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Teacher Motivation, Incentives and Working Conditions

Policy Brief 9

Some Key Decisions on Teacher Motivation, Incentives and Working Conditions

1. Are the monetary incentives for teachers sufficient to attract quality individuals to the profession and should special allowances be given to teachers willing to work in isolated, rural or dangerous areas of the country?
2. What indirect monetary incentives such as housing, transportation, food, paid leave, advanced study and training are necessary to attract and retain good teachers?
3. Can or should "perverse" incentives such as private tutoring be controlled or outlawed?
4. Can job security, stability, career path, benefits and other aspects of the teaching profession be combined with monitoring to improve teaching behavior and student learning?
5. Should student achievement, attendance, and graduation rates be tied to promotion and advancement in the teaching profession?

Executive Summary

- Incentives are a form of encouragement to take action. They are the direct and indirect benefits offered to teachers as motivators.
- Most teachers are motivated by a complex combination of internal and external factors. Incentives are sometimes used by government and education leaders to encourage teachers to behave differently.
- *Direct monetary incentives* typically refer to salary and allowances that teachers receive for their work. *Indirect monetary incentives* include release time for professional development, provision of professional resource materials, and adequate infrastructure, classroom learning environment and teaching materials, personal support such as free and/or subsidized housing, food and transportation. *Non-monetary* incentives such as public recognition, respect from peers and supervisors, and promises of preferential next assignments, have also proven effective. Incentives are not always positive. Some incentives can have unintended consequences.
- The three most common uses of incentive systems in education are to: attract and retain teachers in teaching; motivate teachers to make different professional decisions once they are in teaching; and motivate teachers to utilize teaching practices that education officials believe represent better pedagogy.
- Incentives that tend to be associated with improving teacher practice include: release time to observe and work with peers in one's own school or in other schools; release time for ongoing in-service programs; additional planning or lesson preparation time; institutional support and performance pay.
- To the extent that incentives do work, research suggests that financial incentives are among the more effective when compared to other types of inputs.
- For incentives to be successful**:** the benefit being awarded has to be sufficiently powerful to have incentive value; the incentive has to be paired with the intended behavior within a short enough time frame so that the teacher recognizes the connection; and it is important that those benefits only are awarded to those teachers who actually exhibit the intended behaviors.

Introduction

This brief examines several issues surrounding the factors that have been found to motivate teachers to make career choices and/or adopt teaching practices desired by those offering the incentives. The focus is on those incentives that can be reasonably influenced by education officials interested in improving the performance of the education system. The questions posed and answered are based on those raised in policy discussions with various education colleagues, especially in South Asia. The purpose of the brief is to provide a concise knowledge resource on policy and implementation considerations, and alternative practices, regionally and internationally. To the extent that education leaders understand what motivates teachers, it may be possible to provide incentives in ways that promote better quality education. But it is easy to oversimplify. Most teachers are motivated by a complex combination of internal and external factors. Incentives used to motivate some teachers may antagonize others. Incentives are sometimes used by government and education leaders to encourage teachers to behave differently, presumably in ways that promote the ends desired by those giving the incentives. For example, incentives might be designed to attract current teachers to remain in teaching, to accept assignments in remote schools, or to use new teaching methods in their classroom.

1. What are incentives?

Incentives are a form of encouragement to take action. They are the direct and indirect benefits offered to teachers as intrinsic motivators. Put in other words, they are the application of additional inputs that shape the education process to achieve the eventual outputs of education in desirable ways. While some incentives, such as increased salary, are easy to understand and implement, many others are not. One risk, then, is the a tendency of policy-makers to favor incentive systems that are easy to design and implement over incentive systems that are likely to yield more substantial and longer term outputs, but which are more expensive or complicated. The idea of using incentives to shape teacher behavior is not new. Virtually all educators understand the basic idea. Nonetheless, while some incentive systems work well, many fail. When an incentive system fails, the resources used for those incentives are gone and the intended goals are still not achieved. This leaves the education system worse off than if no special incentives had been used. Motivation comes from many sources. Some teachers are motivated by their love of students and of teaching, some by more external factors such as a stable salary or the advantages of having more leave time.

