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Building effective teacher salary systems in fragile and conflict-affected states

Policy report

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Front cover image:

Chad / Sudanese refugees from Darfur / Teacher Cherif Khamis Ahmat Chogar gives a class in Djabal camp and is about to question his student Farihalh (in blue on the right). "We need chairs and tables for the children" laments Cherif. Djabal camp, Eastern Chad, August 13, 2007. / UNHCR / H. Caux



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This policy report draws on the content of three stand-alone country case studies on teacher salary systems which are published separately. The Afghanistan case study was written by April Golden; the Democratic Republic of Congo case study by Laura Brannelly and the Sierra Leone case study by Victoria Turrent. Victoria Turrent also undertook a literature review on teacher salary systems which has provided significant background material for this report.



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Acronyms

AFMIS	Afghanistan Financial Management Information System
ARTF	Afghanistan Reconstruction Trust Fund
CBE	Community-Based Education
DANIDA	Denmark's Development Cooperation
DFID	Department for International Development
DRC	Democratic Republic of the Congo
EMIS	Education Management Information System
FBO	Faith-based Organisation
FCAS	Fragile and Conflict-Affected State
FINNIDA	Finnish International Development Agency
INEE	Inter-agency Network for Education in Emergencies
IRC	International Rescue Committee
MoE	Ministry of Education
MoF	Ministry of Finance
MDTF	Multi-donor trust fund
NORRAD	Norwegian Agency for Development Cooperation
NGO	Non-Governmental Organisation
PACE-A	Partnership for Advancing Community Education in Afghanistan
PFM	Public Financial Management
PTR	Pupil-Teacher Ratio
SECOPEP	<i>Service de Contrôle de la Paie des Enseignants Provincial</i> (Provincial Office for Teacher Salaries and Monitoring) in the DRC
TMS	Teacher Management System
UIS	UNESCO Institute for Statistics
USAID	United States Agency for International Development



Executive summary

An effective and efficient teacher salary system is one of the most important elements of a high quality education system in any country (INEE, 2009). Teacher pay is directly linked with expanding access to schooling and while it may not have a direct impact on specific learning outcomes, an education system's ability to pay its teachers well and on time is closely linked with positive results such as teacher recruitment, retention, satisfaction and morale, as well as class size; factors that have themselves been connected with education quality (Sommers, 2005). Ensuring teachers are paid in full and on time is also only fair to teachers as many, particularly in contexts of state fragility and armed conflict, educate other people's children at enormous sacrifice to themselves and their families.

Establishing and maintaining an effective teacher salary system is not easy in any country but in fragile and conflict-affected states (FCAS) it is frequently a major barrier to rebuilding the education system (INEE, 2009). There are numerous examples, particularly in contexts plagued by state fragility and conflict, where teachers are either not paid at all, or if they are paid, their salaries are frequently not paid in full and often weeks, if not months, late (see example in Box A).

Box A: Challenges with the payment of teachers' salaries in the Democratic Republic of Congo

In the Democratic Republic of Congo (DRC), physical transportation of funds for teacher salaries can take weeks. School network administrators, or *gestionnaires*, often rely on local accountants to travel to 'pay centres' where they arrange to meet several headteachers. These trips are often financed with funds deducted from salaries and require prolonged absence of headteachers from schools, thereby undermining school management and teaching (Verhaghe, 2007).

The lack of effective teacher salary systems both denies young people their rights to an education and also hinders the 'peace dividend' that usually comes with quickly restoring equitable access to education (Buckland, 2005). Governments must determine how much teachers are paid and establish a system to increase compensation based on experience and performance. They must also establish appropriate mechanisms to ensure that funds transferred through the system are not lost or leaked and they must maintain adequate teacher and education information management systems as well as payroll and financial transaction records. Managing these systems can be especially difficult in FCAS where the government often has limited capacity and resources to ensure that these mechanisms are in place and are functioning properly.

Understandably, external donor assistance is frequently sought for teacher pay problems. Indeed, the thrust of much of the call for donor support of teacher salaries is for increases in aid channelled directly into paying salaries (Commission for Africa, 2005; Bennell, 2004 and Global Campaign for Education, 2008). However, if a teacher salary system is not effective, any existing or additional funds that are given to pay teachers, either from national governments or external donors, are likely not to reach teachers. Hence, this report argues that policymakers need to have a dual focus – not only on increasing national and international resources for teacher salaries, but also on supporting teacher salary systems and the individual parts within them to ensure that resources reach their intended destination.



This report provides practitioners – including governments, donors, United Nations agencies, and civil society organisations – with a clear framework for assessing teacher salary systems in FCAS. The framework has been developed by the authors based on general public financial management (PFM) principles, systems and processes and some supporting literature on PFM (see for example Fritz, Hedger and Fialho Lopes, 2011; Van Zyl, Ramkumar and de Renzio, 2009 and World Bank, 2008a). The thinking behind it is also supported by a rapid review of the limited literature on different components of teacher salary systems in developing countries (see for example Goldsmith, 2009 and 2010; Verhaghe, 2007 and World Bank, 2010). The report first provides a model for understanding the different parts of a teacher salary system and second identifies 17 of the major challenges to effective systems as well as a number of possible solutions to each of the challenges.

The challenges and accompanying solutions outlined in Chapter 5 (unless they are referred to as proposed solutions) are taken from a rapid review of the publicly available English-language literature (academic and grey) relating to tried and tested interventions around the world. They also draw heavily on three desk-based case studies undertaken as part of this research on Afghanistan (Golden, 2012), the Democratic Republic of the Congo (Brannelly, 2012) and Sierra Leone (Turrent, 2012). These case studies involved a rapid review of the publicly available literature on different aspects of teacher salary systems in the three countries. The Afghanistan study also included a number of interviews with key personnel working on programmes supporting salary systems in the country. The solutions fall into one of three categories:

- fixing existing systems through incremental change
- implementing step changes in a system by making significant adjustments and creating momentum that leads to sustained improvements, and
- bypassing the existing system altogether.

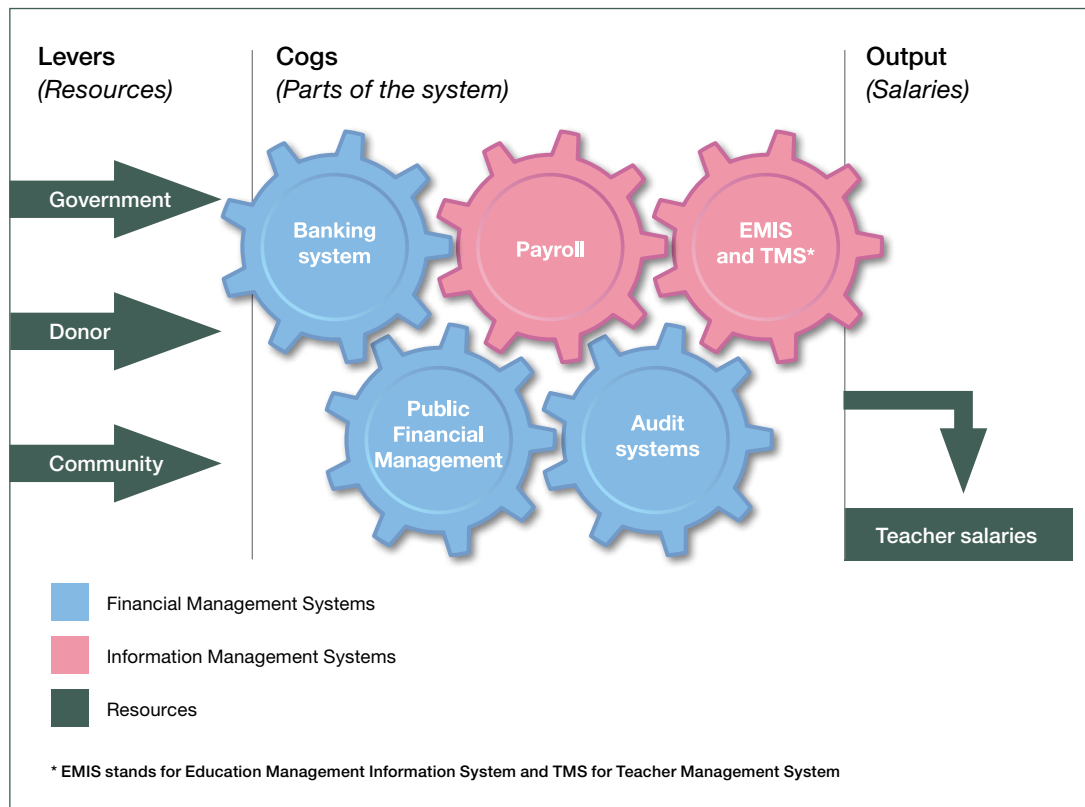
The appropriate solution will vary depending on context but all of them have the ability to clear blockages within the systems for payment of teacher salaries.

Understanding the parts of an effective teacher salary system is an important first step in identifying and addressing problems with teacher pay. This report has developed a model of effective teacher salary systems that has two main parts. First, there are various financial (blue cogs in Figure A) and information management components (pink cogs in Figure A) of a functioning system and second, there must be resources that flow through the system. When these two parts and their associated components operate properly, teachers receive their salaries and the education system is supported. These critical components function like cogs and levers in a machine – they must be in working order and well oiled for the system to operate correctly.

As seen in Figure A, on the following page, the five main components, or cogs, of the financial and information management systems include the banking, public financial management, auditing, payroll and Education Management Information System/Teacher Management System (EMIS/TMS) systems. The 'levers' that oil the 'cogs' and allow them to operate efficiently are the funding sources from government, external donors and the local community.



Figure A: The 'cogs' and 'levers' of an effective teacher salary system



Teachers often fail to be paid on time and in full due to problems in any one of the 'cogs' or 'levers' of the teacher salary system. Identifying these problems and developing effective solutions is an essential step for revitalising the education system. Table A presents 17 different challenges that commonly hinder the smooth functioning of teacher salary systems in FCAS and the various possible solutions to these challenges as drawn from the literature. While this set of challenges and solutions is by no means exhaustive, it does provide useful guidance to practitioners and policymakers who are faced with the very difficult task of establishing and maintaining effective teacher salary systems in contexts of conflict and fragility.



Table A: Common challenges and their associated solutions

Parts of the teacher salary system	Challenges	Solutions
Banking	Challenge 1: Collapsed or non-existent banking system outside the capital	<ul style="list-style-type: none"> • cash agents designated to represent banks • contract out salary disbursement to a third party (e.g. accountancy firm) • use mobile banking.
	Challenge 2: Lack of trust or confidence in the banking system	<ul style="list-style-type: none"> • use Ministry of Education (MoE) officials or teachers as intermediaries to pay salaries • use commercial intermediaries to transfer funds.
Public Financial Management (PFM)	Challenge 3: Capacity constraints in the PFM system	<ul style="list-style-type: none"> • donor assistance to improve PFM system • pay teacher salaries via school management committees.
	Challenge 4: Cash-based payment system	<ul style="list-style-type: none"> • contract out salary disbursement to a third party (e.g. accountancy firm) • provide stronger accountability mechanisms for cash-based payment.
	Challenge 5: Lack of electronic databases for PFM	<ul style="list-style-type: none"> • introduce a digital PFM system to monitor expenditure.
Auditing	Challenge 6: Capacity constraints in relation to auditing	<ul style="list-style-type: none"> • involve civil society in the audit function • donors provide assistance to the National Audit Office • government to set up an internal audit office in MoE.
	Challenge 7: Limited access to financial information	<ul style="list-style-type: none"> • involve civil society in budget tracking • government to use Financial Management Information System (FMIS) digital database to track and record budget expenditures.



Parts of the teacher salary system	Challenges	Solutions
Payroll	Challenge 8: Inadequate or incorrect records and payroll verification	<ul style="list-style-type: none"> • improve links between payroll and EMIS • use identity cards (with biometric data) to reduce the number of ghost teachers on the payroll • government to put mechanisms in place to facilitate displaced teachers' return, employment and registration on the government payroll system • use mobile money networks to keep records of clients and provide payroll verification.
	Challenge 9: Lack of clarity on lines of accountability and locus of responsibility on the payroll between and within government ministries	<ul style="list-style-type: none"> • government to reach agreement to integrate community-based schools, students, and teachers into the government system and payroll • link teachers to mobile money platforms for payment of salaries • enable MoE to have visibility of the whole payroll pipeline.
	Challenge 10: Complicated process for payroll submission, verification and payment	<ul style="list-style-type: none"> • submit requests to MoE, not Ministry of Finance (MoF) to cut down on payment disbursement time due to lack of communication or delays between ministries • government to reduce amount of time to officially register new teachers on the payroll.
EMIS/TMS	Challenge 11: Inefficient or non-existent EMIS/TMS	<ul style="list-style-type: none"> • link headcount information, payroll and EMIS through a computerised system for triangulation and savings from ghost teachers • government to reduce amount of time to officially register new teachers on the payroll.
	Challenge 12: Difficulties in accessing and collecting information	<ul style="list-style-type: none"> • map refugee teachers and plan for their reintegration • integrate community-based teachers onto the government payroll • use a computerised system with reliable internet connection to enable decentralised education offices to update information • use new technologies to enable increased access to a digitised EMIS database.



