



The Implications of the Global Financial Crisis on Primary Schools, Teachers and Pupils' Households in 12 Countries

DFID – RIVAF

**Final Report
(Version 29 July 2011)**

**The Education Sector
Division for Planning and Development of Education Systems
Section for Policy Advice and ICTs in Education**

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1. Introduction

The financial crisis that originated in the United States in September 2008 after the collapse of the sub-prime mortgages market and the bankruptcy of the investment bank Lehman Brothers, showed the extent to which the world economy is interlocked (Calderon and Didier, 2009; Canuto and Lin Yifu, 2011; World Bank, 2009a). The United States financial crisis spurred a global economic recession: its scope, magnitude and the complexity of globally tangled financial markets has no historic precedent. Contrary to previous crises that affected certain but not all regions, the pattern of economic growth since 2007 looks strikingly similar worldwide (Cali et al., 2008; De la Torre and Ize, 2010; Turner, 2008).

Stock markets fell in many countries, global financial markets ceased operations and global industrial production and trade fell at rates similar to the Great Depression of 1929 (UNCTAD, 2010). By early 2009, the economic growth rate declined or, at best, slowed down in most regions of the world. Evidence from previous economic crises (e.g., the 1973/74 oil crisis after the Arab-Israeli war and the ensuing world recession or the 1997 East Asia financial crisis) alerted on how the 2008/09 crisis can overshadow education expansion, weaken provision, and improvements in efficiency, equity and quality in education.¹

Since its outbreak, UNESCO has been monitoring the impact of the crisis on the education sector of its Member States. Exploratory studies conducted in 2009 examined the consequences of the global economic downturn on budgeted government expenditures for education, including for higher education (UIS, 2009; UNESCO, 2009a, 2009b; Varghese, 2009). They showed that few of the countries covered at the time had planned cuts for education, and that education expenditures were not yet compromised in the majority of countries examined. While additional rounds of education budget and expenditures data became available, one thing was clear: that evidence of how the global financial crisis trickles down to schools was poor and that an informed understanding of the impact at local settings was of particular value.

A second series of UNESCO studies focused, precisely, on the area little examined in the literature: the magnitude and nature of the crisis' impact on day-to-day school activities, teachers and pupils' households, as well as their ability to adjust to the difficulties brought about by the crisis. In November 2009 UNESCO engaged on studies using school-level surveys in two countries – the Democratic Republic of Congo (DRC) and Mongolia (UNESCO, 2010b, 2010j). The purposes of the two studies were (i) to test a general framework for assessing the impact of a crisis at the school level, and (ii) to obtain firsthand feedback from schools, teachers and

¹ For analyses of the impact of the world recession and the structural adjustment policies of the late 1970s and early 1980s across a number of countries, mostly on educational expenditures but also on quality, see ILO (1996), de Moura Castro (1994), Heyneman (1990), Orivel (1986), Reimers (1990) or Woodhall (1991, 1994).

parents on whether and how the global crisis has affected financial flows to schools, student attendance, teaching and learning or the ability of parents to support their children's education.²

In March 2010 UNESCO's Division for Planning and Development of Education Systems, Section for Sector Policy Advice and ICTs in Education (ED/PDE/PAD) was granted funds from the UN Global Pulse, Rapid Impact and Vulnerability Analysis Fund (RIVAF) for a review of the impact of the global financial and economic crisis on primary schools in ten selected developing countries (Global Pulse, 2010). The project was funded through UNESCO's regular budget and extra budgetary funds from the United States funded Programme for the Reconstruction of Education Systems in Post/Conflict Disaster Countries and from the Department for International Development (DFID) of the Government of the United Kingdom of Great Britain and Northern Ireland. DFID's major contribution was used for the contract for services for the development of ten of the twelve country case-studies.

The UNESCO-RIVAF study builds upon the analytical approach already developed and used by UNESCO in the DRC and Mongolia, revised and adapted for the purposes of a comparative study. It also draws lessons from another study for Madagascar (UNICEF and Core-Dev Engineering, 2010) and the research design of an ongoing study for the Philippines (Center for Development Management, 2009). Briefly, the study keeps the small-scale design of the school-level surveys but incorporates a comparative case-study approach involving twelve countries. It monitors school-level data in a period of global financial crisis, comparing schools in countries purposely selected because they have been most exposed to the crisis in their respective regions yet relatively diverse with respect to other attributes (e.g., income level, education development). The study intends to facilitate a framework that can potentially provide general conclusions and hypothesis for further research.

1.1. Goals of the study

The ultimate aim of this research is to explore the conditions that may contribute to the changes primary schools, teachers and pupils' households faced during the crisis and to their adaptation and coping strategies, to understand better the diverse pattern of education change and progress among different developing countries affected by the global financial crisis, and to examine the role and nature of education policy in the transmission of effects down to schools. It centres on twelve countries purposely selected: Armenia, Barbados, Botswana, Cambodia, Chad, Jordan, Madagascar, Maldives, Mauritania, Mexico, Paraguay and Ukraine (country selection criteria are discussed in section three).

More specifically, UNESCO's study uses survey research methods to:

1. Describe whether and how primary schools, teachers and pupils' households' teaching and learning conditions changed between the years before and after the 2008/09 global financial and economic crisis; and

² The studies for Mongolia and the DRC were not meant to provide neither generalizable nor comparable data above and beyond the schools surveyed. Rather, they intended to explore and understand how schools, teachers and parents educational conditions and behaviours, and ultimately pupils' schooling and learning opportunities, are affected in a context of economic crisis. In Mongolia, twelve secondary schools from the Western, Eastern and Central regions and the capital city of Mongolia were surveyed. A total of 600 individuals (51 school administrators, 309 teachers and 240 parents) responded to the survey. In DRC, a survey was conducted in Kinshasa and surrounding areas from 5 to 20 November 2009. A total of 152 kindergarten, primary and secondary school units were sampled; surveys were administered to 110 heads of schools, 175 teachers and 190 parents.

2. Examine how primary schools, teachers and pupils' households adapted and coped with the changes brought about by the 2008/09 global financial and economic crisis.

The study explores the extent to which schools and local institutional actors have been affected and whether local capacities for adaptation and coping were being developed in the crisis years. It intends to contribute to the debate around globalization and education, aiming at exploring how local conditions might influence the different forms a global financial crisis reaches schools and teaching and learning conditions, how schools, teachers and pupils' households respond and might be contributing to a broader reordering of education reforms since the crisis.

1.2. Relevance

Why UNESCO picked this particular topic

While national and cross-national data for monitoring the education impact and long-term implications of the global financial crisis become available, UNESCO took the opportunity of the RIVAF project to know more about changes in school conditions, resources and their adaptation in the years of the global financial crisis. Whereas studies on the effects of macroeconomic shocks on households and the demand for schooling are abundant, little is done on how macroeconomic shocks trickles down to schools.

The research strategy centred on using head teacher, teacher and parent surveys to gather school-level administrative data before/after the crisis and respondents' perceptions, with the goal of drawing inferences on the impact of the global financial crisis on education delivery and use. School-level surveys are increasingly being gaining relevance in the analysis of education delivery, for example the budget that reaches education "providers," school conditions and resources, and the efficiency of schools in the utilization of inputs (Amin and Chaudhury, 2008; Filmer, 2008).

While the general design of the surveys reached a small number of primary schools (a minimum of 24 per country) and is therefore limited in scale, the study nevertheless intended to follow some of the basic priorities specified by Global Pulse for the RIVAF projects (Global Pulse, 2010):

- It allows for a deployment of real-time data to help develop a better understanding of how schools, teachers and pupils' households cope with the impacts of global crises,
- It can be more efficient for a cross-national study as school surveys are more easily translated into different languages than other data collection strategies, and
- It gives the opportunity to eventually sample schools more extensively to provide representative and robust empirical evidence. Overall, the research will generate information that provides micro-level insights into the implications of the global financial crisis for education, especially among vulnerable groups.

How the topic complements UNESCO's research agenda

The study complements initial exploratory research examining the early consequences of the crisis on public expenditures in education. A first study gathered expenditure data through surveys of UNESCO field officers in 50 countries, conducted between March and June 2009 (UNESCO, 2009b). A second study examined expenditures through a review of available government documents, including budget documents, speeches, official decrees and circulars and press releases for ten countries (UIS, 2009). A third study focused on an analysis of expenditure data available between August–September 2009, for 12 countries (UNESCO,

2009a). A fourth one reviewed the debate around public funding for higher education for 15 countries, as it appeared in major journals and press news (Varghese, 2009). This study adds a micro perspective to the research conducted, building on two case studies for the DRC and Mongolia (UNESCO, 2010b, 2010j).

The line of work on the education implications of the current crisis builds and strengthens UNESCO's research agenda on education financing, particularly in contexts of economic crises. More than twenty years ago, UNESCO has played an important role in understanding the consequences for education and training of the widespread economic problems seen in the late 1970s and 1980s and the structural adjustment policies they stimulated. In 1989, the ILO and UNESCO established a Task Force on Austerity, Adjustment and Human Resources, "seeking to understand better the impact on education and training of local, national and international responses to financial crisis and to assist the protection of those investments in future growth" (Samoff and Task Force, 1994, p. 6). The Task Force facilitated policy-oriented research to learn from country responses to the financial crisis and economic reorganization with reference to decision-making processes and the institutional contexts within which policies and responses are adopted (Bahr et al., 1994).

How the study contributes to UNESCO's programming

One of UNESCO's priorities for education is to strengthen its global leadership in education through advocacy, partnerships and monitoring. The programme gives top priority to supporting the achievement of Education for All (EFA), coordinating the international efforts in education and tracking educational trends (UNESCO, 2010a, 2011a, 2011b).

This study complements UNESCO's function of assessing global progress towards achieving the six EFA goals. The extraordinary progress over the last decade – particularly in reducing child mortality, expanding access to primary education and improving gender parity in education – and even the limited advances in improving adults' literacy, early childhood education, skills and quality has needed economic growth for its financing (UNESCO, 2011c). This study will inform Member States within UNESCO's Governing Bodies on the implications of the crisis for schools – including for countries that are far or at an intermediary distance from achieving EFA – as invited in 2010 by the Executive Board and requested by the EFA High Level Group Addis Ababa Declaration (High-Level Group on Education for All, 2010; UNESCO, 2010k).

Investing in education is more important than ever to safeguard the hard-won progress towards the education goals made over the last decade. Although recent talks suggest a spirit of optimism and recovery of economic activity in most developing countries albeit a weak recovery in high-income ones (World Bank, 2011), the prospects for education financing seem unclear, particularly as stimulus packages reverse and governments tighten their fiscal policies in contexts where aid flows might be compromised (World Bank, 2010). Education must jostle its way for sustained or increased public budget alongside other public concerns like unemployment or poverty. UNESCO's task is to make sure a global financial crisis does not serve as a justification for decreasing financial resources for education and set the stage for slowing down or reversing the hard-won education progress. This research adds micro evidence on the changing school financing environment and adaptation and coping strategies of schools, teachers and households.

Moreover, the study intends to assist UNESCO in its role of advocating for "investing out of the crisis," by building the knowledge base for assessing and reacting to the impact of the crisis, and for focusing the debate on concrete policy advice and capacity-building support that takes into account the experience and responses seen in schools in the context of the global financial crisis (UNESCO, 2009c). More concretely, UNESCO is in the process of updating its education strategic plan for some countries, including few included in this study. In Cambodia, for example, a mid-

term review of UNESCO's support strategies is scheduled for late 2011 and will lead to an update of the Education Strategic Plan 2009–2013. The school survey results are expected to feed into this review.

1.3. Organization of the report

The report starts with an overview of the available evidence on how the global financial crisis of 2008/09 affects education. It reviews the literature discussing the effects on countries' revenues and public and households' expenditures, particularly in education, international aid to education, and the overall impact on education outcomes. Section three discusses the country selection criteria and introduces the study teams. The study's research design and methods are presented section 4; it elaborates on the impact analysis approach taken and discusses sampling, instrumentation and data analysis issues of the school surveys conducted. An overview of key initial findings appears in section 5, and concluding notes highlighting key researcher challenges is in section 6.

Results presented in the report are based on initial findings from three countries: Botswana, Jordan and Paraguay. Findings are still being revised and tuned in these three countries, and survey results still being analyzed in the remaining nine countries.

2. Review of the literature

Available evidence on the impact of the global financial crisis of 2008/08 shows the multiple channels and education harms derived from the crisis, particularly for most vulnerable countries and populations. Findings are still limited and fragmented, although they provide a picture of the difficulties the education sector in many countries are currently or might face in the years to come.

2.1. Revenues and public expenditures

Most low-income countries have been facing declines in **revenues** since the years the global financial crisis ousted. An analysis of budget documents for 43 low-income countries shows that, in 2009, revenues fell in 8% points of 2008 revenues, or 1.8% of GDP, representing a loss of 52.6 billion dollars total (Kyrili and Martin, 2010a). In Angola, Chad, the DRC, Kyrgyz Republic, Maldives and Yemen, revenue declines exceeded 10% of GDP. Revenue losses are most explained by falls in other revenues (mostly through royalties and payments for oil or mineral concessions) and in direct taxes (e.g., income or property taxes).

Country trends as far as **spending** in the public sector vary. In the same study of the crisis' effect on the budgets of 43 low-income countries, Kyrili and Martin (2010a) examined countries' fiscal responses to the global financial crisis. On average, low-income countries in all regions except for South Asia have been credited with a surge in public expenditures in 2009, at least as a percentage of the GDP although not necessarily in real terms of on a per capita basis. In sub-Saharan Africa, about 60% of low-income countries included in the study show an upward trend in public expenditures between 2008 and 2009. Yet, relatively more spending combined with a reduction in revenue, prompted an increased deficit in the public accounts in most countries. The picture for 2010 looked less promising. In their efforts to reduce deficits, low-income countries in most regions were planning expenditure cuts, some of above 2% of GDP (particularly South Asia and the Middle East North Africa).

As the global financial and economic crisis forces governments to pursue tight fiscal policies, damages to **education spending** and education provision become apparent. A UNESCO study

examining planned education budgets early in 2009 (UNESCO, 2009b), right after the surge of the crisis, showed that most of the 50 countries examined were managing to sustain their education budgets, both as a percent of the GDP and in constant values. Few, though, were already experiencing shrinking financial resources for education. Later research commissioned by UNESCO for 12 countries showed most government revenues declined and budgets cuts in education were observed between 2008 and 2009 (UNESCO, 2009a).

More recent cross-national evidence continues to show a mixed picture as regards the implications of the crisis on education investments. A recent study compared actual 2009 and planned 2010 education spending in 28 developing countries, of which 18 were low-income countries and the rest lower-middle income countries (Kyrili and Martin, 2010b). It shows that, of the 18 low-income countries analyzed, 8 raised education spending from 2008 to 2009 while 7 cut spending between the two years. The seven countries reporting budget cuts have 3.7 million children out of school. Moreover, of the 10 lower-middle income countries included in the study, 7 maintained or increased spending in 2009, but 6 of them planned cuts for 2010. Another similar study, for 126 developing countries including 56 low-income ones, shows a rather similar pattern (Ortiz et al., 2010). About two-thirds of the low-income countries were cutting budget allocations to pro-poor sectors, including education.

Current evidence shows no major regional differences in how the global financial crisis affected education spending: both budget cuts and stimulus packages or protective policies are perceptible across the different regions. Many sub-Saharan African countries have responded to the crisis by restricting spending to manage national deficits, in the context of reduced international aid (Devarajan and Shetty, 2010). In Nigeria, for example, policy responses have attempted to manage the increasing national deficit by constricting social expenditure. This has translated into a 16% budget cut in education for 2009. In Botswana, the increased national deficit led the government to borrow 1.5 billion dollars from the African Development Bank (ADB) in order to support 2009-2010 expenditures. Deficits were so large that the government had to simultaneously reduce both recurrent and development budgets by 5%-7% across all levels, with higher education being the hardest hit by reductions (Green et al., 2010). Ghana, on the other hand, implemented a fiscal consolidation policy in 2009-2010. The policy made it possible for the government to allocate 69% of its total public expenditures to education, making education the highest paid social sector (Ortiz et al., 2010).

Arab States countries' responses to the crisis are diverse, with countries implementing expansionary as well as contractionary fiscal policies (Cherkaoui, 2010). While Egypt, Lebanon and Saudi Arabia increased their budget allocated for education, Jordan adopted policies that limited or decreased government allocations for education (ILO, 2009; Naguib, 2010).

Though the crises has placed much stress on Asian markets and governments in terms of spending, governments have prioritized education spending and the education sector has experienced the largest increase in government spending in the wake of the crises (ILO, 2009; Parks et al., 2009). Thailand and Vietnam, for example, passed various social support programs aimed at maintaining or improving the quality of education and other social services and, ultimately, catalyze economic recovery (ILO, 2009; Parks et al., 2009; Praparpun, 2010). In 2009, Bangladesh, Hong Kong, Macao, Singapore and Taiwan were already promising stimulus packages that would subsidize education at the primary and secondary school level (Collective Consultation of NGOs on EFA, 2010; Mok, 2008). The 2008 Policy Address by the Taiwanese government, for example, promised to help economically disadvantaged children by establishing a foundation and inviting private donations for school-aged children.

In contrast, the countries within the Pacific Islands responded to their fiscal crises by cutting essential public services, including education (Feeny, 2010; Green et al., 2010). In the Pacific Islands, cuts have been experienced in the Marshall Islands and Palau, for example, the

government of Palau reduced spending by 10 % and has cut an assistance program previously planned for low income families. In the Solomon Islands, spending on education development has been deferred.