Three kinds of incentives have particular relevance for teachers: *monetary incentives (direct and indirect), non-monetary incentives* and *perverse incentives*. Each is discussed below.

Monetary incentives can either be direct or indirect benefits. *Direct monetary incentives* refer to salary and allowances that teachers receive for their work. The most direct and effective way to increase the number of secondary school graduates entering teaching and to encourage those already in teaching to remain as teachers is to increase *salary* to a level that makes teaching more attractive than alternative career options. While raising salaries is an effective incentive for building a more qualified teaching force, it is not very useful for shaping the specific behaviors of individual teachers. Furthermore, once a teacher is given a salary increase, it is generally permanent. If the behavior being sought is temporary, such as accepting a three-year teaching assignment in a remote area, giving a permanent incentive is not very productive.

Allowances, a type of change to the salary structure, help solve this problem. Allowances are cash incentives, but tied to the specific action that education officials are trying to encourage, such as teaching in a double-shift school or taking that remote assignment. When the teacher leaves the position to which the allowance was tied, the allowance ends. Consequently, allowances have two advantages over just

increasing salaries: (a) allowances have less impact on the recurrent education budget of a country, and (b) they can be more directly tied to the specific behavior that education officials are trying to encourage.

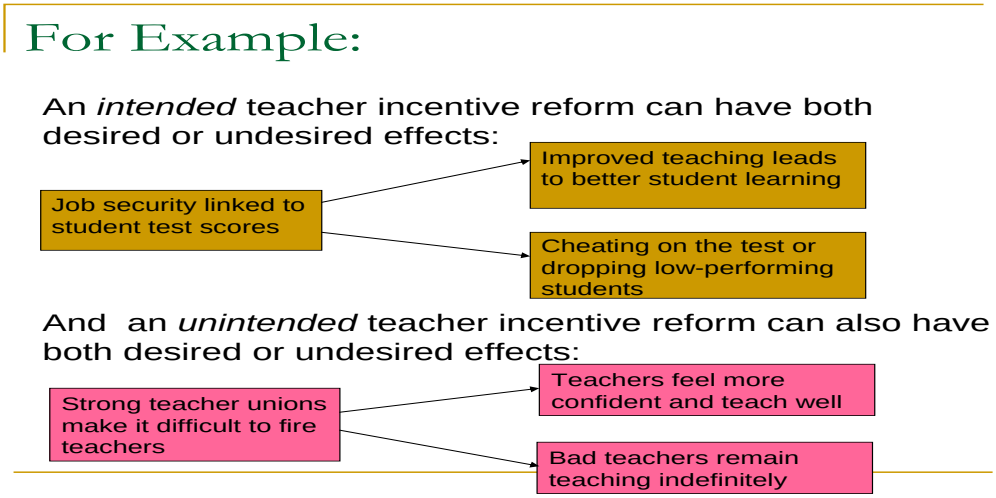
Indirect monetary incentives include all the other financial resources offered to teachers. These might include: (a) professional support such as initial and ongoing training, teacher guides, resource books, instructional supervision; and (b) personal support such as free and/or subsidized housing, food and transportation.

To the extent that incentives do work, research suggests that financial incentives are among the more effective when compared to other types of inputs.

Non-monetary incentives: Given the choice between monetary and non-monetary incentives, most teachers want the money. However, the education budgets of many countries are severely constrained, limiting government use of direct financial incentives. Consequently, there has been an intense search for low-cost or non-monetary benefits that still have sufficient incentive value to shape teachers' behavior. For example, effective incentives include public recognition, respect from peers and supervisors, and promises of preferential next assignments.