Parts of the teacher salary system	Challenges	Solutions
Government financing	Challenge 13: Weak revenue collection and a small tax base	<ul style="list-style-type: none"> • improve revenue collection • faith-based and community-based organisations to manage schools and pay salaries.
	Challenge 14: Wage bill caps	<ul style="list-style-type: none"> • remove or raise wage bill caps • informal recruitment of teachers paid for by the community.
Donor financing	Challenge 15: Reluctance of some donors to fund teacher salaries for reasons of fiduciary risk	<ul style="list-style-type: none"> • support the payment of salary supplements via foreign exchange to staff or of salaries indirectly via debt cancellation or budget support • support the payment of salaries via multi-donor trust funds or pooled funding • bypass the government and support the payment of salaries via a UN-led joint approach.
	Challenge 16: Donors' concerns about the long-term sustainability of paying salaries from aid money rather than national resources	<ul style="list-style-type: none"> • donors support the strengthening of the tax base via the provision of technical assistance to the national revenue authority • donors admit that they are there to support the system in the long term with a long-term exit strategy based on gradually reducing support as the government budget increases.
Community financing	Challenge 17: Lack of resources to pay salaries	<ul style="list-style-type: none"> • donors and non-governmental organisations (NGOs) provide resources to communities and faith-based organisations (FBOs).

There are several lessons that emerge when looking across these challenges and their respective solutions. Clearly context is paramount when practitioners and policymakers attempt to find solutions to the challenges facing the teacher salary system. However, all things being equal, this report recommends several rules of thumb, which are summarised overleaf, for improving teacher salary systems in FCAS.



Recommendations to donors and national governments include:

1. If banking and/or PFM systems need to be rebuilt, use alternative payment channels via third party agents – whether an accountancy firm, an MoE official, mobile banking, or some other means – to pay teachers as a short-term solution.

Recommendations to national governments include:

1. Use computerised/digital PFM system and computerised EMIS/TMS to improve linkages between payroll and EMIS/TMS.
2. Involve civil society in audit functions of PFM system, including payroll.
3. Enable the MoE to have full visibility of the payroll pipeline with control over payroll requests through the establishment of an effective internal audit office.
4. Reduce time needed to officially register new teachers on the payroll and where relevant, put in place a mechanism to integrate returning refugee or community teachers on the payroll.

Recommendations to donors:

1. Provide technical support to develop the capacity of the banking sector, the national revenue authority and the national audit office as well as supporting the development of information management and teacher payroll systems.
2. Commit to providing financial assistance in a sustainable way for the long term.
3. Provide financial support via a variety of aid modalities (the most appropriate one will depend on context).



1 What is the purpose of this report?

An effective and efficient teacher salary system is one of the most important elements of a high quality education system in any country (INEE, 2009). Teacher pay is directly linked with expanding access to schooling and while it may not have a direct impact on specific learning outcomes, an education system's ability to pay its teachers well and on time is closely linked with positive results such as teacher recruitment, retention, satisfaction and morale, as well as class size, factors that have themselves been connected with education quality (Sommers, 2005). Ensuring teachers are paid in full and on time is also only fair to teachers as many, particularly in contexts of state fragility and armed conflict, educate other people's children at enormous sacrifice to themselves and their families.

Establishing and maintaining an effective teacher salary system is not easy in any country but in fragile and conflict-affected states (FCAS) it is frequently a major barrier to rebuilding the education system (INEE, 2009). There are numerous examples, particularly in contexts plagued by state fragility and conflict, where teachers are either not paid at all or if they are paid, their salaries are frequently not in full and often weeks, if not months, late (see example in Box 1).

Box 1: Challenges with the payment of teachers' salaries in the Democratic Republic of Congo

In the Democratic Republic of Congo (DRC), physical transportation of funds for teacher salaries can take weeks. School network administrators, or *gestionnaires*, often rely on local accountants to travel to 'pay centres' where they arrange to meet several headteachers. These trips are often financed with funds deducted from salaries and require prolonged absence of headteachers from schools, thereby undermining school management and teaching (Verhaghe, 2007).

The lack of effective teacher salary systems both denies young people their rights to an education and also hinders the 'peace dividend' that usually comes with quickly restoring equitable access to education (Buckland, 2005). In an ideal system, governments determine how much teachers are paid and establish a system to provide remuneration based on experience and performance. They also establish appropriate mechanisms to ensure that funds transferred through the system are not lost or leaked and they maintain adequate teacher and education information management systems as well as payroll and financial transaction records. Managing these systems can be especially difficult in FCAS where the government often has limited capacity and resources to ensure that these mechanisms are in place and are functioning properly.

Understandably, external donor assistance is frequently sought for teacher pay problems. Indeed, the thrust of much of the call for donor support of teacher salary is for increases in aid channelled directly into paying teacher salaries (Commission for Africa, 2005; Bennell, 2004 and Global Campaign for Education, 2008). However, if a teacher salary system is not effective, any existing or additional funds that are given to pay teachers, either from national governments or external donors, are likely not to reach teachers. Hence, this report argues that policymakers need to have a dual focus – not only on increasing national and international resources for teacher salaries, but also on supporting teacher salary systems and the individual parts within them to ensure that resources reach their intended destination.



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The challenges and accompanying solutions outlined in Chapter 5 (unless they are referred to as proposed solutions) are taken from a rapid review of the publicly available English-language literature (academic and grey) relating to tried and tested interventions around the world. They also draw heavily on three desk-based case studies undertaken as part of this research on Afghanistan (Golden, 2012), the Democratic Republic of the Congo (Brannelly, 2012) and Sierra Leone (Turrent, 2012). These case studies involved a rapid review of the publicly available literature on different aspects of teacher salary systems in the three countries. The Afghanistan study also included a number of interviews with key personnel working on programmes supporting national salary systems. The solutions fall into one of three categories:

- fixing existing systems through incremental change;
- implementing step changes in a system by making significant adjustments and creating momentum that leads to sustained improvements; and
- bypassing the existing system altogether.

The appropriate solution will vary depending on context but all of them have the ability to clear blockages within the teacher salary system. The report concludes with a series of recommendations for practitioners and policymakers struggling to improve teacher pay in these most difficult contexts.



2 Why are good teacher salary systems important?

As mentioned in Chapter 1, teacher pay is directly linked with expanding access to schooling and if teachers are paid late, paid an insufficient amount or not paid at all, this will directly impact on their motivation, morale and presence in the classroom. This will make teaching an unattractive profession, reduce the time teachers spend in the classroom and thus impact negatively on children's learning. This chapter briefly outlines two key issues common to teacher salary systems in developing countries.

2.1 The large size of the teaching force in the civil service

A nation's teaching force typically makes up the largest portion of its civil servant cohort, and is often even larger than its military (UNESCO, 2011). Teacher salaries in Africa make up a significant portion of a nation's education budget and invariably represent the largest percentage of recurrent expenditure under education. A UNESCO Institute of Statistics (2011) survey of 34 countries in Sub-Saharan Africa showed that spending on teaching personnel alone – which included teacher and administrative salaries as well as investment in professional development – accounted for more than 50 per cent of total public spending on education. When only recurrent expenditure is considered, teacher salaries comprise an even larger portion of the budget: 69, 56 and 55 per cent of recurrent expenditure devoted to salaries at the primary, lower secondary and upper secondary levels respectively (UIS, 2011).

2.2 The link between teacher salaries, pupil-teacher ratios and quality

Lack of support for teacher salaries can lead to great difficulties in the retention of quality teachers resulting in a direct negative impact on educational quality (Sommers, 2005). Education systems that do not have the financial resources to recruit additional teachers typically accommodate expanding student enrolment rates by increasing the number of students in the classroom (UIS, 2011). After school fees were abolished in Uganda in 1996, for example, the average primary pupil-teacher ratio (PTR) grew from 35:1 in 1995 to 59:1 in 1998, although it has since fallen to 49:1 in 2009 (De Kemp, 2008 and UIS Data Centre, 2011). Smaller PTRs generally have a positive effect on the classroom environment and on the quality of learning, particularly in the early grades, as smaller PTRs lead to increased levels of time-on-task as well as individualised attention paid to students (Boissière, 2004). Likewise, larger PTRs can have a negative impact on education quality. An education system's inability to provide support for teacher salaries and recruit additional teachers to meet the needs of increasing student enrolments can thus have a negative impact on the overall quality of the learning environment and in many cases on the quality of student learning.



3 What are the particular concerns relating to teacher salary systems for teachers in FCAS?

In FCAS, teachers often make up what has been referred to as a ‘supermajority’ of the overall education budget – often reaching or exceeding 80 per cent (Goldsmith, 2009). Thus effective teacher salary systems are even more critical in these contexts than in other low-income settings. Further to the issues presented in Chapter 2, this chapter outlines particular issues for teacher salary systems in FCAS.

3.1 The exacerbated challenges in FCAS

As indicated in Chapter 1, paying teachers in FCAS can be even more difficult than in other environments, for a variety of reasons. As with most government functions, teacher salary systems and the mechanisms that support them are often severely compromised in FCAS (INEE, 2009). Government officials and civil servants necessary for maintaining the complex paperwork network for compensation systems can be displaced or killed; physical buildings and important documents such as payment records and teacher qualifications are often damaged or destroyed; and the capacity of the government to avoid corruption and maintain robust auditing mechanisms to ensure that funds arrive at their intended destination is eroded. Insufficient financial resources often result in low teacher pay levels.

Ultimately, fragility and conflict impact negatively on the compensation system at the teacher level, where teachers are often paid low amounts of money and are typically not paid on time, if at all. For example, in some countries newly recruited teachers have had to wait a year to be put on the payroll (Bennell and Akyeampong, 2007). In the long term, insufficiencies and inconsistencies in the provision of teacher salaries due to weak salary systems can lead to a brain drain from the teaching force and, consequently, further weakened education systems. Non-payment of salaries can also contribute to social unrest, and to learning environments in which children are vulnerable to exploitation (INEE, 2009).

3.2 The role of external funders and non-governmental organisations

Increasingly, external funders, including aid agencies and non-governmental organisations (NGOs), are paying attention to the problem of teacher salaries. Their role in supporting teacher salaries in FCAS can be crucial and in fact aid has already played a very significant role in several countries. In Afghanistan, a window in the Afghanistan Reconstruction Trust Fund has been reserved primarily for the provision of civil servant salaries and external organisations have been critical in providing important technical support and auditing services (World Bank, 2011 and Venner, 2010). In Sierra Leone, the Ministry of Education (MoE) hired an international private accounting firm to pay teacher salary subsidies directly to the headteachers of primary schools (Holmes and Jackson, 2007); and in the Democratic Republic of the Congo (DRC), faith-based organisations (FBOs) are playing an important role, with more than 70 per cent of schools managed by churches (World Bank, 2008b).



3.3 More money versus better systems

When advocating for greater focus on teacher salary systems, NGOs and civil society have focused almost exclusively on the need for increased financing (Global Campaign for Education, 2006 and 2008 and indirectly Save the Children, 2009). In many cases, it is thought that if governments simply had access to a greater amount of resources, they would be able to retain the current teaching stock by increasing teacher pay overall whilst simultaneously hiring additional teachers, thereby improving the quality of the education system in general. This focus on increasing resources is necessary as low teacher pay impacts teacher morale, the quality of learning and other important factors. However, the larger (but less well documented) problem with teacher salary systems is not necessarily a lack of overall financial resources – as will be seen later in the example of Afghanistan – but a breakdown or bottleneck in the cogs or mechanisms that support these systems.

As a result, national and international support to teacher salaries should focus on both solving problems and clearing blockages within the system and on increasing financial resources where necessary. Strong financial and information management systems and resources are critical ‘cogs’ for the effective functioning of the teacher salary system. Where these cogs are not functioning, governments struggle to deliver teacher salaries effectively, resulting either in payments being delayed or not paid at all or, conversely, in corruption or misappropriation of funds, meaning that too much is paid out, wasting valuable resources (Choudhury, 2005; Shrestha, 2005; Education International, 2007 and Goldsmith, 2009).

3.4 The importance of understanding the context

As issues of teacher salary systems in FCAS are examined, it is especially important to consider the historical context and political economy of particular countries when making judgements or pronouncing solutions to particular problems identified in the pipeline. Understanding the historical events that have led to particular blockages in the system can provide valuable insight in designing ways of solving or unblocking these problems. Blanket solutions, whilst easy from a theoretical perspective, are less helpful in terms of producing systemic change, as they assume that countries that share problems also have shared histories and cultural, social and governmental functions. One suggestion this report offers is the possibility of re-thinking the way that these systems work. During reconstruction, for example, governments could work with donors to build new and different mechanisms for distributing teacher pay as opposed to simply improving the system that is already in place, especially if that system is significantly damaged or compromised. Building new systems may not be appropriate in every context, but it is useful to consider.