In Latin America and the Caribbean, analyses available thus far show that most governments managed to introduce countercyclical policies and maintain levels of social and educational spending. Guatemala, for example, initiated a cash transfer program in 2008 to assure families that at least one child between 6 and 15 years old would have the resources ability to attend school (Mendoza, 2010). However, countries that are far behind in terms of their overall education for all progress have cut education budget, for example by 7% in Nicaragua. The government decided to spend more on infrastructure over social spending (Green, 2009).

In OECD countries, basic education seemed to have emerged as a relative winner early on after the crisis surged, with governments stimulating and safeguarding education spending (OECD, 2010b). Findings from a survey of 17 countries and two country sub-regions revealed that educational infrastructure and innovation has benefited from renovation and construction activities launched as part of general stimulus measures (Blyth, 2009). In Japan, for example, budgetary increases reached all levels of education from pre-primary to higher education. However, the impact of the economic crisis on technical and vocational education, early childhood programs, private education investment and, particularly, higher education can be rather negative as institutions increase fees (OECD, 2010a).

Other countries also passed stimulus packages. Australia, for example, approved a \$42 billion stimulus package with 70% of total budget going to the education sector (Education International, 2009b). Portugal borrowed 49% of the CEB total loan to implement the Education Investment Program to renew secondary education infrastructure. This was a national program that was in the pipeline even before the crises, and the government managed to push for a faster implementation of the program (Duthilleul, 2009).

Similarly, through the 2009 American Recovery and Reinvestment Act (ARRA) stimulus package, the United States' Congress injected public money into education (Education International, 2009b; Roza et al., 2010). About 30 billion dollars of the ARRA stimulus package was authorized to fund state and local education, and targeted mostly to economically disadvantaged children and children with disabilities (Burtless, 2010). Nevertheless, much of the injected money substituted for the widespread spending cuts in state and local budgets making it difficult to assess the overall balance and impact of the crisis on education spending (Isaacs et al., 2010). Alabama, for instance, only received 75% of the funds it would normally receive from the federal government. Budget cuts passed or planned were also significant in California and Nevada, respectively with a proposed 2.5 billion dollars in education cuts and 96 million dollars less over the 2008 and 2009 fiscal years for education (Linda, 2008a, 2008b).

In Finland, Germany, Ireland and the United Kingdom, the education sector has, likewise, experienced cuts in pay roll, administration and capital costs. Last year, a Spending Review was submitted to the Coalition Government of the United Kingdom, setting out a deficit reduction plan (UK HM Treasury, 2010). Although the education budget increases in review document, it only represents a 0.1% annual growth in real terms by 2014-15. Schools budget for capital investments will decline by 60% over the review period, and school will need to save around £1 billion in back office and procurement to reinvest in teaching and learning activities (Gove, 2010).

As regards education spending in higher education, the financing losses for higher education did not appear that prominent early in 2009, as later trends proved them to be (Varghese, 2009). In some countries, shrinking resources translate in spending cuts for higher education more often than for other levels (Lee, 2010; Sirat, 2010; Yue, 2010). The impact of the financial crisis on the

capacity of higher education institutions in OECD countries has been quite significant (OECD, 2010a). Private universities in the United States have seen their endowments, donations and pension funds drop. In other countries, funding from university suffered major spending restrictions, to the point which maintaining a quality education will not be sustainable. In the United Kingdom, cuts for higher education funding of almost £915 million over 2010/11 to 2012/13 almost wipes out the real income gains the sector benefited from with the introduction of user fees in 2006 (Lawton, 2010).

Drastic measures in higher education are also observed in Central and Easter European countries. Latvia, for example, faces major public spending restrictions under IMF and World Bank programs. After an initial cut 48% in higher education spending, an additional 18 % cut followed in 2010 (Aisha, 2010). In Romania, national scientific competitions have been suspended for 2009 and additionally budgets for research projects have been reduced by 70 % (Education International, 2009a).

Revenue reductions resulting from the global financial and economic crisis will certainly constraint countries' ability to finance public spending and human resource development. But it is government's fiscal responses to those constraints, more so than the constraints themselves, what shape the extent and manner by which a global crisis trickles down to education and other human resource development systems and strategies. Briefly, an economic crisis (global or not) prompts governments either to initiate or intensify a process of economic adjustment to the shock (as has been the most common response to previous crises), or to borrow or mobilize additional resources to maintain public spending and implement fiscal stimulus programs to accelerate a recovery of the economy.

To sum, two broader patterns of **policy response** to the global financial crisis are observed. One is budget cuts, reflected in measures such as: (i) the delay or deferment in the financing for implementing policies, programmes and projects, including key EFA measures such as the abolition of school fees or compulsory primary education or early childhood education, literacy and non-formal education programmes; (ii) difficulty to ensure key operational expenses, such as teacher training or sustaining teacher working conditions; (iii) withholding increase in education expenditures in the context of still increasing enrolment, resulting in a decline in real expenditures per pupil; (iv) freezing increments on the teacher wage bill, most often by freezing additional teacher recruitment, reducing real salaries by not adjusting to inflation, or even passing salary cuts; and (v) freezing increments on capital expenditures (Conceição et al., 2009; European Commission, 2010; Feeny, 2010; Green et al., 2010; UNESCO, 2009b, 2010c). Initially, teachers' wages seemed better protected than other budget items (UNESCO, 2009b), although more recent evidence on actual expenditures marks a change with the early analyses based on budget revisions.

In order to reach the EFA targets set up in 2000, low-income countries need to increase spending on primary education by about 12% annually from 2010 to 2015. Current plans for overall public spending point to increases of just 6% a year to 2015. To achieve the Education for All goals, either spending on primary education has to increase at twice the average for overall public spending, or approaches to fiscal adjustment and spending commitments have to be revised (UNESCO, 2011c).

Generally speaking, countries that encouraged protectionist measures in education or adopted stimulus packages were likely to increase or maintain their budgets often, albeit not necessarily, thanks to more fortunate economies or accumulated savings (UNESCO, 2009b). In some cases, though, cuts were inevitable and stimulus programmes only worked to prevent more severe drawbacks. Protectionist or stimulus measures can take several approaches: (i) *counter-cyclical* measures, allowing countries to maintain or increase expenditures by borrowing or drawing on

accumulated reserves; (ii) *targeted social protection*, often targeting the most vulnerable; and (iii) *reform oriented measures*, aimed at improving cost-efficiency, relevance and governance.

Measures to protect or stimulate education spending included: the increase education expenditure as a percentage of GDP to cushion negative growth rates in the economy, create contingency funds for social sectors including human resources development, stimulate the demand for education by reducing the costs of schooling for the poorest, for example by providing free meals or school feeding programs, scholarships or increasing households' income through conditional cash-transfer and social transfer programs which include an education component.

Education, job creation policies and social safety nets are by all means the best programs governments can provide to protect people, particularly the most vulnerable, from the pain inflicted by the crisis (Commission on Growth and Development, 2010; ILO, 2010; Lal et al., 2010). Scaling up or initiating social protection programmes or safety nets continue to be useful measures for protecting the education achievements of the most vulnerable. Several countries directly tried scaling up school or maternal/child feeding programs, while others do so by passing employment (unemployment insurance, active labour market policies or even public works programmes), food, (subsidies, stamps or price controls on staples) or cash-transfer programmes (UNDP et al., 2010).

Policy implications to be drawn from the crisis, unique to each country's stage of development and even the policy decisions taken during the crisis (Leipziger, 2010). Measures taken to mitigate the negative effect of the crisis have protected investments in human capital, particularly for most vulnerable populations. However, poor countries are being recommended to adopt a more conservative, if more costly, financial model and position themselves favourably to withstand financial shocks by maintaining low levels of public debt, ample foreign exchange reserves, and high domestic savings. We have seen that some countries have implemented counter-cyclical policies by incurring into debt, and therefore these policies will no longer be feasible if these recommendations take place. (Spence and Leipziger, 2010).

Although recent talks suggest a spirit of optimism and recovery of economic activity in most developing countries albeit a weak recovery in high-income ones (World Bank, 2011), the prospects for education financing seem unclear, particularly as stimulus packages reverse and governments tighten their fiscal policies in contexts where aid flows might be compromised (World Bank, 2010). Education must jostle its way for sustained or increased public budget alongside other public concerns like unemployment or poverty. What education systems hope for will depend on how education is seen as developing countries re-launch themselves on an economic growth path in a post-crisis environment that it is still uncertain but will differ markedly from that preceding it. In aid dependent countries, though, prospects will also depend on developments beyond their borders (Leipziger, 2010; Spence and Leipziger, 2010).

Implications for teachers and schools

To education ministries pressed to adjust their budgets to the financial constraints, cutting recurrent costs and teacher salaries seem hardly an option. A study examining teacher salaries in fifteen countries two years into the crisis shows that salaries have eroded in two thirds of the countries (Chai et al., 2010). The erosion is generally explained by nominal salaries which, despite remaining stable or increasing slightly, fail to keep up with raises in inflation. In the Democratic Republic of Congo, teachers lost 40% of their purchasing power between 2007 and 2009 and in Madagascar, Myanmar, Sudan and Yemen the losses ranged from 20 to 30%. The losses add up to already low salary levels, and exacerbate the risk of teachers falling below the poverty line. Another study for Central and Eastern Europe countries, one of the regions with sharpest decline in GDP, indicates that the teacher wage bill has been frozen or is being reduced

in 9 out of the 13 countries with data (Education International, 2009a). Some countries choose to cut spending by reducing non-salary compensation, such as maternity benefits and retirement in Hungary, or limiting the provision of certain subjects with the savings in the corresponding staff, like the reduction of foreign language and science classes in secondary education in Poland.

In the United States, for example, about 13 states show a decline in total teacher employment in K-12 education between 2009 and 2010, representing an average decline of 1.4% for the 13 states examined (Roza et al., 2010). The decline reverts a growing teaching employment trend since 1993, although admittedly it might have been even sharper without the stimulus package which, among other lines, worked to stabilize employment in education. The US House of Representatives approved a bill providing 10 billion dollars of federal money to avert teacher layoffs and 16 billion dollars in Medical aid funding for states (Klein, 2010).

Evidence on how the global financial crisis and trimmed education public budgets trickle down to schools is scant. Findings from UNESCO's exploratory school surveys in the Democratic Republic of Congo and Mongolia (UNESCO, 2010b, 2010j) point to decreased school budgets and the need for schools to adjust the teaching and learning environment in their efforts to cope. Anecdotal evidence point to schools reducing the provision of books and teaching manuals, interrupting or postponing school activities like contests and sports, reducing operational, administrative and maintenance costs, and reducing personnel costs. Most alarming are accounts of schools raising fees or contributions from parents to finance school meals, classroom maintenance and even school operational costs. The same anecdotal evidence warned on increasing number of schools operating in triple shifts and early childhood care and education being more severely affected. Teachers' economic difficulties at home combined with taking charge of some of the basic instructional supplies at school are affecting the work environment, teachers' morale and even instruction, with cases of teachers cancelling while to attend to second jobs (Aide et Action, 2010).

Teachers' economic difficulties at home combined with taking charge of some of the basic instructional supplies at school can affect the work environment, teachers' morale and even instruction. In Mongolia, for example, day-to-day teaching activities have been seriously (23%) or significantly (53%) affected by the crisis. Teachers surveyed also report of salary freezes as a government's response to the budget decline in real terms, although apparently salary cuts (in nominal terms) seem to have been unadvised by the government. In the DRC, teachers spoke of their indecent salaries, the difficulties in their working conditions and the non-existence of professional development, aggravated by the fact that the majority of schools in Kinshasa receive no governmental subsidy and depend directly on school tuition fees contributed by parents. Job motivation was low in the majority of teachers surveyed.

Teachers themselves are finding ways to cope with the budget cuts. Like schools, a recent trend observed in Mongolia is an increase in teachers' need to find additional income through acquiring bank wage loans or selling assets. Some also need to decrease household expenditures through reduced daily consumption. Others spend their own money to buy classroom supplies.

2.2. Household expenditures in education

Many households in low-income countries got no bail out in the global financial crisis. As economic growth slows down and unemployment climbs, the pressure grows for poor households to cut household expenditures (Fillaili et al., 2009; UNICEF et al., 2009), in some cases amplified by increased pressure to cover school costs. There are accounts of pupil absenteeism and school drop-out, often as households need to increase income through child labour. For some of the parents' surveyed in Mongolia and the DRC (UNESCO, 2010b, 2010j),

cost-reducing strategies imply taking some of their children out of school so that others can continue attending, and it is generally youngest children who are dropped out of pre-primary education (which tends to be more expensive than primary school) and often boys win the accolade of parent's schooling choices. Nearly 40% of 190 parents surveyed in Kinshasa have decided to keep their daughters at home; while others have brought temporary calm to their household budgets by transferring their daughters to cheaper schools while leaving their sons in more expensive ones.

Despite the difficulties, parents are very committed to their children's education and resort to many strategies to ensure it. There are new accounts of parents eating less, selling assets and spending less on healthcare for their children to remain in school (Gaerlan et al., 2010; Miller-Dawkins et al., 2010). Others are compelled to shift pupils to cheaper and lower-quality schools or even to choose which children will attend school (Fillaili et al., 2009; UNICEF et al., 2009; United Nations Madagascar, 2010). In **Vietnam**, for example, household's spending in education has been predicted to decline from 8 to 16% with simulated lower prices for agricultural products and remittance income that might result from a global financial and economic crisis (McCarty and Julian, 2010). Lower spending results in a modest increase in school dropout rates, at least when looked at the actual number of children already out-of-school.

2.3. International aid

In many countries, much of the EFA progress has been possible thanks to international aid to education. Estimates show that the share of assistance to basic education has been static for the first time since Dakar (UNESCO, 2011c). Moreover, in sub-Saharan Africa, the region with a third of the world's children being out of school, aid to basic education decreased in 6% between 2007 and 2008. As donor countries face budget restrictions of their own, worries are rising as regards to the sustainment of aid commitments in general and of aid to education in particular, precisely when a global economic downturn would have called for an increase in the global commitment for education.

In some countries like Madagascar, an unfavourable global financial crisis combined with national political crisis and ensuing climate of uncertainty to lead the economy into a recession that plainly sunk public education budgets, by 22% in 2009 (Madagascar Ministère de la Education Nationale and Partenaires Techniques et Financières, 2010). International financial educational assistance to education was first suspended because of the political environment and later reinstated, albeit much reduced. The problem is that Madagascar's remarkable EFA progress relied on external funding, particularly for capital expenditures like classroom construction, equipment, school capitation grants and other incentives.

Education aid by multilateral or regional banks have been diminishing or freezing. Out of 76 projects listed under the African Development Bank's (ADB) crisis response lending from September 2008 – December 2009, totalling \$10.2 billion in committed funds, only 9% of the total funds have been promised for social support through health and education (Green, D., R. King, et al. 2010).

2.4. Overall impact on education

Overall, whether through dwindled public or households' investment in education, the education harms to pupils and children in poor and vulnerable countries can be irreversible. Recent studies for Burkina Faso, Cameroon, Ghana and Mali, for example, predict significant increases in child's monetary poverty, hunger and caloric insufficiency (Antwi-Asare et al., 2010; Bibi et al., 2010a; Bibi et al., 2010b; Cockburn et al., 2010), which previous studies have shown have associated dreadful effects for children's growth, schooling and learning. Predicted

declines in school attendance rates and increases in child labour, although less affected, can be high enough to reverse the progress expected before the crisis (Balma et al., 2010). In Mali, for example, 1 in 80 school-going children are predicted to leave school as a result of the crisis. In Cameroon, higher declines in school attendance are predicted precisely for the localities that have the lowest attendance rates and highest incidence of child poverty (Bibi et al., 2010b).

Recent evidence also points to an exacerbation of disparities in education, including gender disparities (Green et al., 2010). As it happens, girls can be removed from school to help with household chores; yet in rural areas the preference is for boys to join rural work.

Nevertheless, studies show that the effects of a global financial crisis are not always clear-cut and that, in some other countries, they can be positive, as interest and participation in education often expands with rising youth unemployment, job insecurity and declining opportunity costs of schooling (OECD, 2010b). The lack of studies of the effect of the crisis on other human development areas – the provision of early childhood care and education, learning and life-skills programs for young people and adults and basic and continuing education for adults – should rung alarm bells as these opportunities and programs have been taking second or last place in progress towards internationally agreed goals for education.

3. Country selection and study teams

3.1. Country selection

The project includes the following 12 countries, distributed across five regions:³

- **Arab States:** Mauritania and Jordan;
- **Asia:** Armenia, Maldives and Cambodia;
- **Central and Eastern Europe:** Ukraine;
- **Latin America and the Caribbean:** Mexico, Barbados and Paraguay; and
- **Sub-Saharan Africa:** Botswana, Madagascar and Chad.

The country selection criteria considered: (a) the extent to which the country faced an economic crisis, (b) the economic and/or educational vulnerability, (c) geographical and linguistic spread, and inclusion of Small Islands Developing States (SIDS), and (d) countries in other RIVAF projects:

- a) Respecting the overarching criteria initially proposed to RIVAF, the country-selection centred, primarily, on the extent to which countries have faced an *economic crisis* between 2008 and 2009, as indicated by negative economic growth. This option was considered to be most in line with the research purpose, as it ensures that the country's attribute examined has indeed taken place.
- b) Second considered were a country's *income level and/or educational vulnerability*. Countries most affected by the crisis were not necessarily the poorest and most vulnerable countries within each region – for example, Kuwait, Latvia, Grenada and Seychelles were affected the hardest in their respective regions (see Annex Table 1). To target poor and vulnerable groups as stated in the RIVAF's framework, the country selection criteria considered the country's income level (including low- and lower-middle income countries to the extent possible).

³ The school surveys for ten countries were funded with the contribution of the DFID-RIVAF. The surveys for Botswana and Mauritania were funded solely by UNESCO's ED/PDE/PAD.