Unintended consequences: Incentives are not always positive. Some led to unintended consequences. For example, the widespread reliance on private tutoring has emerged as a major problem in some countries, including Egypt and Cambodia. Many teachers supplement their income by offering special instruction for those students able to pay. This has created a negative incentive, as teachers have a financial motive to withhold their expertise during their regular teaching as a way of encouraging students (and their families) to invest in remediation outside of school hours. Improving their classroom teaching could jeopardize their income flow (Chapman and Miric 2005). The following (Figure 1) provides examples of how intended and unintended incentives can have either desired or undesired effects.

Figure 1: Teacher Incentive Reform



A recent review of teacher incentives in developing countries (Glewwe, Holla, & Kremer, 2008) categorizes teacher incentives in terms of: (i) school environment incentives (policies that improve working conditions so that teachers are more motivated to come to work); (ii) input-based teacher incentives (monitoring and rewarding teachers based on inputs, such as teacher attendance); (iii) output-based incentives (monitoring and rewarding teachers based on student test scores); and (iv) changing the

lines of authority (giving parents or schools the ability to hire and dismiss teachers). Vegas (2009) summarizes the recent evidence:

> *School environment incentives*. Working conditions appear to motivate teachers to come to school. These working conditions not only refer to school infrastructure and materials, but also to the characteristics of the students in classrooms. Glewwe, Holla and Kremer (2008) report that absence is negatively correlated with an index that measures school infrastructure (toilets, covered classrooms, non-dirt floors, electricity, and a school library). Similarly, their review concludes that recent experimental research in Kenya suggests that teacher effort is greater when their students are better prepared and motivated to learn. Providing additional textbooks can also improve the learning of the top two quintiles of students (presumably, those whose background allowed them to benefit from books that were too hard for other students), as a recent experiment in Kenya found. Part of the effect appears to be mediated by teachers: textbook provision increased their presence in the classroom and caused them to use the books more frequently in class (Glewwe, Kremer, & Moulin, 2007). Even when poor conditions do not directly hamper the teacher's effectiveness, they are likely to reduce motivation and make it harder to recruit teachers, particularly to serve in poorer areas.
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> *Input-based incentives*. Research suggests that teacher attendance affects education quality directly. Das and others (2007) conducted surprise visits to the same schools over the course of one year in Zambia, and measured teacher absenteeism and students' learning gains. They found that teacher absence has a surprisingly large effect on student learning: each additional 5 percent increase in teacher absence reduces learning by 4 to 8 percent of a year's learning for the typical student. The study controlled for many other observable inputs into student learning, such as classroom equipment and even family-provided inputs, making it more likely that this effect really is due to absent teachers and not to differences in some other input that is correlated with teacher absence.
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> Chaudhury, Hammer, Kremer, Muralidharan, & Rogers, (2006) measured teacher attendance in six countries through direct observation of teachers during surprise visits to primary schools in 2002-03 (see Figure 2). They used the same methodology across six countries on three continents, in each case in a random nationally representative sample of primary schools, which made cross-country comparisons possible.

Figure 2: Absence rates of primary-school teachers:

	Absence rate (%)
Bangladesh	16
Ecuador	14
India	25
Indonesia	19
Peru	11
Uganda	27
Unweighted average	***19***

> More recently, a handful of other World Bank studies have used the direct-observation methodology to measure teacher absence at the lower secondary level. National average absence rates in these countries have been somewhat lower than in the case of the primary schools shown above, at 8 percent in Lao PDR and 16 percent in Cambodia. In Mongolia, a mixed sample of schools covering different ages, from Grades 1 through 10, recorded average absence rates of 16 percent in rural areas but only 5 percent in urban areas.

Some countries are experimenting with programs to raise teacher attendance. Duflo, Hanna, & Ryan, (2007) conducted an experimental study in India to evaluate how teacher absence affects student learning gains. The experiment involved providing attendance-based bonuses for teachers at NGO schools in rural Rajasthan, by using cameras to monitor attendance and then verifying the results with random spot checks. Compared with the teachers in the schools that had been randomly assigned as controls, teachers eligible for the bonuses had much lower absence rates – only 21 percent, compared with 42 percent for the control teachers. Perhaps surprisingly, student learning increased substantially as well in the experimental schools, by 0.17 standard deviations. The authors estimate that reducing absence by 10 percentage points would increase child test scores by 0.10 standard deviations. Because schools had been randomly assigned to experimental and control groups, their study confirms that the estimated impact is purely due to a teacher effect: all other inputs were, on average, the same across the two groups.