4 What are the components of an effective teacher salary system?

Understanding the parts of an effective teacher salary system is an important first step in identifying and addressing problems with teacher pay. Whilst there are many reports on teacher salary levels and pay reforms, there is a dearth of literature on the practicalities of paying teachers and the fundamentals necessary for building an effective teacher salary system in developing countries. Goldsmith (2009 and 2010) provides the only systematic analysis of teacher salary payment reforms with a focus on payroll systems in conflict-affected countries. Building on Goldsmith's work, the principles, systems and processes of PFM and some broader literature beyond that found in the education sector (see for example Fritz, Hedger and Fialho Lopes, 2011; Van Zyl, Ramkumar and de Renzio, 2009 and World Bank, 2008a), the authors of this report have developed a model of effective teacher salary systems that has two main parts. First, there are various financial and information management components of a functioning system; and second, there must be resources that flow through the system. These components are described in more detail in Table 1. When the components operate properly, teachers receive their salaries from the resources that are used to support the education system.

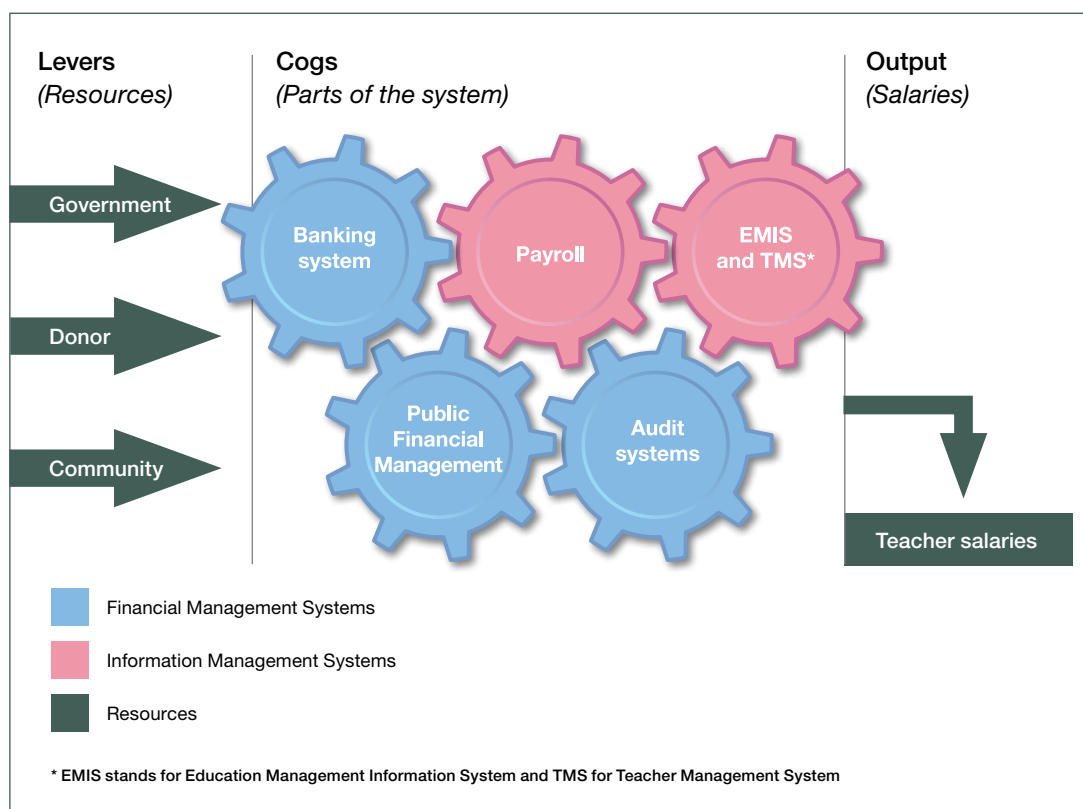
Table 1: Summary description of the parts of an effective teacher salary system	
Components	Purpose
Financial management systems	
Banking system	Provides reliable records and is relatively safe (i.e. less leakage than cash delivery) so is preferred mechanism for distributing teacher salaries
Public Financial Management (PFM) system	Helps to make public financial transactions transparent and accountable, reduces leakages and ensures that money is used for its intended purpose
Auditing systems	Help to strengthen PFM; internal and external auditing are important for tracking public expenditures
Information management systems	
Education Management Information System/ Teacher Management System (EMIS/TMS)	Collects and disseminates information necessary to ensure the efficient and effective practice of paying teacher salaries, i.e. information on teacher qualifications, years teaching, days present/absent, etc.
Payroll	Records names and numbers of teachers, salary and other important information for salary payment



Table 1: Summary description of the parts of an effective teacher salary system	
Components	Purpose
Resources/Funding	
Government	Ideally the primary source of funding for salaries, but often weakened/compromised in FCAS
Community	Can provide cash/in-kind contributions to teacher salaries
Donors	Play a significant role in providing funding and/or technical support for teacher salaries

These critical components function like ‘cogs’ and ‘levers’ in a machine – they must be in working order and well oiled for the system to operate correctly. Figure 1 illustrates how the teacher salary system could be considered to work. The five main components, or ‘cogs’, of the financial and information management systems include the banking system, public financial management, auditing systems, payroll, and Education Management Information System/Teacher Management Systems (EMIS/TMS). The ‘levers’ that oil the cogs and allow them to operate efficiently are the funding sources from government, external donors and the local community.

Figure 1: The cogs and levers of an effective teacher salary system





Strong financial management systems and information management systems are critical for an effective teacher salary system (Goldsmith, 2010). Whilst there are discrete cogs in these two areas, movement or inertia in one cog can have a knock-on effect on the movement or inertia of the other cogs.

Within the financial management system, an effective **banking system** or equivalent payment system is required to ensure teachers receive their salaries in full and on time, even if the other cogs are developed and functioning. Cash payments require greater logistics and have the potential for more leakage along the way. Where **public financial management (PFM)** systems are weak, then even if there are good information management systems in place, this will not help to ensure that teachers are paid the right amount and on time. Where the audit system is weak, this will have a knock-on effect on the efficiency and effectiveness of the banking and PFM cogs, as there will be little external incentive for these to work well and to avoid financial mismanagement, corruption and late or incorrect payments if there are unlikely to be any consequences due to the lack of a rigorous audit system. Thus any interventions that strengthen the audit system are likely to have a knock-on positive impact on the PFM system. An improvement in, or the establishment of, a banking system is likely to result in fewer leakages resulting in a more efficient PFM system.

Within the information management system, the **payroll** cog is strongly linked to the **Education Management Information System/Teacher Management System (EMIS/TMS)** cog. These two systems (cogs) are closely linked because keeping information up to date about who is working in which school and at which grade is critical to ensure that the right people are being paid. The payroll can only be kept up to date if there is a system in place to ensure that information on teachers remains current. This involves ensuring new teachers are registered in both an EMIS/TMS and the payroll; that when a teacher moves from one school to another, the records are updated so they are not paid twice; and that when a teacher leaves the profession, their name is removed from the payroll to avoid having ‘ghost teachers’¹ being paid. If these cogs are not working well, then even if a banking system, a PFM system and an audit system are in place and working quite well, this will not guarantee that the teachers are paid the right amount and that those who have left the teaching profession do not continue to receive a salary. It is thus important to recognise that the functioning of the two cogs that make up the information management systems is closely related. Most of the interventions that strengthen the payroll system are also likely to result in an improvement to the EMIS/TMS due to the overlapping data that is contained within each cog.

If all of the different cogs in the financial management and information management systems are not in place and functioning effectively, then the levers, namely the resources that are available from domestic or external sources to pay teacher salaries, will not work efficiently. Even if donors are willing to invest money in salary systems, this will result in less value for money, more opportunities for corruption and leakage, and teachers not receiving their salaries in full or on time. This in turn will impact upon teacher morale and motivation and the quality of teaching and learning in the classroom. Improvements made in the system should focus first on identifying the cog that is not functioning properly in addition to the effects on other cogs within the system.

¹ Individuals whose names are on the payroll list but who are not actually working as teachers



5 What are the main challenges to and possible solutions for establishing and maintaining effective teacher salary systems in FCAS?

As discussed in the previous chapters, teachers in FCAS often fail to be paid on time and in full due to problems in any one of the ‘cogs’ or ‘levers’ of the teacher salary system. Identifying these problems and developing effective solutions is an essential step for revitalising an education system. This chapter identifies 17 different challenges that commonly hinder the smooth functioning of teacher salary systems and a range of possible solutions to these challenges.² While this set of challenges and solutions is by no means exhaustive, it does provide useful guidance to practitioners and policymakers who are faced with the very difficult task of establishing and maintaining effective teacher salary systems in contexts of conflict and fragility.

The challenges and accompanying solutions (unless they are referred to as proposed solutions) are drawn from case studies around the world and illustrative country examples are provided in text boxes throughout. In addition, further details can be found in three in-depth country case studies on Afghanistan (Golden, 2012), the Democratic Republic of Congo (Brannelly, 2012) and Sierra Leone (Turrent, 2012) which are published separately. The solutions fall into one of three categories:

1. The first involves *incremental changes* to improve or fix the system, which is the typical approach made during reconstruction efforts.
2. The second involves making a *step change* in the system, followed by small and sometimes slow improvements over time.
3. The final category involves *by-passing* the system altogether, by creating new ways of supporting different aspects of teacher salary systems either temporarily until the government and its systems improve (such as outsourcing payment to an accountancy firm), or permanently as an approach for system transformation (as with the example of mobile banking).

These three categories fall along a continuum, so classifying the solutions is more of an art than a science and we have selected the category that best describes the solution. The appropriate solution will vary depending on context but all of them have the ability to clear blockages within the system for payment of teacher salaries.

Several of the solutions are multi-faceted and address more than one challenge; hence the reason why some of the solutions are mentioned more than once. For example, contracting out salary payments to a third party is a solution to the challenge of a weak or non-existent banking system and to the challenge of a cash-based payment system.

The challenges are split into the elements of the overall teacher salary system and outlined in the following subsections. Section 5.9 provides a summary of the challenges and solutions.

² These possible solutions are not in any particular order of importance or priority.



5.1 Challenges in the banking system

It is much easier to pay teachers in a country where there is capacity and infrastructure, and where banking systems work. Paying teacher salaries in cash has been found to present major logistical challenges, in addition to opening up opportunities for corruption to take place (Verhaghe, 2007). Where payments are made by bank transfer, they have the advantage of being withdrawn anywhere, avoiding the difficulties of making payments on fixed days and at fixed locations. Bank payment can also reduce the amount of money that is leaked as a result of 'fees' collected by cash payment agents (Venner, 2010). In countries where a process of decentralisation has taken place, having a system of sub-warrants for bank transfers to regions, and a system of cross-checking of pay lists in place has been found to be important (Goldsmith, 2009).

Bank payment offers major benefits in terms of verification of teacher *identification*, but it does require greater effort to be made in monitoring teacher attendance and output, and linking this to payroll. However, payment into banks, due to the very nature of the banking system, does not offer the basic verification of teacher *presence and activity* that a monthly cash payment does (Goldsmith, 2010). To mitigate this challenge, there is a need to ensure that there are strong information management systems in place linked to any payment system which demonstrates the link between the EMIS/TMS and payroll cogs.

Any proposed solution to address problems or challenges within the banking system should aim to build a payment system that is reliable, accountable and transparent and that does not incur direct costs or burdens to teachers. To do this, it must consider the particularity of the local context. There are two main challenges facing banking systems in FCAS: collapsed systems outside the capital and lack of confidence in the system within the country. Both are summarised below.

Challenge 1: Collapsed or non-existent banking system outside the capital

In some FCAS, the banking system may not be functioning sufficiently well to be used, due to weaknesses in regulation and limited capacity of personnel and systems (INEE, 2009). In addition, there may not be an established banking system outside the capital. Some of the associated effects of this problem include:

- logistical difficulties in paying teachers
- a large population with no access to banks to whom cash payments need to be made
- teachers can spend significant time and up to half of their salaries on transport and accommodation to collect salaries each month (Bennell and Akyeampong, 2007)
- deductions are being routinely made at various stages of the payment process to finance the transportation costs of delivering salaries (see the case of the DRC in Verhaghe, 2007)
- greater opportunities for corruption.



There follow three examples from Afghanistan and Sierra Leone that illustrate methods to mitigate some of these effects. One possible solution slowly changes the system and the other two bypass major obstacles completely.

- **Cash agents designated to represent banks.** In some provinces of Afghanistan, cash agents are designated to represent banks or government officials for salary disbursement and there is talk of using designated teachers as cash distribution agents instead of ministry officials.³ This solution works within the system and represents a model of incremental change.
- **Contract out salary disbursement to a third party (e.g. accountancy firm).** In Sierra Leone, the MoE hired an international private accounting firm to pay teacher salary subsidies directly to the headteachers of primary schools so that cash transfers were being made by a third party (see Box 2) (Holmes and Jackson, 2007). This solution bypasses the existing teacher salary mechanisms to create a new way of ensuring barriers are overcome.
- **Use mobile banking.** A solution developed in Afghanistan uses mobile banking opportunities to pay police in areas where physical banks do not exist (see Box 6) and could potentially be applied to teachers. This approach also bypasses existing systems altogether to create new ways of working.