Besides, countries' overall educational development level was considered as a measure of educational vulnerability. The Education for All Development Index (EDI), published annually by UNESCO, provides a composite measure of educational progress or distance to overall EFA (UNESCO, 2010c). The EDI encompasses countries' access to primary education, adult literacy development, gender equity and primary education quality, classifying countries according to four categories of overall distance to EFA as per the EDI: far, intermediate and close to EFA, and EFA achieved. Countries far or at an intermediate overall EFA development are regarded as having the most vulnerable and fragile education systems.

As a whole, the second criteria reflects a combination of whether countries were either a low or lower-middle income country and/or were at a far or intermediate distance from achieving the EFA goals.

- c) Another issue considered was a *geographical/linguistic spread* within each region. In the Arab States, the aim was to include one North African and one Middle-East country. In Asia, the aim was to include countries in Central Asia, East Asia and the Pacific and South and West Asia. One country only is included for Central and Eastern region and no geographical or linguistic spread sought. One country each was aimed in Latin America and the Caribbean. In sub-Saharan Africa, the aim was to address the linguistic diversity and include Anglophone, Francophone or Portuguese countries if possible. Finally, to the extent that they satisfied the other criteria, Small Islands Developing States (SIDS) were also considered for inclusion. Most are remote, small island nations particularly vulnerable to external economic shocks beyond their income level.
- d) Finally, the forth criterion contemplated countries which would overlap with countries being studied by other *RIVAF projects*. The following countries had RIVAF projects: Costa Rica, India, Indonesia, Jordan, Madagascar, Maldives, Mexico, Nepal, Uganda and the U. R. Tanzania.

Table 1 shows the list of the 12 countries selected for the study. It also provides information about the criteria considered. All countries except for Jordan in the Arab States faced an economic recession between 2008 and 2009.⁴ Mexico is the only country that meets neither the economic nor the educational vulnerability criteria. It was added to the list because it participated in other RIVAF projects. Finally, the resulting list of countries includes four of the twenty countries that are priority for UNESCO's targeted assistance in education. The specific steps for selecting the countries and the resulting country sorting are discussed in Annex A.

⁴ In the Arab States, only three of the fifteen countries experienced negative growth rates; the rest had positive yet declining growth rates (see Annex Table 1).

Table 1: Information on the key selection criteria for the countries studied

Country	2009 GDP change ¹	Income level	EDI 2007 ²	Geographical/Linguistic	SIDS ³	RIVAF ⁴
Arab States						
Mauritania ⁵	-1.1	Low	Far	North Africa		
Jordan	2.8	Lower-middle	Intermediate	Middle East		Yes
Asia						
Armenia	-14.4	Lower-middle	Achieved	Central Asia		
Maldives	-3.0	Lower-middle	Close	South/West Asia	Yes	Yes
Cambodia ⁵	-2.5	Low	Far	East Asia/the Pacific		
Central and Eastern Europe						
Ukraine	-15.1	Lower-middle	Close	Former Soviet State		
Latin American and the Caribbean						
Mexico	-6.5	Upper-middle	Close	Latin America		Yes
Barbados	-5.3	High	Intermediate	The Caribbean	Yes	
Paraguay	-4.5	Lower-middle	Intermediate	Latin America		
Sub-Saharan Africa						
Botswana	-6.0	Upper-middle	Intermediate	Anglophone		
Madagascar ⁵	-5.0	Low	Far	Francophone		Yes
Chad ⁵	-1.6	Low		Francophone		

Notes: ¹ Gross Domestic Product, 2009 annual percent change 2009. ² EFA Development Index. ³ Small Islands Developing State. ⁴ Country participated in other RIVAF projects. ⁵ UNESCO priority country for education support.

Sources: Global Pulse (2010), International Monetary Fund (2010), UNESCO (2010d, 2010e, 2010f, 2010g, 2010h, 2010i), UN Department for Economic and Social Affairs (2009), World Bank (2009b),.

The country selection process considered other alternative criteria. Briefly, they included: (a) UNESCO's priority countries for 2010–2011, for targeted support in education, (b) 2010–2011 roll-out countries under the United Nations Development Assistance Framework (UNDAF), (c) economic vulnerability to shocks, and (d) least achieving countries as regards their overall EFA development. These criteria had one key disadvantage – that the resulting list included countries least affected by the economic crisis in their respective regions.⁵

3.2. The study teams

The study was coordinated by UNESCO's ED/PDE/PAD. It relied extensively on national research teams, identified and selected through a competitive process. The national teams provided professional services and lead the development of their country case study and conducted the field work and data collection. Within the overall study's framework and inputs provided by UNESCO, the specific objectives for the national country teams were:

⁵ The list of countries resulting from the alternative criteria considered can be provided upon request.

- To plan and organize the survey data collection and finalize the survey methodology;
- To undertake the survey data collection;
- To prepare, enter and accuracy-check the survey data for analysis;
- To conduct the survey data analysis as required;
- To gather and analyze additional data and documents for survey reporting purposes;
- To report the survey findings per guidelines;
- Share research report with survey participants and key government, education and civil-society stakeholders.

The following twelve institutions were engaged for the country case-studies (the list of researchers in each team appears in Annex B).

1. **Armenia:** International Education Partners (AM);
2. **Barbados:** University of the West Indies-Open Campus;
3. **Botswana:** University of Botswana, Faculty of Education;
4. **Cambodia:** Royal Academy of Cambodia;
5. **Chad:** Bureau d'Études et de Recherches pour le Développement Économique et Social (BERDES);
6. **Jordan:** Dajani Consulting;
7. **Madagascar:** Institut Supérieur de Travail Social, Centre d'Analyse et Prospectives pour Développement a Madagascar (CAPDAM);
8. **Maldives:** CDE Pvt Ltd;
9. **Mauritania:** CONSTATS-Mauritania;
10. **Mexico:** Instituto de Investigaciones para el Desarrollo de la Educación (INIDE), Universidad Iberoamericana;
11. **Paraguay:** Desarrollo, Participación y Ciudadanía (Instituto Desarrollo); and
12. **Ukraine:** Kyiv Economics Institute (KEI), in cooperation with Kyiv School of Economics (KSE-EERC) and Kyiv International Institute of Sociology (KIIS).

4. Research design and methods

The study used survey research methods and relied on structured research interviews, self-completion and researcher-administered questionnaires to gather data from primary education school head teachers, teachers and pupils' households in 12 countries. To preserve some degree of comparability across the multiple country cases, the school sampling strategy, data collection process and timing, and instruments were standardized across the countries.

4.1. Impact analysis approach

Assessing the impact of the 2008/2009 global financial and economic crisis on education is problematic because the effects are known to lag behind a couple of years (as studies on past crisis have shown) and so does the data. Most importantly, many conditions and processes affecting schooling and education quality might be different as a result of the crisis, challenging any attribution of causality.

The impact analysis approach taken in this study is a multiple-case comparative design (12 countries) that begins mainly with a combination of before/after analysis of **school-level** data and an ex-post analysis of respondent's perceptions. This approach was conducted in a first-stage of the research, within the DFID-RIVAF schedule. This stage also includes an exploration of the crisis' transmission channels through an analysis of a country's contextual information and an initial comparative synthesis. The design then adds, in a second stage, a before/after and ex-post analysis of **national-level** education financing and schooling data. The second stage intends to incorporate more thorough micro-macro linkages and comparative approaches.

Table 2 lists the approaches and data collection method proposed for the different impact analysis stages. The nature of each approach and what they bring in to the research design are:

- *Before/after:* This approach was employed in the first stage of school surveys to examine a sequence of school-level data ranging from the year before the global crisis, 2007, to the year of the survey implementation, 2010 or 2010/11 depending on the country. Concrete data regarding initial conditions of schools, teachers and pupils' households' was collected and used as baseline data (2007), and subsequent changes examined. A key limitation of the short time-series is that cyclical fluctuations can be overlooked and the effect of other seasonal irregular components of the time-series cannot be eliminated (Equipo Consultor, 2009). The second stage intends to draw from national-level educational administrative and household survey data to examine changes in education expenditures, schooling and household education spending and behavior.
- *Ex-post:* It is to be employed to understand knowledge, perceptions and beliefs of respondents regarding how the global crisis impacted their economic and organizational conditions affecting schooling, the school climate, and the schools, teachers and families adaptive and coping responses. The school-survey findings feed into this type of analysis. The second stage of the research intends to concentrate on knowledge, perceptions and beliefs of key education officers, policy makers, researchers and other key informants, using interviews and analysis of policy, opinion or research documents. One key limitation of the ex-post approach to studying knowledge, perceptions and beliefs is that countries and schools will vary with respect to when the crisis has reached schools, whether or not the macroeconomic difficulties started to ameliorate or ended and when the schools surveys and national-level data collection takes place.
- *Micro-macro linkages:* The school surveys will provide a micro-level description of school administrators, teachers and parents beliefs and school-level data before and after the crisis. Survey findings are discussed within an analysis of contextual country information. However, the survey findings and contextual information produced in the country reports in the first stage tells the schools' stories, point out similarities and differences. They will have to be contrasted with the story as explained by an analysis of the national data, which will be done in the second stage of the research.
- *Multi-case approach:* A country case study approach is relevant for the research design because understanding of contextual and historical information is pertinent for establishing the micro-macro linkages. In addition, the study adopts a multiple-case comparative approach because it seeks to explore the conditions that may contribute to economic and organizational changes that school head teachers, teachers and pupils' households faced during the crisis and to their adaptation and coping. Some of those conditions will not vary with a single country-case study. Hence, the study took a multiple-case approach, examining the impact of the crisis in 12 countries. As mentioned in section 3, these countries have been purposely selected because they share the fact that they have been most seriously faced the crisis in their respective regions yet they are relatively diverse with respect to other attributes (for example, the extent of the

crisis' macroeconomic effects, their baseline economic and educational financing conditions and the education policy framework, to name some).

Table 2: Research design approaches, stages and data collection methods

Approach	First stage(DFID-RIVAF)	Second stage (planned)
Ex-post	<u>School-survey data</u> School administrators, teachers and parents knowledge, perceptions and beliefs	<u>National-level interview data; analysis of policy, opinion and research documents</u> Policymakers and researchers knowledge, perceptions and beliefs
Before/after	<u>School-survey data</u> Short-term trends in schools, teachers and parents' educational conditions and outcomes, with 2007 baseline data	<u>National-level education financing, administrative and household survey data</u> Trends in the public expenditures, school inputs, household expenditures and schooling outcomes
Micro-macro linkages	<u>School-survey data, with contextual information</u> Country reports including survey findings linked with contextual information	<u>Micro-macro narrative linkages</u> School survey findings and contextual information will be linked with analysis of national-level education financing, administrative and household survey data
Multiple-case	<u>10-12 country case studies</u> Synthesis of the findings of the multiple-cases and initial comparisons	<u>Cross-national comparable education financing, schooling and household survey data</u> More thorough comparative analysis of the multiple-cases would be carried

Ultimately, the impact analysis approach taken facilitates a framework that can eventually provide general conclusions and hypothesis for a broader understanding of the diverse pattern of education change and progress towards EFA across different countries during the crisis, and to examine the role and nature of education financing and education policy in the transmission of effects down to schools. The study does not seek to generalize findings to the wider population of schools in each country, although at least three groups of primary schools (public/private, urban/rural and large/small) will be represented in the survey findings. It does not seek to provide causal explanations either.

4.2. School surveys

Sampling frame

The research employed a non-probability sampling technique. Specifically, a two-stage maximum-variety quota sampling technique was used to pick the primary schools to be

included in each country case study. ⁶ The sampling frame used in each country is shown in Table 3.

Table 3: School surveys sampling frame and number of schools to sample, by category

School management type and location					
School size	Public/Government		Private		Total
	Urban	Rural	Urban	Rural	
Large	Category 1	Category 2	Category 3	Category 4	
	n=3	n=3	n=3	n=3	n=12
Small	Category 5	Category 6	Category 7	Category 8	
	n=3	n=3	n=3	n=3	n=12
Total	n=6	n=6	n=6	n=6	n=24

The sampling frame was constructed around three aspects: (a) school management (public and private), (b) school location (urban and rural), and (c) school size (large and small). These three aspects were considered not only typical categories for sampling schools but they but also directly relevant to the specific issues involved in collecting data to analyze and review the impact of the global financial crisis on education.

First, the **school management type** is relevant because public/government and private schools rely on very different types of funding sources and management mechanisms for their operation. Inclusion of this variable in the sampling frame would provide the data to explore whether government or private funding would be the mostly directly or heavily impacted by a global financial crisis. A comparison of before and after crisis trends across public and private primary schools, even in a small sample of schools per country, would provide a micro-perspective of the education financing trends that were to be observed at a macro level. Second, **school location** is likewise relevant due to the fact that urban (which is often a proxy for industry or financed-based economy) and rural (a proxy for agriculturally-based economy) locations rely on distinctly different aspects of national and global economic conditions for their flow of financial and economic resources.

Finally, **school size** was a critical factor to explore because small schools typically incur higher costs per pupil, function with substantially smaller capital bases than larger schools and rely more heavily than larger schools on cash flows for their operation (Little, 2008). Larger schools, on the other hand, typically have more diversified sources for financial and capital resources. Small schools are often newer institutions with less developed social, political and institutional networks to provide various critical sources of institutional stability throughout economic crises than larger (older) schools. On the other hand, small schools have stronger links with their respective communities and might be able to respond better than larger schools to local needs generated by a global crisis. Nevertheless, both very small and very large schools can prove to be expensive to operate as they might lack appropriate resources to serve pupils effectively (Slate and Jones, 2005).

In principle, an equal number of schools in each category was chosen in each of the 12 countries. While the general design of the study did not dictate the maximum number of schools that was

⁶ Assuming that the condition of national records in the targeted countries would make the creation of a timely and valid comprehensive list of schools difficult to generate, combined with the priorities listed.

be included, the design required that at least three schools be included in each category. A total of 24 schools were sampled at minimum.

Beyond the core sampling frame shown in Table 3, each country team determined what schools need to be included to gather data on **vulnerable groups**. Since vulnerable groups tend to be located in particular areas and are not typically spread evenly throughout all geographic contexts of a country, the criteria for inclusion was proposed by each country-team in consultation with UNESCO. The inclusion of schools where vulnerable groups are located was considered critical to the value of this study, and careful consideration was required in identifying and selecting which vulnerable groups should be included.

At least half (12) of the schools sampled are expected to either be located in or serve vulnerable groups. Examples of vulnerable groups depended on the country's context. They included but were not limited to: schools located in poor or disadvantaged regions or rural areas, with high concentration of ethnic, racial or linguistic groups, in areas with high prevalence of HIV/AIDS or with high concentration of orphans, urban slums, etc.

To summarize, the sampling strategy for the 12 country studies implemented a non-probability two-stage maximum-variety quota approach. The creation of eight categories for every country, the inclusion of country-specific vulnerable population categories, and the assurance of geographic distribution ensured maximum-variety in each country sample, but also established sampling consistency between countries. Fulfilment of a quota, or minimum number of schools for each category, assured sufficient data for the analyses and provided support for the conclusions for each country and the overall study.

School sampling details and rationale

In implementing a maximum-variety technique the rationale points to the need to include a full spectrum of schools intended to represent the broadest possible coverage of schooling types in the country. By including schools from all types it will be possible to examine whether the impacts of the global financial crisis are spread across the schools, or if they are more pronounced in a particular type. Having a quota (minimum number of schools for each category) is intended to generate a sufficient body of quantitative and qualitative data to provide for a valid and defensible analysis.

Sampling stage 1. The first stage of the sampling strategy involved the identification and classification of the critical geographical, social and demographic characteristics for each country. Country teams identified the following in implementing stage the sampling strategy: (1) which primary schools were public or private entities, (2) where the urban areas of the country were located, (3) the size of the school, based on the number of enrolled students, and (4) where particularly vulnerable groups of people live.

1. *Public or private primary school:* Most country teams used the Ministry of Education's designation, which typically relies on a combination of elements (the governing and management body, the primary or exclusive source of financial and/or physical resources, etc.). Generally speaking, a public primary school is one controlled and managed by a public education authority or agency (national/federal, state/provincial or local), whatever the origin of its financial resources. A private primary school is one controlled and managed by private bodies such as non-government organizations, religious bodies, trade unions, special interest groups, foundations or business enterprises, whether or not it receives financial support from public authorities or whether for profit or not (UIS, 2010; UNESCO, 2010c). Often, private schools rely on payments from households or other private entities.

Although a quota of 3 schools per category was expected, nevertheless, the context of each country determined the actual number included. Countries where the private sector is little developed (like Ukraine, where private schools represent less than 1% of all primary schools) included public schools only, and the majority of countries found it difficult to satisfy the number of private schools in rural areas (particularly the Maldives and Mauritania), and either over selected public schools in rural areas, or private ones in urban areas. For example, in the Maldives, three large private schools and three small ones were added to the category of the public schools to compensate for absence of private schools.

2. *Rural or Urban.* There is no universal designation of what constitutes an urban area or one that distinguishes between cities, towns, villages or hamlets. These are all context-specific and each country team applied a definition of urban area that was consistent with their particular national context. Team identified which areas (cities, city clusters, or city-regions, etc.) in their country qualified as urban. Any area that was not urban was automatically classified as rural. Most teams used a definition and categorization readily available in a country (e.g. used by the census or other household surveys) and simply applied the usual and customary criteria in creating their sampling frame.
3. *School Size.* The number of pupils, rather than the physical size of the school, was considered for the designation of schools as small or large. The context of the country, and its range and distribution of numbers of students at schools guided the determination. Small schools were those with a total primary enrolment lower than the country's median school size. Large schools were those with total number of pupils higher than the national median.