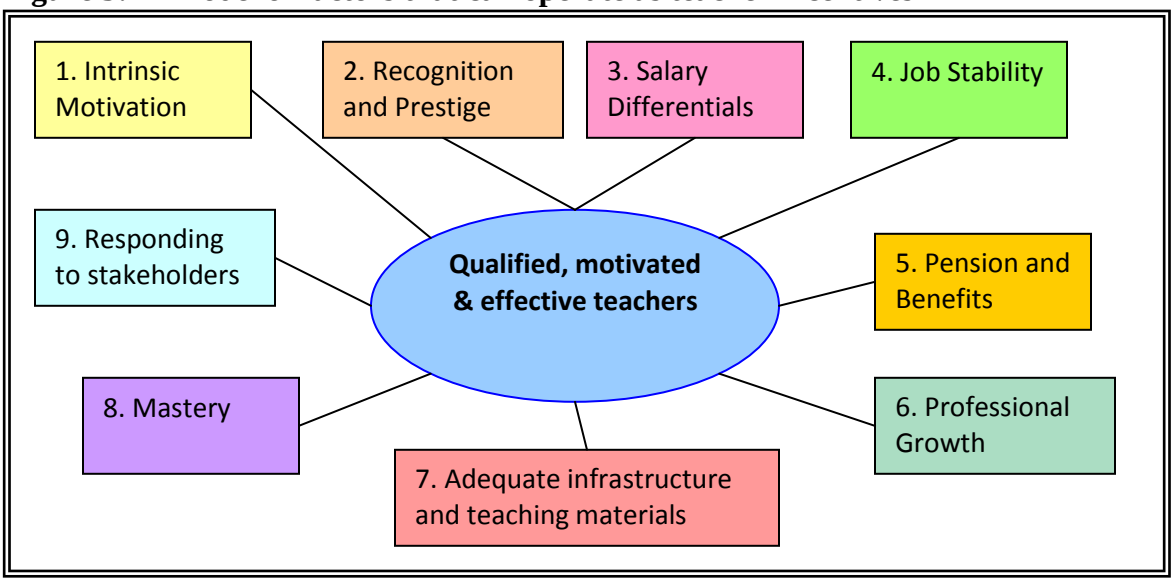
Output-based teacher incentives. Several studies have evaluated the impact of rewarding teachers for improvements in their students' learning. For example, an evaluation of a randomized teacher incentives program in Kenya which provided financial rewards to teachers based on their students' test scores found that teachers increased their effort to raise student test scores by offering more test-preparation sessions. Similarly, an evaluation of a performance-based pay bonus for teachers in Israel concluded that the incentive led to increases in student achievement, primarily through changes in teaching methods, after-school teaching, and teachers' increased responsiveness to students' needs. Ongoing experimental research in India analyzed the impact of the introduction of bonus pay for teachers based on student performance in tests in government schools in Andhra Pradesh (Muralidharan & Sundararaman, 2008). Students in the schools that were subjected to the bonus pay program performed significantly better than students in control schools by 0.28 and 0.16 standard deviations in math and language tests, respectively.

Changing the lines of authority. A number of efforts to raise teacher performance include changing the lines of authority to increase teacher accountability by providing more information to parents and communities and giving them increased authority over teacher hiring, monitoring, and firing. These policies are a response to failures in central government management of teachers. Glewwe, Holla, and Kremer (2008) summarize evidence on a number of programs that (i) provided school performance information to parents and communities and (ii) gave teacher hiring authority to communities. They interpret the evidence as suggesting that giving communities information about the state of schools, without facilitating the use of that information, may not be very useful. In contrast, when communities can make decision (for example, around hiring teachers), then the information provided on education service delivery is useful to improve quality. Indeed, recent experiments in India (Banerjee, Cole, Duflo, & Linden, 2005; Muralidharan and Sundararaman 2008) and Kenya (Duflo, Dupas, & Kremer, 2007) indicate that when communities can contract and monitor teachers directly, teachers are less absent and their students have higher test scores.

