's professional training to what pupils learn at school can help in gaining some perspective on this matter, which is the core of much passionate debate.

In developed countries, as a general rule, every teacher has benefited from pre-service training, which is often identical for all. It is therefore very difficult to draw comparisons in order to identify the impact of professional training. The Bressoux, Kramarz and Prost (2005) study thus constitutes a particularly interesting exception in the framework of rich countries. The authors attempt to estimate the influence of primary school teachers' pre-service training on the achievements of third grade (CE2) pupils in France. They take advantage of a French specificity that allows young graduates to begin teaching without professional training. They take two categories of teachers: (i) beginners with no professional training (36 teachers) and (ii) beginners with professional training (66 teachers). The authors do not observe any significant

difference between the two teacher categories in French, while there is a moderate gap, in favour of those who have been trained, in mathematics. This is certainly disconcerting, since pupils' learning achievements are hardly affected by the fact that their fledgling teacher has been trained or not. This raises questions as to the relevance of the professional training delivered and to the role of experience; however, this result is to be put into perspective with other results obtained in very different contexts.

When we examine the different studies conducted on the African continent (Michaelowa and Wechtler, 2006, Bernard et al., 2004, Mingat and Suchaut, 2000), there is seen to be a relative convergence of results, showing that pre-service teacher training has a very moderate impact, when this is not simply inexistent. These results also figure in a large number of studies including other developing countries. However, it is important to highlight the limits of the data on which these studies are based and which must be properly understood in order to correctly interpret the results. Thus, in most of these studies, pre-service training is measured on the basis of duration. The difference is generally made between a long period of training (one year or more) and a short period of, or even no, training. Even so, a teacher who has benefited from one year of pre-service training recently, say in the last two or three years, will probably have followed a totally different training course from a teacher who benefited from training of the same duration 20 years ago. Indeed, it is easily conceivable that the content and methods of training courses change

over time. The training variable usually used actually compiles the different training courses of same duration that exist or existed. Analysis therefore leads to estimating an average impact of all these training courses. Even so, the absence of a significant positive effect is not reassuring since it means that on average the training delivered has no impact on pupil learning. However, the analyst is not in a position to say whether some training courses have proved more effective than others. These results do not therefore make it possible to conclude that all teacher-training is ineffective, as has sometimes been wrongly put forward. It is therefore of use to have recourse to more specific surveys in order to more precisely address these issues. This type of study is still relatively unusual in poor countries and more particularly in Africa, even if the situation is gradually changing. PASEC has conducted different studies, known as thematic studies, to handle specific topics such as the impact of teacher status and training.

In Guinea, two evaluations of the pre-service teacher training programme (FIMG) were conducted by PASEC in 1999-2000 and 2004-2005. The aim of this programme, with shorter training courses[28] focusing on professionalization, was to train a greater number of teachers (2000 per annum compared to a little over 700 previously) in order to address the challenge of UPE. The new training courses also allowed newly recruited teachers to be contract teachers. The evaluations attempted to compare FIMG teachers with other teachers who had benefited from three years of traditional training. The conclusions of the first evaluation concerning only the first two cohorts indicate very close results between the different teacher categories, slightly lower results in grade

2 for contract teachers and virtually identical ones in grade 5 (PASEC, 2003). This result is all the more remarkable given that FIMG teachers had one year of professional experience at the most at the start of the school year while 85 per cent of the other teachers had over 5 years of experience. As this evaluation was conducted at the beginning of the process, a second study was carried out in 2004-2005 in order to fine-tune the initial results. Its conclusions reinforce those of the previous study since they demonstrate that FIMG teachers tend to be more effective in grade 2 whilst the differences in their favour are not statistically significant in grade 5 (PASEC, 2006b). Overall, the outcome of this policy is very positive with a much greater number of teachers recruited and trained and a more favourable impact on learning. The fact remains that status and training are inextricably connected in the context of Guinea and that the impact of one or the other cannot be distinguished. This also goes to show that professional training is part of teacher policy and that it is useful to consider it in this perspective.

There is a genuine need today to better evaluate teacher training in order to identify the best practices for addressing the needs of the education systems. The case of Guinea is an example of the implementation of a teacher policy along with an evaluation process. It is, nonetheless, exceptional at the present time.

Professional training cannot be handled without talking about in-service training. However, even more so than with pre-service training, there are thorny measuring problems here given the diversity of in-service training. Thus the need for specific evaluations is even more pronounced but unfortunately studies are scarce. Precisely, a Jacob and Legfren (2004) study was conducted in Chicago at the end of the 1990s. The authors are pessimistic about the possible impact of continuous training on pupil performance. The public schools in Chicago, where less than 15 per cent of pupils reached national standards in English were put on

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28 In fact, two categories of training are to be taken into account. The first included 3 months training, followed by a school year with responsibility for a class while benefiting from pedagogic support, and finally another 3 months training. The second category corresponded to 9 months training followed by a school year with responsibility for a class while benefiting from pedagogic support. This enabled two cohorts to be trained in one calendar year.

probation (i.e. 71 schools out of 489) and received financial aid for teacher training. The evaluation of this programme shows that the training appeared to be totally ineffective with a view to improving pupils' school achievements. This is of course a specific context and this result should not be generalized. No studies of this type are available in African countries. According to PASEC results, continuous training is seen to have very little influence on pupil learning (Michaelowa and Wechtler, 2006). There again, continuous training programmes set up in the future will hopefully be accompanied by reliable evaluations in order to identify the most effective practices.

Research results converge and do not suggest that teacher training has a major influence on pupil learning. There again, it should not be forgotten that professional training is not the only factor involved in the learning process but it is very closely connected to status in French-speaking countries as seen in the example of Guinea. Even so, the results do not deny that professional training has a purpose and they argue for a change in existing practices and for further research on this issue. The evaluation of training programmes is still in the very early stages whereas it could contribute much to the evolution of existing training models.

Teacher management: recruitment, deployment, absenteeism and attrition

Teacher management is particularly crucial in the context of teacher shortages which are common in many SSA countries. The lack of teachers combined with inadequate management can dramatically worsen schooling conditions. Studies show that this is a key problem for most SSA countries. Two chapters in this guidebook are devoted to the multiple facets of teacher management. In this chapter, the analysis focuses on four areas: recruitment, deployment, absenteeism and attrition. Despite the fact that each of these areas has a potentially large impact on the functioning of the education system, one can observe a lack of attention to and/or knowledge about them. To provide new information, we will seek to combine quantitative analysis with an analysis of institutional processes.

The first section considers teacher recruitment and seeks to put in perspective the evolution of the teaching force, teacher needs and modalities of recruitment. The aim is to examine the past and current capacities of the recruitment processes to meet the country's educational goals. The second section focuses on teacher deployment and its overall coherence throughout the country with special attention given to rural and remote areas. Then, the process of teacher allocation in schools is examined in order to clarify the previous results and identify paths for improvement. The last two sections target absenteeism and attrition respectively. In both cases, the analysis tries

to quantitatively estimate the phenomena and to identify the main causes. The management of these issues by the education system is also scrutinized.

4.1 Teacher recruitment

This section focuses on the current procedures of teacher recruitment, which should of course be put into perspective with the projections of the number of teachers needed discussed in Chapter 2. First, the information about the total number of teachers recruited each year during the last decade for each level of education should be gathered. It is necessary here to take into account all teachers recruited, not only by the government but also by private schools and communities as long as they all contributed to the achievement of educational goals. The comparison between teacher needs projections and the trend in recruitment allows us to see whether the country is on the right track in terms of achieving its goals or not and whether it is necessary to consider new policies.

A global analysis has been carried out by UNESCO-BREDA (2009) for the primary level in SSA countries. The straight line on Graph 4.1 illustrates the equality between past and anticipated growth rates and the number of teachers. Very few countries (those below the line) will be confronted in upcoming years with a more sustained pace than that registered between 2000

and 2006. Indeed, there are only four countries where teacher numbers should increase more rapidly than in the past. This optimistic conclusion must, however, be looked at in the light of the considerable changes in educational policy which have enabled the particularly high growth rates observed in many countries between 2000 and 2006. It is also important to take into account the fact that the UPE goal has been pushed back to 2020 by many countries.

In fact, the spectacular growth observed over the recent period is the result of the implementation of new policies regarding teachers. Of course, national level analyses are needed to make more complete and precise diagnostics. One should bear in mind that keeping the high levels of recruitment observed during 2000-2005 is not a constant effort but rather an increasing one because of the rising numbers of teachers needed and thus is a real challenge for countries.

Graph 4.1
Past growth in teacher numbers compared to anticipated growth
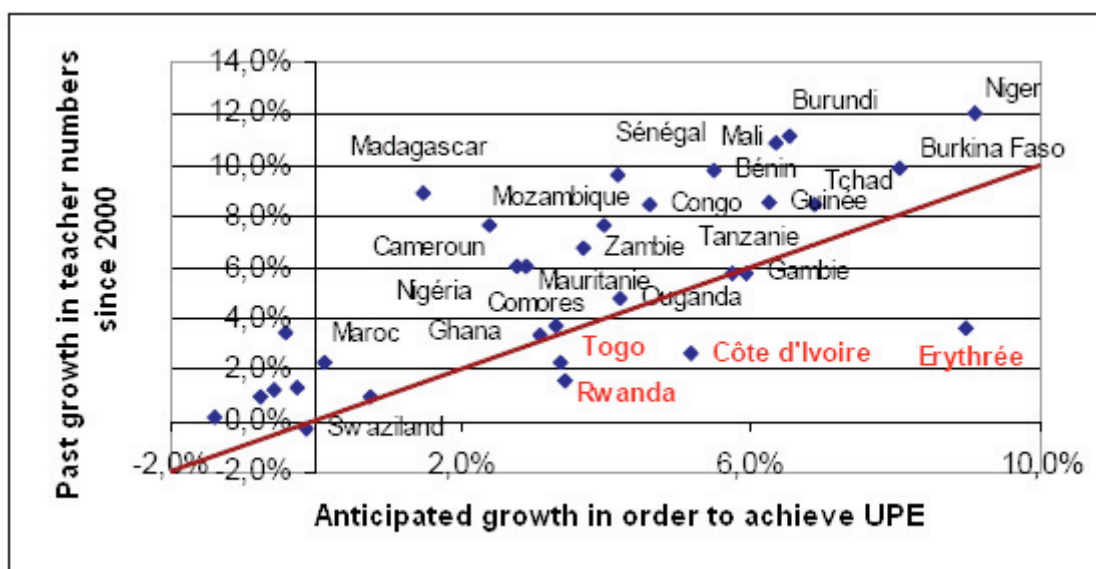
Source: Authors' calculations based on UIS data

The share of each kind of recruitment is interesting in order to understand the evolution of the composition of the teaching profession. As mentioned in Chapter 1, a lot of SSA countries have seen important changes in the teaching profession with the quick development of new statuses. It is thus essential to take into account these new dynamics.

If we take the example of Benin, we see on Graph 4.1 that the country seems to be on the way towards UPE. Now, Graph 4.2 shows growth in teacher numbers in Benin since 2000-01 for the different categories of teachers. One can see

that the strong increase since 2002-03 is due to the recruitment of community and contractual teachers. During the same period, the number of permanent teachers (civil servants) has slightly decreased and then remained stable. The growth of community teachers is the most important and made a major contribution to the growth of the total number of teachers during the last five years. So if the trend observed in Graph 4.1 seems quite optimistic for Benin, it must be analyzed at the national level to determine whether it is based on a sustainable policy. Here, in particular, one should examine policies on contractual and community teachers in order to assess if the hypothesis of

future growth similar to that of the past is realistic. The example of primary education is taken here as an example but the analysis is equally valid for other levels of education.

Graph 4.2
Growth in teacher numbers in Benin in recent years
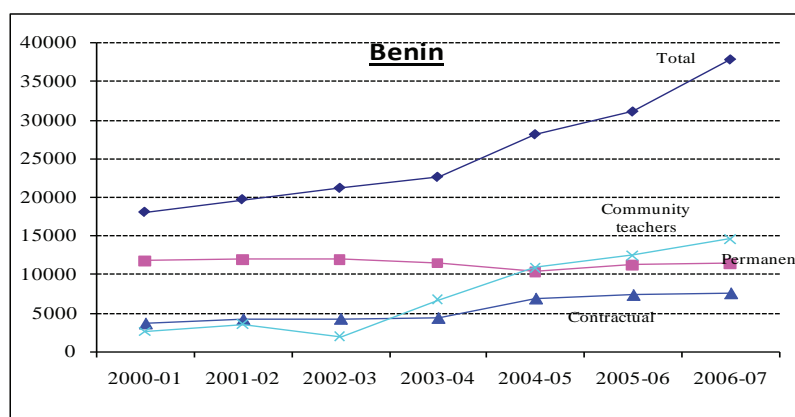
Of course, the profile of each category of teachers must be examined in order to see if there are potential concerns for the quality of teaching. One important issue to consider here is the training or lack of training of newly recruited teachers. This question arises in a lot of SSA countries and is directly linked to the previous chapter.

Another dimension to take into account in the analysis is that of gender. The research results show that women prove to be as effective as their male colleagues in the teaching profession and that in addition, they have a more specifically positive impact on keeping girls in school (Mapto Kengne and Mingat, 2002). Thus, the argument of effectiveness in pursuing the goal of UPE should be added to that of equal treatment between men and women. Giving special attention to the gender issue in the recruitment of teachers must therefore be an integral part of the analysis.

After this global view on teacher recruitment, a second step of the analysis in this section consists of examining current teacher recruitment modalities. In effect, in most countries, even if we consider only civil servant teachers, there are several modalities of recruitment even when considering only civil servants. For each category of teacher at each level of schooling, the objective here is to analyze the modalities of recruitment according to two dimensions:

(i)   Recruitment criteria: What academic degrees are required? Is teacher training mandatory? What about the training (duration, teaching diplomas)? We only consider here a descriptive view of teacher training; an in-depth analysis has been carried out in the next sections. The point is to see how key elements such as academic level, training, motivation, etc. are taken into account in different recruitment modalities.

(ii) Context: which institutions are in charge of teacher recruitment (ministries, schools, etc.) and according to what process (registration with a professional council, application to a school, etc.)? How much time is needed between the administrative recruitment of a teacher and the moment that s/he starts teaching in classroom? When are teachers recruited (the timing and frequency of

recruitments will be examined, in particular in light of the calendar of TTIs)? The goal here is to study the institutional mechanisms of teacher recruitment in order to understand their impacts on recruitment process.

Naturally, we must anticipate major differences between teachers recruited by the government and those recruited by communities. It is clear that in the latter case, there is not an institutional process as such and that information on this subject is particularly incomplete, underlining the importance of mobilizing as much data as possible. However, the establishment of systematic policies of support and recruitment of community teachers in some countries gives us a structured framework (recruitment criteria, remuneration, etc) which must be carefully analyzed.

4.2 Teacher deployment

The deployment in schools is a common management problem, which is particularly critical in a context of teacher shortages. If there are not enough teachers to cover the needs of the education system, it is all the more important, for both reasons of efficiency and equity, that their allocation to schools addresses educational needs in the best possible way. In the interest of efficiency, it is indeed important to ensure that education systems have the necessary mechanisms for the judicious and coherent allocation of teachers across schools. In the interest of equity, it is important not to deny rural, remote or disadvantaged areas an adequate number of teachers. Due to the weight of salary expenditure in the education budget, the way in which teachers are allocated influences equity in the distribution of public resources. In this respect, the analysis of teacher allotment throughout the territory informs us in regard to the degree of efficiency and equity of the deployment procedures which are used.

4.2.1 Coherence in teacher deployment throughout the territory

The analysis of coherence in teacher deployment throughout the territory is based on the principle of considering that the number of teachers in a school should be connected to the number of pupils. Thus the more pupils in a school, the more teachers there should be and, consequently, schools with the same number of pupils should have roughly the same number of teachers. We therefore need to look at the relationship between the number of pupils and the number of teachers in a school in order to analyze the coherence of deployment.

The analysis can initially be represented graphically, as is the case of primary education in Burkina Faso (Cf. Graph 4.1). Generally speaking, the expected relationship, as represented by the straight line on the graph, can indeed be observed in the set of countries studied. However, it is far from perfect, as in the case of Burkina Faso. Thus, among schools with 400 pupils, some have eight teachers while others have only four. Similarly, among schools with 10 teachers, enrolments can vary from 210 to 877 pupils. It is therefore obvious that there are problems of coherence in the allocation of teachers to schools. This phenomenon is not specific to Burkina Faso, we find it in most African countries.