The national median school size was generally used as the criteria to determine school size, although some countries used the median for specific categories. For example, Barbados and Chad used the median for public and private schools.

4. *Vulnerable schools.* Vulnerable schools are those serving areas concentrating historically disadvantaged populations or groups. These groups are often determined based on wealth (poverty), group-based identities (ethnicity, race, language or culture), geographical location (slums, remote rural areas or conflict-affected zones), disability, etc. (UNESCO, 2010c). Any number of such elements may contribute or combine to designate a particular group of people as vulnerable. The country team generally used well-established identifiers that are applied regularly and consistently in the country, by the national government or other analysts. For the purpose of this study, groups, other than rural areas, which are particularly vulnerable to the potential negative impact of the global financial crisis, will be identified.

Most of the countries used poverty indicators to classify schools into vulnerable/non-vulnerable. Barbados, for example, took into account the predominance of low income housing among the population while in Ukraine, the material well being of the families measured by the median average of total monthly expenditures per 1 person of the household was used. Where relevant, countries considered the issue of minority groups: Armenia considered schools located in villages populated mainly with Kurds/Yazids and Paraguay considered schools among Guaraní speaking people and indigenous population. Finally, climate vulnerability was an additional factor considered. Madagascar targeted schools among areas most likely to be affected by hurricanes.

Sampling stage 2. The second stage of sampling comprised the selection of the actual schools to be included in the country study. Any number of strategies for selecting these schools could

have been implemented. Since the sampling strategy was not meant to be a probability sample, random selection was not required. However, random sampling was preferable, by applying for example a basic systematic technique. This technique entailed arriving at a number (n) by simply dividing the number of schools on the category list by the size of the quota, following which the country team began at the top of the list including every “nth” school until the quota is filled.

The country teams procured a main list of 24 primary schools and a reserve list of an additional 24 schools. The “quota” dimension of the sampling technique was met when the minimum number of schools in each category has been selected and actually included in the study (3 per category).

Selecting school head teachers, teachers and parents/guardians. Once a school was selected for inclusion in the study, there are three groups that needed to be surveyed: head teachers, teachers and parents. Generally, there was no sampling, *per se*, at the school-level. Rather, the appropriate school head teacher and all available teachers and parents were simply identified and surveyed. Teams were instructed to survey 1 head teacher, 10 teachers and 5 parents per school. If schools had fewer than 10 teachers (particularly small schools generally located in rural areas), the team added another school to compensate for the number of teachers. Overall, the teams planned to survey 24 head teachers, 240 teachers and 120 parents/guardians.

Instrumentation

The study relied on structured interviews, self-completion, researcher and/or group-administered questionnaires. The instrumentation processes consisted of four steps.

1. An initial Theme-Construct-Indicator-Measurement (TCIM) Matrix was developed for all UNESCO–RIVAF instruments. This matrix provided the conceptual mapping of themes, constructs, indicators and measurement from which the actual survey items were developed. The initial matrix was revised upon the finalization (including pilot testing) of the survey items and questionnaires. Briefly, the themes presented in the conceptual mapping section related to issues of economic stability/vulnerability, institutional stability, institutional climate and resilience, as they relate to each target respondent (the school head teacher, teachers and parents).

Annex Table 3 provides the matrix and the initial mapping that guide the development of the survey items. It also reflects the two impact analysis approaches for the survey development (before/after data and knowledge, perceptions and beliefs items), allowing for items capturing other cross-sectional data such as demographic information.

2. Items were developed for each questionnaire (school head teacher, teacher and parent) and a layout of the questionnaires is produced and peer reviewed.
3. The draft questionnaires were pilot tested in three selected (non-sampled) schools, hopefully of each school sampling category and questionnaires are finalized. The pilot testing of questionnaires was conducted in Botswana.
4. Questionnaires were translated into Spanish and French by UNESCO.
5. The draft questionnaires were reviewed and discussed with each country team, to ensure that questions were worded in culturally appropriate language and complied with the technical realities of the country. Additionally, this step included a discussion and development of few additional items that few country teams proposed, provided there was a rationale for inclusion and an explanation of how the proposed items related to and were consistent with the methodological framework provided.

In addition to the field-testing done in Botswana, the teams of Madagascar, Mexico and Ukraine also conducted a testing of the surveys in schools selected ad-hoc. This second stage of field testing intended to adjust the localization of the questionnaires rather than to incorporate substantial changes into the generic questionnaires provided by UNESCO.

6. In Armenia, Cambodia, Madagascar and Ukraine, the questionnaires were further translated into Armenian, Cambodian (Khmer), Malgache and Ukrainian.

Survey development and analysis framework

Drawing from the issues observed in the literature on how the crisis affected education, the surveys included a combination of indicator items, baseline and short-term data, with items gathering respondent's knowledge, perceptions and beliefs.

The questionnaires were organized in five distinctive **sections**. Whereas the first two sections gathered data to describe the sample of schools and respondents, the later three sections were thematic:

- I. *Survey identification*: This section included questions like the survey number, name of the person who administered the survey, the date of administration and the school name.⁷
- II. *Respondent's demographic and background information*: This section included items related to the respondent's sex and age, human capital characteristics (maximum level of education attained and work experience). The parent/guardian survey included additional questions on the parent/guardian's position in the household, the relationship with the reference child (the oldest child attending the primary school sampled) and the number of children in the household, their age, and school attendance. These questions were used for referencing only; in other words, they were used to identify the child about which certain school, class and teacher related questions were asked. Furthermore, the parent/guardian survey gathered data on the year the reference child started first grade.
- III. *Data sequence, before/after the crisis*: This section included a sequence of data ranging from the school year before the global financial crisis (2007 or 2007/08 depending on the country) to the year of the survey implementation (2010 or 2010/11). The crisis became evident in the last quarter of 2008. Any observed change in the sequence gathered would, in theory, be observed in the third year of the sequence (2009 for countries on a calendar school year), or in 2008/09 for the other countries on a "split" school year (generally starting in September/October and ending by May/June). This approach was used to examine the first research question, aiming at describing whether and how primary schools, teachers and pupils' households' conditions changed compared with the years before and after the crisis.
- IV. *Adaptation and coping*: In this section, an ex-post approach was used to examine how primary schools, head teachers, teachers and households adapt and cope with the changes brought about by the global financial and economic crisis. The section inquired about whether respondents believed certain pre-determined school, individual or household adaptation/coping strategies have been implemented. The strategies relate to the same themes covered in section 3, sequence data.

⁷ In Chad, Mexico and Ukraine, this section also requested information on whether the school was a vulnerable school, the schools' ID number, modality type (morning, evening, whole day and particular) and school location (urban/rural).

- V. *Crisis impact*: This section explored respondent's knowledge, perceptions and beliefs regarding how the global financial and economic crisis impacted several aspects of the sampled schools and classrooms, particularly school financial resources and the learning environment. The surveys included very few questions on other potential impacts, for example payment delays, pupil dropout and the availability of trained teachers.

The core of the survey findings centre on the following **themes** covered in sections 3 to 5:

- *Employment conditions (Sections III and IV)*: The head teacher and teacher surveys included questions about their employment history (school/institutional affiliation and their position/title), contract type (civil servant, on contract, etc.), salary source (public or private and type), benefits and allowances, payment delays (if any), work schedule (hours, days and weeks worked), workload,⁸ teaching resources, professional development opportunities and participation, and whether they received additional salary from another non-teaching job (in the selected school or in any other occupation). In addition, the teacher survey included questions on the grade taught and teacher absenteeism.

On the other hand, the parent/guardian survey asked about the respondent's participation in the labour force (employed, unemployed or not active), status in employment (employee, owner, etc.), and economic activity of the establishment of work.

- *School (and class-level) conditions (Sections III, IV and V)*: Depending on the sub-themes, the three surveys collected data on the following:
 - a. *School organization*: number of grades, classes and, for some countries, school shifts;
 - b. *Facilities*: number of classrooms;
 - c. *Financial resources*: source (public/private and amount), user fees (tuition and non-tuition fees charged and amount, problems paying fees);
 - d. *Pupils*: enrolments, pupil flow (repetition and dropout), completion of last grade of primary school, leaving examination take-up rates, and school graduation;
 - e. *Staffing*: total number of teachers, proportion of trained teachers, part-time teachers (if applicable), vacant posts, newly assigned teachers, teachers dismissed or discontinued, teacher resignation, other staff;
 - f. *School learning environment*: provision of school meals and pupil's participation, provision of health services, books and instructional materials, pupil and teacher supplies, access to drinking water, availability of toilets/latrines, pupil and teacher absenteeism. The researchers can also calculate the average class size, dividing the total number of pupils by the total number of classroom teachers.
 - g. *School climate and safety*: pupils expelled or suspended for disciplinary reasons, pupils' use of alcohol or illegal drugs, teacher abuse.
- *Child's schooling history (Sections III and IV)*: school attended, the use of boarding schooling, grade attended and child labour.
- *Household conditions (Section IV only)*: Household's need to engage on certain strategies as a result of the crisis, for example: borrowing, selling hard or flexible assets, reducing

⁸ The measure used was number of pupils in their class.

schooling, food, clothing and transport expenditures, transferring children to another cheaper school and whether or not the household faced financial difficulties as a result of the crisis.

Annex Table 3 provides a summary of themes gathered in the three surveys.⁹ Overall, the survey findings answer the following questions:

1. Employment conditions in schools:

1.1. *Change*:

1.1.1. How do head teacher and teacher's employment conditions in schools change before and after the 2008 global financial and economic crisis?¹⁰

1.1.2. Do changes in head teacher and teacher's employment conditions differ between different types of schools and individuals? If so, how?

1.1.3. Are changes in head teacher and teacher's employment conditions associated with changes in school conditions/resources?

1.2. *Adaptation/coping*: What are the head teacher and teacher's perceptions regarding whether certain changes affecting their employment conditions have occurred in their schools?

2. Schools' [class] conditions/resources:

2.1. *Change*:

2.1.1. How do school and class conditions change before and after the 2008 global financial and economic crisis?

2.1.2. Do changes in school and class conditions differ between different types of schools? If so, how?

2.1.3. Are changes in certain school conditions/resources associated with changes in other school conditions/resources?

2.2. *Impact*: What are the head teacher, teacher and parent's perceptions regarding the impact of the global financial and economic crisis on their schools or the schools their children attend?

2.3. *Adaptation/coping*: What are the head teacher, teacher and parent's perceptions regarding whether certain changes affecting school conditions have occurred in their school or the schools their children attend?

3. Child/pupil's schooling history:

3.1. *Change*:

3.1.1. How does a child's schooling history change before and after the 2008 global financial and economic crisis?

3.1.2. Do changes in a child's schooling history differ between different types of schools? If so, how?

⁹ A Theme-Construct-Indicator-Measurement (TCIM) Matrix was developed as the general framework for the three surveys. This matrix provided the conceptual mapping of themes, constructs, indicators and measurements from which the actual survey items were developed.

¹⁰ The surveys gathered data on head teachers and teachers' perceptions regarding whether payment delays were associated with the global financial and economic crisis.

- 3.1.3. Are changes in a child/pupil's schooling history associated with changes in school conditions/resources?
- 3.2. *Impact*: What are the parent's perceptions regarding the impact of the global financial and economic crisis on the child's schooling history?
- 3.3. *Adaptation/coping*: What are the parent's perceptions regarding whether certain changes affecting their child's schooling have occurred in their school or the schools their child attends?
4. Household conditions:
 - 4.1. *Change*
 - 4.2. *Impact*
 - 4.3. *Adaptation/coping*: What are the parents' perceptions regarding whether their household engaged in certain strategies to adapt/cope with the crisis?

A copy of the head teacher, teacher and parent survey is included in Annex E, showing a generic version. Examples of the actual surveys used in each country as well as the translated versions are available upon request.

Field-testing

The final surveys were the result of the field-testing the UNESCO team conducted in Gaborone, Botswana, between 10 and 17 October 2010. Annex C includes transcripts of survey pilot notes. The final survey versions for each country were adapted and localized to their specific contexts.

As evident in a review of the pilot notes and from the debriefing meetings with the country team, there were obvious modifications called for in the instrumentation.¹¹ It was obvious that the "cognitive load" of the three field testing instruments was simply excessive. This expressed itself along two dimensions: (1) the length (in both numbers of questions and numbers of items within questions) of the instruments, and (2) the level of abstraction and complexity required by certain sections. Each of the instruments took at least twice as long as considered viable, and sometimes the length was in excess of four times the projected time length (e.g. the parent survey). At the same time, survey questions which required the respondents to "link" the global financial crisis to various personal and professional aspects of their schools and households were universally problematic.

The team deemed that the likelihood was high that several of those dimensions were simply "auto-correlated" in causing the excessive cognitive load. It seemed clear that not only should the number of questions be significantly reduced, but also that reduction should be made primarily with the questions requiring linkage to the global financial crisis.

While it would be preferable to be able to relay upon "causal" relationships drawn directly by the respondents in the final report, the UNESCO team considered that the need to resolve the cognitive load issue was best solved by removing those questions. It was suggested not entirely giving up on having the respondents attempt to make some inferences regarding the relationship between the global financial crisis and several personal and professional conditions, but the number of those responses were to be significantly curtailed. At the same time, the format for their responses should be limited to the more simple Yes/No format that the pilot demonstrated was more accessible to the groups surveyed. Finally, it was considered that the significantly shortened version of questions linking with the global financial crisis

¹¹ The team also discussed few suggestions for future processes and procedures as the project moves along in the next months, based on the piloting and instrument "localization" meetings with the country team.

should be placed at the very end of the structured portion of the surveys to avoid creating undue “noise” with other questions and sections in the survey. That is, if the respondents still became somewhat confused even by the revised and consolidated “linkage” questions, then that challenge should occur after they have responded to the more direct questions.

The UNESCO team considered that the global financial crisis “linkage questions” should be limited to one set of items, and the number of items should (if at all possible) be limited to no more than ten. Retaining any of these types of questions at all was already a concession that should not be complicated by trying to keep too much sub-items.

Data entry and analysis

UNESCO developed an electronic data entry interface to facilitate country’s survey **data entry** and to generate survey databases comparable across-countries, which could be aggregated into a multi-country database. The team used *Qualtrics*, an on-line survey provider, to design and put the three surveys on-line.¹² *Qualtrics* generates a database (or spreadsheet) to be downloaded and used for the visualization and analysis of survey findings. The electronic surveys were translated into French and Spanish. The UNESCO team also provided guidelines with instructions for getting started with the data entry in *Qualtrics* and for viewing and downloading the survey data.

The **analysis** was largely based on descriptive statistics with potentially only a few, if any, inferential analyses. To facilitate the work of the country teams, UNESCO developed and provided a codebook for each of the three datasets, an example of which appears in Annex E.

There are two domains where threshold criteria were established for reporting findings: (1) number of responses needed on a specific question, and (2) magnitude of change. The non-probability sampling technique used for the study means that issues of “significance” cannot be determined by typical inferential statistical analyses. Rather, non-statistical significance (the only type available for our use) must be asserted by using reasonable criteria supported by a sound rationale.

Number of responses. The approach taken to establish the minimum number of responses focuses on response “representativeness” (Baruch and Holtom, 2008; Schouten et al., 2009) rather than response rates. Research has shown that response representativeness can be more important than response rate (Baruch and Holtom, 2008; Cook et al., 2000).

The threshold criterion for number of responses is 50%. Based on this, the analysis considers addressing a “trend” or “pattern” in the body of the report only when 50% or more of the respondents have given a valid answer to the question. 50% is the natural threshold for entering the zone of a “majority.” Consequently, using 50% as the threshold criterion establishes a rational and easily defended claim to a “majority” position, and allows assertions made in the body of the country report to be more rationally defended as being representative of the target response group.

Presentation of data not achieving the threshold criterion of 50% or more responses is to be included only in annexes.

Magnitude of change. Since one of the focuses of the study is to determine the impact of the economic crisis, the factor of “time” or “data across years” is emphasized in the analysis. As the field test of the surveys demonstrated, none of the respondents were able to make a meaningful connection, or project connections, between the global financial and economic crisis

¹² The UNESCO team explored using other on-line survey tools (Google surveys and Survey Monkey) but *Qualtrics* proved to be the best tool for the needs of the RIVAF project.

and specific school conditions or outcomes. This meant that many of the questions were reformatted to ask for specific data without any projection by respondents regarding assumed causal links with the crisis. Furthermore, the study does not examine macroeconomic changes affecting public expenditures in education or governments' interventions that might have smoothed or aggravated the impact of the crisis on schools. Even if it had, effects are known to lag behind and so does the data. Consequently, the analysis of the survey responses only allow us to determine if an inference (of whatever level of validity) of an impact from the global financial and economic crisis is reasonable and/or defensible from the school- and individual-level data collected.

One of the core issues in the reporting of results is to determine if there were any changes to a number of critical variables over time. Before calculating change for a specific question, that question must have achieved the threshold criterion for number of responses. The threshold criterion for reporting a change factor in the body of a country report is +/- 5% annually between 2007 and 2010.¹³ A more technical explanation on calculating change is available in Annex D.

The average annual change is used instead of the average change in the period. This is because an annualized change can be more readily compared with the rate of change of other data that the teams might choose to report, particularly with data that were available for a different (generally longer) period.

5. Initial results

5.1. Description of the sample

As discussed, the sampling frame foresaw 24 schools minimum for each country to be selected for the study. More than 250 primary schools were visited in twelve countries as shown in Table 4, with 60% of them being public, 53% urban and half large schools.¹⁴

In addition, an average of 1 head teacher, 20 teachers and 10 parents were expected to be surveyed within each school.¹⁵ A total of 4,081 surveys were conducted in the twelve countries, with 274 head teacher, 2,469 teacher and 1,338 parent/guardian surveys completed (Table 5). Because data entry is still under way in Chad, the number of completed surveys shown in the table is incomplete.