Box 2: Third-party payments in Sierra Leone

A system of cash transfers made by a third party to pay the school fees subsidy was adopted in Sierra Leone at a time when the banking system was extremely limited outside Freetown – a system that could readily be applied to the transferral of teacher salaries. The MoE hired an international private accounting firm to pay the subsidy directly to the headteachers of primary schools, an arrangement that carried on for several years following a successful audit by the firm of the number and location of schools across the country. Due to the weakness of the banking system, the money had to be transported physically from the capital. Similar to the Dahabshii⁴ experience in Somalia, the accounting firm took on all the financial and security risk, deducting a 10 per cent service fee. In the initial year of the arrangement, schools reported a significant increase in the receipt of the fee subsidy. Leakages were stemmed considerably, reducing from a 42 per cent loss when transfers were made through the former public sector arrangements to just 8.5 per cent via the new arrangement.

Source: Adapted from Holmes and Jackson (2007).

Challenge 2: Lack of trust or confidence in the banking system

There is often a lack of trust or confidence in the banking system due to corruption, mismanagement and weak financial processes, systems and/or regulation in place. In such situations, the MoE and teachers are reluctant to use national banks for salary payment due to historical mistrust or unreliability of the banking system. Some of the associated effects of this problem include:

- prevalence of unregulated, unofficial money changers
- slow uptake of state-led banking systems
- no monthly check on output as there is with cash payment directly to an individual (see the case of Sierra Leone in Goldsmith (2010)).

³ Interview with Kathleen McGowan, AfPak Senior Policy Analyst, USAID in June 2011.

⁴ The lack of formal recognition isolates Somaliland from official foreign aid, making remittance income essential to its people. Dahabshii handles remittances from the international Somali diaspora and is Africa's largest money transfer operator. The chain of payout locations is now so extensive that people living in some of the country's most remote regions have regular, easy access to funds sent to them from overseas. Dahabshii is committed to a low-commission policy, charging fees significantly lower than other international providers. See <http://www.dahabshii.co.uk/> for more information.



Solutions to this challenge have been developed in a range of countries, including Afghanistan, Cambodia, Côte d'Ivoire, DRC, Liberia, Senegal and Sierra Leone, as discussed below. Some involve incremental or step changes within the system while others use measures that bypass major blockages within the system altogether.

- **Use MoE officials or teachers as intermediaries to pay salaries.** In Liberia, originally salaries were distributed only in the capital, Monrovia. However, the MoE set up a new system where teachers could collect salaries from the district education officer, though these officers sometimes charged brokering fees (Shriberg, 2007). This solution provides a step change within the existing system.
- **Use commercial intermediaries to transfer funds.** Recommendations for improvement in the DRC include exploration of alternatives to cash payments, including money transfers to agencies or commercial banks who can then transfer funds to schools or teachers (Verhaghe, 2007). Mobile banking facilities are operating in Afghanistan (see Box 6), Cambodia, Côte d'Ivoire and Senegal and have the potential for being used to pay teachers (Microfinance Africa, 2010). Finally, another example already mentioned under challenge 1 uses a financial intermediary in Sierra Leone (see Box 2). This solution bypasses existing systems altogether to create a new way of working.

5.2 Challenges in the public financial management (PFM) system

Sound, transparent and accountable management of public finances – including teacher salaries – determines to a large extent the government's capacity to implement policy and manage public resources through its own institutions and systems (African Development Bank, 2009). The collection of sufficient resources from the economy in an appropriate manner along with efficient and effective allocation and use of these resources constitutes good PFM.⁵ In the education sector and beyond, robust PFM requires the ability to provide timely and reliable salary information, strong internal controls, and reduce the opportunity for the misappropriation of funds – resulting in the strengthening of fiscal discipline, resource allocation and salary delivery (World Bank, 2008a). In this way, the effectiveness of the PFM system directly impacts upon the ability of the audit system to function.

The timely payment of teacher salaries is a key factor in the strength of a country's budgetary planning capacity, and thereby the robustness of its PFM. Salaries that are paid late, invariably reflect 'unrealistic government revenue assumptions' (Goldsmith, 2009: 48). Furthermore, a transparent budget for the transfer of teacher salaries by region, grade and amount is also important – with the processes for devising and negotiating the budget being pivotal. These should be informed by adequate and up-to-date information on the number of teachers and their location; a link to the payroll and EMIS/TMS cogs.

With investment in hardware and capacity building, PFM systems can be improved to pay materially greater volumes of funding (teacher salaries), which can be accounted for effectively, in fiduciary terms, if an external party were to provide them. In relation to the point on hardware, it is important to be able to see and analyse what is being paid, requiring basic computerised records to be shared with the central MoE in a given country (Goldsmith, 2010). Getting teachers paid on time, accurately and decently is the core business of the MoE; while some elements of pay processing might be helpfully outsourced to government finance functions, if the MoE does not know and have influence over who is being paid it will eventually be found wanting (Goldsmith, 2010). This very much underlines the need for a strong relationship between the MoE and the Ministry of Finance (MoF) given that the MoF is usually the government ministry that is leading the PFM system and often directly signs off any financial transactions.

⁵ For further information on Public Financial Management refer to the Governance and Social Development Resource Centre (GSRDC) website, which offers an excellent overview of the literature available: GSRDC: <http://www.gsrdc.org/go/gateway-guides/public-financial-management-and-accountability>



Any solution that is proposed will need to ensure that it aims to build a PFM system that has clear processes and systems in place for the whole budget cycle (preparation, execution/payment, monitoring and auditing) at central and any decentralised levels.

There are three main challenges facing public financial management systems in FCAS: capacity constraints in the PFM system overall, cash-based payment systems, and lack of electronic databases. All three challenges, and some possible solutions to address them, are summarised below.

Challenge 3: Capacity constraints in the Public Financial Management system

There are considerable capacity constraints, both in relation to human resources and to processes and systems, to developing and maintaining a well-functioning PFM system; this is particularly acute in decentralised systems where responsibilities have been devolved to the regional/local level and where capacity is often weakest. Some of the associated effects of this problem include:

- misappropriation of funds
- 'ghost' teachers being registered on the payroll
- late payment of salaries.

There are a number of solutions from Afghanistan, Cameroon, Chad, the DRC, Nicaragua, Rwanda and South Darfur that implement slow changes as well as step changes to existing systems, for example:

- **Use donor assistance to improve the PFM system.** In Afghanistan and Rwanda international donors provided financial and technical support to improve PFM systems (Venner, 2010). This solution provides incremental change within the existing system. In Afghanistan, Liberia, and Sierra Leone, improvements in PFM which have been supported by the provision of donor technical assistance predominantly to the MoF, have helped to give the international community increased confidence in providing ongoing development assistance (Fritz, Hedger and Fialho Lopes, 2011). This also provides incremental change within the existing system.
- **Pay teacher salaries via school management committees.** Cameroon, Chad, the DRC, Nicaragua and South Darfur offer examples where teacher salaries have been paid via school management committees (Ombaka, 2007; Um Elhassan, 2007 and U4 Anti-Corruption Resource Centre, 2011). For example, in Nicaragua, block grants sufficient to pay teacher salaries and other expenditures were given to school management committees, who recruited, supervised, and paid the teachers, and all other expenses (U4 Anti-Corruption Resource Centre, 2011). This solution provides a step change within the existing system.

Challenge 4: Cash-based payment system

Under a cash-based system, it is more difficult to track resources and keep accurate records. Transferring large quantities of cash from a central location such as a capital to regional or local centres and then onto schools requires a lot of coordination, logistical support and detailed records, particularly when it is not done by individuals with financial expertise. Some of the associated effects of this problem include:

- more opportunities for corruption
- late payments of salaries (World Bank, 2008b).



Two potential solutions are proposed:

- **Contract out salary disbursement to a third party (e.g. accountancy firm).** A potential solution from Sierra Leone is described in Challenge 1 and in Box 2. This solution bypasses the existing teacher salary mechanisms to create a way of ensuring blockages within the system are overcome.
- **Provide stronger accountability mechanisms for cash-based payment.** In the DRC, public accountants were involved in institutionalised corruption which meant that salaries did not arrive in rural areas. In 2001, the Governor of Katanga gave the Provincial Office for Teacher Salaries and Monitoring (SECOPEP) a more direct management role in dispatching salaries to *gestionnaires* to disburse to schools once authorisation had been given by the public accountants. This initiative has reportedly reduced instances of corruption and led to more secure payments to teachers (Verhaghe, 2007).

Challenge 5: Lack of electronic databases for PFM

Electronic databases for PFM are not available in all areas of a country. This may be due to a lack of electrification, intermittent electricity supply, a lack of access to computers or other electronic technology where information can be recorded and kept up to date, and limited technical skills of civil servants who are in charge of inputting and managing data within the databases. Some of the associated effects of this problem include:

- delays in payroll processing
- late payment of teacher salaries.

One solution from Afghanistan relies on incremental change to solve these problems:

- **Introduce a digital PFM system to monitor expenditure.** In Afghanistan a digital PFM system was initiated by the MoE in 2009 to monitor MoE expenditure. A separate tracking database is used by the MoF to monitor salary expenditure and is now used by nearly 50 per cent of Mustofiats⁶ (Venner, 2010). This solution works within the system and represents a model of incremental change.

5.3 Challenges in the audit system

A robust and independent auditing of government finances that ensures the effective management of educational resources further heightens the accountability of a PFM system responsible for the administration of teacher salaries. Sound and effective country auditing systems are critical to ensure that teacher salaries are used for the purposes intended, thereby reducing opportunities for corruption. Internal and external audit institutions are intended to be central institutions of integrity in the management of public resources, increasing the effectiveness of government spending and enhancing citizens' trust in their governments (African Development Bank, 2009).

⁶ Mustofiats are Ministry of Finance agents based in the Provinces.



Strengthening government auditing (internal audit institutions) requires encouraging greater transparency and disclosure of public financial information, enhancing external scrutiny of public finances, and strengthening the demand for greater accountability in the management of education resources (African Development Bank, 2009). In particular, this requires parliament to have the capacity to scrutinise government finances and engage in the budget process, as well as the establishment of freedom-of-information legislation to facilitate citizens' access to financial information and support civil society's oversight of the budget (Ramkumar, 2008 and Turrent, 2009). With the necessary checks and balances in place it becomes possible to detect corrupt practices in the education sector and significantly reduce the misappropriation of funds. In the case of teacher salaries, such measures are, for example, likely to reduce opportunities for corruption in the flow of resources from national to local level and reduce the risk that money earmarked for salary purposes is diverted elsewhere. Strengthened legislation and institutional power to act when corruption is suspected allow for the effective and transparent prosecution of individuals and institutions charged with corruption and/or financial mismanagement.

Budgets are no longer perceived to be the select domain of the political executive and technical specialists. Supreme audit institutions continue to provide some assurance that a government's financial statements adequately reflect the revenues collected and expenditure incurred, and determine whether an implementing agency has acted in accordance with relevant laws and regulations. However, there is increasing demand for these institutions to go beyond judgements of compliance and accuracy to evaluate the expenditures and performance of government agencies (Van Zyl, Ramkumar and de Renzio, 2009). Accordingly, legislators and civil society are increasingly active in budget debates and in the review of government expenditure, and the media has become more active in reporting on budget issues and the misuse of public funds. Whilst audit institutions are clearly central to accountability in the issuing of teacher salaries, it is important to note that research has found resources spent on salaries to be far more resilient to corruption than non-salary items (Hallak and Poisson, 2005).⁷ In general, non-wage funds appear more prone to leakage than salary funds as teachers know their salary and have an incentive to make sure they receive it. However, salary funds may suffer from other abuses such as 'ghosts on the payroll' (Reinikka and Smith, 2004).

Any solution that is proposed to address problems within the auditing system will need to ensure that it aims to provide access to information coupled with building the necessary capacity to undertake checks. This needs to be approached both from a top-down approach to establishing or strengthening the external audit function as well as from a bottom-up approach in strengthening civil society's capacity and engagement in providing a grassroots audit function.

There are two main challenges to the audit system in FCAS: overall capacity constraints and limited access to financial information. These challenges and possible solutions to them are summarised below.

Challenge 6: Capacity constraints in relation to auditing

There is constrained capacity within the audit system in relation to both human resources and processes. Even when audits take place, the lack of an established judicial system for financial crime may mean that any irregularities raised in an audit have few or no consequences, providing a disincentive to change practices. In addition, civil society often has limited knowledge and skills to be able to undertake checks on whether funds have reached their intended destination and been used for their intended purpose. Some of the associated effects of this problem include:

- a weak audit system
- more opportunities for corruption and mismanagement of funds.

⁷ Leakages of funds between leaving the MoE and arriving in schools can total over 80 per cent of the total non-salary expenditure allocated to education (Hallak and Poisson, 2005).



Solutions from Afghanistan and Uganda demonstrate that incremental and step changes are possible within the existing system.

- **Involve civil society in the audit function.** In Uganda, civil society has been involved in the audit function either through budget tracking or by school management committee scrutiny of teacher payment at the point of disbursement and payroll lists to see if these match with reality on the ground (Reinikka and Smith, 2004). This solution works within the system and represents a model of incremental change.
- **Donors provide assistance to the National Audit Office.** In Afghanistan, external donors provided support to the High Office for Oversight (which oversees the action of internal ministerial auditing departments) in order to increase its capacity, reduce corruption and increase transparency across the government. Also, an internal audit unit has been established in the MoE to monitor expenditures (Venner, 2010). This solution is another example of incremental change.
- **Government set up an internal audit office in MoE.** Nearly 50 per cent of provinces in Afghanistan now use the Afghanistan Financial Management Information System (AFMIS) digital database to record and track budget expenditures (Venner, 2010). This solution represents a step change.