Graph 4.3
Relationship between the number of pupils and the number of civil servant teachers in primary schools in Burkina Faso
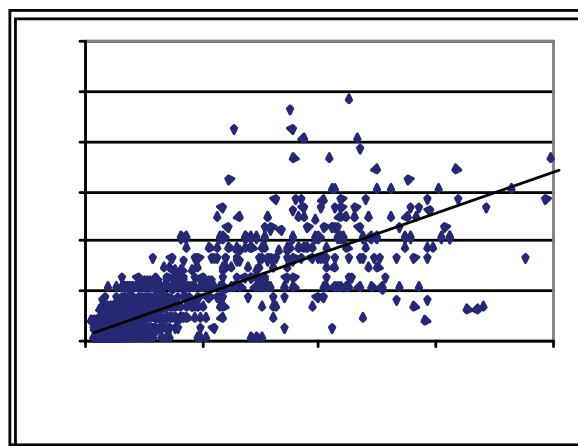
Source: CSR, 2009

In order to analyze the problem of coherence and to establish international comparisons, an indicator is generally used in order to appreciate the quality of the relationship between the number of pupils and the number of teachers. This is the determination coefficient or R^2, which has a value of between 0 and 1; the closer to 1, the stronger the relationship. Systematically, the inverse of this R^2 $(1-R^2)$ can be interpreted as the share of the phenomenon of teacher deployment connected to other factors than the number of pupils actually in the schools. The higher this figure is then, the more marked the problems of coherence in teacher deployment. Table 4.1 presents the share of the phenomenon of teacher allocation to public primary schools which is not connected to other factors such as the number of pupils for 15 African countries. This table presents the figures for teachers directly allocated by the government (column 2). However, some countries use community teachers who are not allocated by the government and who are recruited by the communities to compensate for the teacher shortage. It therefore seems appropriate to present the results with community teachers as well (column 3), for the countries where information is available; this gives some idea of how this kind of community involvement can restore the balance.

Among the countries where information on the share of teachers allocated by the government which is not attributable to the number of pupils is available for a fairly recent year, this share ranges from 7 per cent in Guinea to 54 per cent in Benin. The average is 30 per cent for 15 countries, meaning that, on average, for the countries considered as a whole, 30 per cent of the phenomenon of teacher allocation by the school administration does not depend on the number of pupils but is related to other factors. Countries like CAR, Burundi and Benin, with figures of over 45 per cent, have serious problems of coherence in teacher allocation. However, in the case of Benin and CAR, when community teachers are taken into account, we see a sharp decrease in these figures (39 per cent and 24 per cent respectively). In these countries, efforts by pupils' parents to compensate for the deficiency in teacher deployment by the government have compensatory effects. However, this raises questions of equity, since it is the parents who often have to finance these teachers directly. As a whole, results suggest that progress is possible and necessary in most countries in the region for better deployment of teachers to schools through more equitable and more coherent allocation across the different schools. Significant gains can be made, as demonstrated by the cases of Lesotho, Niger or Guinea.

Table 4.1
Share of primary teacher allocation not attributable to the number of pupils (1-R2)
in 15 African countries (years between 2002 and 2007)

Country	(1-R²) teacher allocation by the government	(1-R²) teacher allocation by the government + community teachers
Guinea (2004)	7	Na
Lesotho (2003)	18	-
Niger (2003)	19	Na
Guinea Bissau (2006)	20	
Burkina Faso (2007)	22	-
Mauritania (2004)	22	-
Ethiopia (2002)	28	-
Chad (2004)	33	34
Malawi (2007)	34	-
Congo (2005)	38	35
CAR (2005)	46	24
Burundi (2004)	50	-
Benin (2006)	54	39
Cameroon (2002)	Na	45
Mali (2004)	Na	27
Average	30	34

Sources: CSRs

The above elements provide us with a global vision of teacher deployment and enable international comparisons. It is also possible to look at coherence in teacher deployment from a national standpoint by comparing differences in PTR[29] by regions, districts and other administrative subdivisions. This is a very interesting perspective and is of direct use to the management of the education system since it highlights any imbalances.

Map 3.1 provides a visual illustration of the differences that can exist between different regions in the same country through the example of Benin. In this case, it is clear that districts like Littoral and Ouémé are much better off than districts such as Borgou and especially Couffo. The important role played by community teachers is also clear. Thus, in Borgou, the PTR would be over 80 without community teachers, whereas it is in fact between 45 and 50.

29 This is the average number of pupils per teacher.
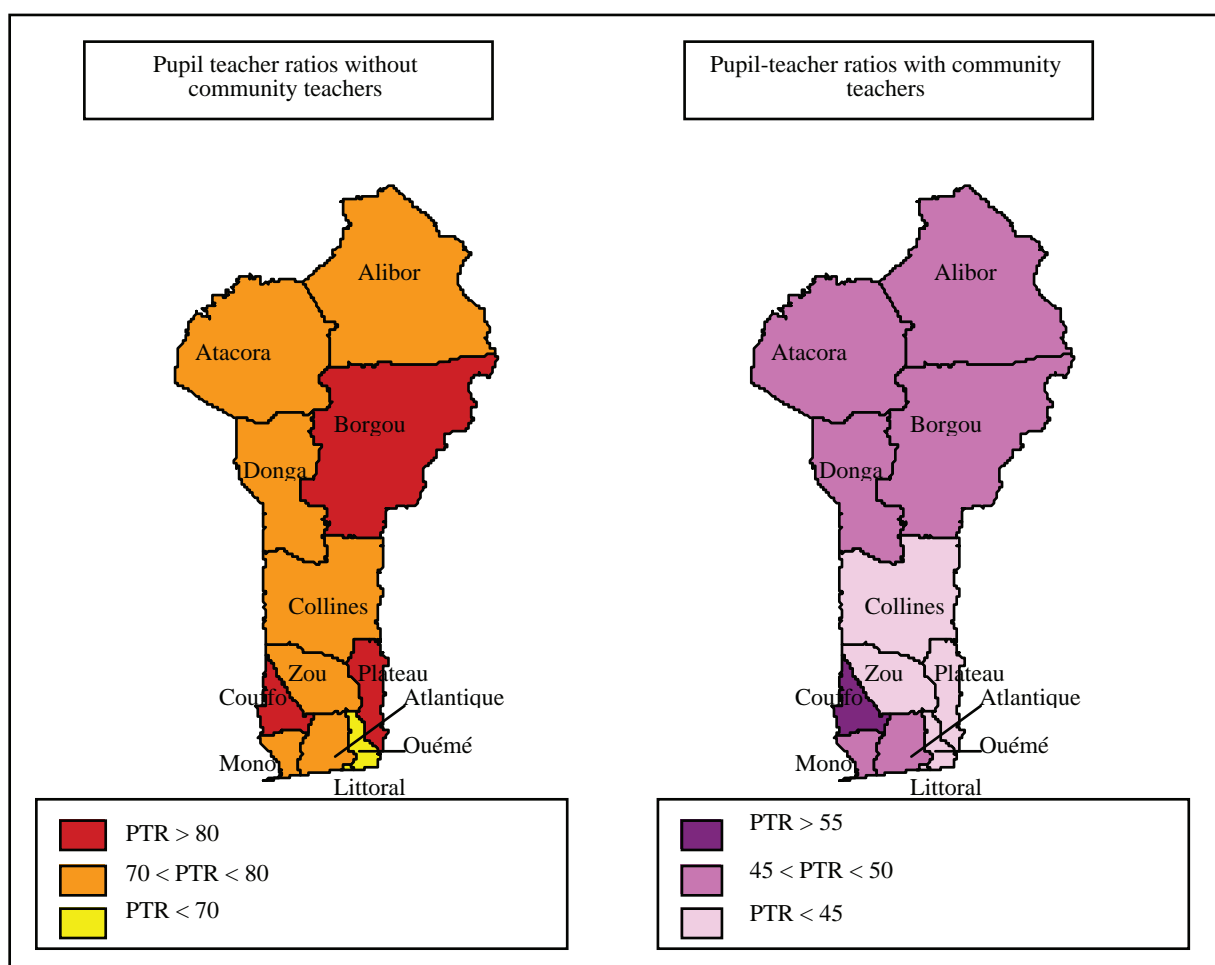
Source: CSR, 2008

Table 4.2 gives information on PTRs in a number of countries, indicating in each case: the lowest PTR and the highest one observed in the provinces or regions, the gaps between these two ratios and the average ratio. It is to be noted that there are important limits to the information collected: it was not always possible to distinguish between civil servant teachers and community teachers or even teachers from the private sector. In this case, it is not possible to make comparisons across countries or to have an appreciation for the coherence in the allocation of teachers by the public authorities.

The spatial distribution of teachers is thus uneven and distinctly unbalanced with often considerable gaps between different zones. The case of CAR illustrates, as in Benin, the important role of community teachers in the education system. Without them, the PTR would vary from 109 to 575.

Uganda and Malawi are also facing highly contrasting situations from one district to another. In Malawi, the average number of pupils per teacher varies considerably, ranging from 36 to 120 between the two districts with extreme situations. There are 10 districts with an average PTR of over 90 while in five other districts the PTR is under 55. Among these five districts, four are in urban areas (World Bank, 2007a). In Uganda, the PTR varies from 32 to 93 according to the district.

The lowest PTRs are observed in the district of Kalangala, which is characterized by a scattered population requiring small schools. The highest PTRs are observed in districts in the North, which have been affected by prolonged years of armed conflict (World Bank, 2007e).

Table 4.2
Variation in PTRs at provincial level for some SSA countries

Country	Pupil-teacher ratio				Country	Pupil-teacher ratio			
	Min	Max	Average	Gap		Min	Max	Average	Gap
Benin (2005/06) Without community teachers	55	92	74	37	Uganda (2006)	32	93	48	61
Benin (2005/06) With community teachers	/	/	47	/	CAR (2006) Without community teachers	109	575	199	466
Burkina Faso (2005/06)	45	56	50	11	CAR (2006) With community teachers	78	109	92	31
Gambia (2005/06) Lower secondary	36	49	41	13	Tanzania (2006)	40	69	52	29
Eritrea	30	53	48	23	Zambia (2006)	46	79	64	33
Lesotho (2005)	38	47	42	9	Zanzibar (Tanzania) (2006)	23	54	33	31
Malawi (2006)	36	120	80	84					

Source: CSRs, World Bank 2007 a-e.

Even if the differences in PTRs from one area to another are less significant in other countries, they still neighbour around 30, which remains high. The smallest gaps are observed in Burkina Faso, The Gambia and Lesotho, registering at 11, 13 and 9 respectively. In these countries, there seems to be a fairly egalitarian distribution of teachers across regions. However, this situation can conceal considerable variations within regions. Thus, in The Gambia, one quarter of schools in Region 2 has a PTR of over 58, whereas in another quarter of them, the PTR registers at under 35 (World Bank, 2007b). In Burkina Faso, an analysis of the proportion of schools with normal teacher allocation within the different regions (Table 4.3) reveals relatively low proportions: from 13.7 per cent for the Eastern region to 30.5 per cent for the Centre-South region. That means, amongst other things, that the main problem in teacher allocation is distinctly more pronounced within the regions themselves than between the different regions (CSR, 2008).

Table 4.3

Average PTR by region and coherence of teacher allocation within regions in Burkina Faso

Region	Average pupil-teacher ratio	% of schools normally allocated	% of schools under-allocated	% of schools over-allocated
Boucle du Mouhoun	49.3	26.8%	33.6%	39.6%
Cascades	51.3	19.8%	37.8%	42.4%
Centre	48.8	26.9%	32.9%	40.2%
Centre-East	52.4	24.8%	35.0%	40.2%
Centre-North	55.6	26.4%	33.3%	40.3%
Centre-West	47.1	27.1%	32.7%	40.2%
Centre-South	51.6	30.5%	32.7%	36.8%
East	46.9	13.7%	36.3%	50.1%
Hauts-Bassins	52.8	22.5%	34.1%	43.4%
North	53.1	23.7%	36.9%	39.4%
Plateau central	47.2	24.2%	34.4%	41.4%
Sahel	45.0	17.3%	33.4%	49.3%
South-West	44.9	21.5%	31.5%	47%
Overall	49.8	23.5%	34.2%	42.3%

Source: CSR 2008

Note: Normally allocated schools are schools where the PTR is situated within more or less 10 per cent of the average PTR in the region. An under-allocated (over-allocated) school is one where the PTR is over (under) 10 per cent of the average ratio in the region.

Considerable differences are thus observed between regions but also within them. Moreover, these differences do not necessarily correspond to administrative areas. Thus, rural areas tend to be systematically at a disadvantage compared to urban areas. Results of analyses carried out in different education sector analyses (CSRs) confirm that urban areas are generally at an advantage. On average, a school in an urban area benefits from 0.2 (Guinea) to 1.9 (Niger) more teachers than a comparable school located in a rural area. In Cameroon, disparities are even more marked according to the degree of urbanization: schools in large urban areas, with a population of over 200,000, have almost two teachers more than a school of identical size in a rural area; small towns also benefit from 0.4 teachers more on average.

The low appeal of rural locations leads to a situation where schools established in these contexts have difficulty in attracting, retaining and maintaining their personnel. They often see themselves neglected to the benefit of urban schools or schools located in privileged areas. Thus, there are urban areas with excess teachers and areas where many positions remain vacant, often for long periods of time, in rural and remote areas. The analysis must attempt to focus on this question when the data permit it.

4.2.2 The process of allocating teachers in schools

The preceding analyses permit us to understand the amplitude of the principal problems concerning teacher deployment. However, they do not allow

identification of the causes of these problems. In order to go further and seek the reasons behind these disequilibriation in teacher allocation in schools, this section examines the administrative mechanisms in cause.

Deployment problems can have multiple causes that must be analyzed carefully. If we can fairly easily identify the existence of pronounced problems in the deployment of personnel, the analysis of the causes proves to be more delicate. Essentially, several factors may play a role, including the existence, or lack of it, of adapted procedures, the qualifications of the personnel in charge of deployment and the general environment, which may be a strong determining factor in regard to this question.

It is essential to conduct an analysis which spells out the various factors that determine the way teacher deployment is organized. We can schematically examine two types of cases:

(i) Procedures for the deployment of personnel are largely weak or absent. This situation is unfortunately more common than we think, and notably is the case in fragile states where administrative functioning is chaotic. In fact, procedures for the allocation of teachers in schools can be more or less transparent and the criteria used fluctuating. The situation can be worsened by a lack of competence on the part of the people responsible for the task.

(ii) Procedures for the deployment of personnel are clearly defined and are based on precise criteria but are not respected. This second category suggests an administrative system which is relatively satisfactory but which outcome is questionable. There are two steps, the first one technical and involving the theoretical allocation of teachers and the second where technical propositions are reviewed under the pressure of the environment, be it political interventions or the

case where certain teachers wish to avoid their deployment.

Naturally, these two categories are rather simplistic, and we will find in reality a variety of situations which are not so clear-cut. This is what the analysis must clarify. It must be noted that those cases involving problems in teacher deployment related only to the lack of qualified personnel in charge of this activity are not discussed here. In effect, individual (qualification), organizational (administrative procedures) and environmental (external pressures) factors are closely linked.

The analysis thus reveals a major challenge in that it is essential to consider the three aspects mentioned above: individual, organizational and environmental.

(1) Organizational: the analysis must devote particular attention to the procedures which control the deployment of teachers. It is not only a matter of considering theoretical procedures as they are described in procedural manuals and internal memos of the ministry but also analyzing what really happens in practice. This exercise may reveal itself to be more or less long and complex according to the extent of decentralization in the country in question. The objective here is to question the procedures used in regard to the objective of coherent and effective deployment of teachers in school establishments as described previously. In effect, it is not only a matter of examining whether a procedure is more or less well-applied; we may confront a process that is perfectly designed but which has disastrous results, for example causing uneven distribution of teachers across regions. Moreover, the analysis of procedures should not be disconnected from the institutional environment, as it is important to consider the different units which are in charge of these procedures and the relations between them.

In effect, a procedure may be satisfactory in theory but fail in practice because of conflicts between the different units involved in its implementation.

(2) Environmental: the analysis must aim to identify the levels at which problems appear in the process. The fact that a procedure is technically satisfactory in the sense that the theoretical deployment that it proposes is coherent and effective, is not a sufficient criterion if the environment can compromise it. Identifying the manner in which the environment influences the process is essential in order to conceive new procedures in order to limit external influences, if not escape them completely.[30] Procedures must be adapted to the institutional context, and the challenge of an analysis of this type is to facilitate the emergence of solutions adapted to a given context.

(3) Individual: two aspects must be considered starting with the competencies of the people in place. It must be noted that the identification of the persons involved is closely linked to the preceding analysis. Next, it is important to consider how those who are in charge of the deployment of personnel are themselves recruited. It may be that these people do not have the training required for the functions that they carry out and that they learn simply by doing. What is important here is to know whether the people recruited are systematically untrained for the job that they are supposed to do. It is still relatively frequent in Ministries of Education to see teachers who are in charge of administrative functions for which they are not prepared or trained. In this case, we are confronted with a

thorny problem which is also recurrent as it is linked to the mode of recruitment.

4.3 Teacher absenteeism

Absenteeism is not a problem which is specific to education in developing countries but is a problem which concerns many sectors, particularly social sectors. Teacher absenteeism is considered a major problem in many African countries and this in spite of the imprecise knowledge of the situation due to patchy data. Indeed, if cases of absenteeism are fairly well registered at school level, they rarely are at regional level and virtually never at central level. In addition, even when the information is registered, it is rarely used by the school, which is not always obliged to transmit it to the higher administrative levels.

Nevertheless, the few studies available on the subject show that teacher absenteeism is a very acute problem with harmful consequences for education systems. It has, first of all, a negative impact on the quality of learning (Chaudhury et al., 2006, Das et al., 2005, Duflo and Hanna, 2005, Michaelowa, 2002). The annual number of hours of instruction is known to be a key factor for pupil learning, and absenteeism tends to significantly reduce lesson hours. In addition, teacher absenteeism results in costs, estimated at between 10 per cent and 24 per cent of primary school education expenditure in developing countries. In Zambia, annual losses due to absenteeism were estimated at 17 million dollars, i.e. 0.31 per cent of the country's GDP (Patrinos and Kagia, 2007).