2. How can one identify the best incentives that motivate teachers?

Education and government decision makers have exhibited intense interest in identifying specific actions and/or benefits they might use as incentives to encourage valued teacher behaviors. Vegas and Umansky (2005) suggest nine types of actions that can operate as incentives in attracting teachers, retaining teachers, or in encouraging more effective teaching (see Figure 3). These include intrinsic motivation, recognition and prestige, salary differentials, job stability, pension and benefits, professional growth, adequate infrastructure and teaching materials, subject master, and responding to stakeholders.

Figure 3: A model of factors that can operate as teacher incentives



Source: Vegas and Umansky (2005)

Similarly, Table 1 summarizes monetary and non-monetary benefits identified by Kemmerer (1990) as having potential incentive value. She organized these under the general categories of remuneration, instructional support and working conditions.

Table 1: Types of Teacher Incentives

Remuneration			
Monetary • Salary • Beginning salary • Salary scale • Regularity of payment • Merit pay • Materials allowance • Cost of living allowance • Hardship allowance • Travel allowance	In-kind supplements • Free or subsidized housing • Free or subsidized food • Plots of land • Low interest loans • Scholarships for children • Free books	Benefits • Paid leave • Sick leave • Maternity leave • Health insurance • Medical assistance • Pension • Life insurance • Additional employment • Additional teaching jobs (e.g. adult education) • Examination grading • Textbook writing • Development projects	Bonuses • Bonus for regular attendance • Bonus for student achievement • Grants for classroom project
Instructional support			
Materials • Teacher guides –on time –in all subject areas –in appropriate language • Student textbooks –on time –in all subject areas –in appropriate language • Classroom charts • Science equipment • Copy books • Pencils • Chalkboard • Safe storage for materials	Supervision • Observation • Feedback • Coaching	Teacher Training • Classroom management • Materials use • Lesson preparation • Test administration	Career Opportunities • Master teacher • Principal • Supervisor

Working conditions			
• Positive school climate • School facilities • Classroom facilities • Number of students • Age range of students • Collegiality			

Source: adapted from Kemmerer 1990.

While these lists and frameworks are useful in suggesting possible incentives, it is important to note that the value of incentives may differ from country to country. The most effective incentive system for a country is based on a careful study of what teachers in that country actually value. In designing incentive systems, it is useful to question teachers and then try target the design of incentives those actions, although opinion surveys are not always a reliable guide.

It is also important to note that addressing issues of teacher incentives is just one part of developing an effective system for attracting, retaining and motivating highly qualified teachers to raise student learning. There are several other areas related to working conditions, including support from other education colleagues; expectations; and professional autonomy and authority (see Table 2).

Table 2: Components of an Effective System for Attracting , Retaining and Motivating Highly Qualified Teachers: Source: Vegas and Umansky (2005)

1. **Adequate infrastructure and teaching materials; basic resources**
2. **Clarity in what is expected from teachers**
- what knowledge and skills teachers need to have
- what behavior and performance teachers should exhibit
- what results, in terms of student learning, teachers are expected to accomplish

3. **Clear, transparent rules for teacher selection and purposeful assignment to schools**
- how teacher selection and assignment affects teaching and learning

4. **Monitoring and evaluating teaching and learning**
- what knowledge and skills teachers have
- what behavior and performance teachers exhibit
- what students are learning and at what rate they are making progress

5. **Instructional leadership and professional development for supporting teacher professional communities**
- school administrators as instructional leaders
- using information from teacher evaluation to develop professional development opportunities tailored for each teacher and teams of teachers
- built in time for teacher professional development and teacher collaboration

6. **Professional autonomy and authority**
- teachers can use their best professional judgment in the classroom
- school administrators have professional autonomy to provide teachers with support, in both material and technical resources
- school administrators have authority to reward high performing teachers and penalize low-performing teachers