¹³ For example, if there is an average 5% or more change in tuition charged by schools annually, then it would be reported in the body of the report, but a -4.49% change or less in the number of teachers who worked in the school would only be reported in the report annexes.

¹⁴ Nearly 300 schools total were visited, if the schools for Cambodia and Mexico are accounted for (the distribution of schools by management type, location and size was not readily available for these countries).

¹⁵ In Paraguay, surveys were conducted in 32 primary schools instead of 24.

Table 4. Number of schools sampled, by country, school management type, location and size

Country	School size	School management type and location						Total
		Public/Government			Private			
		Urban	Rural	Total	Urban	Rural	Total	
Armenia	Large	3	3	6	3	3	6	12
	Small	3	3	6	3	3	6	12
	Total	6	6	12	6	6	12	24
Barbados	Large	5	5	10	4	0	4	14
	Small	3	5	8	2	0	2	10
	Total	8	10	18	6	0	6	24
Botswana	Large	4	3	7	4	2	6	13
	Small	2	3	5	2	4	6	11
	Total	6	6	12	6	6	12	24
Cambodia ¹	Large							
	Small							
	Total							
Chad	Large	3	3	6	3	2	5	11
	Small	3	3	6	3	4	7	13
	Total	6	6	12	6	6	12	24
Jordan	Large	3	3	6	3	3	6	12
	Small	3	3	6	3	3	6	12
	Total	6	6	12	6	6	12	24
Madagascar	Large	3	3	6	3	4	7	13
	Small	4	5	9	5	5	10	19
	Total	7	8	15	8	9	17	32
Maldives	Large	3	6	9	4	0	4	13
	Small	3	6	9	2	0	2	11
	Total	6	12	18	6	0	6	24
Mauritania	Large	3	3	6	6	0	6	12
	Small	3	3	6	6	0	6	12
	Total	6	6	12	12	0	12	24
Mexico ¹	Large							
	Small							
	Total							
Paraguay	Large	3	3	6	3	3	6	12
	Small	3	3	6	3	3	6	12
	Total	6	6	12	6	6	12	24
Ukraine	Large	6	6	12	0	0	0	12
	Small	6	6	12	0	0	0	12
	Total	12	12	24	0	0	0	24
Total		69	78	147	62	39	101	248

Notes: ¹ The distribution of schools by school management type, location and size was not readily available for Cambodia and Mexico.

Table 5. Number of head teachers, teachers and parents/guardians surveyed completed, by country

Country	Head teacher	Teacher	Parent/Guardian	Total
Armenia	24	241	120	385
Barbados	26	239	120	385
Botswana	21	194	98	313
Cambodia	24	262	134	420
Chad¹	6	29	33	68
Jordan	24	273	126	423
Madagascar	32	240	134	406
Maldives	15	155	76	246
Mauritania	24	227	118	369
Mexico	25	250	125	400
Paraguay	29	202	134	365
Ukraine	24	157	120	301
Total	274	2,469	1,338	4,081

Note: ⁽¹⁾ The data entry is still under way in Chad. The numbers show the surveys entered so far into the Qualtrics electronic dataset.

Although the sample of 24 schools per country is to be considered a small sample of schools, in the small island developing countries included in the study, Barbados and Maldives, the share nevertheless represents about 26% and 12% of all primary schools in each country respectively.¹⁶ In the other countries with data (Armenia, Chad, Madagascar, Mauritania and Paraguay), though, the schools included represent less than 2% of the total primary schools.

5.2. Initial survey findings for three countries

UNESCO and partners in each country are still in the phase of analyzing survey results. Key findings presented here are for three countries, Botswana, Jordan and Paraguay, and they should be considered as preliminary and incomplete. Data for additional survey themes are still being analyzed for these countries and so are data for the other nine countries.

School conditions: school finances and pupils

The countries studied faced an economic downturn in the crisis years. The surveys gather data on the sources and amount of **school financial resources** for the school years 2007 to 2010 and, though national level education spending data is to be examined in a second stage of the research, they are telling of the school difficulties and the financial choices used by schools and their managers (to the extent that schools and head teachers have room for some managing school resources). The surveys also asked about whether user fees were being charged and about pupils' paying fees, which are the initial findings reported here.

Despite the policy of free primary education in Botswana, respondents disagree on whether public school pupils are expected to pay tuition fees or not. On the one hand, 10% of head teachers in public schools say pupils are charged tuition fees, and this percentage has not

¹⁶ There are a total of 91 primary schools in Barbados, and 209 in the Maldives.

changed since 2007. On the other hand, the percentage of teachers and parents that recognize schools charge tuition is similar to that of head teachers, although in this case the numbers declaring schools charge tuition increased from 2007, in about 68% and 50% for teachers and parents respectively. Pupils in public schools also pay non-tuition fees for uniform, parent-teachers associations, sports and school development, as agreed by all head teachers and the vast majority of teachers and parents surveyed (75% or more). In Botswana, the fee is relatively low for local standards and it stands at about BWP 20 (USD 3) per term, and the number of teachers and parents who mention their schools charge these fees have increased in about 16%, reaching a share of nearly 85% of respondents.

Private schools, for their part, generally charge tuition and non-tuition fees. In this case, the number of parents replying their schools charge these fees increased in more than 75% between 2007 and 2010 in Botswana, standing in 60% and 80% for tuition and non-tuition fees respectively. Similar number of teachers replied these fees being charged, although the numbers have not changed much since 2007.

In Jordan, more than half of head teachers tell that their schools charge tuition fees, although the numbers have remained stable since 2007. As for parents, the percentage of those suggesting schools expected payments for tuition and non-tuition fees rose between 15 and 20% in the crisis years, standing at about a third of parents in 2010. Similarly, a third of head teachers indicate their schools charge non-tuition fees, although the numbers have not changed much after 2007. The number of teachers in Paraguay declaring their schools charge fees increased in 22%, with slightly more than a third of them recognizing fees were charged in 2010. The number of pupils who had problems paying tuition fees increased in about 30% according to both head teachers and head teachers.

In the three countries presented, when asked about how the global financial crisis impacted their schools, the **schools' financial difficulties** come up first as regards the numbers of head teachers and teachers perceptions (more than 67%), with pupil's difficulties to pay school fees about second (67-53% for head teachers and teachers respectively). Schools' financial difficulties are also highlighted by the majority of parents in Botswana when asked about how they believe the crisis impacted their households. In Jordan and Paraguay, though, the majority of parents focus on their employment and income difficulties first (59% and 67% in each country respectively) and their family's difficulties in paying school fees (52% and 36%). Table 6 shows respondents' perceptions of how the crisis affected their schools or households.

Both head teachers and teachers claim that seeking additional funding from the community is the key strategy adopted by their schools in an effort to adapt to the financial difficulties (nearly 40% of all surveyed in Botswana, particularly in public schools, and 65% in Paraguay). Between a fourth and a third of head teachers and teachers also point to charging non-tuition fees when they did not before (more so in public schools in Botswana) or even increasing tuition fees (in Botswana more so in private than public schools). Similarly, a fourth of head teachers and teachers in Paraguay indicate their schools increased the amount charged to pupils in the form of tuition.

Table 6. Percentage of head teachers, teachers and parents indicating the global financial crisis impacted different school conditions

Impact area	Botswana			Jordan		
	Head teachers	Teachers	Parents	Head teachers	Teachers	Parents
Financial resources						
School experienced financial difficulties						
Yes	66.7	87.6	61.2	75.0	--	42.1
No	14.3	5.15	10.2	16.7	--	24.6
Don't know	19.1	3.6	25.5	8.7	--	30.2
School increased tuition/non tuition fees						
Yes	28.6	43.0	52.0	41.7	42.7	38.9
No	66.7	42.8	35.7	58.3	50.0	52.4
Don't know	4.8	10.8	7.1	0.0	6.9	6.3
Increased pupils/families' difficulty paying tuition/non-tuition fees						
Yes	66.7	53.1	58.2	62.5	59.9	52.4
No	9.5	26.8	30.6	37.5	32.1	44.4
Don't know	23.8	18.0	7.1	0	7.7	1.6
Pupils						
Increased number of pupils at school						
Yes	19.1	--	--	50.0	--	--
No	61.9	--	--	50.0	--	--
Don't know	4.8	--	--	0.0	--	--
Increased number of pupils in the class						
Yes	--	17.5	--	--	41.2	--
No	--	63.4	--	--	51.1	--
Don't know	--	15.0	--	--	5.8	--
Increased number of pupils leaving/dropping out of school						
Yes	--	--	--	50.0	--	--
No	--	--	--	50.0	--	--
Don't know	--	--	--	0.0	--	--
Increased number of pupils leaving/dropping out of the class						
Yes	19.1	18.6	--	--	36.1	--
No	66.7	65.5	--	--	55.5	--
Don't know	14.3	11.9	--	--	7.7	--
Staffing						
Fewer qualified teachers						
Yes	0.0	9.3	--	8.3	19.0	--
No	85.7	77.8	--	91.7	74.5	--
Don't know	9.5	9.3	--	0.0	5.1	--
Delayed payments to head teacher and/or teachers						
Yes	14.3	17.0	-	12.5	17.5	-
No	76.2	74.7	-	87.5	81.4	-
Don't know	9.5	6.7	-	0.0	1.1	-

Learning environment						
Decreased availability of school meals and lunch						
Yes	28.6	31.4	41.8	25.0	19.7	28.6
No	61.9	51.0	36.7	58.3	48.9	34.1
Don't know	4.8	12.9	14.3	0.0	7.3	11.9
Decreased availability of pupil supplies/instructional materials						
Yes	38.1	56.7	63.3	20.8	15.3	25.4
No	52.4	28.9	22.5	75.0	79.2	65.9
Don't know	9.5	10.3	10.2	0.0	4.0	4.0
Decreased availability of teaching supplies						
Yes	33.3	53.6	--	25.0	17.2	--
No	57.1	32.0	--	75.0	74.5	--
Don't know	9.5	10.3	--	0.0	3.6	--
Ability to work and earn money more difficult						
Yes	--	--	63.3	--	--	--
No	--	--	25.5	--	--	--
Don't know	--	--	6.1	--	--	--
Total	21	194	98	24	274	126

Trends in **school enrolment, repetition and dropout and completion** can be affected in a context of economic difficulties. Briefly, macroeconomic instability can play a key role in slowing down education attainment in some areas; while in others it can reflect in increased enrolment and attendance, as children are no longer needed to help or their income opportunity decreases when economic activity declines. The information gathered in the surveys is partial: it only tells about overall changes in the pupil population in surveyed schools and not about transfers across schools. Moreover, it does not tell about enrolment or attendance ratios (for which school age population data is needed). Nevertheless, although school data will be incomplete for understanding the dynamics of pupil movements at a systemic level, changes in pupils are important for schools as they deeply affect the organization and operation of schools.

There are no clear changes in the schools surveyed in Paraguay in the number of pupils enrolled, repeating, dropping out or completing the last grade of primary. Yet, 40% of teachers surveyed perceive that the number of pupils abandoning school increased as a result of the global financial crisis.

In Jordan, though, school data reported by head teachers point to relatively stable enrolments, declining only slightly between 2007 and 2010, with a decline in the number of boys and an increase in the number of girls completing the last grade of the primary schools surveyed (in about 55% for both figures). Because the number of boys reaching the last grade nearly tripled the number for girls, the decline appears to lead to gender parity in the number of boys and girls completing the last grade. Like in Paraguay, perceptions of the Jordanian head teachers and teachers on the impact of the global financial crisis on pupils do not seem to reflect the actual school data (Table 6). Half of head teachers and slightly more than a third of teachers believe the number of pupils enrolled and dropping out increased, when the data shows a slight decline in both figures, with a particularly remarkable decline in the number of boys leaving schools although the actual average was already very low to begin with.

Employment issues for school staff

Often school staff has to complement their salary with **additional work**, sometimes taking non-teaching tasks in the same or another school or taking additional work outside the school system. In Botswana, about 5% of teachers in public schools had another job in 2007. Whereas the share of those who worked in a non-teaching jobs in the same or other school did not change much to 2010, the share of those who worked in any job outside the school system declined by about 50%. Engagement in additional work was twice as high in private schools as in public ones. Yet, the share of those working in non-teaching tasks still in the education system declined (in 50%), for few perhaps to take a second job outside the school system (where the share increased in 15%).

The surveys warn that about 17% of head teachers and 10% of teachers in Paraguay holding another job outside teaching, either in their or another schools or outside the education system. Although there are no observed changes for head teachers, the proportion of teachers holding other jobs increased over the crisis years. Similarly, the proportion of Jordanian teachers holding a non-teaching job outside schools increased in 17% in the period, to stand in 15% of all teachers surveyed in 2010/11.

The vast majority of the teachers surveyed in Botswana, Jordan and Paraguay seem to have experienced financial difficulties as a result of the financial crisis (more than 77%).

6. Concluding notes

The study of the implications of the global financial crisis on education in twelve countries used survey research and a multiple-case comparative design to examine the economic and organizational stability/vulnerability and resilience of schools, teachers and pupils' households. Initial findings presented in this report show only a snapshot of the changes in few aspects related to school finances and employment issues for school staff between 2007 and 2010, the period before and after the global financial crisis. They also reveal respondents' perceptions on how the crisis affected them, their schools and households and on their coping strategies.

If initial findings for three countries were to be reasserted by survey data still being analyzed, they would more consistently show that seemingly global and macro financial difficulties do indeed become local and micro, reaching institutions such as schools and individuals and families involved, at least according to perceptions from survey respondents. To endure a context of stretched finances perhaps brought about by a global crisis, schools appear to be prone to charging or increasing user fees despite global advocacy and national legislation pointing to free primary education. Seeking additional funding from the community appears high in respondents' perceptions on the adaptation efforts taken by schools, although it remains unclear if those communities involve affected households only, as it appears to be the case, or other larger yet proximate social groups.

The empirical evidence suggests that school participation can either profit or suffer when households and schools face economic restrictions. Initial findings from this study show no clear indication of enrolments being much affected in sampled schools between 2007 and 2010, although the more standard perception of head teachers and teachers is that the number of pupils abandoning school has increased.

The surveys also looked at how other schooling conditions potentially affecting the quality of teaching and learning, although reported here was only issues thought to affect teachers dedication to and motivation with their work – teachers having an additional job other than

their teaching duties. Around 15% of teachers in surveyed schools in Paraguay and Jordan hold a second job, with the percentages increasing in the period examined

The transmission mechanism certainly need to be further investigated, but the study shows that a global financial crisis of the nature experienced in late 2008/09 will hit schools one way or another. While final results of the research on the implications of the crisis for primary schools in twelve countries become available, worth noting are the methodological and implementation challenges of the type of research undertaken by UNESCO:

- **School sampling:** In few of the countries, the data to build the sampling frame can be outdated, as the national education statistics lag behind a couple of years at best. The list of schools sampled had to be revised and adjusted during the fieldwork conducted by the country teams.
- **Implementation**
 - *Permit to visit schools:* To conduct field work and any type of data collection in schools, education authorities often request an official permit, obtained after the researchers submit a research application describing the study and methods. Although UNESCO facilitated the processes which could otherwise have been even lengthier, obtaining research permits delayed the actual data collection stage, in some countries putting the activities off by about two months.
 - *Visiting the sampled schools:* Unresponsiveness and difficult access to the schools was one of the main obstacles faced during the fieldwork, for example in Barbados and Mexico. Despite having permit letters from the authorities concerned, many of the schools refused to engage in the study. Hence, the initial designed sample was not completely attainable during the first round of fieldwork, forcing research teams to look for other not sampled schools. Another reported difficulty was the physical access to some sampled schools, as it was the case of Madagascar.
 - *Respondents' quota:* One of the most general obstacles faced by researchers was to engage with schools that did not have the needed teacher or parent's quota (or those contacted were not willing to participate), which implied visiting more schools than planned in order to fulfil the average quota requested.
 - *Survey administration:* While for most countries the surveys were administered and filled in with the researchers' presence, in few countries, researchers were asked to leave the surveys with head teachers and collect them back at a later date. The following difficulties arose: head teachers forgot to distribute the surveys to teachers, teachers were allowed to take the surveys home but forgot them there, surveys were not ready when researchers were scheduled to collect them back
 - *Data collection interruptions:* In many occasions, schools visits had to be rescheduled because of school holidays, national elections, cyclones or other events that disrupted instruction and, therefore, the scheduled visits.
- **Instrument:** Another reported difficulty was the non-affiliation of some questions to the reality perceived by some respondents, which created de-motivation, apathy and unwillingness to respond some of the survey questions. In some cases, questions were not fully understood but with the guidance of the surveyors; this implied the necessity of the surveyors' presence throughout the data collection stage.

- **Data entry:** Some of the countries selected for the study faced important problems to access stable internet connections and the necessary equipment to properly engage in the on-line data entry interface UNESCO facilitated. UNESCO's engaged with other local UN agencies to facilitate access to Internet.

Annex A: Country selection steps and country information

The country selection criteria included:

- Faced an economic crisis;
- Income level and/or educational vulnerability;
- Geographical and linguistic spread, including SIDS;
- Countries in other RIVAF projects.