It is therefore necessary to consider this issue as an important dimension of teacher policy, with one reservation: the causes of absenteeism are multiple and do not necessarily all come under the individual responsibility of the teacher. The aim here is to give as complete a vision as possible of this issue on the basis of information available in a country.

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30 We have been able to observe, for example, that management by post limits manipulations in the deployment of teachers. With such a system, it is very difficult to allocate five persons to an establishment where there are only four posts available, whereas it is very simple to do so with other deployment procedures.

4.3.1 Estimating the magnitude of teacher absenteeism

A first step is to make an estimation of teacher absenteeism in order to understand the importance of this question in terms of teacher policy. For this it is necessary to know what types of data can be mobilized.

Specific surveys on teacher absenteeism, like the PETS[31] surveys, have been conducted in several countries in the region and provide fairly detailed information on this subject. They suggest relatively high levels of absenteeism, affecting between 13 per cent of teachers in Ghana (World Bank, 2004) and 19 per cent in Madagascar (World Bank, 2008) and Uganda (World Bank, 2007e).

Moreover, PASEC and SACMEQ surveys also include questions on teacher absenteeism which can be used in the analysis. Based on the replies of teachers (PASEC) and/or of head teachers (SACMEQ), the resulting information is less reliable than that obtained through the PETS surveys, which observe *de visu* the presence or the absence of the teacher. The responses may be marred by imprecision[33] and under-estimated statements, since teachers and/or their superiors may be tempted to underestimate their absences in fear of sanctions. Even so, despite these limits, data show a high prevalence of absenteeism: during the month previous to the PASEC survey, almost half of the teachers in Mali and Niger had been absent for at least one day; this was the case of almost two thirds of teachers in Chad, Guinea and Mauritania as well (Bonnet, 2007). In SACMEQ countries, the problem of absenteeism,

as perceived by the head teachers, seems just as acute as in French-speaking African countries, although it is not possible to precisely estimate the extent of the phenomenon. SACMEQ data show that over half of all pupils (55 per cent) attend schools where the head teacher reports that the problem of absenteeism exists, and 8 per cent of pupils attend a school where teacher absenteeism is judged to be high. Differences do, however, emerge from country to country. The problem seems particularly acute in Uganda, where over 20 per cent of pupils are in schools where absenteeism is considered high. Malawi, Mozambique and Seychelles also seem to be faced with a higher prevalence of absenteeism than the other countries in the sub-region (Bonnet, 2007). In West Africa, teachers declare that they are absent half a week per month on average. Important differences are again observed across countries: the average number of days of absence in the month previous to the survey ranges from 1.4 in Niger to 4.7 in Senegal (Michaelowa, 2002; Bonnet, 2007). The case of Senegal is of particular concern, with teachers declaring to have missed almost one week of school on average during the month preceding the survey. In SACMEQ countries, the numbers of days lost due to events not connected to school seem distinctly lower, at around six days per annum, ranging from 1.9 days in Botswana to 11.5 days in Tanzania (Bonnet, 2007).

In each country, it is useful to seek these kinds of empirical elements to highlight the situation of teacher absenteeism. It is suggested to mobilize data from specific surveys such as those presented above, but the analysis should also use data found in the Ministry of Education database where possible. Of course, it is interesting to consider how these data are gathered in order to appreciate their reliability. The main objective here is to obtain an estimate of absenteeism which is as accurate as possible.

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31 Public Expenditure Tracking Survey.
32 Generally speaking, the time of the survey is likely to have a considerable influence on answers. In Madagascar, absenteeism is higher in the rainy season than in the dry season (World Bank, 2008). In Uganda, seasonal differences are also reported: absenteeism is higher at the start of the school year and at harvest time (Habyarimana, 2006, quoted by World Bank, 2007e).

4.3.2 The main causes of teacher absenteeism

It is helpful to recall here that absenteeism has multiple causes some of which may not fall within the teacher's responsibility. Different factors have an influence on absenteeism, some of which are connected to the teacher, others to the characteristics of the class or school, and even to the school environment or yet again to administration. The factors coming into play tend to vary from one country to another, making it difficult to generalise. Therefore it is necessary to undertake an analysis for each country, when data are available. Results based on different kinds of data are presented in order to illustrate the analyses which can be done.

The most frequently reported reasons for absence[33] are health problems, family reasons (including illness, death, marriage or birth), and strikes (Bonnet, 2007). Another reason often given is the time taken for teachers to go and collect their salary. Other reasons concern the teacher's commitment to another economic activity to supplement their income, engaging in further study with a view to increasing qualifications, or beyond this, to a lack of motivation or the fact of living far from the school.

Health problems are one of the main causes of absence in most countries. This is particularly true in countries or areas heavily affected by malaria and/or HIV and AIDS. While health problems represent almost one quarter of the reasons for absence in Madagascar (World Bank, 2008), in Zambia the rate rises to 35 per cent and to 62 per cent when the illness of close relatives and funerals are taken into consideration (Das et al, 2005). This problem is accentuated in rural areas, where a visit to a doctor and medical care may require travel to an urban area and thus may take several days. While it is still difficult to evaluate the precise impact of HIV and AIDS on absenteeism, it is a fact that it involves long periods of absence (treatment, health care for infected relatives, funerals). HIV and AIDS require different types of measures that go beyond educational policy alone, such as better availability of health care locally, prioritized deployment of sick teachers in areas which have the necessary health infrastructure, reinforced prevention programmes and, in another perspective, the development of a group of teachers to replace sick teachers in order to ensure continuity of instruction (Das et al, 2005). This is an aspect which must be the focus of particular attention in the analysis for those countries which are strongly affected by the pandemic.

Teacher absenteeism also appears to be encouraged by teachers' involvement in secondary activities. PASEC data show that between 23 per cent (Mauritania) and over 70 per cent (Chad) of teachers are engaged in another moneymaking activity, which in many cases encroaches upon lesson preparation time and even on instructional time.

Table 4.4
Percentage of teachers with a secondary activity in some PASEC countries

Guinea	Mali	Mauritania	Niger	Chad	Togo
30%	51%	23%	24%	72%	28%

Source: Bonnet (2007)

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33 In PASEC surveys, Head Teachers were asked the question and had to choose a maximum of three answers from a series of proposals.

In many countries, collecting salary is an important cause of teacher absence, particularly in rural areas, even if, once again, it is quite difficult to actually quantify. In Madagascar, it explains 13 per cent of all absences and involves from between 1.4 days of absence per month in the dry season to 1.8 days per month in the rainy season, with considerable variation from one area to another. Thus in the Mahajanga province, teachers are absent more than four days per month on average during the rainy season, and this registers at slightly under three days during the dry season (World Bank/ UNICEF, PETS November 2006 & May 2007). Poorly developed means of communication and transportation, difficult-to-access areas and security problems make the collection of salary difficult. This is a crucial issue.

A similar situation is observed in Lesotho where most teachers have to go and collect their pay at the end of each month; this involves absences of up to three days, sometimes leaving the school with only one, or even no, teacher (World Bank, 2007c).

In Zambia, salaries are managed at district level. Teachers working in town have their salaries transferred directly into their bank account, while those in rural areas are generally paid in cash at district level. This causes long periods of absence, particularly in remote areas, due to problems of transport. In Eritrea, the payroll departments are particularly decentralised, enabling teachers to collect their salary without too much absence from school. Also, they have to do this job during their off-peak periods or after work. In Uganda, as in Malawi, teachers are paid directly into their bank account, which reduces delays. However, in rural areas, it is not always possible to have a bank account close to the place of work. It is then necessary to travel to collect pay (World Bank, 2007d, World Bank, 2007e). The situation is still more complicated when the payment of salaries is delayed.

In Tanzania, the irregularity of salary payments poses serious problems. Salary transfers are often delayed at district level, leading to delays in paying the teachers. In addition, the fact that pay day is not always known in advance obliges teachers to wait for their salary at the payment centre, sometimes for a whole week.

Several studies have pointed out that civil servant teachers show higher rates of absenteeism than contract or community teachers. This is characteristic of many French-speaking countries in the sub-region (Bonnet, 2007, Michaelowa, 2002, World Bank, 2008). Michaelowa estimates absenteeism at between 1.5 and two days less for contract or community teachers per month. Several reasons can be put forward to explain this observation: (i) first of all, these teachers are often recruited locally, which limits the need to travel for family reasons, (ii) next, community teachers are hired and paid directly by parents; they are therefore under the direct supervision of their employer[34] and do not need to travel to collect their pay; (iii) as observed by Michaelowa (2002), many of these contract teachers are very eager to change schools and may therefore be more meticulous in their work with a view to obtaining a transfer; (iv) one last reason concerns the fact that contract and community teachers have been working as teachers for a shorter time on average than civil servant teachers and that they could therefore be more motivated and enthusiastic than their colleagues.

The case of unauthorised absences should also be mentioned. This corresponds to a failure to adhere to the rules and regulations of the school administration and professional ethics. In Madagascar, unauthorised absences represent one quarter of the reasons most often given to explain teacher absence. Moreover, in several

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34 Studies on the question generally establish a negative link between control by parents and the educational community (inspection) and absenteeism (Michaelowa, 2002, Habyarimana, 2006)

countries, there are reports of teachers being present at the place of work but not teaching in the classroom. In Uganda, this concerns one third of all teachers (World Bank 2008, 2007e). These elements bring to light teacher management and supervision problems at the school and community level. At the school level, it appears that head teachers are themselves often absent, sometimes more so than regular teachers. In Uganda, the rate of absenteeism for head teachers is apparently 50 per cent higher than that of regular teachers, and official obligations are given as the justification for only half of these absences (World Bank, 2007e). However, even when they are on the job, head teachers do not always supervise teachers' work. Besides, they rarely have any effective means of pressure at their disposal to ensure teacher presence in class. Their power may have been reduced in this respect, since with the payment of salaries directly into the teacher's bank account they can no longer withhold salaries in case of bad behaviour by the teacher.

The main causes of teacher absenteeism observed in Africa have been summarily presented here. However, it is important to be able to conduct analyses of the question in national contexts in order to notably identify the most important causes and to estimate their impact.

4.3.3 Analysis of the management of teacher absenteeism

The multiple causes of absenteeism just mentioned show that there is no single and simple solution to the problem. Educational authorities can apply two complementary solutions: the first consists of trying to reduce absenteeism when it is connected to administrative measures, and the second seeks to compensate for absences to keep them from harming the proper running of the education system; this is particularly important in countries facing pandemics.

Teacher absenteeism is a problem faced by all education systems. Of course, this phenomenon may be more or less pronounced according to the country, and the previous section showed that the problem is quite extensive in most African countries. A first step of the analysis is therefore to verify if education systems are equipped with effective mechanisms for replacing teachers in the case of absence. Unfortunately, little information is available on this issue other than the reports of absence as mentioned above. A study conducted in Mauritania on a small sample of teachers shows that in about 40 per cent of cases, absent teachers are not replaced (Jarousse and Suchaut, 2002). The authors also note relatively marked regional differences illustrating the fact that it is the urban areas, where absence is less common, which are most capable of organizing the replacement of absent teachers. Information on how absences are managed is patchy but this aspect should be the subject of specific attention in the analysis since it has direct consequences on the running of the system and its effectiveness. Monitoring methods, procedures for replacing absent teachers and replacements made should be scrutinized here. For lack of specific study, periodic observations in the field (schools, inspectors, districts) can provide some important information.

One another aspect concerning management that should be taken into consideration concerns the measures taken in the case of excessive absences. In most countries, there are procedures for sanctioning a teacher who has been absent repeatedly and without valid reason. In the large majority of cases, it is the head teacher who manages problems of teacher behaviour at the school level: it generally involves verbal warnings followed by a written warning, if the teacher continues the same behaviour. In serious cases of repeated absence, disciplinary sanctions may be taken against the teacher. However, the procedures are often long and laborious: in Uganda, they can take up to four years to be

processed. The length of the process, in addition to being very demanding, tends to diminish the impact of the sanctions and more fundamentally of supervision in general. In addition, the fear of disciplinary measures degrades relations within the school and favours conflicts between the teacher and the community, thus limiting the use of such measures. In consequence, the application of official sanctions is rare: in Mozambique, in 2005, seven teachers were fired and 23 suspended, out of a total roster of 46,000 teachers (Mulkeen, 2006). In Malawi, 56 teachers were fired in 2006 out of a total of 44,000, 13 of them for having deserted their posts (World Bank, 2007d). In numerous cases, head teachers prefer to transfer the problematic teacher. Beyond this, in many countries, there is ineffective control due to the insufficiency of human and material resources necessary to ensure the regularity of such control and monitoring of schools.

It is also observed that parents and the local educational community are not always implicated in questions of teacher management, because of lack of interest or means of applying pressure. In Ghana, a study conducted by CARE International in 2003 (cited by Akyeampong et al, 2007) showed that poor communities found themselves incapable of holding teachers responsible for their absences, considering them to be "untouchable." Moreover, in fear of not having teachers for their school, they tend to be unwilling to register a

complaint or to report this problem to educational authorities.

We must thus devote particular attention in the analyses to these different procedures and especially to the question of their effectiveness.

4.4 Teacher attrition

As mentioned in Chapter 2, teacher attrition can have a strong impact on teacher needs. Unfortunately, data on attrition are rare and often unreliable. It is very difficult to precisely measure this phenomenon in countries where even teacher counts can be unreliable, as demonstrated by the attrition estimations for a single country that vary according to the source. For example, a preparatory study for the *Regional Workshop on Teacher Matters: The Challenges of Ensuring Quality Teaching in Every Classroom in Africa* held in 2007, estimated, in a pessimistic scenario, that the attrition rate in Zambia had registered at 9 per cent in 2005, whereas an Education International study reported an attrition rate of 5 per cent for the same country in 2006. It therefore seems difficult to have precise attrition rates for the teaching profession for each country. Nevertheless, comparing several sources (Cf. Table 4.5) would seem to indicate that attrition rates are less than 5 per cent in countries with a low prevalence of HIV and AIDS and rarely exceed 6 per cent.

Table 4.5
Estimated attrition for several countries according to different sources

Country	Estimated attrition	Date	Source
South Africa	6%	2002/03	Education Labour Relations Council
Eritrea	2%	2002-2005	Workshop
Gambia	3%	2004	Workshop
Kenya	3%	2006/07	Education International
Lesotho	4%	2006/07	Education International
Lesotho	3%	2004	Workshop
Liberia	2 – 4%	2007	Workshop
Malawi	6 – 8%	2002-2012	Country Status Report
Malawi	5%	2006	Workshop
Uganda	5%	2006/07	Education International
Uganda	4 – 6%	2002 - 2006	Workshop
Zambia	5%	2006/07	Education International
Zambia	9%	2005	Workshop
Zanzibar	3%	2006	Workshop

The objective of this section is to estimate how many teachers quit the profession voluntarily and involuntarily according to the data available (official data, specific studies). A particular emphasis will be put on the manner in which the data were collected or the reasons explaining why they were not collected. In Uganda, the Ministry of Public Service deletes from its database each month those teachers who left their job. Thus relatively reliable figures on attrition can be mobilized.

A further step would be to analyze the causes of attrition, but this supposes the existence of studies or data. In their absence, it is also possible to examine the profiles of the teachers who leave their job. It can be useful to see if certain categories of teachers are more susceptible to leaving the profession than others.

Teacher management: professional status, remuneration and careers

Introduction

Teacher professional status is particularly important in the current context, as the expansion of educational demand in many African countries has led communities to hire teachers themselves. In some cases the state has later on tried to train, subsidize, or transfer these teachers (often called "community teachers" or "locally hired teachers") to another professional category (e.g. provisions for the state to hire former "community teachers" on a contractual basis). Recent years have also often been characterized by massive hiring of new teachers by the national government, with, particularly in Francophone Africa, the creation of new, often less well paid, categories of teachers (such as those called in some countries "contract teachers" or "volunteer teachers") in order to provide children with sufficient education on a limited budget.

A diversified workforce with different professional status, associated salary levels and career prospects, has therefore become a major characteristic of many African education systems in the last ten years.

In this context, it is essential to better understand the varied profile of the teaching force and its prospects (both in terms of average salary and of career paths). Status, career, and salary issues all have an impact on the attractiveness of the teaching profession, and therefore on the profile of new teachers, their motivation once hired, as well as on teacher attrition and the social context. Absenteeism levels are also influenced both by teacher motivation and by the dispositions through which the teacher has been hired (e.g. teachers hired by communities may be less absent because of the direct monitoring their contract implies). In that sense, this chapter complements and sheds light on Chapter 4. It also contributes to set the scene for Chapter 6 on professional and social contexts.

Finally, as teacher remuneration (careers paths and status being linked to remuneration issues) tends to represent 70 per cent of the education budget on average in SSA, it is impossible to consider remuneration levels outside of the constraints weighing on the education budget and national objectives such as the achievement of UPE. It will therefore be essential to consider the budgetary implications of the choices which have been made in terms of teacher salary levels, status and career paths, and what this means for the achievement of UPE. In particular, it is important to assess whether existing resources are sufficient to achieve national goals, or if and to what extent there is a financing gap.

Therefore, this chapter has particular importance in building a shared understanding of issues and constraints relating to status, remuneration and careers as they present themselves in the country and is an essential basis for discussions regarding national teacher policy.