7. **Effective teaching incentives**
- adequate relative salaries
- higher salaries for better-performing teachers
- higher salaries for teachers working in disadvantaged areas
- advancement opportunities throughout the teacher's career
- recognition for excellent teachers
- real threat of losing one's job for poor-performing teachers

Much of this has to do with job professionalization. An increasing number of researchers have argued that improving school and teaching performance requires professionalizing the job of teaching. Teacher professionalism begins with instructional competence and commitment and extends into a number of related issues dealing with the degree of –decision-making autonomy and accountability. Therefore, initial steps in developing teacher professionalization should focus on helping teachers develop basic instructional competencies. Next steps should focus on providing opportunities to develop reflective skills, and make decisions to change the classroom learning environment, followed by increasing levels of autonomy and accountability (Craig, Kraft and DuPlessis 1997. Ingersoll (1995) found that schools with more faculty influence over decision-making had distinctly lower rates of turnover than those with less staff influence over decision-making. As a result, a host of reforms have been promoted that are designed to upgrade the working conditions of teachers, such as teacher empowerment initiatives, evaluation of performance, merit pay plans, career ladders, mentoring programs, and other professional development plans. They must be considered within a broader package for school, and school-system development as identified in the frameworks shown above in Figure 3 and Tables 1 and 2.

3. How do incentives work?

One way of thinking about teacher incentives is in terms of the way in which they shape how teachers view their work. The work-life complexity suggests that changes in teachers' terms of employment and working conditions impinge on the work-life of teachers, often in negative ways, at least in the short term. Changing expectations regarding deployment or teaching practice may increase the complexity of teacher work-life by expecting them to e.g. use different instructional materials, teach in new ways, learn new content, or adjust to a new school or community. This increased complexity often leads to teacher resistance to the innovation. This resistance can be met in two ways: (a) the complexity of the intervention can be lowered, or (b) incentives can be increased so that teachers believe their extra effort is being rewarded (Chapman and Snyder 1992). Education managers, then, need to balance new demands with an appropriate level of incentive.

This explains why teachers sometimes resist even those interventions that are demonstrably effective in raising student learning and which, over time, could reduce teachers' work load (Chapman, Snyder and Burchfield, 1993). Teachers resist those changes to their professional life that create greater work and which lead to an imbalance between work and reward. Aligning incentives is, then, an integral factor in any effort to introduce education reforms that depend on new or different teacher behavior for their success.

4. How are incentives commonly used?

The three most common uses of incentive systems in education are to: (a) attract and retain teachers in teaching, (b) motivate teachers to make different professional decisions once they are in teaching, and (c) motivate teachers to utilize teaching practices that education officials believe represent better pedagogy. Each of these uses requires different types of incentives which are discussed below.

5. How can education officials use incentives to attract and retain teachers?

How teachers are recruited and assigned to schools affects the quality of teachers and subsequently student learning. The more transparent and rational this process is, the less it can be politically influenced, and the more effective teachers can be placed where the greatest needs are, often with the most vulnerable student communities.

Incentives most useful in attracting and retaining teachers tend to be:

- direct financial remuneration

- improved deployment practices
- job security
- free or subsidized housing
- special allowances

In the Latin American regional study (Vegas and Umansky, 2005), it was found that both teacher wage levels and structure generate various incentives and disincentives. Higher absolute wages and competitive relative wages appear to attract more and better-qualified candidates to the teaching profession and may also result in less teacher turnover. The salary structure can be designed to reward or encourage specific choices such as teaching in specific areas of staying in the profession. The effectiveness of specific salary differentials was unclear from the particular case studies.

While better compensation is probably the most direct and effective way to attract and retain teachers, realistically, most governments are limited in their ability to significantly raise compensation. Teachers' job security in many countries is already good. As a practical matter, then, this leaves improving teacher deployment practices as the incentive most within the budget and effective control of policy-makers for attracting and retaining teachers.