The selection steps and data sources were:

- *Faced an economic crisis:* Among each region, countries were sorted according to the extent to which they faced an economic crisis or slowdown, using the 2009 Gross Domestic Product (GDP) annual percent change (sorted from smallest/negative to largest). This data is compiled in the April 2010 edition of the International Monetary Fund (IMF) *Economic Outlook Database* (2010).
- *Economic and educational vulnerability:* First, countries were labelled according to their income level (from low- to high-income), using the July 2009 World Bank's income group country classification published (World Bank, 2009b). Countries were also labelled according to four categories of overall distance to EFA as per the EDI (far, intermediate and close to EFA, and EFA achieved). The EDI data used is the EDI available in the regional overviews published in 2010 (UNESCO, 2010d, 2010e, 2010f, 2010g, 2010h, 2010i).
- Respecting the sorting of countries on their exposure to the economic crisis (first point), a pre-selection of countries was conducted, choosing the most poor and vulnerable ones based on the income and/or educational vulnerability measures. In some regions, the countries with the sharpest declines in GDP were both upper-middle or high-income countries and were close to or had already achieved EFA.¹⁷ These countries were skipped. Among countries up in the sorting, those that were either low- or lower-middle income, far or at an intermediate distance with respect to EFA or fulfilled both conditions were included in the pre-selected list. Countries with no EDI distance to EFA (no EDI score) which still experienced sharpest declines in GDP were considered to be far or at an intermediate distance.¹⁸
- *Geographical and linguistic spread; including SIDS:* To get geographical spread and include SIDS, some countries that would have otherwise been selected based on the GDP decline criteria, income level and EFA distance were discarded and replaced by others next in the sorting until the geographical and linguistic spread and inclusion of SIDS was satisfied.
- *RIVAF countries:* Efforts were made to include few countries targeted in other RIVAF projects, provided they satisfied the other criteria for the selection of countries.

¹⁷ In Central and Eastern Europe, for example, Latvia experienced the sharpest decline in GDP between 2008 and 2009 and would have been a good choice for the study, but it is an upper-middle country and is close at achieving EFA.

¹⁸ Most of the countries with no EDI data either have weak statistical information systems and weak, have no data for the quantifiable goals encompassing the EDI or are affected by conflict (UNESCO, 2010c).

Within each region, countries were sorted and labelled according to the selection criteria and the resulting order is presented in Annex Table 1. There are further considerations on the country selection:

- Jordan was selected instead of Algeria to include a Middle East country and because it participated in another RIVAF project.
- Maldives was selected instead of Samoa because it participated in another RIVAF project. Cambodia was added to include an East Asia/Pacific non-SIDS country.
- Mexico was added because it participated in another RIVAF project.

Annex Table 1: Sorting of countries according to the key selection criteria

Country	2009 GDP change ¹	Income level	EDI 2007 ²	Geographic / Linguistic	SIDS ³	RIVAF ⁴
Arab States						
Kuwait	-2,7	High	Close	Middle East		
Mauritania	-1,1	Low	Far	North Africa		
U. A. Emirates	-0,7	High	Close	Middle East		
Saudi Arabia	0,1	High	...	Middle East		
Libyan A. J.	1,8	Upper-middle	...	North Africa		
Algeria	2,0	Upper-middle	Intermediate	North Africa		
Jordan	2,8	Lower-middle	Intermediate	Middle East		Yes
Bahrain	2,9	High	Close	Middle East		
Tunisia	3,0	Lower-middle	...	North Africa		
Oman	3,4	High	Intermediate	Middle East		
Yemen	3,9	Low	Far	Middle East		
Syrian A. R.	4,0	Lower-middle	...	Middle East		
Iraq	4,2	Lower-middle	Far	Middle East		
Sudan	4,5	Lower-middle	...	North Africa		
Egypt	4,7	Lower-middle	...	North Africa		Yes
Djibouti	5,0	Lower-middle	Far	North Africa		
Morocco	5,2	Lower middle	Far	North Africa		
Lebanon	9,0	Upper-middle	Intermediate	Middle East		
Qatar	9,0	High	Intermediate	Middle East		
Palestinian A. T.	...	...	Intermediate	Middle East		
Asia						
Armenia	-14,4	Lower-middle	Achieved	Central Asia		
Japan	-5,2	High	Achieved	East Asia / the Pacific		
Samoa	-4,9	Lower-middle	...	East Asia / the Pacific	Yes	
Georgia	-4,0	Lower-middle	Achieved	Central Asia		
Maldives	-3,0	Lower-middle	Close	South / West Asia	Yes	Yes
Fiji	-2,5	Upper-middle	Intermediate	East Asia / the Pacific	Yes	
Cambodia	-2,5	Low	Far	East Asia / the Pacific		
Thailand	-2,3	Lower-middle	...	East Asia / the Pacific		
Solomon Is	-2,2	Lower-middle	...	East Asia / the Pacific	Yes	
Singapore	-2,0	High	...	East Asia / the Pacific	Yes	
Malaysia	-1,7	Upper-middle	Intermediate	East Asia / the Pacific		
Mongolia	-1,6	Lower-middle	Intermediate	Central Asia		
Kiribati	-0,7	Lower-middle	...	East Asia / the Pacific	Yes	

Tonga	-0,5	Lower-middle	Close	East Asia / the Pacific	Yes
Brunei Daruss.	-0,5	High	Achieved	East Asia / the Pacific	
Rep. of Korea	0,2	High	Achieved	East Asia / the Pacific	
Philippines	0,9	Lower-middle	Intermediate	East Asia / the Pacific	Yes
Kazakhstan	1,2	Upper-middle	Achieved	Central Asia	
Australia	1,3	High	...	East Asia / the Pacific	
Iran, Isl. Rep.	1,8	Lower-middle	...	South / West Asia	
Pakistan	2,0	Lower-middle	Far	South / West Asia	
Kyrgyzstan	2,3	Low	Close	Central Asia	
Vanuatu	3,3	Lower-middle	...	East Asia / the Pacific	Yes
Tajikistan	3,4	Low	Achieved	Central Asia	
Sri Lanka	3,5	Lower-middle	...	South / West Asia	
Turkmenistan	4,2	Lower-middle	...	Central Asia	
Papua N. Guinea	4,5	Lower-middle	...	East Asia / the Pacific	Yes
Indonesia	4,5	Lower-middle	Intermediate	East Asia / the Pacific	Yes
Nepal	4,7	Low	Far	South / West Asia	Yes
Myanmar	4,8	Low	...	East Asia / the Pacific	
Viet Nam	5,3	Low	...	East Asia / the Pacific	
Bangladesh	5,4	Low	Far	South / West Asia	
India	5,7	Lower-middle	Far	South / West Asia	Yes
Bhutan	6,3	Lower-middle	Far	South / West Asia	
Timor-Leste	7,4	Lower-middle	...	East Asia / the Pacific	SIDS
Lao PDR	7,6	Low	Far	East Asia / the Pacific	
Uzbekistan	8,1	Low	Close	Central Asia	
China	8,7	Lower-middle	...	East Asia / the Pacific	
Azerbaijan	9,3	Lower-middle	Achieved	Central Asia	
Afghanistan	22,5	Low	...	South / West Asia	
New Zealand	185,7	High	Achieved	East Asia / the Pacific	
Cook Islands	...	...	...	East Asia / the Pacific	Yes
DPR Korea	...	Low	...	East Asia / the Pacific	
Macao, China	...	High	Close	East Asia / the Pacific	
Marshall Is	...	Lower-middle	...	East Asia / the Pacific	Yes
Micronesia	...	Lower-middle	...	East Asia / the Pacific	Yes
Nauru	...	...	...	East Asia / the Pacific	Yes
Niue	...	...	...	East Asia / the Pacific	Yes
Palau	...	Upper-middle	...	East Asia / the Pacific	Yes
Tokelau	...	...	...	East Asia / the Pacific	
Tuvalu	...	...	...	East Asia / the Pacific	Yes
Central and Eastern Europe					
Latvia	-18,0	Upper-middle	Achieved	Central Europe	
Ukraine	-15,1	Lower-middle	Close	Eastern Europe	
Lithuania	-15,0	Upper-middle	Achieved	Central Europe	
Estonia	-14,1	High	Achieved	Central Europe	
Russian Fed.	-7,9	Upper-middle	...	Eastern Europe	
Slovenia	-7,3	High	Achieved	Central Europe	
Romania	-7,1	Upper-middle	Achieved	Eastern Europe	

Montenegro	-7,0	Upper-middle	...	Central Europe		
Rep. Moldova	-6,5	Lower-middle	Close	Eastern Europe		
Hungary	-6,3	High	Achieved	Eastern Europe		
Croatia	-5,8	High	Achieved	Central Europe		
Bulgaria	-5,0	Upper-middle	Close	Eastern Europe		
Turkey	-4,7	Upper-middle	Intermediate	Central Europe		
Slovakia	-4,7	High	Achieved	Eastern Europe		
Czech Republic	-4,3	High	Achieved	Eastern Europe		
Bosnia / Herzeg.	-3,4	Upper-middle	...	Central Europe		
Serbia	-2,9	Upper-middle	...	Central Europe		
TFYR Macedonia	-0,7	Upper-middle	Close	Central Europe		
Belarus	0,2	Upper-middle	Achieved	Eastern Europe		
Poland	1,7	Upper-middle	Achieved	Eastern Europe		
Albania	2,8	Lower-middle	...	Central Europe		
Latin America and the Caribbean						
Grenada	-7,7	Upper-middle	...	The Caribbean	Yes	
Antigua / Barbuda	-6,7	High	...	The Caribbean	Yes	
Mexico	-6,5	Upper-middle	Close	Latin America		Yes
St Kitts / Nevis	-5,5	Upper-middle	...	The Caribbean	Yes	
Barbados	-5,3	High	Intermediate	The Caribbean	Yes	
Saint Lucia	-5,2	Upper-middle	Close	The Caribbean	Yes	
Bahamas	-5,0	High	Intermediate	The Caribbean	Yes	
Paraguay	-4,5	Lower-middle	Intermediate	Latin America		
El Salvador	-3,5	Lower-middle	Intermediate	Latin America		
Trinidad / Tobago	-3,5	High	Close	The Caribbean	Yes	Yes
Venezuela, B. R.	-3,3	Upper-middle	Close	Latin America		
Jamaica	-2,8	Upper-middle	...	The Caribbean	Yes	
St Vincent / Grenad.	-2,5	Upper-middle	Intermediate	The Caribbean	Yes	
Honduras	-1,9	Lower-middle	Intermediate	Latin America		
Chile	-1,5	Upper-middle	Close	Latin America		
Nicaragua	-1,5	Lower-middle	Far	Latin America		
Belize	-1,1	Lower-middle	Intermediate	The Caribbean	Yes	
Costa Rica	-1,1	Upper-middle	...	Latin America		Yes
Dominica	-0,3	Upper-middle	...	The Caribbean	Yes	
Brazil	-0,2	Upper-middle	Intermediate	Latin America		
Colombia	0,1	Upper-middle	Intermediate	Latin America		Yes
Ecuador	0,4	Lower-middle	Intermediate	Latin America		
Guatemala	0,6	Lower-middle	Intermediate	Latin America		
Argentina	0,9	Upper-middle	Achieved	Latin America		Yes
Peru	0,9	Upper-middle	Intermediate	Latin America		
Panama	2,4	Upper-middle	Intermediate	Latin America		
Suriname	2,5	Upper-middle	Intermediate	The Caribbean	Yes	
Uruguay	2,9	Upper-middle	Achieved	Latin America		
Haiti	2,9	Low income	...	The Caribbean	Yes	
Bolivia	3,3	Lower-middle	Intermediate	Latin America		
Guyana	3,3	Lower-middle	...	The Caribbean	Yes	
Dominican Rep.	3,5	Upper-middle	Intermediate	Latin America	Yes	
Anguilla	...	...	...	The Caribbean	Yes	
Aruba	...	High	Achieved	The Caribbean	Yes	
Bermuda	...	High	...	The Caribbean		

Br. Virgin Is	...	...	...	The Caribbean	Yes
Cayman Is	...	High	...	The Caribbean	
Cuba	...	Upper-middle	Achieved	Latin America	Yes
Montserrat	...	...	...	The Caribbean	Yes
Neth. Antilles	...	High	...	The Caribbean	Yes
Turks / Caicos Is	...	...	...	The Caribbean	
Sub-Saharan Africa					
Seychelles	-7,6	Upper-middle	...	Francophone	Yes
Botswana	-6,0	Upper-middle	Intermediate	Anglophone	
Madagascar	-5,0	Low income	Far	Francophone	Yes
South Africa	-1,8	Upper-middle	...	Anglophone	Yes
Chad	-1,6	Low income	...	Francophone	
Gabon	-1,4	Upper-middle	...	Francophone	
Niger	-0,9	Low income	Far	Francophone	
Namibia	-0,7	Upper-middle	Intermediate	Anglophone	
Angola	-0,4	Lower-middle	...	Portuguese	
Guinea	-0,3	Low income	Far	Francophone	
Swaziland	0,4	Lower-middle	Intermediate	Anglophone	
Comoros	1,1	Low income	...	Francophone	Yes
Lesotho	1,4	Lower-middle	Far	Anglophone	
Mauritius	1,5	Upper-middle	Intermediate	Francophone	Yes
Senegal	1,5	Low income	Far	Francophone	
C. A. R.	1,7	Low income	...	Francophone	
Cameroon	2,0	Lower-middle	...	Francophone	
Kenya	2,1	Low income	Intermediate	Anglophone	
Togo	2,5	Low income	Far	Francophone	
Benin	2,7	Low income	Far	Francophone	
DR Congo	2,8	Low income	...	Francophone	
Guinea-Bissau	3,0	Low income	...	Francophone	Yes
Burkina Faso	3,2	Low income	Far	Francophone	
Burundi	3,5	Low income	Far	Francophone	
Ghana	3,5	Low income	Far	Anglophone	Yes
Eritrea	3,6	Low income	Far	Anglophone	
Côte d'Ivoire	3,8	Lower-middle	...	Francophone	
S. Tome / Principe	4,0	Lower-middle	Intermediate	Francophone	Yes
Sierra Leone	4,0	Low income	...	Anglophone	
Zimbabwe	4,0	Low income	...	Anglophone	
Cape Verde	4,1	Lower-middle	Intermediate	Francophone	Yes
Rwanda	4,1	Low income	...	Francophone	
Mali	4,5	Low income	Far	Francophone	
Gambia	4,6	Low income	Far	Anglophone	
Liberia	4,6	Low income	...	Anglophone	
Equatorial Guinea	5,3	High	...	Spanish	
U. R. Tanzania	5,5	Low income	...	Anglophone	Yes
Nigeria	5,6	Lower-middle	...	Anglophone	
Zambia	6,3	Low income	Intermediate	Anglophone	
Mozambique	6,3	Low income	Far	Portuguese	
Uganda	7,1	Low income	Far	Anglophone	Yes
Congo	7,6	Lower-middle	...	Francophone	
Malawi	8,0	Low income	Far	Anglophone	
Ethiopia	9,9	Low income	Far	Anglophone	Yes

Somalia	...	Low income	...	Anglophone
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Notes: ¹ Gross Domestic Product, 2009 annual percent change 2009. ² EFA Development Index. ³ Small Islands Developing State. ⁴ Country included in other RIVAF projects. ⁵ UNESCO priority country for education support.

Sources: Global Pulse (2010), International Monetary Fund (2010), World Bank (2009b), UNESCO (2010d, 2010e, 2010f, 2010g, 2010h, 2010i), UN Department for Economic and Social Affairs (2009).

Annex B: The study team

UNESCO's team directly involved in the study

The people within UNESCO's Education Sector, Division for Planning and Development of Education Systems, Section for Sector Policy Analysis and ICT in Education (ED/PDE/PAD) participated in the study, under the overview of the Division's director, Dr. David Atchoarena, and the Section's Chief, Dr. Francesc Pedró.

- Dr. Paula Razquin, Programme Specialist and Principal Investigator;
- Michaëlle Tausson, UNESCO Bangkok, Asia and Pacific Regional Bureau for Education, Education Policy Reform (EPR) Unit, coordinated the Cambodia case study;
- *Consultants:* Dr. Steven J. Hite, Dr. Claude Sauvageot, Yoko Wakayama, Susana Lago Ballesteros, Cecilia Medrano-Caviedes; and
- *Interns:* Fatou Niang, Taichi Tanaka, Melissa Moncrieffe, Marion-Anaïs Yamaguchi.

List of country teams

Country teams were selected through an informal competition process where several research institutions were invited to submit a proposal. Prior to the launch of the Request for Proposals (RFP), the UNESCO ED/PDE/PAD team conducted an initial search for potential partners, with the collaboration of UNESCO's network (i.e., Permanent Delegations, National Commissions, UNESCO Regional, Cluster and Field Offices and UNESCO Chairs) and contacting a number of institutes/researchers to sound out their interest in participating in the project.

For the institutions and teams who expressed interest, an RFP was sent inviting them to submit a proposal comprised of: (i) a proposal submission form, (ii) an organizational and technical proposal, and (iii) a price schedule. Those proposals which conformed to all the terms and conditions of the RFP without material deviations were then evaluated in accordance with UNESCO's rules and regulations.

A two-stage procedure was used in evaluating the proposals, with evaluation of the technical component being completed based on its responsiveness to the Terms of Reference prior to any price component being opened and compared. The Price Component was opened only for submissions that passed the minimum score of 70 % of the total points obtainable for the technical evaluation.

Annex Table 2. Country teams

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Annex C: Field testing

This Annex includes a description of field testing activities and transcripts of two sets of survey pilot notes.

Field testing activities

The field testing activities were scheduled, first, to test in the field the questionnaires developed by ED/PDE/PAD and, second, to launch the research activities with the selected national research team in Botswana.

Prior to the mission, UNESCO prepared the Head Teacher, Teacher and Parent/Guardian instruments for field testing. Through a process of revision and localization of the overall questionnaires and questionnaire items, the field-testing process was an integral part of the finalization of the questionnaires. In addition, the launching of the research in-site also allowed for a fine tuning of the study's school sampling strategy and methodology.