This chapter will consider the issues of teacher status, remuneration and careers, from a double perspective:

(i)   Description of teacher professional status, remuneration and career on the understanding that this will help shed light on the attractiveness of the profession, the motivation of teachers and their absenteeism and attrition levels.

(ii)   Budgetary constraints weighing on the education system, especially in the context of national goals such as the achievement of UPE, and therefore the need for domestic and external financing.

5.1 Teachers' professional status

The purpose of this section is to better understand the different professional statuses which exist in the education system (per level of education), listing existing categories of teachers, and concentrating on these teachers' characteristics: official entry criteria (academic and professional pre- and in-service training) and reality, and contractual dispositions. In particular, this section will explore who hires the different categories of teachers as they may be hired at, and accountable to, different administrative levels from the central government, the regional or district level, to the community level, and whether they are entitled to social benefits or not. All of these have relevance to motivation, management, and attractiveness of status. Furthermore, it is important to know the proportion of the teaching force these teachers represent. How this teaching force evolves in the future will add to budgetary and social pressures.

5.1.1   List of professional statuses

The first step in this chapter is to list all different professional statuses of teachers, per level of education. For that purpose, in line with the definition of the UNESCO Institute for Statistics, the word "teachers" shall refer to all "persons employed full time or part time in an official capacity to guide and direct the learning experience of pupils and students, irrespective of their qualifications or the delivery mechanism, i.e. face-to-face and/or at a distance. This definition excludes educational personnel who have no active teaching duties (e.g. headmasters, headmistresses or principals who do not teach) and persons who work occasionally or in a voluntary capacity in educational institutions."

Furthermore, in this chapter, "teacher professional status" will refer to "the category (for a given educational level) to which a teacher belongs, defined by a specific salary scale, and/or contractual dispositions – e.g. who hires teachers from this category (the State, local communities, etc.), or whether these teachers hold a permanent or temporary position."

Indeed, the purpose of this chapter is to establish a diagnosis of who is actually working in a teaching capacity, and build an accurate profile of this group. Therefore, personnel hired without any professional training and low academic qualifications will also be considered and described in a full diagnosis. Similarly, young people who are trained and employed as teachers as part of their service to the nation will also be considered, as they are responsible for the education of part of the nation's children, whether they intend to teach in the long run or not.

The list of all professional categories of teachers, by level of education, may look like the table below (with official names followed by a short description), for an analysis of the primary and secondary education levels:

Table 5.1
List of teachers' professional status – example

Primary education	Secondary education
- 'Enseignants communautaires' (hired and paid by the community, subsidized by the State) - 'Agent contractuel de l'Etat' (hired by the State on a contractual basis), hired at category C level - 'Agent contractuel de l'Etat' (hired by the State on a contractual basis), hired at category B level - 'Volontaires du service militaire' (military service volunteers) - 'Agent permanent de l'Etat' (civil servant) – category C - 'Agent permanent de l'Etat' (civil servant) – category B	- 'Vacataires' (not allowed to teach more than 9 hours per week) - 'Agents contractuels locaux' (contracted at the local level), hired at category B level - 'Agents contractuels locaux' (contracted at the local level), hired at category A level - 'Agent permanent de l'Etat' (civil servant) – category B - 'Agent permanent de l'Etat' (civil servant)– category A

5.1.2 Professional status and academic qualifications

Section 3.2 of Chapter 3 already analyzed the minimum academic qualifications required of teacher trainees and their actual academic level. However, there is a need to complement this picture, as teachers who are currently teaching may have a different profile, for several reasons:

(i) Because some of those teachers never went through teacher training;

(ii) Because older teachers may have gone through teacher training at a time when minimum requirements and/or the attractiveness of the profession were different from what they are today.

Furthermore, this section will analyze teachers' profiles from the specific angle of their professional status.

The section firstly aims to establish the official criteria to enter each category of teacher (complementing Chapter 3 with consideration of untrained teachers). A simple version of such an analysis is presented below, comparing academic criteria for contract teachers and civil servant teachers for various countries:

Table 5.2
Minimum academic level required for teaching according to status in some African countries

Countries	Categories/denominations	Academic level required
Niger	Civil servants*	O-level or A-level*
	Contract teachers	O-level or A-level
Guinea	Civil servants*	A-level*
	Contract teachers	A-level for men 11th grade level ("probatoire") for women
Senegal	Civil servants	O-level or A-level
	Volunteers	O-level
	Contract teachers	O-level + 2 years as volunteers
Congo	Civil servants	A-level
	Contract teachers	A-level
	Volunteers	A-level or equivalent
Togo	Civil servants	A-level
	Contract teachers	A-level

Source: Table 3.4, of (UNESCO-BREDA, 2007), based on the CSR of different countries, PASEC, and Ministry of education of Senegal

* Guinea stopped the recruitment of civil servants in 1998.

However, such information is too limited for the purpose of a national diagnosis, as one should not only distinguish between the different categories of civil servants described in table 5.1, for which academic criteria may differ (e.g. one category of civil servant primary teachers in Benin only needs an O-level, while another category has to have an A-level at least), but also include all non civil servant categories.[35] Additional differences can also be seen in legal provisions for men and women: for example, in Guinea, minimum requirements are lower for female candidates than they are for men (Bonnet, 2007). All this should be explained in detail in this section.

In addition, it is necessary to go beyond official criteria to assess what this translates into in the national context. Official criteria may have varied over time and some may not have been respected, and at the same time, other categories of teachers may be attractive enough (e.g. when youth unemployment is high) so that most of

these teachers largely exceed official criteria. For example, community teachers often hold less than a primary certificate in Mali, but in Guinea, on average, community teachers have high academic qualifications.

Data on academic degrees held by teachers may be found in the national school database. However, some national databases may include provisions to collect data on teachers' background, but may not have been able to do so in a sufficient manner, with only a small percentage of teachers for whom this information is known. It is therefore important to known which other sources are available. In many SSA countries, information on teachers' academic background can be gathered using analyses such as PASEC or SACMEQ if national databases are insufficient. While the latter are not representative of teachers (SACMEQ analyses and PASEC "diagnostic studies" are based on samples of students), their results can give some idea of teachers' academic profile.

Table 5.3

Example of a table for teachers' academic level according to teacher category (primary education) for a fictitious country

Teacher category/status	Minimum academic requirements	Academic diploma held (source: PASEC)
'Enseignants communautaires' (hired and paid by the community, subsidized by the State)	No specific requirement	Primary school: 13% O-level: 64% A-level: 24%
'Agent contractuel de l'Etat', hired by the State on a contractual basis at category C level	O-level	Primary school: 0% O-level: 96% A-level: 4%
'Agent contractuel de l'Etat', hired by the State on a contractual basis at category B level	A-level	A-level: 80% University/tertiary: 20%
'Volontaires du service militaire' (military service volunteers)	A-level	A-level: 70% University/tertiary: 30%
'Agent permanent de l'Etat' (civil servant) – category C	O-level	O-level: 100%
'Agent permanent de l'Etat' (civil servant) – category B	A-level	O-level: 4% A-level: 87% University/tertiary: 9%

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35 There may be no official minimum criteria for certain categories of teachers. This is mostly the case for locally hired primary school teachers, though in some countries, an academic standard is set out, even if it is often disregarded.

In the above example, 13 per cent of community teachers only have primary education. This will have consequences if the country plans to upgrade its community teachers in view of integrating them into the contract teachers' category. At the other extreme, 24 per cent of community teachers appear to have a solid academic background and may need an altogether different kind of upgrading plan. It is to be noted that a small percentage of category B civil servants have lower diplomas than expected, who may actually be category C civil servants who have been upgraded by the end of their career.

As a rule, discrepancies between official criteria and actual profile constitutes information which warrants investigation: e.g. have there been historical variations in official criteria (in which case older teachers may not hold the same qualifications as younger ones); have many teachers with lower qualifications been upgraded; has it been difficult to find enough candidates of the required profile, or on the contrary has there been strong demand for teaching jobs from an unexpected population of highly qualified graduates? What is the age/experience profile of each category of teachers and does it have an influence on their academic profile?

5.1.3 Professional status and training

A similar approach should be used with regards to professional training. Again, Chapter 3 already provided detailed information on professional training today. This section will complement previous analyses by: (i) including consideration of untrained teachers (ii) analyzing the profile of all teachers, including older teachers who may have undergone qualitatively and quantitatively very different professional training. As in the previous section, the analysis will use the angle of teacher professional status.

Official minimum requirements to enter each category of teaching post have to be complemented by information on the actual profile of these teachers. In particular, it is important to know how many of the non-civil servant teachers have been trained in traditional TTIs and then entered the profession on a contractual basis, and how many entered directly without initial training. It is also likely that some categories of teachers underwent non-traditional forms of training, such as accelerated training or distance training. In addition, in-service requirements have to be considered, as teachers may sometimes be hired without professional qualifications but later on have to undergo mandatory in-service training. The example below, which compares the length of pre-service training disaggregated by status for six different countries in Francophone Africa using PASEC data as a basis, shows how varied situations can be and, hence, how important it is to fully describe the national situation.

Table 5.4
Duration of teachers' initial training according to status in some PASEC countries

Countries	Initial training duration	Civil servants (%)	Contract and community teachers (%)	Total (%)
Chad (2004)	No training	0 %	74 %	42.1 %
	< 1 month	0	4.9	2.8
	1-3 months	1.1	9.8	6
	3-6 months	0	1.6	0.9
	1 years or more	98.9	9.8	48.1
Guinea (2004)	No training	0.8	0.0	0.3
	1 years or more	98.5	99.4	99
	Others	0.8	0.6	0.7
Mali (2002)	No training	0	6.3	3.3
	< 1 month	0	7.7	4.1
	1-3 months	0	72.5	38
	1 years or more	100	13.4	54.6
Mauritania (2004)	No training	4.3	55.6	7.5
	< 1 month	1.4	11.1	2
	1-3 months	15.7	7.4	15.2
	3-6 months	3.4	3.7	3.4
	6-9 month	44.2	7.4	42.0
	1 years or more	30.9	14.8	29.9
Niger (2002)	No training	3.8	19.8	9.8
	< 1 month	0.0	17.7	6.7
	1-3 months	0.0	19.8	7.5
	1 years or more	96.2	42.7	76
Togo (2001)	No training	31.1	82.4	50.9
	1-3 months	51.1	4.7	33.2
	1 years or more	17.8	12.9	15.9

Source: (Bonnet, 2007)

PASEC studies have been conducted between 2001 and 2004. For Mali, Niger, Togo and Guinea, evaluations are based on a sample devised to compare different categories of teachers, while, for Chad and Mauritania, evaluations are based on a sample of students.

In Table 5.4, the majority of contract and community teachers were either not trained or only benefited from short durations of training (less than three months). The example of Chad is particularly striking: almost all civil servant teachers underwent "traditional" in-service training, for more than one year, while three quarters of contract and community teachers were not given any training,

and only 10 per cent of them had more than one year of training. The situation is similar to one in Mali in 2001 where, even though contract teachers often appear trained, 80 per cent of them had received, at most, three months of training, while 100 per cent of civil servants benefited from 1 year of training or more. In Senegal (data are not reported in the above table), volunteers received only six months of theoretical training before beginning teaching.

The situation is somewhat different in a number of other countries. Some of these have chosen to provide relatively long initial training (one year or more) to contract teachers. It is the case in Guinea where, since the reform of initial training in 1998, contract teachers receive 15 or 18 months of initial training. Indeed, in the above table 99.4 per cent of teachers reported that they had received initial training exceeding one year. Niger is in an intermediate situation, where 42.7 per cent of contract teachers have received the same length

of training as their civil servant counterparts. On the other hand, in some countries, neither contract teachers nor civil servants benefited from training of a significant length. In Togo, in 2000/2001, with the closing of TTIs, close to one third of civil servants had not received any training, and most received very short training at best.

In order to capture national reality, both minimum pre-service or in-service training requirements (and their evolution over time) and actual training received by practicing teachers of each category have to be detailed. To get detailed information on teachers' actual profiles, as in the case of academic qualifications, the first source of information should be national databases. If ever these sources of information are lacking, further sources will have to be mobilized, such as survey data like PASEC or SACMEQ,[36] to assess the level, duration, and nature of professional training teachers in each category underwent.

Table 5.5
Example of a table for professional training according to category (primary school)
for a fictitious country

Category	Minimum requirements	Professional degree held / length of training (source: PASEC)
'Enseignants communautaires' (hired and paid by the community, subsidized by the State)	No specific requirement	No training: 87% Less than 1-month: 13%
'Agent contractuel de l'Etat' (hired by the State on a contractual basis). Hired at category C level	None required, in which case the teacher is hired at a salary equivalent to the lowest step of category C civil servants. However, if the teacher also holds the pedagogical diploma required from category C civil servant teachers, s/he will benefit from the same career progression as civil servant teachers.	No training: 80% Less than 1 month: 6% 1-3 months: 10% CAEP professional diploma (3 years' training): 4%
'Agent contractuel de l'Etat' (hired by the State on a contractual basis). Hired at category B level	None required, in which case the teacher is hired at a salary equivalent to the lowest step of category B civil servants. However, if the teacher also holds the pedagogical diploma required from category B civil servant teachers, s/he will benefit from the same career progression as civil servant teachers.	No training: 82% Less than 1 month: 5% 1-3 months: 8% CAEP professional diploma (3 years' training): 5%

36 Even though PASEC and SACMEQ evaluations do not use samples representative of teachers, they can provide interesting insights into teachers' professional training.

Category	Minimum requirements	Professional degree held / length of training (source: PASEC)
'Volontaires du service militaire' (military service volunteers)	1-month training	1-month training: 97% CAEP professional diploma (3 years' training): 3%
'Agent permanent de l'Etat' (civil servant) – category C	CEAP	3-6 months training: 13% CAEP professional diploma (3 years' training): 87%
'Agent permanent de l'Etat' (civil servant) – category B	CEAP	3-6 months training: 15% CAEP professional diploma (3 years' training): 85%

The above example depicts a country where the wide majority of contract or community teachers have very short training. However, 4-5 per cent of contract teachers have professional diplomas equivalent to those of civil servant teachers. Provisions to offer these teachers opportunities of career progression close to those of civil servants with similar qualifications are in place. On the other hand, a relatively high percentage of civil servant teachers (13-15 per cent) only benefited from short training. While this category is expected to hold the relevant pedagogical diploma, the closing of TTIs has led many civil servant teachers to follow accelerated training paths generally associated with contractual teacher status.

In general, and as in the case of academic training, strong discrepancies between official criteria and actual profiles in themselves provide information which needs to be analyzed. Discrepancies between official criteria and actual profiles may originate in teacher upgrading schemes, the closing of TTIs (hence the disappearance of traditional training) for a long period of time, high numbers of professionally qualified teachers not hired as civil servants but rather as contractual teachers to respond to budgetary constraints or to limitations on the number of civil servants, or historical variations in official criteria.

5.1.5 Number of teachers per category and evolution over the years

Chapter 1 has given a broad idea of the share of the whole teaching force that different groups of teachers (e.g. civil servant, contract or community teachers) represent. The table below presents a comparative picture of teacher status in several Francophone SSA countries, highlighting different choices in terms of contract – from 93 per cent of civil servants in Burundi in 2004, to only 35 per cent in Cameroon and Mali in 2002 and 2004 respectively, with non-civil servants divided in different ways between contract and community teachers, Chad being one of the countries with the biggest share of community teachers while, in Burkina Faso and Senegal, for example, over 50 per cent of all teachers appear to be contract teachers.

Table 5.6
Teacher status in certain number of SSA countries (percentage)

Country	Civil servants	Contract teachers	Community/ Parent teachers
Benin (2006)	45	19	36*
Burkina Faso (2006)	42	58	0
Burundi (2004)	93	7	0
Cameroon (2002)	35	20	45
Congo (2005)	55	14	31
Guinea (2003)	43	51	6
Bissau Guinea (2006)	71	29	ND
Madagascar (2006)	49	0	51**
Mali (2004)	35	35	30*
CAR (2005)	60	0	40
Senegal (2004)	44	56	ND
Chad (2003)	38	0	62*
Togo (2007)	49	15	36
Average	51	26	23

* The parent-teachers are subsidised by the state

** 17 per cent of the 51 per cent are subsidized by the state

Source: (UNESCO-BREDA, 2009)

However, in this section, it will be necessary to go beyond the categories in the above analysis, which were simplified in order to be internationally comparable, and give more details about all categories of teachers coexisting in the country and the number and percentage of teachers for each such category, as detailed, for example, in the table below for Mali, in 2004. Such an analysis may differ strongly in Francophone and Anglophone countries, where solutions chosen to face the needs for increased numbers of teachers may not have involved such a widespread use of contract teachers. The necessary information should be found in the national databases.