Challenge 7: Limited access to financial information

In many countries, financial information is not shared widely beyond those working on budgets within government ministries and departments. Even where budget information is made more publicly available, it often uses international financial classifications that are not very meaningful for the average person on the street. This makes it difficult for interested parties to have access to financial information in accessible and non-technical forms. Some of the associated effects of this problem include:

- limited evidence with which to hold the government accountable (Turrent, 2009)
- greater opportunities for corruption and mismanagement of funds.

Possible solutions from Nigeria, Pakistan, Sierra Leone and Sri Lanka show that incremental change can mitigate some of these effects.

- **Involve civil society in budget tracking.** In Nigeria, Pakistan, Sierra Leone and Sri Lanka, civil society has been engaged in budget tracking or school management committee scrutiny of teacher payment at the point of disbursement and payroll list checks (see Box 3) (Commonwealth Education Fund, 2008). This solution works within the system and represents a model of incremental change.
- **Government use a Financial Management Information System (FMIS) digital database to track and record budget expenditures.** Nearly 50 per cent of provinces in Afghanistan now use the Afghanistan Financial Management Information System (AFMIS) digital database to record and track budget expenditures (Venner, 2010). Expenditure tracking is an important part of the audit function. The solution represents a step change.



Box 3: Civil society budget work

Engaging civil society in budget work in the education sector has already been successfully employed in a number of FCAS, including **Nigeria, Pakistan, Sierra Leone** and **Sri Lanka**. There is the potential for this type of work to be applied to checks on teacher salaries, either through budget tracking or by school management committee scrutiny of teacher payment at the point of disbursement and payroll lists to see if these match with reality on the ground. It should be noted, however, that in FCAS where civil society capacity is likely to be limited, budget work activities may be hampered in terms of gaining access to information – in many countries there is still considerable room for improvement in terms of establishing freedom of information laws to allow for greater budget transparency at all government levels and institutions. Often, there are long delays in answering requests for information and in some cases the information may not be relayed at all. In many countries, the general absence of information on education budgets – particularly in accessible, non-technical forms – seriously hinders the efforts of civil society to participate in discussion on the distribution of education resources. Accessing data remains one of the major challenges in education budget work.

Source: Adapted from Commonwealth Education Fund, 2008

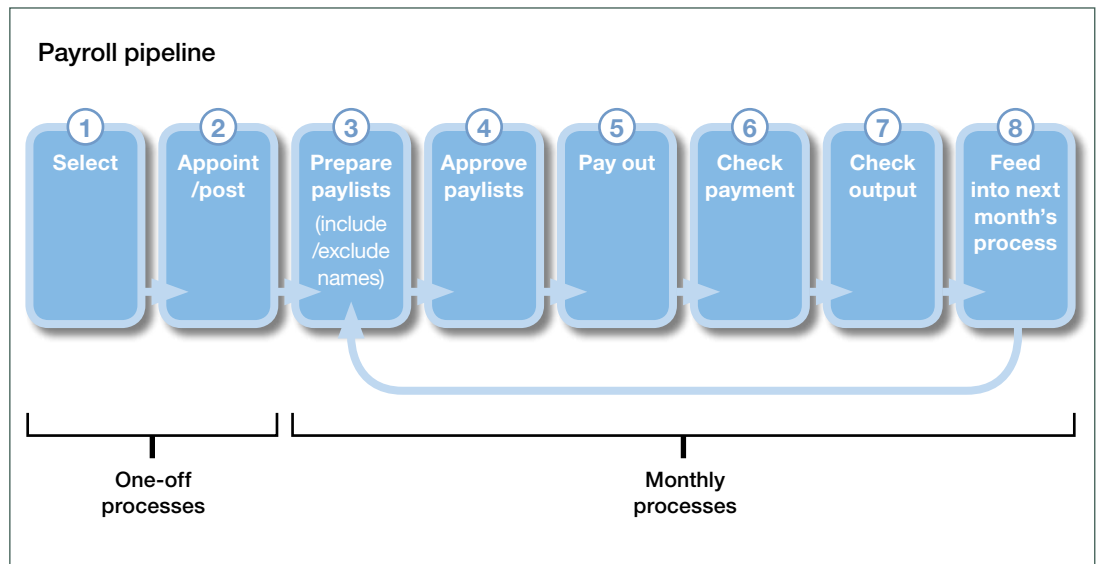
5.4 Challenges in the payroll system

Where funds are available for teacher salaries, there may be no systematic payment of teachers without having a payroll system in place. A comprehensive database on teachers is essential to provisions for salary payment, in addition to other sector concerns such as teacher education and system expansion. Moreover, critical equity issues related to teacher deployment, concentration, and salary levels are also difficult to address in the absence of adequate data on current teacher supply and accurate calculations for the development of future capacity (Kirk, 2008).

Payroll performance in the education sector is shown to be strongly linked to headcounts/field verifications and payroll system reform, as well as a range of information system and EMIS options. Computerised payroll systems can be informed by comparison with headcount and EMIS data (Goldsmith, 2010).



Figure 2: The payroll 'pipeline' – improving the visibility of teacher pay



Source: World Bank, 2010

There is considerable diversity of education payroll systems in use, but there are processes common to many countries (see Figure 2) (World Bank, 2010). Key to the effective functioning of the payroll 'pipe' is the understanding that if one link between the processes is broken, pay will not flow reliably – note that breakages in the pipe can occur within the same organisation or between organisations – and that these processes need to run alongside PFM processes in order to work effectively.

For example, in Afghanistan, the Ministry of Finance's Financial Management Information System (AFMIS) database has not been linked to the MoE's PFM database. This has resulted in the duplication of information and delays in payments or no payments occurring. Efforts to link the two systems to streamline the collection and reporting of information have been called for (Venner, 2010). Any solution that is proposed will need to ensure that it aims to provide accurate and verifiable records linked to the EMIS/TMS with a clear and efficient process for updating records.



There are three main challenges related to payroll systems in FCAS: poor records and payroll verification, overall capacity gaps, and overly bureaucratic processes for payroll processing. These and possible associated solutions are summarised below.

Challenge 8: Inadequate or incorrect records and payroll verification

In some FCAS, there is no systematic and regular system in place for keeping and updating records. There may also be one set of records that keep information on the employment of teachers and another set of records used for recording salary information. Both of these may not be regularly updated when there are changes resulting in a large number of teachers not being included on the payroll. In addition, where these records are not regularly checked and compared, this can result in incorrect payroll records being kept. Some of the associated effects of this problem include:

- incorrect, late or no payments made to teachers
- 'ghost' teachers on the payroll
- refugee and contract teachers not being on the payroll, so often going unpaid
- knock-on negative consequences for PFM
- knock-on negative consequences for the institutionalisation of bank transfers, undermining confidence in the banking system.

Examples from Afghanistan, Malawi, Sierra Leone and Southern Sudan illustrate how solutions using incremental and step change can mitigate these effects.

- **Improve links between payroll and EMIS.** In Southern Sudan, headcount information, payroll and EMIS data were linked electronically, resulting in significant efficiencies and financial savings in the payment of teacher salaries (see Box 4) (Kirk, 2008). This solution works within the system and represents a model of incremental change.
- **Use identity cards (with biometric data) to reduce the number of ghost teachers on the payroll.** There have been positive results from the latest payroll verification exercise in Sierra Leone, which triangulates data by collecting photos of teachers and the location in which they teach, registering biometric data such as fingerprints, and then cross-checking the identity of teachers by asking other teachers to identify the photographs of teachers who claim to be working at the same school (Goldsmith, 2010). Identity cards containing biometric data have also been piloted in Malawi to attempt to reduce the number of ghost teachers on the payroll (The Reserve Bank of Malawi, 2008). This solution provides a step change within the existing system.
- **Government to put mechanisms in place to facilitate displaced teachers' return, employment and registration on the government payroll system.** Mapping of Southern Sudanese refugee teachers who had fled to Ethiopia, Kenya and Uganda by partners such as the International Organization for Migration, the International Rescue Committee, the Jesuit Refugee Services, the UNHCR, UNICEF and representative refugee teachers, enabled the South Sudan MoE help repatriate refugee teachers and plan for their reintegration and payment (Kirk, 2008). This solution provides incremental change within the existing system.
- **Use mobile money networks to keep records of clients and provide payroll verification.** Mobile money networks typically keep accurate records of clients and provide payroll verification to track their money, presenting a unique information and records tracking platform for teacher payroll systems. One example of where this has worked with civil servants is Afghanistan.⁸ This solution provides a step change within the existing system.

⁸ Interview with Zahir Khoja, Executive Director of Roshan's mobile money transfer M-Paisa, June 2011



Box 4: Strengthening the payroll system in Southern Sudan

In Southern Sudan⁹ a headcount conducted in 2008 gathered basic personal data, job grade, workstation (school), qualifications, career and operational information from individual teachers. The exercise proved to be a success as it allowed for the proportional allocation of resources for teacher salaries to be made between states.

The operation of the payroll system is decentralised to the ten state ministries of education with technical support provided by the Ministry of Education, Science and Technology/Government of Southern Sudan. The payroll system uses a bespoke Microsoft Excel tool with built-in macros to automate calculation of pay, allowances and deductions based on the headcount data, and to sort records into pay sheets by individual workstations. Pay sheets had previously (in the old manual system) been produced and paid out by county, resulting in staff having to spend extended periods travelling to pick up their pay – or sometimes delegating others to pick up their pay, with obvious lack of accountability in both directions. Pay sheets under the new system are printed by the individual workstation (school) and as far as possible paid out at the school – giving improvements in visibility of pay and output.

Source: Adapted from Goldsmith, 2010

Challenge 9: Lack of clarity in lines of accountability and locus of responsibility on the payroll between and within government ministries

The payroll function by definition involves both those who are in charge of the financial and payment side and those in charge of recruitment and teacher management. In the education context, this will include officials in the MoF and the MoE in each country. Without clarity on roles, responsibilities and accountabilities of different individuals and teams, there can be confusion over who should be doing which function. Some of the associated effects of this problem include:

- incorrect, late or no payments made to teachers
- the MoE has little or no control over or information about appointment decisions, who is paid, and what they are paid, as this is handled by other government agencies
- payroll is often left to the accounts department, with limited education-focused oversight (Goldsmith, 2010).

⁹ At the time of this intervention, South Sudan had not been granted full independence from Sudan, hence why this example is referred to as Southern Sudan.



Possible solutions from Afghanistan and Africa include using slow and step change as well as methods that bypass major obstacles:

- **Government reach agreement to integrate community-based schools, students, and teachers into the government system and payroll.** Reaching agreement to integrate community-based schools, students and teachers into the government system in Afghanistan has helped put in place a mechanism for transferring the compensation of teachers from an ad hoc community approach to the government payroll (see Box 5) (Kirk, 2008). This solution provides a step change within the existing system.
- **Link teachers to mobile money platforms for payment of salaries.** Roshan and other mobile networks are working with the United States Agency for International Development (USAID) and the MoE in Afghanistan to plan a pilot for teacher salary payment, which would link to the payroll system through mobile money platforms like M-Paisa (see Box 6).¹⁰ This solution bypasses the existing payment system but links into the payroll system to ensure teachers are paid.
- **Enable MoE to have visibility of the whole payroll pipeline.** A proposed solution for FCAS in Africa is for the MoE to have visibility of the whole payroll 'pipe' and to make the appropriate checks and balances throughout (Goldsmith, 2010). This solution would work within the system and demonstrates incremental change.

Box 5: Integration of community-based teachers onto the government payroll in Afghanistan

Within the framework of the National Education Strategic Plan, the development of the MoE's Community-Based Education (CBE) Policy has paved the way for agreements regarding the systematic integration of community-based schools, students and teachers into the government system. This has particular implications for teachers who, having been compensated by the community – largely on an *ad hoc* basis with small cash or in-kind contributions – now have the possibility of being included on the payroll. This process has facilitated their inclusion into the system of teachers who, although perhaps not fully qualified, are trusted by communities and have experience of providing basic education (following MoE curriculum guidelines) to the children of their remote communities and can be trained up over time. Moreover, their inclusion into the official system allows the tracking of their qualifications with a view to ensuring their eventual upgrading. The prospect of regular salaries and the status that goes with it serves to sustain the teachers who are otherwise often subject to social and economic pressures to use their time in other ways. Ultimately this has helped to stabilise the provision of quality education in remote areas. In collaboration with the MoE, the Partnership for Advancing Community Education in Afghanistan (PACE-A) devised a step-by-step process to complete the required administration for registration of community-based teachers. PACE-A collected the necessary information from each teacher including signatures and photos, allowing them to be phased on to the government payroll. Full integration has not yet been achieved, although with the CBE policy in place progress on this front is hoped to be realised in the future.