Very briefly, UNESCO's field-testing work began on Monday, the 11th of October. The UNESCO team first met with Ms. Mavis Kelebemang, Secretary General of the Botswana National Commission for UNESCO. The team then met with a group of officials from the Ministry of Education to begin preliminary work on securing the necessary permits and permissions to conduct the research.

Thursday and Friday were devoted primarily to piloting the surveys and debriefing with the country team. The field testing was conducted in three public primary schools and authorization for the schools visits was requested to and granted by Ministry of Local Government – Council. The schools were selected from the list of all primary schools, provided by the Statistics unit of the Botswana Ministry of Education. The primary schools, selected for their convenient location, were:

- *Tshiamo Primary School* (14 October), in Gaborone South, with a total of 737 pupils and 25 teachers. The pilot included one headteacher, two teachers and two parents (one of which was a teacher with children attending the school);
- *Nkoane Primary School* (14 October), in Kweneng South East, with a total of 181 pupils and 12 teachers. The pilot included one headteacher, two teachers and two parents;
- *Metsimotlhabe Primary School* (15 October), in Kweng North, with a total of 637 pupils and 31 teachers. The pilot included one headteacher, three teachers and two parents.
- A fourth private school was contacted, but the headteacher refused to participate in the field-testing despite the Ministry of Local Government – Council's authorization.

UNESCO's team took notes on the administration of the surveys (see Survey Pilot Notes in the next section). Following the pilot, the UNESCO and country team met to discuss the revisions to be made to the questionnaires, solutions to priorities in revising the questionnaires and future process and procedures.

Survey pilot notes

They point to the respondent's difficulties in understanding the questions being asked or their difficulties in responding. Some notes also include in-site preliminary ideas for addressing those concerns, which were then considered more systematically. In addition, the notes include general feedback and insights received from the country team.

The notes are based on pilot versions not included in this deliverable. They pilot versions can be made available upon request.

Head teacher questionnaire

Transcript 1

<u>School:</u>	Tshiamo (1 head teacher)
<u>Administered by:</u>	Okurut and Paula
<u>Start time:</u>	9:38
<u>End time:</u>	11:55 (without counting the general debriefing)
<u>Pilot questionnaire:</u>	26 pages, 50 items.

- **Q3:** Left blank because the school doesn't have a school email account→Delete question, more so to shorten it
- **Q6 to 8:** Unclear whether the year 2010 should be counted or not→Clarify that we request years completed. Change should apply to teacher questionnaire as well.
- **Q13.** Principal wasn't very clear what to mark, mostly because at the very beginning we didn't brief her on the organization of the questionnaire and the fact she could delegate section III to another administrator→revise so that head teacher has some option for responding
- **Q14** (and similar). Headteacher wasn't clear what to do when the data requested didn't apply to her or her school→prompt to add a line (–) when not appropriate or a zero when appropriate but no data to report.
 - **Q14a.** She wasn't sure whether to put the total number of standards or from standard 1 to 7.
- **Q15.** Headteacher had difficulties thinking in terms of percentages→request amount to then compute the percentages, or turn it into a Yes/No question asking about financing sources only.
- **Q16.** Headteacher had no problem answering this one. However, later I found out that they do charge PTA fees although it's not compulsory→provide examples of non-tuition fees that schools can charge
- **Q19.**
 - Head teacher didn't know what to do for the 2 years she didn't work at the school→write a note saying that if head teacher worked at another school, nevertheless enter the data if they have it available. Move section of principal's employment history before the school data section?
 - Head teacher had difficulty arriving to the total after entering the number for girls, particularly in line h (no girl dropped out but 1 boy did) →Ask for boys/girls. Initially I requested the total in case they didn't have the information by sex, but I believe data by sex is quite common in school records
 - **Q19a.** Unclear whether to enter beginning, mid-term or end of the year enrolments→request beginning. Moreover, teacher suggested beginning of the year enrolments as the figure used by the ministry to calculate budget to be allocated to the school

- **Q19d.** Unclear what this meant, first grade entering pupils of entering for the first time in any grade→either delete it to shorten the questionnaire or clarify entering for the first time in grade 1 (this intended to capture the intake rate).
- **Q19j.** There was confusion here. All pupils sit for the exam as it is compulsory, so head teacher didn't see the difference between 19i and 19j→didn't change this one, in case it fits other countries' systems
- **Q20/trained.**
 - Asked whether this included teachers holding a certificate in addition to a diploma→to clarify
 - No question about what a regular classroom teacher was. However, question about whether the head teacher should count herself as a teacher or not, given that she teaches some hours→clarify this. Maybe delete the current note saying that special area teachers should be included, and clarify that administrative staff should be excluded)
 - **Q20f.** Since teachers are assigned by MOE, the head teacher wasn't sure what this meant. She used teachers "promoted" or "transferred" to her school→add assigned or transferred (for those who are new to the school but not new to the post)
- **Q21.**
 - 21b. Not clear whether to include teachers themselves providing first aid→clarify that this should be additional services, not performed by current staff
 - 21e. School provides books but has no library. Books can be kept either in the head teacher's office or in the classroom→ask generally about books, not necessarily for the library
- **Q22.**
 - 22b & c. Difficult to compute percentage absenteeism→ask number of days pupils/teachers were absent in a typical month. Another suggestion discussed was to turn responses to low/medium/high, although this one will be more difficult to compare across years
 - 22e & f. Very difficult to compute number of conflicts among pupils. Similarly, vandalism episodes can be found every day. Pupils can break a window when closing a door; and although there was no intention on the part of the pupil it still it is difficult to determine what to count. →delete
- **Q24.** Headteacher didn't answer for the years she worked in another school→clarify that we expect an answer even if it corresponds to another school
- **Q26.** Difficulties thinking in terms of average hours/days/weeks worked→request just hours/days/weeks
- **Q30.** Headteachers also contribute to their own medical insurance, and she was unclear as to why were asking about them receiving this benefit→clarify that this is in addition to what they might contribute themselves.
- **Q31.** Headteachers earn some extra money for examinations and grading, and in the discussion it was clear this was NOT an additional job→clarify that these earnings from extra teaching activities should not be included

- **Q33 to 46.**
 - Q33. Unclear to the head teacher what the question is actually asking. When asked to elaborate more about how the crisis had a positive effect on pupil's enrolment, the headteacher indicated that enrolments have been increasing, actually not due to the recent economic crunch but mostly due to planning issues. The crisis has added to the trend that was already evident. The response options of very positive to very negative are not clearly understood. Moreover, the option "neither positive nor negative" was not seen as a "no effect" response as intended.
 - **Q34.** The crisis apparently had a very positive effect on grades/standards offered in the school, although the data showed the number of grades stayed stable from 2007 to 2010. The question seems to be interpreted erroneously.
 - **Q35.** The answers show some confusion. Apparently, financing to the school received from the Council has increased (the council has been financing products for the school meal, so that children eat local food), yet the response indicates a negative effect of the crisis. ??
 - **Q37.** The answers registered do not really reflect the effect of the crisis but rather a trend seen in the school, regardless or despite the crisis. In fact,
 - **Response options going from significantly increased to significantly decreased were better understood than those going from very positive to very negative effect.**

Transcript 2

Head teacher Survey @ Metsimotlhabe Primary School: 15 October 2010

Question #	Issue
6	Interpreted "years completed" as "years since completing highest qualification".
14a	Interpreted as asking for numbers of students, not numbers of standards.
	NOTE: Since this headteacher has only been in his position for one year, he was very uncertain on any information preceding his time in position. Do we need to consider having a selection criterion of "4 years in position"?
15	Since Botswana "splits" funding between the Ministry of Education (salaries and benefits) and the Ministry of Local Government (facilities and textbooks), he had a very difficult time conceptualizing how this would be computed.
19	The records are organized for these numbers for boys and girls; he wants us to ask for the boys and girls, not just the girls and total.
20	There are no long-term substitute teachers in Botswana.
20	Does full-time mean just full-time in the classroom, or full-time as a combination of classroom and other school-based assignments (such as a special education teacher who might be in their own classroom one-half day, but move around to the other classrooms in the school for the rest of the day)?
22b	The concept of percentage was too difficult.

22c	The qualifier of “in an average month” felt too complex for the respondent.
30b; 44b	The respondent felt that the question didn’t apply because he was not presently retired and receiving benefits. (This is the same challenge expressed by the teachers the prior day).
31a & b	This is not allowed in Botswana, although it is done. He didn’t want to respond because it would be seen as going against official policy.
33a	This was confusing to the respondent. He felt that classrooms referred to buildings, and classes referred to students – so the two were different conditions and the question therefore was unanswerable.
33d	He felt that number and quality were two different things, making one answer to the question impossible.
34g	There were too many terms in the parentheses (examples) – this confused him
42c	He felt that phrasing this as “repeating” would make more sense than “advancement”.
47a	He wondered if this referred to number of pupils. He was having difficulty throughout distinguishing between requests regarding numbers of pupils and numbers of standards.
	He had real difficulty absorbing the notion of the connection between the GEC and the questions. This made him re-read the question several times during his progression through the items. It didn’t seem to me that he was really grasping the connection consistently.
Time to complete: 2 hours 2 minutes of actual time on task, but there was one 64 interruption for an emergency parent’s meeting and numerous other interruptions of 2-5 minutes each, so I modified what was expected so that we could complete the interview that day.	

Teacher questionnaire

Transcript 1

<u>School:</u>	Metsimothabe (3 teachers)
<u>Administered by:</u>	Okurut and Paula
<u>Start time:</u>	10:38
<u>End time:</u>	12:25
<u>Pilot questionnaire:</u>	20 pages, 44 items.

- **Q3:** Left blank because the school doesn’t have a school email account→Delete question, more so to shorten it
- **Q4.** Cell phone number. One teacher wrote a commentary saying that “by providing our personal cell phone numbers makes it difficult for us to freely answer questions as I think I might be anyway be called to give clear reasons why I have that kind of an answer even though what I wrote is true.”→Delete
- **Q9.** a teacher asked what they should mark if they worked in another school→clarify that the question is for position in this and/or other schools, for the years requested

- **Q12.** Confusion with concept of average→request actual hours, days and weeks
- **Q13.** A teacher asked whether he had to tick in for each standard (??) → **Left as it is. Not clear how to improve it.**
- **Q17.** Medical insurance: Wondered whether we referred to what the government pays for or what they pay for→Maybe add “in addition to your own contribution”
- **Q18.** Asked what to enter if there was no delay. →add better instruction on what to do if zero or NA
- **Q21.** The question asks about pupils the teacher taught, still unclear whether this refer to their class or what→ask instead about pupils in their class.
- **Q24.**
 - a. All pupils in the school or pupils in the teacher’s class→clarify that this corresponds to the teachers’ class.
 - B. Unclear what data to report. This data is available by the end of the school semester; it’s in the school attendance registry. Asked what to answer if they don’t remember high/low absenteeism was in the previous years→request actual data as opposed to %
- **Q25.** Unclear whether this refers to first aid box or whether there is a first aid nurse. The school has a first aid kit only for sporting activities, which then would not apply to every normal day in the school→we should clarify that this is NOT about first aid box but mostly first aid or health services.
- **Q27.** Not clearly understood that we are asking about whether the conditions were affected as a result of the global financial crisis.
- **Q31.** Unclear what we mean by “regularity” of salary payments. Salaries are now becoming late, and this was understood as a positive effect?
- **Q32.** Unclear whether we are asking about the school in general or their class.

Transcript 2

Teacher Survey @ Nkoane Primary School, 14 October 2010

Question #	Issue:	A problem for which?	
		Male Teacher	Female Teacher
6	Interpreted the “write years completes” instruction as the year they completed their PTC, NOT the completed years served as teacher.	✓	✓
8	Difficulty in understanding question	✓	
8	This teacher had taught for ½ year in the present school and ½ of the year in another school – this made answering the question difficult due to the fact that our response categories don’t allow for “split” years.		✓
9	Since the teacher had worked in two schools in one year, the use of “this school” was problematic. Perhaps wording something like that found in question #12 would be better.		✓
11	“Full-day” doesn’t need the second example, since we use	✓	

	"e.g."		
11	Confused by the use of "shifts" terminology and examples, since "shifting" is not used in Botswana. Also mentioned that they work full-time even though they only work in "the morning" (from 7:00 am – 2:00 pm).	✓	✓
12	Hours per day was difficult for them because although this year the government regulation requires 8 hours per day only, up to this year the government claimed that teachers were "on call" 24 hours per day. So, they were reluctant to put anything in the response space because they teach more than 8 hours per day now and they used to be available less than 24 hours before this year (both realities were not in compliance with government regulations – they didn't want to "go on record" as being out of compliance).	✓	✓
13	The coding label for the Standard 7 row should be a "7", not "6", and multi-grade should be "8" not "7".	✓	
13	Taught two different grade levels in one year, not a multi-grade but rather a multiple grade non-concurrently. There is no response possibility for this condition since we only allow one box per column.		✓
15	The distinction between the options presented difficulties, there was a struggle to even distinguish between in-service and professional development (we don't give examples of either, and don't explain what the distinction is).	✓	✓
16	Bonuses and allowances didn't make sense; they wanted them deleted from the question.	✓	✓
17a	The term "General" as a type of medical insurance confused the respondent.	✓	✓
17a	Unsure as to whether this was a benefit available to them. NOTE: The university team assured us that the benefit was, indeed available to all teachers in Botswana.	✓	✓
17b	The term "retirement" seemed problematic, the term "pension" was proposed as better.	✓	✓
17b	The respondents interpreted this category as problematic since they were not <u>currently</u> collecting a pension – they couldn't distinguish between having access to a plan to which they were building at the present time – only as a current benefit paying out.	✓	✓
17e	Clarify that this means transport to work , since in Botswana everyone receives a transport subsidy for holiday (at least that's what these two teachers claimed).	✓	✓
18	What should be the response if it doesn't apply (that they don't receive "bonuses or allowances", for example)?	✓	
21	Since the deputy headteacher deals with non-tuition fees the teachers didn't feel like they could, or even should, answer	✓	✓

	this question.		
22	The term “charges” was interpreted as “punishes”.	✓	✓
24a	Claimed that they wouldn’t know this.	✓	✓
24b	Percentage was a difficult concept, compared to number.	✓	✓
24d	There was a problem with calibration of the response – just when does a conflict become “big enough” to count, and when is it just a typical conflict that isn’t worth noting?	✓	
25e	Since the school receives these directly from the government, the school doesn’t “purchase” them. Since the question deals with the school providing them (not the government) there was a bit of confusion on how to answer.		✓
25f & g	The concept of “supplies” created confusion.	✓	✓
26	The scales were difficult to interpret and apply for each item. Examples were requested for what would conform to the scale categories.	✓	✓
27a & b	The distinction between “position” and “status” was unclear.		✓
28	Should there be a comma between “for” and “and” in the underlined portion of the question?		✓
30b	Again, the issue of “retirement” or “pension” came up.	✓	✓
31b	What are “benefits”, what are examples of what is meant?	✓	
34	A year of reference was requested for exactly when they should consider for the response.	✓	✓
38	Since (apparently) none of these strategies were required, the question presented confusion for the respondents.	✓	✓
26-37	Establishing, let alone maintaining, a connection between the GEC and the issue at hand was not possible.	✓	✓
Time to complete: 2 hours 9 minutes (both respondents)			

Parent survey

Parent Survey @ Nkoane Primary School, 14 October 2010

Question #	Issue:	A problem for which?	
		Parent #1	Parent #2
4	Interpreted as “how many children <i>still studying...</i> ”, not as total number of children regardless of age and school status.	✓	
6	Didn’t notice the instruction to check the “attend this school” box.	✓	
11	The “e.g.” was confusing and became an obstacle for reading the	✓	

	category simply as “Full-day”.		
12	First here, and then throughout the survey the irrelevant terms of “Grade” and “Level” were distracting.	✓	
12a	Immediately certain of the number.		✓
12b	Refused to estimate.		✓
14d	Resisted responding for anything regarding the teacher – simply didn’t feel like it was any of her responsibility to know.	✓	
16	Didn’t see the relevance of asking about boarding, since she already established that there wasn’t any.	✓	
17	Didn’t initially notice the “tuition” label in the second row, which caused problems initially.	✓	
19b	Didn’t understand the term “clean”.	✓	
19d	Since there was no library or media centre at the school this was confusing.		✓
19e	Completely confused by what “learning supplies” meant – never reconciled to any examples.		✓
23	Confusing because it anticipates the respondent is employed (in response to question # 22), but this respondent has been unemployed for all four years. <u>This is also an issue on questions #30 and 31.</u>	✓	
24	The intent of the question in linking the Global Financial Crisis (GFC) to the items listed was not comprehensible. The idea of a causal link (my term, not theirs) was just not possible to contemplate.	✓	✓
24d	“Working conditions” was not understood, and explanations failed to help.	✓	✓
25	Any link with the GEC was not possible.	✓	✓
26, etc.	Any link with the GEC was not possible. This challenge continued throughout the questions oriented in this way.	✓	✓
26	The distinction between tuition and non-tuition conditions and categories was difficult to maintain, both conceptually and in responding.	✓	✓
28a	“Absenteeism” was a confusing term, and the respondent didn’t want to answer “for” or “concerning” a teacher (she was reluctant to “report on” a teacher).	✓	
28c	The terms “quarrel” and “shouting” made more sense to parents than “conflict”.	✓	✓
28e,f	Claimed (emphatically) to never have come across these.	✓	
32b	The use of “e.g.” doesn’t seem to be working to communicate our intent.	✓	✓
32e	“school” assets should be changes to “household” assets		

32h & i	“Expenses” or “expenditures”?	✓	✓
32k	Sentence should not end with “more” (delete)		
33	Wording of sentence confused respondent		✓
35	“school” should be changes to “household”		
	The scale format (very positive, positive, etc.) was extremely difficult for the parents.	✓	✓
	Making and maintaining the causal connection with the Global Financial Crisis was virtually impossible for the parents.	✓	✓
Time to complete: #1 - 1 hour and 59 minutes; #2 - 2 hours and 15 minutes			

Debriefing meeting notes

Transcript 1

- The surveys are too long, too many items. Respondents kept checking how much they still need to complete
- The calculation of hours worked is too challenging for them, particularly the concept of average hours worked. In addition, because of the new introduction of the 8 hours work-schedule for teachers, headteachers and teachers might find it challenging to respond. Some might still work 10 hours, but would say they work 8 to be within the stipulation of the government policy.
- Teacher absenteeism: answering this might be tricky. It’s unclear whether we ask with or without permission. Additionally, some might be absent in the morning but not the afternoon.
- Regarding tuition: some schools have expats who would be requested to pay, even to attend public schools.
Asking in terms of average is very confusing to the respondents
- Regularity of payment is not an issue in Botswana.
- Subsidized housing: some headteachers/teachers don’t really know their rent is much lower than the market rent, and would therefore not recognize their housing is being subsidized.
- Retirement plan: respondents didn’t distinguish this from actually being retired.
- Shorten the introduction. Suggested deleting some paragraphs to make it less dense to read

Transcript 2

1. We realized that the questionnaire is too long. It has too many items for people to understand. The respondents were constantly checking how many pages were left.
2. The survey took too long – about two hours (teachers and parents) and two and one-half hours (headteachers).
3. The percentages/averages presented problems. People (particularly parents) don’t really expect to be doing computations and calculations.
4. The issue of how many hours (average work days) was difficult due to recent national policy changes. They simply put the “official” limitation of eight hours, regardless of the actual hours.