Table 5.7
Distribution of each category of teacher by level of education, Mali, 2004

	Fundamental		General secondary	Normal	Technical and vocational	University
	Cycle I	Cycle II				
Number of teachers	20 190	7 656	3 164	298	915	633
Civil servant Category A	25	32	1 119	148	290	396
Civil servant Category B	6 792	3 844	334	88	174	63
Civil servant Category C	79	39	119	30	57	16
Conventioned	2 426	851	625	32	265	158
Sub-total	9 323	4 766	2 197	298	786	633
Financed by the initiative for debt reduction (public)	4 510	2 725	967		129	
Financed by the initiative for debt reduction (community school)	5 740	58				
Teacher trainee working within a class	617	107				

Source: (Country Status Report 2005c), table III.11 p 80

It is particularly important to get the most recent data about teacher status and consider the dynamics of that teaching force, as, in many countries, most newly hired teachers are contract teachers. For example, in Mali, new teachers recruited between 1998 and 2002 have mainly been contract teachers: 57 per cent were contractual teachers paid by collectivities, 30 per cent contractual teachers paid by the state, and 14 per cent civil servants. Data only a few years old may therefore give an already outdated picture of the composition of the teaching force.

An accurate picture of the teaching force and its profile is a necessary step towards planning the recruitment of sufficient teachers for the achievement of UPE, assessing the cost of their hiring, as well as to assess potential training needs.

5.2 Remuneration, incentives and benefits

The purpose of this section is to analyze the level of teacher salaries and the associated incentives and benefits, for each status, in the country: if salaries are too low, then the teaching profession is likely to become unattractive, which will result both in difficulties in recruiting adequate candidates, higher attrition levels and lower motivation. On the other hand, the higher the salaries, the more difficulties the country may have to face the costs of UPE, which means it will then be necessary to consider all sources of financing, either domestic or external, and their limitations. The evolution of teacher salaries over the years and comparisons with salaries of other professionals with similar qualifications and experience, as well as international comparisons should be mobilized, as a key to understanding teacher motivation and mobility towards other professions or nations. Incentives and benefits (amounts, methods of attribution, per cent of teachers benefiting, etc.) will be analyzed in view of determining their ability to attract teachers for specific areas or

positions. Finally, the modalities and regularity of salary payment will have to be detailed in order to complement the picture.

Another section (5.3) will be devoted to career evolution, which can contribute to teacher motivation as much as their current situation in terms of salaries, contracts, incentives or benefits, and section (5.4) will project the cost of achieving UPE. In that section, several projections for different scenarios will be made, and compared with existing or potential sources of domestic and external financing.

5.2.1 Professional status and contractual dispositions

Beyond entry profile, different categories of teachers differ in terms of contractual dispositions: hiring (who hires these teachers, and to whom they are accountable), salaries, benefits, possibilities of career progression, etc. Section 5.2.1 will introduce the following sub sections (devoted solely to issues of salaries, benefits, and career progression) by describing contractual dispositions for each category of teacher. Sharp differences can exist, both between countries and between statuses. Hiring (and payment) of civil servants and contract teachers may be done at the centralized or decentralized level, in particular at the level of states and local governments, with community teachers being hired at the local level.

For example, in Nigeria, state and local governments, backed by practice and constitutional mandates, provide and manage basic education (primary, junior secondary and non-formal education). In particular, they recruit, post, remunerate and promote their teachers and other personnel (TTISSA, 2006). In Lesotho, the ministry "grants" teachers to schools in response to school population and budget considerations. Once the school is granted a post, the school management committee can select the teacher. Once the teacher is identified, the papers are

sent to the Teacher Service Commission (TSC) for ratification, and ultimate payment of salaries by the government. In Benin, locally hired teachers receive their salary from the community, even though the community itself is subsidized by the state for the hiring of such teachers.

Table 5.8
Example of table for hiring procedures

Category	Hiring procedures / payment
'Enseignants communautaires'	Hired locally and paid by parents' associations
'Agent contractuel de l'Etat', B & C categories	Hired and paid by the state or hired and paid at decentralized level by the collectivities
'Volontaires du service militaire' (military service volunteers)	Hired and paid by the State
'Agent permanent de l'Etat' (civil servant) – B & C categories	Hired and paid by the state

5.2.2 Salary levels according to teacher professional status

Disaggregating salary levels for each category of teachers is necessary to understand within-country discrepancies. For example, for Mali, the distribution of average annual salary is as follows:

Table 5.9
Distribution of average teacher salary level per category and level of education, Mali, 2004

	Fundamental		General secondary	Normal	Technical and vocational	University	
	Cycle I	Cycle II				With overtime	Without overtime
Salary / year (000 Fcfa)	**1 023**	**1 382**	**1 646**	**1 529**	**1 703**	**2 725**	**2 252**
Category A	1 687	1 849	2 445	2 017	2 520	3 606	2 850
Category B	1 698	1 708	1 662	1 324	1 629	1 583	1 583
Category C	1 191	1 178	1 350	864	1 200	1 944	1 944
Conventioned	1 061	1 049	1 115	459	1 261	1 052	1 052
Sub-total	**1 528**	**1 587**	**1 888**	**1 529**	**1 803**	**2 725**	**2 252**
Financed by the initiative for debt reduction (public)	1 088	1 088	1 096		1 096		
Financed by the initiative for debt reduction (community school)	225*	225*					
Teacher trainee working within a class	355	355					
Average (all categories)			1 366	976	1 989	1 870	2 252

Source: (Country Status Report 2005c), table III.11 p 80

According to the category considered, within the same level and cycle of education -for example the second cycle of primary education -, salary costs born by the state range, in the case of Mali, from 0.23 million FCFA per year to 1.8 million FCFA per year: more than eight times this value. In such a context, looking at average national salary-related costs per teacher[37] will be very useful to assess affordability of UPE, but cannot give an idea of the variety in teachers' living standards in the country and their incidence on the teaching force.

A table like the one above gives a better idea of the variety behind the average national teacher salary cost, as it disaggregates salary costs per category of teachers. However, it is important to go even further in order to assess teachers' living standards, as the table above considers salary costs from the point of view of the state – the question to which it responds is, "how much do teacher salaries for this category of teachers cost the state?" Therefore, it does not include the costs borne by parents to finance teachers. If an accurate picture of teachers' living standards is to be provided, then household surveys should be mobilized to complement the general picture.

5.2.4 Evolution of remuneration over the last ten years

Teacher remuneration and status in SSA have undergone drastic changes since the 1970s, more so in Francophone Africa, when at that time, teacher salaries were a legacy of the French colonial system which had indexed African teacher salaries on the French civil servant grid. Structural adjustments, and more recently, the massive hiring of new teachers (essentially after 2000) in order to reach UPE have contributed to modify salary levels, as well as the variety of existing professional statuses.

This section should depict the evolution of average teacher salaries at constant prices, and as compared to that of GDP per capita over the last 10 years and explain the main reasons for this trend, e.g. massive hiring of contract and community teachers lowering average teacher salaries; or salary rise, granting of new allowances (e.g. 25 per cent allowance to all civil servant teachers in Benin), or promotion of teachers to a better-paid status (e.g. transfers from "community teachers" to "State contract teacher" or from "State contract teacher" to "civil servant", as in Benin) increasing the average teacher salary.

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37 Computing teacher average salary level can be done either by averaging teacher salaries for each category, or by dividing the total wage bill by the number of teachers. In this case, it is important to know what is included in that average salary, and in particular, if all teachers are included. For example, do all community teachers appear in the staff roll and, if only part of their salary is subsidized by the state, do we know their real average salary? Furthermore, in all cases, it is important to know whether benefits and incentives are included. This can make an important difference: for example, in Benin, teachers have been given an allocation of 25 per cent of their salary, in addition to other benefits or incentives.

Graph 5.1

Fictitious example of the evolution of teachers' average salaries
(in constant prices and as a function of GDP per capita)
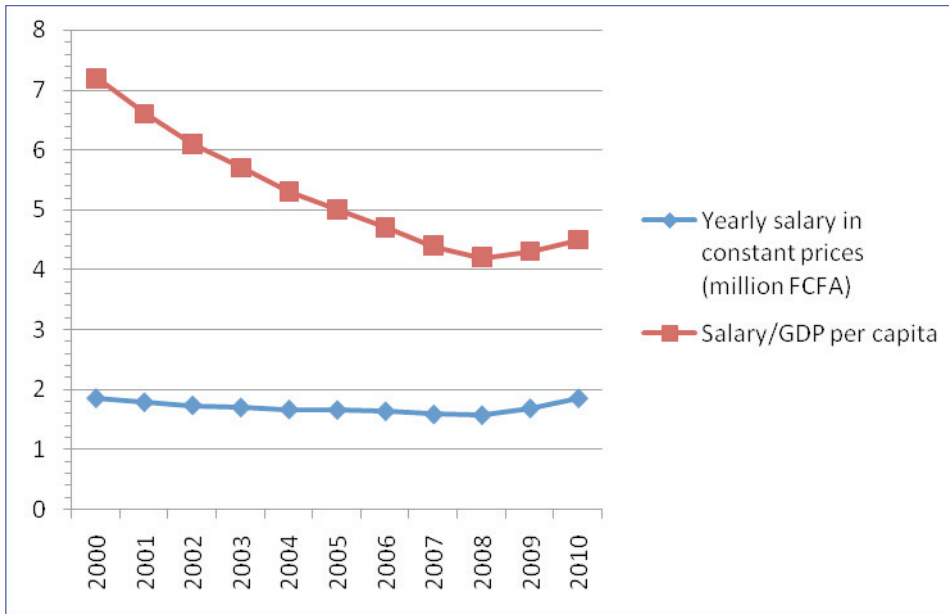
The above graph gives an example of the kind of analysis which is expected. In this example the evolution of average teacher salaries reflects two different periods: the first from 2000 to 2008 in which salaries expressed in real terms as well as salaries compared to GDP/capita have steadily decreased, as a result of the massive hiring of contract and community teachers. During the second period from 2008 to 2010, average teacher salaries increase again as a result of a policy to offer in-service training leading to civil servant status to all contractual teachers, which leads in turn to a gradual reduction in the share of contract teachers in the country.

5.2.5   Comparison with other countries

Salaries alone may not suffice to understand the attractiveness of the profession. Comparisons, in particular with salaries in other professions and with, salaries in other countries are necessary to better capture the potential for attractiveness/ retention in the profession.

The table 5.10 has been computed using Pôle de Dakar "Dakar + 7" publication data as a basis.

Table 5.10

Average salary levels in primary education in a selected number of African countries

Country	Average yearly salary (US dollars)	Average yearly salary ($ PPP)	Salary expressed in GDP/capita	GDP/capita (US dollars)	GDP/Capita ($ PPP)
Burundi	1292	2040	6,8	190	300
Niger	1391	4270	6,1	228	700
Madagascar	747	3100	3,1	241	1000
Nigeria	2744	11270	4,9	560	2300
Rwanda	790	3420	3,8	208	900
Zambia	1266	4050	2,7	469	1500

Source: Average yearly salaries have been computed using average salary in GDP/Capita and GDP/capita values given in (UNESCO-BREDA, 2007) and copied in the table above.

This table shows, for example, that average early salaries for primary school teachers, as expressed in US dollars PPP, are 2.6 times higher in Nigeria than in Niger. This might lead to cross-border mobility of teachers. Comparing Madagascar and Nigeria may however not be as relevant, as these countries correspond to very different geographical areas and economic conditions. It is probably most relevant to compare countries from similar geographical, but also from similar linguistic areas (between which teachers are more likely to migrate or of which teachers are more likely to know), and teachers with similar profiles (which may mean comparing teacher salaries disaggregated by status).

5.2.6 Comparison with other professions

It is possible to get an idea of the attractiveness of the teaching career in different manners: number of candidates to the profession, attrition levels, or comparison of teacher salary levels with those of other professions with comparable entry requirements. This is explicitly requested in the 1966 ILO/UNESCO Recommendation concerning the status of teachers

114. Amongst the various factors which affect the status of teachers, particular importance should be attached to salary, seeing that in present world conditions other factors such as the standing or regard accorded them and the level of appreciation of the importance of their function, are largely dependent, as in other comparable professions, on the economic position in which they are placed.

115. Teachers' salaries should:

(a) reflect the importance to society of the teaching function and hence the importance of teachers as well as the responsibilities of all kinds which fall upon them from the time of their entry into the service;

(b) compare favourably with salaries paid in other occupations requiring similar or equivalent qualifications;

(c) provide teachers with the means to ensure a reasonable standard of living for themselves and their families as well as to invest in further education or in the pursuit of cultural activities, thus enhancing their professional qualification;

(d) take account of the fact that certain posts require higher qualifications and experience and carry greater responsibilities.

Such comparison between professions held by those with a similar profile may be as relevant as the level of salary per se to determine levels of teacher motivation.

Table 5.11
Annual salary (in GDP/inhabitant units[38]) of individuals aged 25-34 and who have finished the first or second cycle of secondary school, according to the employment sector, as compared to the average teacher salary

Country	Modern sector		Informal sector	Average teacher salary
	Public	Private		
Burkina Faso (2002)	4,66	3,83	4,07	6,4
Cameroon (2001)	1,98	1,82	1,02	3,9
Côte d'Ivoire (2002)	3,38	2,84	1,49	4,8
Madagascar (2001)	2,65	2,06	1,22	4,4
Mali (2004)	5,00	2,48	2,36	6,0

38 Salaries are often expressed in units of Gross Domestic Product (GDP) per capita. In particular, the FTI indicative framework expresses criteria upon average teacher salary levels in units of GDP/capita (the FTI indicative value is an average teacher salary of 3.5 GDP/capita).

| Country	Modern sector		Informal sector	Average teacher salary
	Public	Private		
Mauritania (2005)	2,18	3,26	2,68	3,3
Uganda (2002)	3,40	3,60	2,30	3,2
Sierra Leone (2003)	5,35	6,27	4,37	4,2
Chad (2002)	4,32	3,81	3,52	5,4
Average	3,66	3,33	2,56	

Source: (UNESCO-BREDA, 2009)

The above table, created using household survey data for the average salary of 25-34 year olds in various sectors, shows that in Sierra Leone the average teacher appear to be paid less than 25-34 year olds of all other categories while, in Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Madagascar, Mali or Mauritania, teachers appear better or as well paid as 25-34 year olds of all other categories. In Uganda, it is only in the informal sector that salaries of 25-34 year old graduates of the first or second cycle of secondary school will earn less than the average teacher.

While the above gives us a rough idea of how teacher salaries compare to other professions, it does not enable us to ensure we are comparing professionals with exactly the same academic, experience, or age profile. Indeed, what were compared were individuals within a certain bracket of academic competency and a 25-34 age range, with teachers of all ages and academic/professional competency levels. It may appear that, in some cases, the comparison will be made between 25-34 year olds and a teaching

force whose average age is 40 years old, thus skewing the comparison. It also may be the case that we will be comparing graduates of the first cycle of secondary school who are working, with no further qualification, in the formal sector, with teachers who, in majority, hold both an A level and a professional teaching diploma. Hence, a deeper analysis should be undertaken if possible. The table may also not be sufficiently controlling for other variables such as gender, for example.

The graph below, based on household survey data with sufficient information to allow for a detailed comparison, is more precise, as it enables us to compare teachers' salaries to other categories of workers with similar academic studies and levels of professional experience. This table shows that teacher salaries in Mali appear to be higher than those of similar profile in the private and informal sectors. This is coherent with the results of table 5.11 above. However, graph 5.2 also shows that teacher salaries are approximately the same as those of similar profile, in the public sector, while they appeared higher in graph 5.2.

Graph 5.2
Difference between public sector teachers' salary levels and other categories of workers with similar levels of professional experience and length of studies (Mali, 2004)*
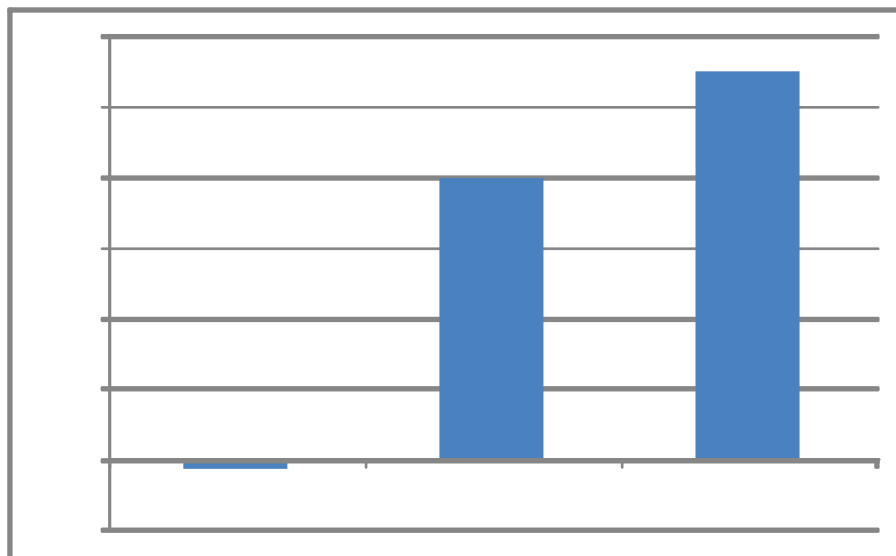
* Simulations based on an econometric model (1 644 individuals aged 25-34; R2=28 per cent).

Source: (UNESCO-BREDA, 2009) (can't access box to change French to English Public Sector etc°

Such an analysis is not always possible as it requires household surveys or more specific surveys on employment in which information is available regarding both the level of education and training, the kind of employment (distinguishing in particular teachers from other civil servants), and salaries and remunerations. Furthermore, for comparisons between employment to be possible (on the basis of an analysis taking into account age, experience, gender and sector of activity), a sufficiently large sample is necessary. This is why such an analysis as the one above is rare, but should be undertaken, if this is possible in the national context, because of the added information it gives on salary levels and their comparative attractiveness.