Source: Adapted from Kirk, 2008

¹⁰ Interview with Kathleen McGowan, AfPak Senior Policy Analyst, USAID in June 2011



Box 6: Potential of mobile banking in Afghanistan

In place of a banking system, the mobile money transfer platform M-Paisa has been piloted with support from USAID as an alternative civil servant payment system in a few provinces in Afghanistan, with some success. The M-Paisa platform was introduced to Afghanistan by Roshan in partnership with Vodafone, following the substantial success of M-Pesa in Kenya, to expand access to safe, secure and transparent financial services for the unbanked population of the country (Najafizada and Rupert, 2011). The salary payment component of M-Paisa was first piloted with members of the Afghan police force in 2009. Similar to the current teacher payment system, the police collected their salaries under the old system once a month from an agent who typically skimmed a certain amount of money off of each payment as his 'commission'. Members of the police force were unaware of this action, or that their actual salary payments were up to 20 per cent lower than what they were supposed to receive.¹¹ The M-Paisa payment system made the middle man agent obsolete, since members of the police force could use their M-Paisa credit to buy materials or receive cash from registered stores.

Although it has not yet been utilised in the education sector, the use of mobile money platforms is promising because it has the potential to address many of the challenges that the current compensation system faces. Only 7 per cent of Afghanistan's 30 million people have bank accounts, according to the central bank. On the other hand, at least 40 per cent have mobile phones and 75 per cent of the population is currently covered by mobile phone networks (UNDP, 2010). Using mobile money platforms for salary payment takes advantage of resources that already exist, particularly since companies like Roshan provide mobile phones directly to those who use the service. Mobile money platforms for salary payments can also help to alleviate the impact of the security situation on the payment of salaries, since employees do not have to travel to a central payment centre but can cash their salary at a store of their choice.

Arguably the most important benefit of using mobile money platforms in Afghanistan has been its impact on the problem of corruption. Because it eliminates the need for the 'middle man' to distribute individual salaries, actual salary payments grow larger and employees receive their full compensation amount. Mobile money platforms can also help to alleviate the problem of 'ghost' teachers and employees because of their thorough registration process prior to the first payment transfer. All employees are vetted and registered to confirm their identification as well as their employment.

Of course, using mobile money platforms like M-Paisa is not without risks. There is legitimate concern around the issue of cash management and liquidity, since M-Paisa agents are required to receive and disburse rather large amounts of cash. Such tasks require close partnership with Afghan banks, which has been difficult given recent fraud and corruption allegations around the Afghan Central Bank (Himelfarb, 2010). The price point per individual consumer under current platforms is said to be quite large and since even the least expensive mobile phones cost around US\$10, very few Afghans could afford the individualised mobile money service (Himelfarb, 2010). There is hope, however, that as additional mobile money platforms join the market, the service territory will expand and the cost of using M-Paisa will decline.¹² There is also concern around the security risks associated with using mobile phones – some think that the possession of these devices presents increased opportunities for theft.¹³

¹¹ Interview with Zahir Khoja, Executive Director of Roshan's mobile money transfer M-Paisa, June 2011

¹² Interview with Kathleen McGowan, AfPak Senior Policy Analyst, USAID, June 2011

¹³ Interview with Yolande Miller-Grandvaux, Senior Education Advisor, USAID, June 2011



Another problem lies in the relatively small size of the current platform for salary distribution; this programme has so far only been tested under a few sectors in a few provinces and has not been able to be brought to scale. Whilst a pilot project that uses new mobile money platforms to disburse teacher salaries in a limited number of provinces is currently under development, there is no way of telling whether it will experience the same success as it did under the police force, particularly as teachers are typically much more disbursed geographically than are police officers.¹⁴

Zahir Khoja, Roshan's director of m-money expresses interest in penetrating the education sector and admits that the main challenge in doing so involves arranging meetings with the MoE and building their agent network to ensure institutional capacity. He notes that whilst M-Paisa currently pays 10,000 salaries across Afghanistan, it has the ability to accommodate up to 300,000.¹⁵ Introducing additional mobile money providers to the market would increase the sector's capacity to handle an even greater number of clients, especially within the education arena.

Challenge 10: Complicated processes for payroll submission, verification and payment

Where roles and responsibilities for the MoF and the MoE as well as within the MoE (and its constituent parts such as regional/district education officers and schools/headteachers) are not clear and capacity is limited, this can result in bureaucratic and unclear processes for payroll submission, verification and payment. Some of the associated effects of this problem include:

- the process of payroll registration and approval can take a very long time, in some contexts up to a year¹⁶
- delayed or no payment.

In Afghanistan and Burundi, solutions to these issues use incremental and step change.

- **Submit requests to MoE, not MoF, to cut down on payment disbursement time.** In Afghanistan, Venner (2010) recommends that instead of submitting payroll requests to the MoF, they should be sent directly to the MoE, cutting down on payment disbursement time due to lack of communication and/or delays between ministries. This proposed solution would be an example of incremental change within the current system.
- **Government reduce amount of time to officially register new teachers on the payroll.** In Burundi, members of the MoE used the Rapid Results Approach Model with the assistance of the World Bank to reduce the amount of time taken to officially register new teachers from one year to around three months.¹⁷ This solution is an example of a step change within the current system.

¹⁴ Interview with Kathleen McGowan, AfPak Senior Policy Analyst, USAID, June 2011

¹⁵ Interview with Zahir Khoja, Executive Director of Roshan's mobile money transfer M-Paisa, June 2011

¹⁶ For example, in Burundi it often took up to a year for first-time teachers to receive payment approval.

¹⁷ Interview with Benjamina Randrianarivelo, Manager of RBM & Associates and in-residence Rapid Results Approach expert at the World Bank Institute, June 2011



5.5 Challenges in Education Management Information Systems (EMIS)/Teacher Management Systems (TMS)

EMIS/TMS collect and analyse data on the supply and demand of teachers, teacher recruitment, and teaching needs as well as more general data on the functioning of the education system. They are central to improved planning, resource allocation, and monitoring. These systems are vital to policymaking since they give governments an instrument with which to identify need, track financial resources and monitor the effects of policy interventions (UNESCO, 2011). Specifically in relation to teacher salaries, data inputs into EMIS are usually based on an annual field survey that can be designed to include data on individual teachers, in progressively more detail. This type of information can support a teacher salary system if effectively linked to operational payroll data (Goldsmith, 2010).¹⁸

Transactional EMIS/TMS software performs daily personnel functions such as payroll, tracking personnel, recording leave, tracking inventory of books, or accounting for payments. Some software is available to manage payroll only, with no personnel function. If an educational system decentralises and places responsibility for tracking and paying teachers at the district level, for example, then transactional software for both payroll and personnel is needed. Typically, up until decentralisation, most payroll software will be at a central ministry level. Hence, when large educational systems start moving responsibility for certain key functions – such as payroll – to a lower level, they must also plan on software and hardware support for these functions (Moses and Toro, 2001).

Research conducted across Eritrea, Ethiopia, Rwanda and Tanzania suggests that data on teachers are reasonably robust, but that EMIS does need further development in relation to analysis at decentralised levels (Bines and Woods, 2008). In the case of Rwanda, teachers are paid via the local government so payroll sits outside the MoE and links to EMIS are therefore not always as strong as they might be. As districts are responsible for the management of teacher salaries, they are left with the responsibility of preparing payroll lists and elaborating payment orders before submitting them to the Ministry of Public Service and Labour and the Ministry of Finance and Economic Planning, which then proceeds to make payment through the National Bank of Rwanda (Teacher Service Commission, 2011). Improved links and synchronisation between centralised and decentralised payroll and EMIS in similar scenarios of decentralisation, would likely increase efficiency in the payment of teacher salaries (Moses and Toro, 2001).

It is also important to provide incentives for updating the system. In the DRC, schools had an incentive not to update the system when a teacher left as it took a minimum of several months for any changes to be effected. During this time, they could continue to receive the departed teacher's salary and use it either to pay the new teacher or to pay the existing teacher an unofficial pension (Verhaghe, 2007).

¹⁸ It should be noted that obtaining such information and undertaking field surveys may be difficult in FCAS.



There are two main challenges related to EMIS/TMS systems in FCAS: non-existent or inefficient information management systems and difficulty in accessing and collecting information. Any solution that is proposed will need to ensure that it aims to provide up-to-date and reliable information and processes for updating this information which can easily be integrated into the payroll system. These challenges and possible associated solutions are summarised below.

Challenge 11: Inefficient or non-existent EMIS/TMS

During conflict and in situations of weak government, up-to-date, reliable data may be hard to find. Where parts of a country remain unstable, this can mean that data on teacher numbers and salaries that would normally be fed into the payroll may not be collected regularly. Additionally, when there is significant internal or external displacement of teachers, keeping track of who is teaching where, what their qualifications are, and how they are accessing their salary (if at all) becomes very difficult. Where there is weak government, it may mean that there are underdeveloped systems and limited capacity of personnel to capture, record and update important education data (Ndaruhutse, 2009). Some of the associated effects of this problem include:

- transferring teacher employment files from the MoE to decentralised levels can lead to a lack of confidence in the system¹⁹
- out-of-date information is fed into the payroll system.

Solutions from Afghanistan and South Sudan illustrate examples of incremental and step change.

- **Link headcount information, payroll and EMIS through a computerised system for triangulation and savings by eliminating ghost teachers from the system.** A solution based on this approach (for example in South Sudan as outlined in Challenge 8 and Box 4) has been helped by having a computerised payroll system which can be compared to headcount and EMIS data; something that was not easily possible under the old manual system (Goldsmith, 2010). This solution provides incremental change within the existing system.
- **Government reduce the amount of time to officially register new teachers on the payroll.** Afghanistan's EMIS system is centrally based in Kabul and was developed with the help of UNICEF and the World Bank. Reports covering mostly teacher information and some student scores are available online on an annual basis (Afghanistan MoE, 2010). The system is currently manual, although the MoE intends to digitise these functions in the future reducing the time taken to update information (Venner, 2010). If this takes place, this approach would provide a step change within the existing system.

Challenge 12: Difficulties in accessing and collecting information

It is difficult to access and collect information due to weakened or destroyed physical infrastructure and human capacity. In Sierra Leone, the loss and destruction of records during the war resulted in ghost teachers, ghost schools and some teachers receiving payments from several schools (Goldsmith, 2010; Hamminger, 2008; Amman and O'Donnell, 2011). In Afghanistan, a large number of CBE teachers were not on the national payroll. Some of the associated effects of this problem include:

- lack of reliable and timely data has resulted in poor monitoring and corrupt practices
- large numbers of teachers who are not on the national payroll make it difficult to know precisely how many teachers are teaching.

¹⁹This has happened in Rwanda – see Teacher Service Commission (2011).



There are a number of models from Afghanistan, DRC, Ethiopia, Kenya, South Sudan and Uganda that address these issues using all three types of solutions:

- **Map refugee teachers and plan for their reintegration.** A solution following this approach has been used in South Sudan (see under Challenge 8 for more details). This solution provides incremental change within the existing system.
- **Integrate community-based teachers onto the government payroll.** The MoE in Afghanistan is in the process of integrating CBE teachers into the national teacher roll, although it has been extremely slow (see Box 5) (Venner, 2010).²⁰ This solution also provides incremental change within the existing system.
- **Use a computerised system with reliable internet connection to enable decentralised education offices to update information.** A recommendation for the DRC is to use a centrally-based computer system with reliable and secure internet connections to provincial offices so that SECOPEP offices can directly update listings (Verhaghe, 2007). This proposed solution would provide a step change within the existing system.
- **Use new technologies to enable increased access to a digitised EMIS database.** Use of new technologies (mobile phones, tablet personal computers, cloud computing, etc.) could enable increased access to a digitised EMIS database and enable secure uploads of information even from insecure regions, especially since mobile phone penetration (and rising 3G penetration) is high, even in FCAS. This proposed solution (which has not yet been tried and tested in FCAS) would bypass the existing system for collecting and assessing data.

5.6 Challenges in government financing of teacher salaries

Resources collected through taxation are usually the main source of funding for teacher salaries via the MoE in most countries (or at sub-national level in decentralised contexts).²¹ These are collected at national and sub-national level through a variety of different taxes including income tax, trade tax, value added tax, property tax, levies and charges on some services.

In FCAS, there are often very weak revenue collection mechanisms in place coupled with limited tax receipts due to a small tax base – the formal sector is invariably relatively small and there are well known difficulties with levying taxes from the informal sector or where a significant proportion of the population is involved in subsistence agriculture (Chauvet and Collier, 2004).

Where there are limited national resources to pay teachers or blockages causing malfunctioning in some of the 'cogs', responsibility for teacher payment can – either by deliberate choice or because there is no other alternative – be moved away from central or local governments towards communities. This may be via parent or school management committees or via community organisations or FBOs, which are a significant provider of education in many FCAS. These community organisations or FBOs contribute to practical matters, including school construction and rehabilitation, provision of school materials, provision of scholarships to pupils and teachers, as well as offering in-service training for teachers and compensating some teachers for non-payment of salaries (Nishimuko, 2008 and Verhaghe, 2007). Even in countries where the policy is to provide 'free' primary education, such as Burundi, Cambodia, Ethiopia, Rwanda, Sierra Leone and Uganda, limited government capacity means that communities and households may still be contributing towards the financing of education through indirect charges and levies (Ndaruhutse, 2009 and Verhaghe, 2007).