People are more likely to enter teaching if they believe they will be treated with respect and that their personal career needs will be met. Teachers often have strong preferences about where they teach and often these preferences do not coincide with where they are deployed.

Deployment procedures are generally intended to achieve two, sometimes competing, goals of (a) ensuring instructional quality by having the right mix of well-qualified teachers in each school and, (b) reducing teacher turnover by ensuring that teachers are working in school and community settings that are consistent with their values and interests (Mulkeen et al. 2007). The challenge for education officials is to find a workable balance between these competing needs.

Teacher deployment systems sometimes utilize special incentives. Teacher housing is one of the most frequently used incentives to attract teachers to rural areas where suitable housing is not available for rent. The availability of safe housing is particularly important in encouraging female teachers to locate in rural areas. Additional incentives in the form of bonus payments or hardship allowances are often paid. However, as Mulkeen and Chen (2008) note, the impact of financial incentives is often limited by the scale of the additional payment and poor targeting. To be effective incentives need to be:

- significant in scale (i.e. need to be substantial enough to outweigh the social and economic costs for living in an isolated area);
- carefully targeted in remote schools (i.e. requires a fair system of classifying schools. General classifications of schools may provide bonuses to teachers working in small towns while doing relatively little to increase supply of teachers in the most isolated schools);
- tied to staff remaining in that hardship post (i.e. if the person leaves the post, then the allowance would discontinue).

A particular disincentive in recruitment is prospective teachers' fear that they will be posted to an undesirable location and that they will have little say in that process. The UNESCO study on Teacher Education in Asia, produced by the International Reading Association in 2008, summarized the problems of deployment in the region (Box 1).

Box 1: Deployment of Teachers

Nearly all countries reporting data in this study identified problems with the deployment of qualified teachers and the problem of insuring **uniform access to qualified teachers**. In some countries, there was great disparity in quality between **rural and urban teachers.** But disparities also exist in the access to both male and female teachers (some countries report too few females, others report too few males), **disparities among teachers competent in languages that match their students'**, or in some countries **competence in the national language of instruction**. Central education ministries use a variety of schemes from forced deployment, **teacher rotations, and wage differentials** to address the disparity in access, but conditions remain critical. In some countries inability of central governments to provide quality education have given rise to significant systems of **private education**. Such private systems are outside the governance of public education authorities, and may eventually exacerbate the disparity in education services.

It is not uncommon for a teacher's contract to require them to serve anywhere in the country where they are assigned. This strategy, while equitable, is viewed by many prospective teachers as imposing unacceptable risk. Women do not want to be separated from their husbands. Teachers do not want to be assigned to schools in areas of different ethnicity and language than themselves, where they often feel unwelcome and marginalized (Mulkeen, 2007). Deployment strategies that honor teachers' wishes and reduce their fears can serve as positive incentives to attract and retain teachers.

Table 3: Location and Gender Issues for Rural Teachers

Country	Intervention	Comment
Asia		
Afghanistan	Distance learning is a logical vehicle to deliver educational services to institutions, communities and households across the country as a means of reducing the problems associated with inadequate facilities and cultural inhibitors to girls' education in particular. It may also be a useful alternative in rural and remote areas where there is a shortage of trained teachers.	The average teacher's salary is $74 per month although this is expected to increase as part of the implementation of general public administration reforms. Some additional incentives to attract qualified teachers, particularly women, or to relocate them to areas where there is a shortage of teachers will also be considered. One incentive scheme being considered is the establishment of special housing for teachers in order to attract women to the teaching profession, and to increase the number of qualified male and female teachers in the rural and underserved areas of the country.
China	The Premier called for establishing a free education system for those teacher candidate applicants. If they can pass the higher education entrance exam and sign contracts for becoming teachers in basic education, they can complete the four-year undergraduate study free of charge at the six normal universities under the direct supervision of Educational Ministry.	On-line in-service training is particularly important for teachers in rural China. The summer holiday in 2007 witnessed the implementation of a rigorous Plan of Teacher Training in West China, which was conducted on-line. Teachers cannot afford to participate in in-service training. It is often impossible for teachers in remote areas of China to continue any kind of in-service training due to lack of financial support.
India	During the period 1990-95, the total amount of teachers at the different levels of education increased from 4.0 million to nearly 4.3 million, an increase of 6.5 percent. Gender analysis of the teaching profession indicates that there are three times more males than females. Although the number of female teachers has increased, their share in the total teaching force is very small—particularly in rural, remote and	