5.2. Incentives and benefits

The picture of how attractive a profession is cannot be limited to average salary, or to the salary of the category a teacher belongs too. Incentives and benefits also need to be described, including amounts (and what this amount represents within/

as compared to the salary of the teacher[39]), methods of attribution (e.g. hardship allowance related to post location), and the percentage of teachers benefiting from it. Some categories of teachers (e.g. contract teachers, community teachers) may not be eligible for health, pension or unemployment benefits. It is therefore necessary, when possible, to consider incentives and benefits for each category/professional status of teachers.

The table below explains, from an internationally comparable perspective, what kinds of incentives exist and gives some idea as to how often they are attributed, without disaggregating data per professional status.

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39 Whether this is "within" or "as compared to" the salary of the teacher depends on whether average salaries computed comprised incentives and benefits or not

Table 5.12
Bonuses and benefits for primary teachers – international comparison (UNESCO-UIS 2006)

Frequency of additional bonuses and benefits paid to primary teacher

Country	Management responsibilities	Teaching more classes or hours than required by a full-time contract	Location allowances (e.g., isolation pay, housing allowance, or provision of housing)	Age (independent of years of teaching experience)	Outstanding performance in teaching	Outstanding performance of students
Burkina Fas	M	N	M	N	N	O
Chad	N	N	N	N	N	N
Guinea	M	N	M	N	r	r
Kenya	M	N	M	r	r	r
Lesotho	N	N	M	N	N	N
Mali	M	N	M	N	N	N
Niger	M	N	M	N	N	N
Senegal	M	M	M	N	N	N
Uganda	…	…	…	…	…	…
Zimbabwe	N	N	M	N	N	N

Country	Completion of professional development	Holding an initial educational qualification higher than that required to enter the teaching profession	Achieving high scores in the qualification examination	Having an educational qualification in multiple subjects (e.g. history and mathematics)	Having a higher than minimum level of teacher certification or training obtained during professional life (e.g. Masters degree)	Teaching courses in a particular field (e.g. mathematics or science)
Burkina Fas	N	N	N	N	M	N
Chad	N	N	N	N	N	N
Guinea	M	O	M	N	r	N
Kenya	N	M	…	…	M	M
Lesotho	…	r	N	N	r	N
Mali	N	N	N	N	N	N
Niger	N	N	N	N	N	N
Senegal	N	M	M	N	M	N
Uganda	…	O	…	…	O	…
Zimbabwe	N	N	N	N	N	M

Source: UNESCO Institute for Statistics Database and UNESCO/OECD/WEI

Legend:	
M	most of the time
O	occasionally
r	rarely
N	never
…	missing data

This panorama may be complemented with information on the importance of the incentive: for example, incentives may be insufficient, may be countered by negative incentives (e.g. teachers working double-shift in Mozambique get bigger incentives than when going to rural areas), or may not be targeted enough. It is therefore important to consider the level, methods of attribution, and targeting of various incentives and benefits for teachers. Part of this information relates to national strategies for teacher deployment and will therefore have been partly described in chapter 4. The purpose of this section will be to give a broader picture of incentives and benefits and their potential impact, not only on teacher deployment but also on teacher motivation.

Table 5.13
Bonuses and benefits for primary teachers at the national level – the example of Benin

Incentive	Beneficiaries	Amount (Fcfa)
Pedagogical days	All civil servants and contract teachers in function	25000 for teachers 30000 for pedagogical advisers 35000 for inspectors
Start of the school year	All civil servants and contract teachers in function	21600
Night labour	All civil servants and contract teachers working in a classroom	3000/month over 9 months (27000 in total)
Disadvantaged areas and areas to which access is difficult	Civil servants and contract teachers working in disadvantaged areas and/or areas to which access is difficult	**Disadvantaged areas** 5000/month*12=60000 **Areas difficult to access** 5500/month*12=66000 **Disadvantaged, difficult to access areas** 6500/month*12=78000
Efficiency	Teachers holding non exam classes	3000/month*12 months = 36000
Gratification	Teachers holding exam classes	4000/month*12 months = 48000
25%	All teachers	25% of salary

We can see that teachers have been promised an additional incentive of 25 per cent of their base salary. Furthermore, since all practising teachers get the first 3 incentives, and each teacher will either have the "efficiency incentive" or the "gratification incentive", the minimum possible incentive is 109,600 FCFA + 25 per cent of the salary (for a teacher who does not hold exam classes and works neither in a disadvantaged nor in a hard to reach area) and the maximum incentive is 199,600 FCFA + 25 per cent of the salary.

Taking the base salary for a beginning primary teacher (category B1): 90.2100 FCFA, the total minimum incentive (including 25 per cent salary) represents 37 per cent of base salary and the possible additional incentive for disadvantaged and hard to reach areas represents 4.8 per cent, with the incentive going along with exam classes being 1.0 per cent.

It is to be noted that the table above does not explain what the disadvantaged areas are or how many teachers this refers to. Such information should also be collected to get a complete picture of incentives for primary and secondary education teachers.

5.2.8 Modalities and regularity of payment

While the levels of teacher salaries are important, delays in payment, difficulties in reaching remote teachers (e.g. do teachers have to go to the capital to collect their salaries?) and inadequate modalities of payment can also impact on teachers and their motivation, lead to strikes and prevent classes from beginning.

Counterproductive effects of an increase in salaries, or a massive change in teacher status that is not adequately planned for could be that the state cannot afford to pay the promised salaries or incentives in time, leading to irregular payments or arrears.

Another reason for irregularity in payment, beyond budgetary difficulties, may be administrative or logistical difficulties. Original solutions have sometimes been used. Mobile phones, in particular, are used in Kenya for teachers' salaries, (explain?) and a similar option is envisaged for the Central African Republic.

Assessing both the current situation in terms of modalities and regularity of payment and envisaging possible options can therefore prove useful to improve teachers' living and working conditions as well as the general social climate in the country.

5.3 Teacher careers

This third section will study teachers' career perspectives. It will describe salary scales (in particular horizontal and vertical scales) followed by teacher salary progression and its determinants. Finally, it will look into possibilities for changes from one level of education to another and changes in a teacher's professional status (e.g. can a contract teacher become a civil servant), and finally changes in places of deployment/appointment.

5.3.1   Salary scales

Beyond average salary, salary scales can be an important factor in teacher motivation: minimum and maximum salary and ratio between these two, time to grow from minimum to maximum salary, number of teachers at each level of the salary ladder.

It is important to consider whether salary progression is possible, what the official means for salary progression are, and what progression does take place in practice. There may be a system for salary increases which may or may not apply in practice (age-related salary progression, inspection, diploma-related salary increase, etc.), it is therefore important to try and get the average salary progression/the number of teachers who manage to get the salary increase.

Table 5.14 shows official salary scales, as collected by the UNESCO Institute of Statistics, for several sub-Saharan countries:

Table 5.14
Comparison of salary scales at the international level – UIS data (UNESCO-UIS, 2006)

Country	Reference year	Relative to GDP per capita					
		Starting salary		Salary after 15 years teaching		Ending salary	
		Minimum qualifications	Maximum qualifications	Minimum qualifications	Maximum qualifications	Minimum qualifications	Maximum qualifications
Burkina Faso	2003	2,61	3,61	3,66	5,36	6,91	7,73
Chad	2003	6,44	…	…	…	…	14,02
Guinea	2003	2,10	…	…	…	2,08	4,64
Kenya 2	2003	2,75	3,29	2,90	3,79	3,46	5,03
Lesotho	2003	2,00	10,11	a	a	2,12	10,99
Mali	2003	4,86	4,86	7,29	7,29	9,12	9,12
Niger	2003	3,50	4,63	5,82	6,61	7,99	9,94
Senegal	2003	2,57	3,00	3,30	4,99	3,62	5,71
South Africa	2000	2,61	a	6,82	8,05	6,82	8,05
Uganda	2003	4,05	5,69	…	…	7,38	23,52
Country	Reference year	Base salary in PPP					
		Starting salary		Salary after 15 years teaching		Ending salary	
		Minimum qualifications	Maximum qualifications	Minimum qualifications	Maximum qualifications	Minimum qualifications	Maximum qualifications
Burkina Faso	2003	2 983	4 131	4 188	6 139	7 917	8 852
Chad	2003	7 414	…	…	…	…	16 146
Guinea	2003	3 864	3 836	…	…	3 836	8 556
Kenya 2	2003	2 452	2 936	2 585	3 382	3 085	4 483
Lesotho	2003	5 102	25 784	a	a	5 415	28 034
Mali	2003	4 423	4 423	6 634	6 634	8 292	8 292
Niger	2003	2 632	3 481	4 381	4 970	6 009	7 481
Senegal	2003	3 901	4 551	5 011	7 576	5 500	8 666
South Africa	2000	23 795	a	62 064	73 282	62 064	73 282
Uganda	2003	5 549	7 802	…	…	10 111	32 233

Source: UNESCO Institute for Statistics Database, UNESCO/OECD/WEI and OECD, 2005

Notes:
1) Public institutions only
2) GDP Local Currency for 2005

Salaries tend to grow quite slowly in Kenya, while there appears to be a sharp increase in the first 15 years in South Africa, followed by stagnation. In a country like Burkina Faso, on the other hand, growth does not rise sharply but goes on steadily from entry into the profession to retirement.

Table 5.15 adds more information to the previous table: it is striking that in Kenya, for example, at lower secondary and upper secondary levels, one takes only 3 years on average to go from the lowest to the top salary, while this takes 30 years in Guinea.

Table 5.15
Time to move from lowest to highest salary at the international level (UNESCO-UIS, 2006)

Number of years to grow from minimum to maximum salary

Country	Reference year	Primary	Lower secondary	Upper secondary
Chad	2003	21	21	21
Guinea	2003	30	30	30
Kenya	2003	18	3	3
Mali	2003	30	35	…
Niger	2003	26	26	26
Senegal	2003	22	20	18
South Africa	2000	16	16	16
Uganda	2003	10	11	11

Source: UNESCO Institute for Statistics Database, UNESCO/OECD/WEI and OECD, 2005

In Benin, the average contract teacher who did not get a pedagogical diploma cannot progress on the salary scale. Civil servants, on the contrary (and contract teachers if they did get a pedagogical diploma), progress on a salary scale which appears rather attractive as the highest salary, according to the category of teacher which is referred to, is between 2.4 and 3.1 times higher than that of the beginning teacher of the same category.

The general rule for progression is that it occurs relatively regularly with experience (see table below for details), and the total number of years to grow from minimum to maximum salary varies from 22 to 26 years.

Table 5.16
Salary scale for "B1 category"[40] primary school civil servant teachers in Benin

Step in the salary scale	Time to go to the next step (as expressed in national texts)	Annual Salary (in FCFA)	Salary/salary at step 1
1	2 years	902100	1,0
2	2 years	1007345	1,1
3	2 years	1112590	1,2
4	2 years if positive inspections over the last 3 years, 3 years otherwise	1217835	1,4
5	2 years	1353150	1,5
6	2 years	1578675	1,8
7	2 years	1683920	1,9
8	2 years if positive inspections over the last 3 years, 3 years otherwise	1939515	2,2
9	2 years	2044760	2,3
10	2 years if positive inspections over the last 3 years, 3 years otherwise	2150005	2,4
11	2 years if positive inspections over the last 3 years, 3 years otherwise	2255250	2,5
12		2480775	2,8

Such an analysis should be complemented by an analysis of teachers' progression, as evidenced by national databases. In particular, it is interesting to analyze which percentage of teachers go from 4th to 5th step, 7th to 8th, 10th to 11th and 11th to 12th "quickly" (i.e. in two years), or "slowly" and what their profiles are.

The graph below shows how many teachers are at each step in Benin:

40 Representing the majority of civil servant primary school teachers

Graph 5.2
Secondary school civil servant teachers in Benin

Number of civil servant teachers actually in class in secondary schools, at each step of the salary scale (2009)
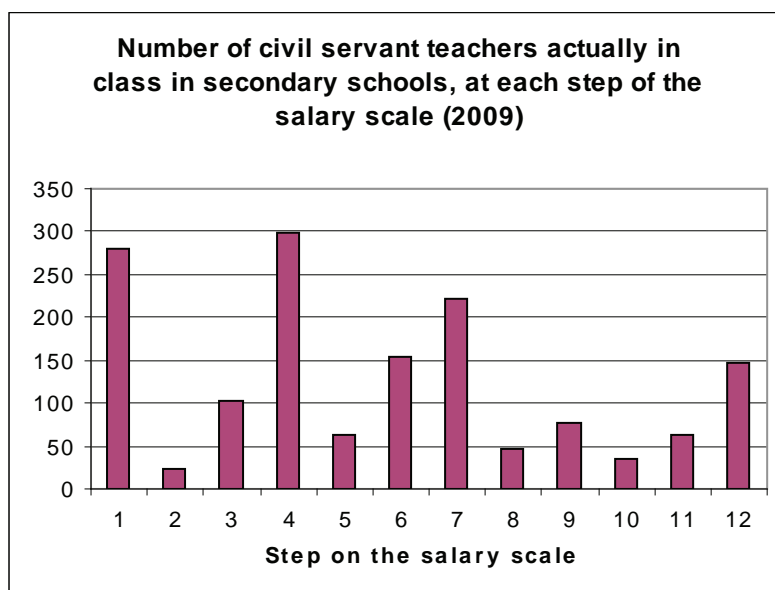
However interesting that the above analysis may be (in particular to better plan the evolution of the wage bill over the years), it is necessary, in order to get a better idea of teachers' progression, to get databases of teachers, with the step they are at, for several consecutive years, as the number of teachers at steps 4 and 7 above could mean that:

• Most teachers tend to progress slowly from step 4 to 5 and steps 7 to 8…. or

• It so happens that, this year, more teachers are at step 4 of the ladder than at step 5, and more at step 7 than at step 8.

The graph above is not sufficient to reach a conclusion relative to the above question.

Understanding in detail the mechanisms of salary progression therefore requires in-depth analysis of national data, ideally combining an analysis of progression over several years with data concerning these teachers' years of experience. Ideally, in addition to describing the frequency of "slow" vs. "quick" progression through the salary scale, the profile of the

teachers who progress most quickly or slowly should be described.

Salary evolution can happen through progression on the horizontal scale (as detailed above) or through progression on a vertical scale (through a change of status). This second modality of progression will be described in the next section.

5.3.2 Teacher mobility – opportunities for a change of level of education, status or posting

Some countries offer teachers opportunities for progression from one level of education to another, as they have a strong system in place for the upgrading of skills. While this may provide an incentive to teachers, increase motivation and promote positive behaviours, it can also create additional challenges related to flow management between primary and secondary levels of education.

Furthermore, if systems in place to promote teachers from one level of education to the next are not accompanied by adequate upgrading

schemes, teachers with an inadequate profile may become secondary teachers.

It is therefore important to assess the modalities for such vertical progression and the percentage of teachers concerned by this career evolution, comparing it to the number of new teachers who need to be trained and hired every year. For example, in Eritrea, 66 per cent of middle school teachers in government schools are teachers qualified at the elementary level, and in Malawi, 61.5 per cent of secondary teachers are primary teachers who have transferred to secondary schools, even though, in both countries, PTRs in primary schools have been on the rise. Similarly, in the Gambia, lower basic teachers can upgrade by returning to college for a 3-year (diploma level) course. The annual intake to this programme is equivalent to almost half of the output of primary teacher training (Mulkeen, 2007). In all these cases, the extent of the flow from primary to secondary education has strong consequences on the ability of the system to fill in primary teacher posts, hence the need for adequate planning in this regard.

On the other hand, some countries tend to keep teachers at their current level of education but support a change of professional status (e.g. from one category of civil servant to the next, from contract teacher to civil servant).

Relevant questions include:

Does a contract teacher have the ability to become a civil servant? Can a community teacher be hired on contract? What is the basis for this change – e.g. are all contract teachers provided with upgrading then granted civil servant status? Are some contract teachers allowed to change status on a competitive basis, with limited number of slots offered every year into the civil service, or are all contract teachers who succeed a given exam granted a change in status?

All these options may happen – Senegal has undertaken recently a policy of systematic upgrading of all its contract teachers. In other cases, status (e.g. a state contract for community teachers) may be granted on an ad hoc basis.

Whatever the official policy, the country may not be able to implement it the way it expected for a variety of reasons. A policy to give contracts to all community teachers may not succeed in making the category disappear as communities will continue hiring new teachers when local demand is not met by adequate offers, and a policy to give civil servant status to all contract teachers or even some of them may be unaffordable or may entail tradeoffs in terms of enrolment levels the country will be able to achieve.

It is therefore important to know which percentage of teachers were granted that modification in status, how much it costs, in which context this happened, and, if there are discrepancies between intended policy and practice, why.

The case of Benin: the upgrading at primary level of locally hired primary school teachers into contract teachers through an ambitious in-service programme): some data:

- 10,200 teachers to be trained and upgraded over a period of 3 years (as compared to the capacity of existing TTIs which is of around 1.100 student teachers / year)

- External financing

- Upgraded teachers get a pedagogical diploma

- Yearly unit cost of the training: 187,600 FCFA, is comparable to the cost of training a civil servant teacher (yearly cost: 258,000 FCFA)

- Beyond the cost of the training, what will be the salary cost of this operation in the long run? Will teachers upgraded this way succeed at the pedagogical exam? (This exam will be the same for upgraded locally hired teachers as it is for traditionally trained teachers).