²⁰ Interview with Malcolm Phelps, Senior Education Advisor, USAID Office of Afghanistan and Pakistan Affairs, June 2011 and Kathleen McGowan, AfPak Senior Policy Analyst USAID, June 2011

²¹ An exception to this is those countries, such as Haiti, that have a predominantly privately and/or community-funded education system.



Despite this, not all FCAS have a limited tax base. Some have significant natural resources such as oil and minerals; others have a large export industry which through trade, results in a wider tax base. However, in order to ensure that trade and foreign direct investment do result in tax receipts which can be used towards the payment of teacher salaries, effective systems need to be in place that (i) ensure efficiency of tax collection and have sanctions to punish those who evade paying taxes and (ii) track and monitor trade flows to ensure that they are legal and recorded and can thus be taxed rather than illegal and resulting in rent-seeking²² behaviour (Ndaruhutse, 2009).

There are two main challenges related to government resources for teacher salaries in FCAS: a small tax base and wage bill gaps on government employees. These challenges and their potential solutions are summarised below.

Challenge 13: Weak revenue collection and a small tax base

In many FCAS, a stunted formal economy, high levels of subsistence farming and limited natural resources come together to produce a very small tax base resulting in challenges for revenue collection through the usual methods of taxation of employment income, goods and services. The main effect of this problem is:

- limited national resources with which to pay teacher salaries.

There are various solutions that use aspects of all three categories of solutions. Examples from Afghanistan and Rwanda employ incremental change whereas step change has been used in DRC, Rwanda and Sierra Leone, as shown below. Other solutions bypass the system entirely, such as examples from Afghanistan, DRC and Sierra Leone.

- **Improve revenue collection.** In Rwanda, the creation of the Rwanda Revenue Authority, accompanied by donor-funded technical assistance to build the capacity of staff and revenue collection processes and systems, has resulted in increased revenue collection.²³ This solution provides incremental change within the existing system.
- **Faith-based organisations (FBOs) and community-based organisations manage schools and pay salaries.** FBOs and communities are paying the salaries of some teachers in Sierra Leone because the government is not able to pay them or because they are waiting to be put on the government payroll (Nishimuko, 2008; Amman and O'Donnell, 2011). Just under a fifth of schools in the DRC are directly managed by the state, with more than 70 per cent managed by churches, and the rest privately run (World Bank, 2008b). Furthermore, PACE-A in Afghanistan offers an example of where community-level support of teacher salaries has been encouraged by NGOs with communities being required to provide cash or in-kind support for teachers (Stannard, 2007), and where there has been work with the government to phase in the eventual government payment of salaries once both schools and teachers have been officially accredited and recognised (see Box 7) (Kirk, 2008). This solution bypasses existing systems to provide an alternative way of paying salaries.

²² Rent seeking takes place when a government and individuals within a government seek to earn income by capturing what is known as 'economic rent' through exploitation of the economic environment including mineral resources rather than by making profits as a result of economic transactions and the production of added wealth.

²³ Author's own experience



Box 7: Alternative payment of teachers' salaries by community or an NGO

Community Based Education (CBE) developed in Afghanistan in part out of the MoE's difficulty in recruiting and supporting teachers and schools, particularly in the nation's rural regions. The Partnership for Advancing Community Education in Afghanistan (PACE-A) is a consortium of four international NGOs: CARE, the International Rescue Committee (IRC), Catholic Relief Services and the Aga Kahn Foundation, dedicated to providing CBE for Afghan children as well as to improving the MoE's capacity to handle CBE in Afghanistan. The five-year project, which ended in September 2011 was funded by USAID and according to its own records, supported over 3,000 teachers and helped provide primary schooling for 105,000 children, 65 per cent of whom were female.²⁴

Unlike many CBE programmes, PACE-A does not pay teacher salaries directly, except in special cases and usually on a short-term basis (Guyot, 2007). Instead, it supports community school management teams to mobilise resources in their efforts to provide teachers with cash or in-kind payments for their work. At the same time, the programme is tasked with providing training and ongoing support to all teachers in PACE-A CBE schools. Implicit within this supportive approach is the idea that it positively contributes to the community's ownership of the school and of their children's education, and that this would not be as explicit if the PACE-A programme paid teachers directly. In other words, if the community is tasked with paying teacher salaries, the community will be more vigorous in demanding and monitoring teacher attendance and performance, leading to better quality teaching. In many cases this approach has in fact been successful, although there have also been several cases in which a village in dire poverty has struggled to provide adequate compensation for its teachers. As indicated above, some of the PACE-A organisations have been able and willing to provide salaries for these teachers temporarily, until the community has been able to do so on its own (Sigsgaard, 2011).

From its inception, PACE-A sought to integrate its CBE schools with the official government schools, aligning them with the same curriculum, similar assessments and standards. Towards the end of the programme, over half of the CBE schools were integrated with government schools, and teachers were supposed to be registered under the government payroll (USAID, 2010). However, progress on this front has been slow due to bureaucratic delays, among other factors, and most teachers continue to be compensated by their communities.

Challenge 14: Wage bill caps

There are limited national resources and multiple demands for public spending from health to agriculture, education to poverty reduction. In order to maintain a sustainable fiscal deficit, the International Monetary Fund (IMF) at times requests the MoF to place a wage bill cap on public sector employees, as has happened in countries like Sierra Leone (ActionAid, 2007). Some of the associated effects of this problem include:

- limiting the overall wage bill for teachers so that a limited number or no additional teachers can be recruited/paid (ActionAid, 2007)
- disparities in teacher pay with teachers in the capital or towns receiving higher pay via top-ups²⁵
- donors not being able to pay additional salaries for teachers even if they would like to (Bennell, 2004 and Marphiata, 2007)
- public sector recruitment freezes which mean that large proportions of new teachers are recruited informally and are not put on the payroll.

²⁴ Interview with Adisa Busuladzic, Development Outreach and Communications Officer, USAID/Afghanistan, August, 2012

²⁵ For example, in the DRC, teachers in Kinshasa earn up to three times as much as those in other provinces – see Mokonzi and Kadongo, 2010.



Some solutions use incremental change while others bypass barriers entirely.

- **Remove or raise wage bill caps.** Wage bill caps have been included in many developing countries as a condition for loans from the IMF and grants (especially budget support) from other donors. Removing or raising these caps could make it easier to pay the teacher workforce and recruit highly qualified teachers. This potential solution provides incremental change within the existing system.
- **Informal recruitment of teachers paid for by the community.** PACE-A in Afghanistan offers an example of where community-level support of teacher salaries has been encouraged by NGOs with communities being required to provide cash or in-kind support for teachers (see Box 7) (Stannard, 2007). This solution bypasses the existing system to provide an alternative way of paying salaries.

5.7 Challenges with donor financing of teacher salaries

Donors can and are supporting salaries in different ways both directly and indirectly and not necessarily only via budget support. Donor resources, including bilateral and multilateral aid and assistance from international and national NGOs, may be given via the government, via communities or directly to teachers. However, paying teachers is costly and requires a long-term commitment for sustainability. Coupled with the fiduciary risks of engaging in FCAS, this has made donors reluctant to fund the high recurrent costs of teacher salaries. However, even if donors are putting money in all other parts of the education system except teacher salaries – such as building classrooms and paying for teacher training – the problem remains that sufficient numbers of teachers cannot be hired, and the quality of education children receive suffers (Education International 2007, cited in Mpokosa and Ndaruhutse, 2008).

Teachers generally constitute the largest civilian payroll by number of staff and value. In Sierra Leone, the teachers' payroll of 32,000 people dwarfs the home civil service payroll of 15,000 and the army of 8,000. In Zimbabwe, annual pay for over 90,000 teachers, at US\$160 per month, made up almost ten per cent of the total national budget for 2010 of US\$2.25 billion, and one-third of the government wage bill of US\$600 million (Goldsmith, 2010). Whilst donors have supported the payment of salaries for health workers in Zimbabwe, there is some evidence to suggest that the sheer scale of teacher salaries by comparison is off-putting (Behbe, 2010).

There are also political dimensions to the reasons why donors prefer not to finance recurrent costs – developing countries often over-budget investments and underestimate wages, since donors have a tendency to provide funds for new investments, which are regarded as the main drivers for development (Therkildsen and Buur, 2010). New investments are also linked to increasing donor interest in accountability and results which are easier to demonstrate through tangible and measurable deliverables like number of schools built, number of textbooks in schools and number of teachers trained, rather than through support to financing teacher salaries.

The biggest obstacle to recurrent cost financing is that it requires long-term predictable aid. Most aid in FCAS is still short term, overwhelmingly project-based and tends to be volatile, which is thought to hamper investment in education (Levin and Dollar, 2005). With FCAS facing far greater development challenges (Leo and Bartheimer, 2010) than other aid recipients, there is a need for longer-term donor commitment to support teacher salaries in countries with weaker capacity. This is particularly damaging to growth and prospects for poverty reduction – non-transparent and inconsistent allocation criteria exacerbate the problem for FCAS, as aid flows are unpredictable (McGillivray, 2005).



Budget support, multi-donor trust funds (MDTFs) and pooled funding for joint programmes that help to fund government expenditures for salaries and other non-capital investments demonstrate how aid can be re-routed through the government – in effect, helping to internalise external resources (see Box 8). The government allocates external resources through its internal budgetary process, reinforcing the budget as the central instrument of policy (Boyce, 2010). MDTFs provide significant opportunities for paying teacher salaries, whilst concurrently mitigating donor fiduciary concerns by allowing accountability mechanisms to be built into programme design.

Budget support, MDTFs and pooled funds are dependent upon at least some government capacity and willingness to provide a framework for coordination and delivery of sectoral inputs. In situations where there is either no central government with which to work (either because capacity has been destroyed, or because the aid relationship has broken down entirely), alternative aid modalities and ways of operating need to be found.

MDTFs and pooled funding for joint programmes seem to offer more opportunities for harmonisation and alignment, and thereby maximum benefit in weak environments, than other financing modalities. MDTFs which can provide budget support (with additional safeguards) or project support through a range of partners have been a popular modality in situations of post-crisis transition and are invariably referred to as ‘best practice’ in these settings (Scanteam/Norway, 2007 and Dom, 2009). They offer the possibility to manage issues of high fiduciary risks and governance concerns, whilst reducing transaction costs and providing a framework for alignment with national plans and priorities and donor coordination.

Challenge 15: Reluctance of some donors to fund teacher salaries for reasons of fiduciary risk

Donors are often reluctant to fund teacher salaries due to concerns about high fiduciary risk. This is a particular concern in relation to budget support, which is seen as the optimal way of supporting salary payments using government systems. Some of the associated effects of this problem include:

- donor support is mainly channelled for capital costs such as buildings and textbooks as well as capacity building via technical assistance
- aid effectiveness may diminish if recurrent costs are not met due to aid proliferation (excess aid investments relative to recurrent costs (Arimoto and Kono, 2009).

There are a number of examples of solutions to these issues including ones that use incremental and step change as well as those that bypass impediments in order to create better functioning systems.

- **Support the payment of salary supplements via foreign exchange to staff or of salaries indirectly via debt cancellation or budget support.** In Zimbabwe, donors have supported the payment of salary supplements in foreign exchange to medical staff at municipal level as well as to teachers in church schools. Chimhowu (2009) argues that such donor assistance could be beneficially extended to the education sector, with the concurrence of the State. In the DRC, donors have indirectly supported teacher salaries via debt cancellation (De Herdt, Titeca and Wagemakers, 2010). Budget support has been used successfully in some post-conflict settings such as Ethiopia, Rwanda and Sierra Leone where capacity has been developing and there has been reasonably strong political will (Ndaruhutse, 2009). This solution provides incremental change within the existing system.



- **Support the payment of salaries via multi-donor trust funds or pooled funding.** The Afghanistan Reconstruction Trust Fund (ARTF) has a recurrent expenditure window, which allows for the payment of civil servants. An estimated 70 per cent of teachers on the national payroll are supported through the ARTF²⁶ which demonstrates how aid has been re-routed through the government – in effect, helping to internalise external resources (see Box 8). In Nepal, the British, Danish, Finnish and Norwegian aid agencies (DFID, DANIDA, DFID, FINNIDA and NORAD) along with the World Bank channelled pooled funding²⁷ through government systems enabling the MoE to maintain teacher salaries whilst also investing in non-recurrent expenditures such as support for school management committees (Berry, 2009). Donors have established a multi-donor trust fund shadow-aligned with government systems in the DRC which has the potential to support teacher salaries in the future (Boak, 2009). This solution demonstrates a step change within the existing system.
- **Bypass the government and support the payment of salaries via a UN-led joint approach.** In Somalia, a UN-led joint approach (working outside the government framework) sought to support the establishment of community education committees to manage schools locally. Committees manage schools financially, liaise with parents, and track students – especially girls – who are out of school, in addition to supporting the community provision of teacher salaries (UNICEF, 2011). This solution bypasses the current system.