5. Days absent (for teachers) – does this include absent “with permission” or is it about “truant” absences? If we specify “without permission” it is OK. The response was given in annual total, not monthly average.
6. Expatriate students (who pay tuitions in non-tuition government schools) were problematic in answering the tuition questions because Botswana residents don’t pay – so how should the answer be correctly given, ignore ex-patriot pupils?
7. The issue of adequacy arose first on question 25, but then generalized across several other questions. It’s not simply a “yes/no” issue in the minds of the teachers, but adequacy seemed integral.
8. The issues involved in salaries are complete non-starters in Botswana, since government teachers are auto-deposited, etc.
9. The parents were similar in complications to the teachers – mainly in the computation and calculations for percentages and averages, etc.
10. Parents had difficulty in knowing the qualifications of teachers.
11. Perhaps we can just ask direct questions, not relating them to the GEC. A lot of these people won’t really even know much about the GEC.
12. The questions are difficult, but not “bad”.
13. The right records need to be prepared for the headteachers. We need to provide a list for them of what needs to be ready.
14. When we ask for “perception” we are duplicating too much. We should ask someone else, not the parents, teachers, and headteachers. We are asking these people too much. This could reduce some of the bulk.
15. Having more than one person filling out the headteacher survey could “backfire” on us. Once it gets to the headteacher’s office it should stay there. Particularly in the smaller schools the records are dispersed and only the HT could find them.
16. When the headteachers haven’t been there for all four years, it is a big problem. Should we put this in as part of the sampling? Not all of the UB team agreed to have four years’ tenure as a criterion.
17. Some of the respondents misunderstood the medical plan option issues and the retirement plan issues.
18. The scales (positive/negative, increased/decreased) were very difficult to relate to the elements of the tables.
19. Put standards before grades/levels, or delete grades/levels for Botswana, and use the right terms for each context.

Annex D: Survey development and analysis framework

Annex Table 3. Survey analytical approaches, level of analysis and themes for head teacher (H), teacher (T) and parent/guardian (P) surveys

Survey themes		Analytical approach		
		General information	Before/after (2007 to 2010)	Ex-post Adaptation / Coping Impact
A. SURVEY AND SCHOOL IDENTIFICATION				
Survey and school identification^a	Survey number	H/T/P		
	Person administered survey	H/T/P		
	Administration date	H/T/P		
	Name	H/T/P		
	School ID	H		
	Location (urban/rural)	H		
	Financing / Management type	H		
	Age	H		
B. DEMOGRAPHIC AND BACKGROUND INFORMATION				
Demographic	Sex	H/T/P		
	Age	H/T/P		
Human capital	Level of education	H/T/P		
	Work experience: previous and current position (this and previous schools)	H/T		
Household background and relationships	Relationship with oldest child in the household	P		
	Position in the household	P		
Children and primary school attendance^b	Total number children in household	P		
	Number school age children	P		
	Age children primary school age	P		
	School attendance of primary school age children	P		
	Year child started first grade	P		
	Attended sampled school	P		

C. EMPLOYMENT CONDITIONS			
Employment conditions	School affiliation (where taught)	H / T	
	Position at school	H / T	
	Contract type	H / T	T
	Work schedule	H / T / P	H / T
	Grade taught	T	
	Salary source	H / T	
	Benefits and allowances	H / T	H / T
	Payment delays	H / T	H / T
	Additional sources of income	H / T	T / P
	Opportunities for in-service training or PD	H / T	H / T
	Participation in in-service training or PD	H / T	
	Teacher compensation		H / T
	Transfer from to another school		T
	Labour force participation	P	P
	Employment status	P	
	Economic activity of work establishment	P	
D. SCHOOL AND CLASS-LEVEL CONDITIONS AND RESOURCES			
Organization	Grades	H	H / T
	Classes	H	H / T
	Shifts	H	H / T
Facilities	Classrooms	H	
Financial resources	Financing source	H	H / T
	User fees charged	H / T / P	H / T
	User fees amount	H / P	H / T
	Difficulties paying fees	H / T / P	H / T / P
	Sold assets		H
	Accepted contributions from teachers for supplies		H / T
Pupils	Day and boarding pupils	H	H
	Repeating pupils	H	
	Dropouts	H	H
	Pupils completing primary school	H	

	Pupils participating in primary exit school examination (if applicable)	H		
	Graduating pupils	H		
	Repetition, dropout, completion, examination and graduation rates ^d	H		
School staff	Regular classroom teachers	H	H / T	
	Trained teachers	H		H / T
	Teacher needs/vacant posts	H / T		
	Teachers newly assigned / hired	H / T		
	Teachers dismissed / discontinued	H / T	H	
	Teachers resigned	H / T		
	School management staff	H	H	
	Student support staff	H	H	
	Teacher aides staff	H	H	
	Other staff	H	H	
	Total teacher salary budget		H / T	
Learning environment	School meal (school / class)	H / T / P	H / T	H / T / P
	Pupils' participation in school meal (school / class)	H / T / P		
	Health services	H / T / P	H / T	H
	Access to drinking water	H / T / P		
	Toilets / Latrines	H / T / P		
	Books and instructional materials	H / T / P	H / T	H / T / P
	Pupils learning supplies	H / T / P	H / T	H / T / P
	Pupil absenteeism (school / class)	H / T / P		
	Transport to school		H / T	
	Teaching supplies	H / T	H / T	H / T
	Class size (or school pupil-teacher ratio) ^c	H / T / P	H / T	T
	Teacher absenteeism	H / T / P		
School climate and safety	Pupils expelled / suspended (school / class)	H / T		

	Pupils' use of alcohol / illegal drugs (school / class)	H / T	
	Teacher abuse of pupils	H	
E. CHILD'S SCHOOLING HISTORY			
Child's schooling history	Pupil absenteeism	P	
	Instructional time (full-time, part-time)	P	
	Child labour	P	
	Type of child labour	P	
	Help school chores	P	H
F. HOUSEHOLD CONDITIONS			
Household financing and expenditures	Borrowed		P
	Sold hard / flexible assets		P
	Reduced schooling expenditures		P
	Reduced food expenditures		P
	Reduced clothing expenditures		P
	Reduced transport expenditures		P
	Transferred to this school (school choice)		P
	Changed neighbourhood (neighbourhood choice)		P
	Financial difficulties		T / P

Notes: ^a The surveys for Chad included a question on school type (vulnerable/non-vulnerable); the one for Mexico included the school ID number, school modality (morning, evening, whole day and particular/private school) and the Ukraine surveys included the school location (urban/rural). ^b The questions were used to identify the child about whom subsequent questions referred to. ^c Calculated by dividing the total number of pupils enrolled by the total number of regular classroom teachers. ^d Repetition, dropout, graduation, examination and graduation rates can be calculated by dividing each corresponding number by the total number of regular pupils.

Annex E: Head teacher, teacher and parent surveys

Enclosed is a generic copy of the head teacher, teacher and parent survey. Surveys were adapted and localized to each country's context.

Annex F: Dataset codebooks

The entire codebook for the head teacher, teacher and parent surveys was provided to the country teams in an Excel file. Annex Table 4 shows the first three sections of the head teacher survey, using the example of the survey for Botswana.

Annex Table 4. Codebook for the head teacher survey (extract)

Variable name	Variable description	Valid responses	
		Range	Categories
Bot1_1_TEX T	Survey number	1 - 24	
By	Person administered survey		1. Researcher A 2. Researcher B 3. Researcher C 4. Researcher D
day	Survey administration date: Day	1 - 31	
month	Month	1 - 12	
year	Year	2010 - 2011	
SCH	School name: Initial list	1 - 24	
SCH0	Reserve list	1 - 24	
Q1	Sex		1. Female 2. Male 3. No response
Q2	Birth date: Day	1 - 31	
Q20	Month	1 - 12	
Q21	Year	1900 - 1999	
Q3	Highest level of education completed		1. Senior secondary/other secondary 2. Teacher training 3. Other post- secondary, non- university 4. University degree 5. Advanced university degree 6. Other 7. No Response
Q3b	If 3 = 6 (Other)	TEXT	
Q4	Work experience: Years in previous position (teaching)	-1 - 99	
Q5	Total years in current position	0 - 99	

Q6	Years in current position at this school	0 - 99	
Q7	School ID #		1. School has ID 2. School has no ID 3. No response
Q7b	If 7 = 1 (School has ID)	TEXT	
Q8	School location		1. Urban 2. Rural 3. No response
Q9	School management type		1. Public 2. Private 3. No response
Q10	Year school started	1850 - 2010	
Q1107	Where taught, 2007		1. This school, all year long 2. This school, part of the year 3. Another school, all year long 4. Another school, part of the year 5. No response
Q1108	2008		IDEM
Q1109	2009		IDEM
Q1110	2010		IDEM
Q1207	Position at school, 2007		1. Head teacher 2. Deputy head teacher 3. School treasurer 4. School secretary 5. Regular teacher, full-time work 6. Teacher aide 7. Other (specify)
Q1208	2008		IDEM
Q1209	2009		IDEM
Q1210	2010		IDEM
Q12a	If 12 = 6 (Other)	TEXT	
Q1307	Contract type, 2007		1. Civil servant 2. On contract 3. Unemployed 4. Other (specify) 5. No response
Q1308	2008		IDEM
Q1309	2009		IDEM
Q1310	2010		IDEM
Q13a	If 13 = 4 (Other)	TEXT	

Q14a_1_TE XT	Work schedule: Hours per day, 2007	-1 - 24
Q14a_2_TE XT	Hours per day, 2008	-1 - 24
Q14a_3_TE XT	Hours per day, 2009	-1 - 24
Q14a_4_TE XT	Hours per day, 2010	-1 - 24
Q14b_1_TE XT	Work schedule: Days per week, 2007	-1 - 7
Q14b_2_TE XT	Days per week, 2008	-1 - 7
Q14b_3_TE XT	Days per week, 2009	-1 - 7
Q14b_4_TE XT	Days per week, 2010	-1 - 7
Q14c_1_TE XT	Work schedule: Weeks per year, 2007	-1 - 52
Q14c_2_TE XT	Weeks per year, 2008	-1 - 52
Q14c_3_TE XT	Weeks per year, 2009	-1 - 52
Q14c_4_TE XT	Weeks per year, 2010	-1 - 52
Q1507	Source of job compensation, 2007	1. National/central government only 2. Regional government 3. Local government 4. Private religious 5. Private non-religious 6. Combination of sources 7. Other (specify) 8. No response
Q1508	2008	IDEM
Q1509	2009	IDEM
Q1510	2010	IDEM
Q15a	If 15 = 7 (Other)	TEXT
Q16a_1_TE XT	Payment delays (in months): Basic salary, 2007	-1 - 12
Q16a_2_TE XT	Basic salary, 2008	-1 - 12
Q16a_3_TE XT	Basic salary, 2009	-1 - 12
Q16a_4_TE XT	Basic salary, 2010	-1 - 12
Q16b_1_TE XT	Payment delays (in months): Benefits, 2007	-1 - 12

Q16b_2_TE XT	Benefits, 2008	-1 - 12
Q16b_3_TE XT	Benefits, 2009	-1 - 12
Q16b_4_TE XT	Benefits, 2010	-1 - 12
Q16c_1_TE XT	Payment delays (in months): Bonuses/allowances, 2007	-1 - 12
Q16c_2_TE XT	Bonuses/allowances, 2008	-1 - 12
Q16c_3_TE XT	Bonuses/allowances, 2009	-1 - 12
Q16c_4_TE XT	Bonuses/allowances, 2010	-1 - 12
Q17a: 07	Worked a non-teaching job, this/other school, 2007	1. Yes 2. No 3. No response
Q17b: 07	Worked any job outside school system, 2007	IDEM
Q17a: 08	Worked a non-teaching job, this/other school, 2008	IDEM
Q17b: 08	Worked any job outside school system, 2008	IDEM
Q17a: 09	Worked a non-teaching job, this/other school, 2009	IDEM
Q17b: 09	Worked any job outside school system, 2009	IDEM
Q17a: 10	Worked a non-teaching job, this/other school, 2010	IDEM
Q17b: 10	Worked any job outside school system, 2010	IDEM
Q18a: 07	Medical insurance, 2007	1. Yes 2. No
		3. Not applicable 4. No response
Q18b: 07	Pension plan, 2007	IDEM
Q18a: 08	Medical insurance, 2008	IDEM
Q18b: 08	Pension plan, 2008	IDEM
Q18a: 09	Medical insurance, 2009	IDEM
Q18b: 09	Pension plan, 2009	IDEM
Q18a: 10	Medical insurance, 2010	IDEM
Q18b: 10	Pension plan, 2010	IDEM
Q18c: 07	Housing, housing subsidy, rent assistance, 2007	IDEM
Q18d: 07	Subsidized meals, 2007	IDEM
Q18e: 07	Subsidized transport to work, 2007	IDEM
Q18f: 07	Hardship zone allowance, 2007	IDEM
Q18g: 07	Pay for merit or performance, 2007	IDEM
Q18c: 08	Housing, housing subsidy, rent assistance, 2008	IDEM
Q18d: 08	Subsidized meals, 2008	IDEM
Q18e: 08	Subsidized transport to work, 2008	IDEM
Q18f: 08	Hardship zone allowance, 2008	IDEM
Q18g: 08	Pay for merit or performance, 2008	IDEM
Q18c: 09	Housing, housing subsidy, rent assistance, 2009	IDEM
Q18d: 09	Subsidized meals, 2009	IDEM
Q18e: 09	Subsidized transport to work, 2009	IDEM

Q18f: 09	Hardship zone allowance, 2009	IDEM
Q18g: 09	Pay for merit or performance, 2009	IDEM
Q18c: 10	Housing, housing subsidy, rent assistance, 2010	IDEM
Q18d: 10	Subsidized meals, 2010	IDEM
Q18e: 10	Subsidized transport to work, 2010	IDEM
Q18f: 10	Hardship zone allowance, 2010	IDEM
Q18g: 10	Pay for merit or performance, 2010	IDEM
Q19a: 07	Had opportunities for participating in-service training/PD, 2007	1. Yes
		2. No
		3. No response
Q19b: 07	Actually participated in-service training/PD, 2007	IDEM
Q19a: 08	Had opportunities for participating in-service training/PD, 2008	IDEM
Q19b: 08	Actually participated in-service training/PD, 2008	IDEM
Q19a: 09	Had opportunities for participating in-service training/PD, 2009	IDEM
Q19b: 09	Actually participated in-service training/PD, 2009	IDEM
Q19a: 10	Had opportunities for participating in-service training/PD, 2010	IDEM
Q19b: 10	Actually participated in-service training/PD, 2010	IDEM

Annex G: Calculating change

The way percentage annual change is calculated depends on whether the variable is continuous or nominal/ordinal. The calculations proposed differ in whether the change is calculated first for each individual and then averaged across individuals (as for continuous variables) or whether averages are calculated before computing the change (nominal/ordinal variables):

- *Continuous variables:* Change is calculated by subtracting the reported value at year 2007 from the value at year 2010, dividing that by the value at 2007, multiplying the product by 100, and then dividing that value by the number of periods. As a formula, this is represented as follows, where “V” is the reported value:¹⁹

$$\text{Change}_1 = (((V_{2010} - V_{2007}) / V_{2007}) * 100) / 3_{\text{Years}}$$

The change factor is first computed for each respondent, and then the computed individual change factors will be averaged across all qualifying respondents for the change factor reported.

The calculation used only the 2007 and 2010 data. Other ways of calculating change (or more technically, average annual rate of change) are available. But the method selected (change in the period) generally produces the most conservative change factors, and is therefore easier to rationally defend as a noteworthy change.

- *Ordinal/nominal variables:* The 5% threshold criterion is also used for reporting changes in ordinal or nominal data, such as changes in the proportion of head teachers being paid their salary from different authorities or the changes in the proportion of teachers declaring they have received medical benefits.

¹⁹ The formula uses the number of periods in the series, in this case 3 (as resulting from calculating 2010 minus 2007) instead of the actual number of years (which would be 4).

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