If the existing ad hoc system in Benin was transformed into a long-term system of in-service training for teachers, it could be of interest both for the purpose of training or upgrading sufficient number of teachers and as a possibility for career progression, in particular for contract and locally hired teachers.

Finally, it is important to assess teachers' between-schools mobility within the same status and educational level. How many/which percentage of teachers change school in a given school year? What are the modalities for changing and their impact on teachers? If teachers who are willing to go to a rural area are granted facilities to be mobile, the teaching force in the most remote areas may get strongly depleted. If, on the other hand, teachers who are willing to accept a remote posting are not offered an opportunity for change, the country may not get enough candidates ready to accept such postings to have enough teachers in these areas.

For example, South Africa's predominately female teaching force was not mobile enough to respond to school staffing needs. When strongly encouraged to relocate, large numbers of key

science and math teachers left teaching (Garson, 1998).

The issue of mobility between schools, the modalities of change and the population concerned should therefore be analyzed to complement the picture of teachers' careers.

5.4 Cost of achieving UPE – domestic/external funding sources for teachers

Teacher salaries often represent the lion's share of an education budget (up to 88 per cent of that budget, 70 per cent on average (UNESCO-BREDA, 2007)). Hence, while salaries are to remain attractive enough to ensure sufficient quality of teachers, increasing salaries beyond a certain level without being able to mobilize enough domestic or external funding sources for teachers could prevent a country from attaining the Education for All goals. In this context, it is essential to assess salary costs, and estimate, for different scenario, whether the country can achieve UPE with existing resources and if not, what the financing gap would be and how the issue may be addressed.

Analyses such as the one above need to be informed by an education sector financing simulation model. Placing the issue of teachers within the general context of the whole education sector (and the budget of the education sector within the national budget) is a prerequisite to such analyses. As illustrated by the example of Burkina Faso, choices made concerning non-teaching expenses will strongly impact on the money available for teachers, and vice-versa.

While such education sector financial simulation models are essential to the discussion, this guide proposes to facilitate discussions around teachers by including more detailed teacher-related information within these models.

Education sector financial simulation models typically use projections for the number of students at various levels of education and target values for PTRs to model the number of teachers which will be required to achieve national goals (i.e. number of teachers = expected number of students/PTR). Knowledge of the global national budget and choices made regarding the share of education within it and the share of the education budget devoted to each level (pre-primary, primary,

secondary, etc.) determine the budget available at a given level of education.

National education simulation models detail education-related costs, including, for example, national resources for classroom construction, the cost of non-teaching staff, the cost of in-service training for teachers, as well as information on teacher salary levels. Using all this information, it is possible to compute the projected financing gap and aid dependency rate. However, while such models are quite complete in as much as they take into account the situation of the whole education sector, they tend to present teacher salaries expressed as a function of GDP per capita, often also basing themselves on average salaries rather than on the detail of the salary level for each category of teachers. Such a presentation may make understanding the real meaning of the choices which are made regarding teachers more difficult to understand by partners involved in discussions around the national teacher policy.

In this context, this guide proposes to ensure that detailed, easily understandable simulation tools are available when discussing teacher salary levels and related issues. It is suggested to add

a more detailed block on teachers within usual simulation models. This block would:

- Present salary levels in local currency (as opposed to presenting them only as a function of GDP per capita).

- Provide details (numbers, salaries and incentives, career options) on the various teacher categories rather than deal only with average salary levels.

- Ensure that the impact of national policy choices on the career of an individual teacher is better understood: for example, if the number of teachers within a given category expands through the hiring of many new teachers, the average salary level for this category is likely to decrease (beginning teachers have lower salary levels). However, this does not mean that the salary level of an individual teacher will decrease. It would therefore be advisable that the model comprises a presentation of the evolution over time of the salary of a typical teacher.

It is expected that the addition of such detailed information within existing models will support the national team in its evaluation of the incidence on teachers of the policy it has chosen. It is important to note that the model should enable countries to gain insight on the long-term financial impact of today's choices, and should be used in conjunction with the previous sections of this chapter which analyze teacher salaries and status, and in particular how attractive the profession is as compared to other options open to teachers.

Summary of data to be collected

The list below recalls the main data which are to be collected within this chapter:

5.1 Professional status

- All different existing professional statuses, per level of education (source: human resource departments.

- Number of teachers per category over several years (source: school databases, human resource departments, finance department).

- Minimum academic and professional requirements for each professional status and level of education (source: human resource departments)

- Percentage of teachers for each academic qualification per status (source: national school databases, analyses such as PASEC and SACMEQ)

- Percentage of teachers for each professional qualification/length of training (pre- and in-service), per status (source: national school databases, analyses such as PASEC and SACMEQ)

Contractual dispositions for each category of teacher - e.g. who hires the teachers of this category? Are they entitled to social benefits? (source: human resource department).

5.2 Teacher remuneration, incentives and benefits

- Wage bill for each status and associated numbers of teachers. Data over the last ten years (source: finance department). OR salary at each level/step within each status, and associated number of teachers (source: school databases, human resource departments, finance department). Alternatively, for older years, if the above indicators cannot be gathered, total wage bill and total number of teachers (source: finance department).

- Data on salaries in other countries.

- Salaries in other professions 'at comparable ages/with comparable diplomas' (Household surveys, etc.).

- Existing incentives and benefits per status, amounts and conditions, number of teachers actually concerned (school databases / human resource department).

- Modalities of salary payment (finance and human resource departments).

- Unpaid salaries in previous years (Ministry of finance).

- Teachers' opinion regarding salary payment regularity (if available through teacher surveys, etc.).

5.3 Teacher career

- Salary scale per category – number of steps, associated salaries, official conditions to move from one step to the next, number of teachers who actually move from one step to the next- (school databases and human resource department data for several consecutive years).

- Conditions to change category/status – e.g. inspection, in-service-, actual number of teachers concerned per year (school databases and human resource department data for several consecutive years).

- Conditions to change posting, actual number of teachers concerned per year (school databases and human resource department data for several consecutive years).

5.4 Cost of achieving UPE – domestic/external funding sources for teachers

- National Financial simulation model

- Indicators from the education sector diagnosis (primary education budget, number of primary school aged children, REM, repetition rates, etc.)

- Indicators already gathered in this chapter (salary/category and step, number of teachers per category, etc.) + attrition rates (next chapter) and cost of training.

Professional and Social Context

Introduction

Beyond the contextual factors and more traditional dimensions discussed in the previous chapters, there remains one crucial, though more subjective and less quantifiable area which must be examined in analysing the teacher issue: the socio-professional context. Here, we consider two dimensions: professional satisfaction and the social context within which teachers evolve.

The development of teacher policy cannot ignore the socio-professional context, as it is a crucial aspect in encouraging the social dialogue necessary for building consensus. The preceding chapters aimed to identify the major challenges concerning teacher policy and to define the space for dialogue for teacher policy. However, this dialogue is not created out of nothing, it is part of a context which is important to understand and take into consideration.

Teacher professional satisfaction, which can be defined simply by the fact of knowing whether or not teachers like their job, appears to be an important factor in appreciating the social context and also for the quality of education. It is thus important to study this aspect. An analysis of professional satisfaction implies measuring the level of satisfaction with commonly used measures as well as studying the causes of satisfaction (or dissatisfaction) and teachers' professional ambitions. Such an analysis can be made in examining, for example, the data collected by the

PASEC studies in Francophone SSA countries as well as other studies available on the topic, such as the more qualitative research conducted by the Voluntary Service Overseas (VSO).

Examining the social context within which teachers function requires detailed interviews of the major social stakeholders involved in education, including the government, parent-teacher associations (PTAs), communities, NGOs, national education councils, development partners, religious organizations, the private sector, the media, teachers' professional associations and teachers' unions. Here, it is important to have a general picture of the main education stakeholders in the country, their knowledge of policy frameworks and benchmarks, the mechanisms for social dialogue that exist in the country, as well as the points of convergence and divergence between these actors in regard to education issues. These factors are important to examine in order to understand the dynamics between the various social partners who play a role in education.

6.1 Teacher professional satisfaction

Research done in industrialized countries suggests that while "teacher quality" is the single most important school variable influencing student achievement, the commonly used indicators of teacher quality (academic and professional qualifications, status, years of teaching experience,

etc.) explain student performance much less than might be expected (OECD, 2005). This finding is echoed in research done in the developing world and in SSA in particular (Bernard, Tiyab and Vianou, 2004).

The findings of this research have led many to suppose that an often overlooked yet important factor influencing student achievement and education quality in general could be teacher motivation. However, this is a dimension that is very difficult to understand and consequently to measure in a satisfactory manner, leading some researchers to favour analysis of teacher professional satisfaction instead. This section of the chapter discusses teacher professional satisfaction, which should thus not be confused with teacher motivation. While teacher professional satisfaction is defined by Michaelowa (2002) and others as whether teachers are more or less satisfied with their jobs, teacher motivation implies their will, drive or desire to be good teachers. A teacher may be satisfied with his or her job but not necessarily motivated to do it as well as possible. For example, in a study of teacher motivation conducted by the VSO in Mozambique, 87 per

cent of teachers surveyed said that they were satisfied to be teachers, whereas only 56 per cent claimed to be motivated teachers (VSO, 2008).

6.1.1 Teachers' satisfaction vis-à-vis their professional situation

Michaelowa (2002) examines PASEC data for five Francophone SSA countries in terms of three variables that can be used to examine satisfaction: 1) the proportion of teachers who chose teaching when asked which profession they would choose if they had to choose again (other options were professions in the medical, judicial, agricultural, technical, financial and commercial sectors), 2) the proportion of teachers who would like to change schools and 3) teachers' average number of absent days per month. This analysis, carried out for the period 1995-1998, reveals that on average across the five studied countries, 53.2 per cent of teachers would choose to become teachers again if given the choice, 43.8 per cent of teachers would like to change schools and that teachers were absent 2.39 working days per month on average. These results are illustrated in Table 6.1 below.

Table 6.1
Indicators of teacher professional satisfaction in Francophone SSA, 1995-1998

	Burkina Faso	Cameroon	Ivory Coast	Madagascar	Senegal	Total
Proportion of teachers who would choose the same profession again	56.7 (4.9)	55.8 (5.1)	45.8 (4.6)	65.5 (4.4)	40.6 (5.0)	53.2 (2.2)
Proportion of teachers who would like to change schools	43.3 (4.9)	38.9 (5.0)	54.2 (4.6)	23.5 (3.9)	61.5 (5.0)	43.8 (2.2)
Average number of absent days per month	2.24 (0.38)	1.80 (0.39)	1.28 (0.16)	2.50 (0.42)	4.72 (0.54)	2.39 (0.18)

Source: Michaelowa (2002)

Standard error noted in parentheses

In analysing teacher job satisfaction in a given country, it is important to examine whether studies such as those carried out by PASEC already exist or whether data of this type is

available. All qualitative studies on teacher professional satisfaction and/or motivation, such as those done by the VSO and others, should be examined.

"What is happening? The best teachers are leaving to work in other jobs…" – Mozambique

"Teaching is a noble profession: as soon as you launch yourself into it, you gain a lot. This is the reason that each year is compared to the last, and I think that everyone wants to improve." – Rwanda

"Almost every day I'm happy; there are not many days when I'm not, because being a teacher, I know that I'm part of the fight against extreme poverty, I'm combating illiteracy, and I'm in the classroom transmitting messages to my pupils and also receiving many back from them. We are taking part in the fight against the great scourges. It's good to be a teacher." – Mozambique

"Teachers feel there is nothing there for them; they have to work in the classroom under difficult conditions, then of course teachers will be attracted to leave." – The Gambia

If there is little or no information available in regard to professional satisfaction, it will be important to conduct a study on this aspect. An ideal approach would be to survey a representative sample of teachers in regard to the variables presented above and complement this with qualitative information gleaned through teacher interviews and observations. A sample questionnaire is provided for this purpose in the Annexes.

6.1.2 Causes of teacher professional satisfaction or dissatisfaction

It is commonly supposed that the major reason behind the professional dissatisfaction of teachers in SSA is low salaries and the consequently low social value of the teaching profession. However, the research suggests that this is not necessarily the case. The PASEC studies and Michaelowa (2002) have identified three other key factors that have a significant relationship with teacher professional satisfaction in seven Francophone SSA countries: 1) the number of years of teaching experience, 2) academic level (level of studies completed) and 3) working conditions (expressed primarily by class size and relations between colleagues). In some or all seven countries studied, these factors were shown to have a negative relationship with teacher professional satisfaction, as illustrated in Table 6.2.

Table 6.2
Determinants of teacher professional satisfaction

	Years of teaching experience	Academic level (BAC or higher)	Class size
5 countries (Burkina Faso, Cameroon, Ivory Coast, Madagascar, Senegal)	- 0,01	- 0,46***	-0,006**
Mali	- 0,01*	- 0,20*	-0,003*
Niger	- 0,02***	- 0,21**	--

Source: Bernard, Tiyab and Vainou (2004)　　　　　　　　　　Confidence intervals: * 10%,**5%,*** 1%

In other words, teachers with more years of teaching experience seem to be less satisfied with their profession (less willing to remain as a teacher) than their newer counterparts in Mali and Niger. The same applies for those teachers with a higher academic qualification (a Baccalaureate-level qualification or higher), who seem less likely to want to remain in teaching than their counterparts who have a lower academic level. Class size is also significant, in that larger class sizes are associated with lower levels of teacher professional satisfaction. In Michaelowa's (2002) study, additional significant factors determining teacher professional satisfaction are identified, including: proximity of the teacher's school to an urban area, the availability of textbooks, the availability of electricity in the school, the teacher's family status (teachers living with family appearing to be more satisfied than those living alone), the teacher's gender (women appearing to be more satisfied than men) and union membership.

As such, it is important not to limit the analysis to a simple measure of teacher professional satisfaction but to analyze the factors which influence it. Naturally, there are differences depending on the context, and it is thus important to conduct the analysis in the country in question when possible. PASEC-type data and analyses can be consulted and triangulated with qualitative studies such as those of the VSO where they exist. But again, it will be important to conduct this type of research if it is not readily available in order to understand the multiplicity of factors that may cause teacher professional satisfaction or dissatisfaction. Considering that certain of these factors may have implications for teacher policy, an understanding of their relationship with teacher professional satisfaction is crucial. In addition, since some of the factors which lead to teachers being professionally dissatisfied are actually correlated with better learning outcomes, it is important to carefully analyze how these measures can be managed or improved rather than to dismiss them.

6.1.3   Teachers' professional aspirations

In addition to examining levels of teacher professional satisfaction and the causes contributing or detracting from it, it is important to get a sense of teachers' professional aspirations. As explained in Section 6.1.1, PASEC examined the proportion of teachers who chose teaching when asked which profession they would choose if they had to choose again. This is one of the three key variables with which to measure teacher professional satisfaction. It can also be helpful to study the aspirations of those teachers who do not wish to continue in the teaching profession (options given for these were professions in the medical, judicial, agricultural, technical, financial and commercial sectors) as well as the aspirations those who wish to remain. Do they wish to teach at the same level (e.g. primary) or to make a move? Would they prefer to teach in the public or private sector? Do they aim for a management role such as head teacher or a non-teaching position such as inspector? What are the ambitions of civil servant teachers versus teachers with other status (e.g. contract or community teachers)? On this last point, Bonnet (2007) examines the professional ambitions of civil servant teachers versus contract/community teachers in selected PASEC studies. This is illustrated in Table 6.3.

Table 6.3
Professional ambitions of teachers in selected PASEC studies

Country	Status	The teacher wants to remain a teacher	Teacher's ambitions
Chad	Civil servants	49%	Promotion (83%)
	Community teachers	69%	Civil service (63%)
	Total	60%	N/A
Guinea	Civil servants	74%	Promotion (86%)
	Contract teachers	71%	Civil service (53%), Promotion (42%)
	Community teachers (4)	*All cases*	*Civil service (all cases)*
	Total	73%	N/A
Mali	Civil servants	63%	N/A
	State/community contract teachers	66%	N/A
	Total	65%	N/A
Mauritania	Civil servants	53%	Promotion (79%)
	Contract teachers (27)	70%	Promotion (43%)
	Total	54%	N/A
Niger	Civil servants	55%	N/A
	Contract teachers	67%	N/A
	Total	59%	N/A

Source: Bonnet (2007).

As explained in Chapter 5, the career progression opportunities that may exist in a country (including promotion, salary progression, changes in professional status, level of education taught or school assignment) are closely linked to teachers' professional ambitions and ultimately to their professional satisfaction. In the analysis of teachers' aspirations, it is thus important to take into consideration information collected on salary scales, number of years needed for salary progression, means of salary progression, modalities for changing professional status, level of education taught or school assignment.

6.2 Social context

Beyond teachers' professional satisfaction and perception of the teaching profession, it is important to consider the broader social context in which they operate. For the purposes of this chapter, social context is defined as the larger societal and organizational environment in which teachers operate beyond the school setting. This analysis should include inquiry regarding the major social stakeholders involved in education, including the government, PTAs, communities, NGOs, national education councils, development partners, religious organizations, the private sector, the media, teachers' professional associations and teachers' unions. The concerns of these various actors and the dynamics between them are important to analyze in order to understand the social context in which the education system, and teachers in particular, evolve.