Box 8: The Afghanistan Reconstruction Trust Fund Recurrent Window

The Afghanistan Reconstruction Trust Fund (ARTF) Recurrent Window facility allows for the regular payment of salaries for government employees across different sectors, and unlike in other FCAS, has ensured the availability of funds to pay teachers. The government of Afghanistan had wanted a single, predictable, accountable source of funding to ensure it could provide recurrent funding for basic services (including education) that would be visible to the local population. A total of 27 donors provide funding to the ARTF (World Bank, 2011). At present, around 80 per cent of all ARTF spending is for the Recurrent Window (funds used for salaries and other recurrent, regular expenditure). The ARTF is currently the only existing mechanism for coordination and its management committee includes the four major multilateral actors, thus contributing to a more effective and coordinated national policy dialogue (INEE, 2009).

Prioritising recurrent expenditure and systems for paying teacher salaries was crucial in the underpinning of efforts to rebuild service delivery systems and was a key strength of the ARTF approach to supporting the transitional government. The ARTF pays for the salaries of approximately 100,000 teachers – equivalent to US\$109 million per annum (Berry, 2009). The decentralisation of teacher management shifts much of the responsibility for the budgeting and administration of teacher management to the provincial level, at which the timely and transparent distribution of teacher salaries is impacted by very limited capacity. The World Bank and USAID's Education Quality Improvement Program have since funded provincial advisory and monitoring positions to work with local counterparts on efficient and transparent procedures for payment (Kirk, 2008).

²⁶ Interview with Malcolm Phelps, Senior Education Advisor, USAID Office of Afghanistan and Pakistan Affairs, June 2011

²⁷ Approximately 25 per cent of the government's annual budget is provided from this fund – typically around US\$40 million per annum (Berry, 2009).



Challenge 16: Donors' concerns about the long-term sustainability of paying salaries from aid money rather than national resources

Donors can be reluctant to fund recurrent costs of teacher salaries due to concerns about the long-term sustainability of paying salaries from aid money rather than national resources especially if the government does not have sufficient national resources to cover the wage bill. Some of the associated effects of this problem include:

- donor support is provided mainly for capital costs such as buildings and textbooks as well as capacity building via technical assistance
- aid effectiveness may diminish if recurrent costs are not met due to aid proliferation (excess aid investments relative to recurrent costs) (Arimoto and Kono, 2009).

Several solutions using incremental change and step change have the potential to mitigate these issues, as demonstrated in the following solutions from Ethiopia and Rwanda.

- **Donors support the strengthening of the tax base via the provision of technical assistance to the national revenue authority.** In Rwanda, the creation of the Rwanda Revenue Authority, accompanied by donor-funded technical assistance to build the capacity of staff and revenue collection processes and systems, has resulted in increased revenue collection.²⁸ This solution provides incremental change within the existing system.
- **Donors admit that they are there to support the system in the long term with a long-term exit strategy based on gradually reducing support as the government budget increases.** In Ethiopia, USAID via the International Rescue Committee (IRC) supported the payment of teacher salaries at district level. The IRC had a Memorandum of Understanding with district education offices which outlined a phased approach to funding over four years with the district regional education office covering an increasing proportion of salary payments each year (starting with 25 per cent in the first year, through to 100 per cent in the fourth year) (INEE, 2009). This example demonstrates a step change within the existing system and is especially relevant in countries like Afghanistan where the high level of external financing for the education system (90 per cent of operational budget) will be difficult to reduce in a sustainable or phased way in the short term (Venner, 2010).

5.8 Communities and households

As discussed in section 5.6, communities and households usually end up paying teacher salaries when there are limited national resources or blockages causing malfunctioning in some of the 'cogs'.

Challenge 17: Communities and households have insufficient resources to pay teachers' salaries

Where FBOs and communities take on direct responsibility for paying teachers, the main challenge they face is a shortage of financial resources, particularly if they are not supported by the government, donors or international NGOs.

Several solutions outlined under Challenge 13 using incremental change and step change have provided additional resources to communities and FBOs.

- **Donors and NGOs provide resources for communities and FBOs.** See solutions under Challenge 13.

²⁸ Author's own experience



5.9 Summary of key challenges and solutions

Table 2: Common challenges and their associated solutions		
Parts of the teacher salary system	Challenges	Actual and potential solutions
Banking	Challenge 1: Collapsed or non-existent banking system outside the capital	<ul style="list-style-type: none"> • cash agents designated to represent banks • contract out salary disbursement to a third party (e.g. accountancy firm) • use mobile banking.
	Challenge 2: Lack of trust or confidence in the banking system	<ul style="list-style-type: none"> • use Ministry of Education (MoE) officials or teachers as intermediaries to pay salaries • use commercial intermediaries to transfer funds.
Public Financial Management (PFM)	Challenge 3: Capacity constraints in the PFM system	<ul style="list-style-type: none"> • donor assistance to improve PFM system • pay teacher salaries via school management committees.
	Challenge 4: Cash-based payment system	<ul style="list-style-type: none"> • contract out salary disbursement to a third party (e.g. accountancy firm) • provide stronger accountability mechanisms for cash-based payment.
	Challenge 5: Lack of electronic databases for PFM	<ul style="list-style-type: none"> • introduce a digital PFM system to monitor expenditure.
Auditing	Challenge 6: Capacity constraints in relation to auditing	<ul style="list-style-type: none"> • involve civil society in the audit function • donors provide assistance to the National Audit Office • government to set up an internal audit office in MoE.
	Challenge 7: Limited access to financial information	<ul style="list-style-type: none"> • involve civil society in budget tracking • government to use Financial Management Information System (FMIS) digital database to track and record budget expenditures.



Parts of the teacher salary system	Challenges	Actual and potential solutions
Payroll	Challenge 8: Inadequate or incorrect records and payroll verification	<ul style="list-style-type: none"> • improve links between payroll and EMIS • use identity cards (with biometric data) to reduce the number of ghost teachers on the payroll • government to put mechanisms in place to facilitate displaced teachers' return, employment and registration on the government payroll system • use mobile money networks to keep records of clients and provide payroll verification.
	Challenge 9: Lack of clarity on lines of accountability and locus of responsibility on the payroll between and within government ministries	<ul style="list-style-type: none"> • government to reach agreement to integrate community-based schools, students, and teachers into the government system and payroll • link teachers to mobile money platforms for payment of salaries • enable MoE to have visibility of the whole payroll pipeline.
	Challenge 10: Complicated process for payroll submission, verification and payment	<ul style="list-style-type: none"> • submit requests to MoE, not Ministry of Finance (MoF) to cut down on payment disbursement time due to lack of communication or delays between ministries • government to reduce amount of time to officially register new teachers on the payroll.
EMIS/TMS	Challenge 11: Inefficient or non-existent EMIS/TMS	<ul style="list-style-type: none"> • link headcount information, payroll and EMIS through a computerised system for triangulation and savings from ghost teachers • government to reduce amount of time to officially register new teachers on the payroll.
	Challenge 12: Difficulties in accessing and collecting information	<ul style="list-style-type: none"> • map refugee teachers and plan for their reintegration • integrate community-based teachers onto the government payroll • use a computerised system with reliable internet connection to enable decentralised education offices to update information • use new technologies to enable increased access to a digitised EMIS database.



Parts of the teacher salary system	Challenges	Actual and potential solutions
Government financing	Challenge 13: Weak revenue collection and a small tax base	<ul style="list-style-type: none"> • improve revenue collection • faith-based and community-based organisations to manage schools and pay salaries.
	Challenge 14: Wage bill caps	<ul style="list-style-type: none"> • remove or raise wage bill caps • informal recruitment of teachers paid for by the community.
Donor financing	Challenge 15: Reluctance of some donors to fund teacher salaries for reasons of fiduciary risk	<ul style="list-style-type: none"> • support the payment of salary supplements via foreign exchange to staff or of salaries indirectly via debt cancellation or budget support • support the payment of salaries via multi-donor trust funds or pooled funding • bypass the government and support the payment of salaries via a UN-led joint approach.
	Challenge 16: Donors' concerns about the long-term sustainability of paying salaries from aid money rather than national resources	<ul style="list-style-type: none"> • donors support the strengthening of the tax base via the provision of technical assistance to the national revenue authority • donors admit that they are there to support the system in the long term with a long-term exit strategy based on gradually reducing support as the government budget increases.
Community financing	Challenge 17: Lack of resources to pay salaries	<ul style="list-style-type: none"> • donors and NGOs provide resources to communities and FBOs.

This report has outlined 17 challenges and their associated possible solutions in developing and maintaining effective systems for paying teacher salaries in FCAS. It presents major challenges for each of the 'cogs' and 'levers' that make up a well-functioning salary system: the banking, auditing, PMF, payroll and EMIS/TMS systems as well as the financing from government, donor and community resources. The solutions offered in response to these challenges have been classified under three categories: incremental change, step change and bypassing the system. The right solution for any given situation will ultimately depend on context, and trade-offs need to be made between ideal and pragmatic solutions, and in relation to aid effectiveness and national ownership where external financing is supporting the solutions. Thus in some contexts, shadow alignment or partial alignment may be a more pragmatic solution that makes resources flow even though full alignment and support through government systems is ideal. Likewise, bypassing the system or looking for a step change solution rather than incremental change may be the most pragmatic way of ensuring the cogs keep turning rather than planning for incremental change that does not result in significantly improved functioning of the salary system.



6 What are the recommendations for improving teacher pay in FCAS?

There are several lessons that emerge when looking across the challenges identified and their respective solutions. Clearly context is paramount when practitioners and policymakers attempt to find solutions to the challenges facing the teacher salary system. However, all things being equal, this report recommends several rules of thumb, summarised below, for improving teacher salary systems in FCAS. These recommendations highlight the need for policymakers to have a dual focus – not only on increasing national and international resources for teacher salaries, but also on supporting teacher salary systems and the individual parts within them to ensure that resources reach their intended destination.

6.1 Recommendations to donors and national governments

1. **If banking and/or PFM systems need to be rebuilt, use alternative payment channels via third party agents – whether an accountancy firm, an MoE official, mobile banking, or some other means – to pay teachers as a short-term solution.**

This can temporarily circumvent blockages in the banking and PFM systems and will enable teachers to be paid while systems are rebuilt.

6.2 Recommendations to national governments

2. **Use computerised/digital PFM system and computerised EMIS/TMS to improve linkages between payroll and EMIS/TMS**

This will help speed up financial transactions and enable checks between different databases to minimise the inclusion of ‘ghost’ teachers on the payroll. It will also help to address weaknesses in the payroll and information management system and where identity cards are used to verify payroll names, this will help to minimise the payment of ‘ghost’ teachers.

3. **Involve civil society in the audit function of PFM system including payroll**

This will provide external accountability for payment of teacher salaries, ensuring only teachers who are present in schools are on the payroll and paid regularly, minimising corruption and mismanagement of finances.

4. **Enable the MoE to have full visibility of the payroll pipeline with control over payroll requests through the establishment of an effective internal audit office**

This will enable the country’s MoE to undertake an internal audit on all payments made by the MoF and to check that its information management system records are kept up to date and new information is regularly fed to the MoF. It will also result in action being taken when irregularities are discovered.

5. **Reduce time needed to officially register new teachers on the payroll and, where relevant, put in place mechanisms to integrate returnee or community teachers on the payroll**

This will help to reduce delays in teachers receiving their salaries, particularly when they are newly employed or when they have been internally or externally displaced for a substantial period of time.



6.3 Recommendations to donors

1. Provide technical support to develop the capacity of the banking sector, the national revenue authority and the national audit office as well as supporting the development of information management and teacher payroll systems

This will address weaknesses and capacity constraints in the banking and PFM ‘cogs’ and increase the national resources available for paying teacher salaries. This will involve not focusing exclusively on support to the education sector, but also supporting wider issues that impact directly on teacher salaries such as the tax collection system, the banking system and the PFM.

2. Commit to providing financial assistance in a sustainable way for the long term

This will give a country time to create or rebuild its financial management and information management systems whilst at the same time ensuring service delivery takes place through the payment of key service delivery professionals. Donor support of teacher salaries requires long-term, multi-year commitments made as the result of improved donor planning processes. The recurrent cost implications of donor support will therefore need to be placed centrally in donor-recipient negotiations and based on better analysis. Specifically, concerns over the donor dependency effects of the aid financing of recurrent costs could be reduced by establishing more balanced and explicit rules for donor withdrawal of aid as well as by ensuring regular replenishment processes for MDTFs and pooled funds as a way to improve the predictability of aid to ensure longer-term commitments.

3. Provide financial support via a variety of aid modalities (the most appropriate one will depend on context)

Using a variety of aid modalities and mechanisms will enable donors to both support the payment of teacher salaries and provide technical assistance to strengthen the different cogs in the teacher salary system, resulting in a more sustainable system. Learning from other sectors – particularly methods to pay security forces where innovation in this field appears more advanced – should be more systematically analysed and, where appropriate, adapted/extended to the payment of teachers. Budget support is likely to be a preferred donor mechanism for providing aid in support of teacher salaries. An obvious next analytical step, therefore, would be to compare the systems in FCAS that mostly do not receive direct budget support for teachers wages and systems with those in countries that do, to see if there is a ‘graduation path’ and to understand how quickly/steeplly it can be achieved. Another step might be to look at how donors and countries might work together to produce a virtuous circle where countries could have reasonable confidence that a given level of performance would result in access to budget support for teachers’ pay. This might have particular implications for the Global Partnership on Education support of teacher pay in FCAS.



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