6.2.1 Description of main education stakeholders

In order to have a precise idea of the principal stakeholders who are active in education in a given country, it is necessary to compare information from the government as represented by the Ministry(ies) of Education with that of the partners themselves. Describing these stakeholders necessitates conducting interviews with them in regard to a number of criteria. The following are some of the main criteria on which information can and should be collected:

- Name of organization or body

- Coordinates and contact information

- Mission and mandate

- Financing

- Membership - number and profile of members, membership criteria, membership cost (if relevant)

- Major activities

- Organizational structure and functioning at national and local levels

In terms of teachers' unions specifically, it is important to keep in mind that in labour terminology, a union is a democratic, self-organizing institution of working people wishing to advance their rights as workers and citizens (ILO website). Within individual SSA countries, there may be only one union representing teachers and other education personnel or several, as shown in Table 6.4 below for Uganda and Benin.

Table 6.4
Teachers' unions in Uganda and Benin[41]

Uganda	Benin
· Uganda National Teachers' Union (UNATU)	· SNEP-Benin - Syndicat National de l'Enseignement Primaire Public du Bénin · SYNAPES - Syndicat National des Professeurs des Enseignements Secondaires · SYNEMP - Syndicat National des Enseignements Maternel et Primaire du Bénin · SYNESTP - Syndicat National des Enseignements Secondaire Technique et Professionnels · SYNTRA-MESRS - Syndicat National des Travailleurs du Ministère de l'Enseignement Supérieur et de la Recherche Scientifique · SYNESP - Syndicat National des Enseignants et Employés du Secondaire Privé · SNIA-EP - Syndicat National des Instituteurs et Institutrices, Animateurs et Animatrices des Ecoles Publiques du Bénin · SYNAPROLYC - Syndicat National des Professeurs des Lycées et Collèges

Source: Education International. http://www.ei-ie.org/africa/en/affiliate.php

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41 This table presents only those teachers' unions which are affiliates of EI. Nonetheless, it allows us to have a picture of the multitude and diversity of teachers' unions which may be present in any one country.

6.2.2 Social stakeholders' knowledge of policy frameworks and benchmarks in the field of education

Before getting into more specific discussions with social stakeholders as to the mechanisms for dialogue with the government and points of divergence, it is useful to get a sense of their knowledge of the broad education policy frameworks, reforms and benchmarks within which their country is operating. In regard to teachers and their associations, Ratteree (2004) points out that despite the lip service that is paid to the notion of actively involving teachers and their associations in discussions of policy, human and financial constraints in poor countries such as most of those in SSA limit the extent to which they are consulted or even informed of such discussions.

Nowhere does this seem more evident than in regard to the major policy framework and benchmarks guiding education policies in all developing countries: that of EFA. Ratteree notes that "while teachers are on the front lines of the EFA struggle, responsible for providing education at various levels, it is not clear that they actually have a say in the design of EFA programmes, their implementation, evaluation of what works and what does not." Indeed, many teachers and their associations are simply unaware of what EFA goals are (Ratteree, 2004). The same can be said of other major international frameworks such as the ILO/UNESCO Recommendations concerning the Status of Teachers as well as national ones such as education sector plans and national policies, strategies or plans on teachers themselves.

Therefore, in a discussion with social stakeholders, it is important to glean their awareness of these policy frameworks and other benchmarks as well as the institutional mechanisms which make social dialogue operational on a sustainable basis. The following types of questions can be posed in this regard:

- Are you aware of the EFA goals? What are they? Have you been informed or consulted with in regard to national EFA programmes or plans?

- Are you aware of the ILO/UNESCO Recommendations concerning the Status of Teachers? What are they? Have you ever used them or made reference to them?

- When is World Teacher's Day? Does your country observe it? Are you involved in organizing activities for the day in any way?

- Does your country have an education sector plan or programme? Have you been informed or consulted in regard to it?

- Does your country have a national policy, strategy or plan concerning teachers? Have you been informed or consulted in regard to it?

6.2.3 Mechanisms for social dialogue

In regard to education, the Joint ILO/UNESCO Committee of Experts on the Application of the Recommendations concerning Teaching Personnel (CEART) has qualified social dialogue as the "glue" of successful education reforms, a means by which agreement and commitment to implement reforms may be sought from teachers and their organizations. With reference to ILO standards, the CEART (2003) defines social dialogue as "all forms of information sharing, consultation and negotiation between educational authorities, public and private, and teachers and their democratically elected representatives in teachers' organizations". This definition encompasses a broad spectrum, from information sharing to consultation to negotiation. This spectrum is represented in the graphic below:

Box 6.2
The spectrum of social dialogue in education

Negotiation

The highest form of social dialogue, often taking the form of collective bargaining and implying a sharing of power to decide, concessions between the parties and a formal, usually written agreement to carry out, evaluate and renegotiate agreed terms regularly

Most applicable to decisions on terms and conditions of employment, but may also address issues that are both of a policy and workplace nature (e.g. class size)

Often contains some form of dispute settlement mechanisms, either over violations of individual teachers' rights as set out in an agreement or past practice or the collective interests of teachers represented by their union. If dispute settlement mechanisms are not included, national laws are the arbiters. In many cases, both apply.

Often the hardest and most contentious form of dialogue, and where unsuccessful or even where formally denied, can often lead to collective disputes – strikes or other work stoppages – between teachers and education managers.

Consultation:

Informal, individual or small group discussions at school level ➤ formal hearings or

interviews between teacher unions and local, regional or national education authorities.

Implies that education authorities listen to teachers' views, but do not always act on them, apply them partially, or in the worst cases, ignore them completely

Often applicable to system-wide education matters – overall policy, planning, financing, educational organization, standards and issues of teacher education or professional responsibilities

Information sharing:

Widest means of communication with teachers and their associations:

Oral or written forms of communications at school level à more developed and institutionalized means of sharing information between Ministries of Education and teachers' unions

Source: Ratteree (2004)

How social dialogue actually operates varies from country to country and from region to region. Its main objectives are to promote consensus building and the democratic involvement of the principal stakeholders in the world of work.

In the education sector, teachers are the prime actors involved in social dialogue given that they make up the majority of the sector's workforce. The ILO/UNESCO Recommendation concerning the Status of Teachers underlines the crucial role of social dialogue involving teachers, insisting that they must be consulted and negotiated with in any educational reform process.

The ILO "measures" the climate for social dialogue through four major international conventions. It can thus be useful to consider whether a country has ratified these and other Conventions as a basis for respecting basic rights of freedom of association and the right to organize that help to promote and underpin the implication of teachers and other workers in important policy decisions. Table 6.3 presents the four major conventions and their ratification in SSA countries.

Table 6.5
Ratification of ILO Conventions in SSA

Convention	SSA countries which have ratified
Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)	All except Guinea-Bissau, Kenya, Somalia and Sudan
Right to Organise and Collective Bargaining Convention, 1949 (No. 98)	All except Somalia
Labour Relations (Public Service) Convention, 1978 (No. 151)	Botswana, Chad, Ghana, Guinea, Mali, Sao Tome and Principe, Seychelles, Zambia
Collective Bargaining Convention, 1981 (No. 154)	Gabon, Niger, Sao Tome and Principe, United Republic of Tanzania, Uganda, Zambia

Sources: Vere (2007), ILOLEX Database of International Labour Standards. http://www.ilo.org/ilolex/english/index.htm

However, there is clearly a difference between a country's ratification of international conventions in regard to social dialogue and its actual respect of these provisions when it comes to inviting and implicating teachers in educational decision making. In SSA, some countries, including certain of which have ratified the above conventions, are marked by a context which does not favour social dialogue, legally barring teachers from free association, independent organization and collective bargaining. Other countries recognize these rights but limit them through other laws and/or actual practice. There are then others which not only seem to protect teachers' rights to social dialogue but also actively promote them.

Namibia is a good example of this last category in that the Namibian National Teachers' Union (NANTU) engages in regular negotiations for teachers' service conditions. These negotiations lead to regular three-year agreements, the implementation of which is then discussed. Additionally, NANTU and the Ministry of Education have established a Technical Committee which meets monthly for information sharing and discussion. NANTU also participates in other bodies that cover issues of standard-setting, qualifications and conditions of service. Similarly, in Mauritius, regular tripartite meetings (involving the government, private sector employers and teachers' unions) are held to discuss increases of cost of living allowances. In South Africa, teachers' organizations have agreed with the Ministry

of Education on a labour relations framework which includes the standard areas of negotiation as well as pedagogical issues. The Education Labour Relations Council (ELRC) has been established as a permanent body for discussion of education sector labour issues, including within a framework of overall public sector consultation and negotiations. The CEART has noted this kind of framework as a good practice in the key area of policy dialogue (Vere, 2007).

An analysis of teacher participation in social dialogue thus requires careful examination in order to know whether and how this dialogue actually happens in reality. Discussions with teachers' unions, as well as the Ministry(ies) of Education, must thus evoke several key questions in this area, such as:

- Nature and content of meetings/consultations/ negotiations between union(s) and/or professional association (s) and government during the last academic year

- Agreements reached between union(s) and/or professional association(s) and government during the last academic year

- Existence of government-union consultation mechanisms, bodies or other structures for meetings/consultations/negotiations/dispute resolution

6.2.4 Major points of convergence and divergence between social stakeholders

A good indicator of the social context in relation to teachers and their associations is an examination of the major points of convergence and divergence between the various social stakeholders and the government. As such, the interviews with these bodies should also examine questions such as:

- Nature of the divergence(s)

- Government position on the divergence(s)

- What if any type of social dialogue is being used to discuss the divergence(s)?

- Anticipated resolution and outcome(s)

The questionnaire provided in Annex 2 can be used in interviews with teachers' unions and other social stakeholders in order to examine all of the issues raised in the second section in this chapter. These questionnaires were developed and tested during the piloting exercise in Uganda and Benin.

Box 6.3
Violence in schools as an issue of social context

An important issue which cannot be overlooked in undertaking an analysis of the social context is that of violence in schools, which is becoming a widespread phenomenon in many parts of the world including sub-Saharan Africa. UNESCO's recent publication Education under attack (2007) profiles this issue:

"Parts of the world are becoming a deadly place to be a student, teacher or education officials. Attacks on education often escape international attention amid the general fighting in conflict-affected countries. But the number of reported assassinations, bombings and burnings of school and academic staff and buildings has risen dramatically in the past three years, reflecting the increasingly bloody nature of local conflicts around the world. Accurate global figures do not exist for the number of teachers, students or officials killed each year, or for other types of attack such as abductions, torture and threats of violence, nor are there accurate global figures for the number of attacks on schools, universities and education offices."

As such, in analyzing the social context through interviews with social stakeholders, special attention should be paid to issues of school violence. These may represent a key point of convergence or divergence between the various social stakeholders. It is important to understand what measures, if any, are being taken by the government and others to address these issues where they exist.

Annex 1

Skills profiles for the composition of a national team (Teacher Issues Analysis)

Chapters	Skills	Profiles and institutional origins
Chapter 1	- macro-economy and budget - demography - EMIS	- 1 economist (Ministry of Finance and Budget) - 1 demographer (National Institute of Statistics / University) - 1 statistician-planner (Ministry of Education) - 1 representative of Teachers' Union, familiar with EMIS and/or budget issues
Chapter 2	- statistical projections	- 2 statisticians-planners (Ministry of Education)
Chapter 3	- analysis of teacher training - statistical analysis - cost-effectiveness analysis	- 1 specialist in teacher initial (pre-service) training at primary and secondary levels (Ministry of Education) - 1 specialist in teacher in-service training at primary and secondary levels (Ministry of Education) - 1 statistician- economist (Ministry of Education) - 1 representative of Teachers' Union, specialist in teacher training issues - 1 representative of NGO, working on teacher training
Chapter 4	- statistical analysis - analysis of teacher deployment process - analysis of teacher absenteeism management - analysis of teacher attrition	- 1 specialist in teacher deployment (HRM or service in charge of deployment in the Ministry of Education) - 1 specialist in teacher absenteeism issues (Ministry of education) - 1 statistician planner - 1 representative of Teachers' Union
Chapter 5	- analysis of teacher career - comparative analysis of teacher remuneration - analysis of salary costs impacts in the budget	- 1 specialist in Human Resources (Ministry of Education) - 1 technician in budgetary matters (Ministry of Finance) - 1 statistician-economist - 1 representative of Teachers' Union - 1 representative of PTA/NGO
Chapter 6	- analysis of teacher satisfaction - analysis of social context - analysis of the mechanisms of social dialogue	- 1 statistician (Ministry of Education) - 1 sociologist (Ministry of Education/University) - 1 specialist in social dialogue (Ministry of Education) - 1 representative of the Ministry of Finance - 1 representative of PTA

Annex 2

Questionnaire for Social Stakeholders

Date of interview: ………………..

Information on the person interviewed

Name: …………………………………………………………………………..

Position/Role in Union/Organization: …………………………………………………

Telephone: …………………………………………………………………..

E-mail Address: ………………………………………………………..

General Information

What is the full name of your union/organization?
…………………………………………………………….......................................

In what year was your union/organization created? …………..

Which schooling levels are covered by your union/organization?
(mark the relevant box(es))
  Pre-primary   Primary   Secondary   Higher/tertiary

How many members does your union/organization have? ……………..

Do the members pay membership fees?   Yes   No

If yes, what is the annual membership fee? …………………………….

Does your union/organization belong to any national/regional/international federation(s)? Yes   No

If yes, which ones?
……………………………………………………………………….……………

Organization and functioning of the union/organization

Can you describe the organizational structure of your union/organization at national level (governance structures, composition and functioning of these structures)?
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Can you describe the organizational structure of your union/organization at local level (governance structures, composition and functioning of these structures)?

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Knowledge of major policy frameworks and benchmarks

How would you describe your members' awareness of Education for All (EFA) and the EFA goals?
  very aware
  aware
  not very aware
  not aware

Has your union/organization been informed or consulted in regard to the national EFA programme?
   Yes   No

If yes, please describe how:
…………………………………………………………………………………..…
…………………………………………………………………………………......
……………………………………………………………………………………….
…..…………………………………………………………………………………………
………………………………………………………………………………………..

How would you describe your members' feelings about the push for UPE and the challenges that this may impose?
   very favourable
   favourable
   not very favourable
   not favourable

How would you describe your members' awareness of the ILO/UNESCO Recommendations concerning the Status of Teachers?
   very aware
   aware
   not very aware
   not aware

Have you ever used the ILO/UNESCO Recommendations concerning the Status of Teachers or made reference to them during social dialogue with the government?
   Yes   No

If yes, please describe for what:
………………………………………………………………………………………….
………………………………………………………………………………………….
………………………………………………………………………………………….
………………………………………………………………………………………….

Is World' Teachers Day observed?   Yes   No

If yes, please describe how:
   national meeting(s)/seminar(s)
   local meeting(s)/seminar(s)
   demonstration
   parade
   other: please describe _____

Has your union/organization been consulted about the development of national policies/ strategies/ plans concerning teachers?   Yes   No

If yes, please describe which ones and how:

………………………………………………………………………………………

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Has your union/organization been consulted about the development of major education sector plans or programmes?   Yes   No

If yes, please describe which ones and how:

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Consultation and social dialogue

How would you describe social dialogue in the education sector?
  very satisfactory
  satisfactory
  not very satisfactory
  not satisfactory

Is there a mechanism or structure for consultation and social dialogue with the government in the education sector?   Yes   No

If yes, can you describe the modalities of your union/organization's participation in this mechanism or structure?

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Do you feel that this mechanism/structure is:
  very useful

  useful
  not very useful
  not useful

Does your union/organization have concrete ideas or suggestions for improving social dialogue in the education sector?   Yes   No

If yes, what are these ideas or suggestions? :
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…………………………………………………………………………………………
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Has your union/organization been involved in a strike(s) during the current school year? Yes   No

If yes, what was the duration of this strike(s)? ………………….

What were the major demands/grievances of your union/organization during this strike(s)?
…………………………………………………………………………………………
…………………………………………………………………………………………
…………………………………………………………………………………………
…………………………………………………………………………………………
…………………………………………………………………………………………

Were these demands/grievances satisfied?

  Yes, all

  Yes, partially

  No

If the demands/grievances were only partially satisfied, what were the major results obtained as a result of the strike(s)?

…………………………………………………………………………………………
…………………………………………………………………………………………
…………………………………………………………………………………………
…………………………………………………………………………………………

Beyond the current school year, over the last five years, has your union/organization been involved in a strike(s)?   Yes   No

If yes, what was the duration of the strike that you deem to have been the most important one? ………………….

What were your major demands/grievances during this strike?

……………………………………………………………………………………………

……………………………………………………………………………………………

……………………………………………………………………………………………

……………………………………………………………………………………………

Were these demands/grievances satisfied?

  Yes, all

  Yes, partially

  No

If the demands/grievances were only partially satisfied, what were the major results obtained as a result of the strike(s)?

……………………………………………………………………………………………

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Today, what are the three major demands/grievances of your union/organization?

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Do you believe that dialogue with the government regarding these demands/grievances is:

Very satisfactory

Satisfactory

Not very satisfactory

Not satisfactory

Do you think that the risk of future strikes in the education sector is:

Very high

High

Not very high

Not high

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