	educationally backward areas.	
Nepal	The process of upgrading the educational qualifications of teachers, the recruitment and retention of new teachers and the training of skilled, knowledgeable teachers faces extreme challenges. The result has been an acute strain on the supply of qualified teachers. Current pupil-teacher ratios are approaching 150:1	The country has experienced a prolonged period of political and social unrest that has hindered education progress. The ongoing armed conflict instigated in February 1996 had a great impact on education in the country. During 2006 approximately 3840 schools were affected by armed conflict. It was recorded that 3735 schools were closed from time to time.
Sri Lanka	There is an excess of teachers in urban popular schools and a shortage in rural difficult area schools and the Ministry of Education has offered certain incentives to teachers serving in difficult schools through Circular No. 99/17. The World Bank has provided assistance through the Teacher Education and Teacher Deployment Project (TETD) to overcome some of the problems of teacher training and deployment.	The Government has also introduced certain incentives to persuade teachers to take up appointments in uncongenial schools. The most effective incentive in this regard is the payment of a cash allowance. This option is also being pursued by the government. Circular No 95/11 enacted a national policy for teacher transfers and today involves the practice of appointing newly trained teachers to areas of greatest need. The policy also established a service requirement, which compelled teachers to serve in all types of schools in the country. Inter-provincial teacher transfers were also allowed to get rid of teacher surpluses and deficits.
Cambodia	Free housing provided to 30% of remote school teachers	(Beneveniste, Marshall and Araujo, 2008)
Indonesia	Under the new teacher law of 2005, teachers can receive up to 100% of their base salary for teaching in rural, isolated and other difficult locations.	
Other		
Brazil	In 1998, Brazil instituted a fund for the maintenance and development of basic education and teacher appreciation. There was an education finance equalization law designed to reduce spending inequality and, at the same time, guarantee a minimum level of spending per student in primary schools. Importantly, the reform mandated that 60% of the revenues generated by the program be used for teachers. These funds are used to hire new teachers, train under-qualified teachers and increase teacher salaries.	The greatest improvements were in the poorer areas and in the earlier primary grades where higher proportions of teachers had been under-qualified prior to the reform. The resulting changes in teacher salary level altered the incentives to teachers. However, the reform was introduced at the same time as new legislation that required teachers to have a secondary degree, and so the funds received under the program were not significantly associated with a steep decline in under-qualified teachers. Regardless, as a result of the program more students began attending school in the poorer states, specifically in the higher grades of basic education.
Zambia	Hardship allowance to move to rural areas	Calculated on a sliding scale, based on distance from the nearest tarred road. (Mulkeen and Chen 2008)
Lesotho	• Selection of teachers by school management • Hardship allowance paid	• Schools employ local staff, who are more likely to accept the post and remain in it. This may result in recruitment of less qualified teachers in rural schools but provides a stable

		cohort of teachers in remote schools. • Amount of allowance is generally acknowledged to be too small to encourage more highly qualified teachers to locate to remote areas. Also the allowance is determined by very general classifications of schools. Teachers in remote rural areas in the lowlands do not receive the allowance, while teachers in towns and mountain districts do. • Teacher housing not normally provided, but some nongovernmental organizations and community groups have provided accommodations(Mulkeen and Chen 2008)
Mozambique	Bonus to move to rural areas	Bonus can be up to 100% of salary, but they are paid only to highly qualified teachers. Most primary teachers get no additional pay to move to rural areas. (Mulkeen and Chen 2008)
Uganda	Hardship allowance	Allowances of up to 20% of salary for hard-to-reach areas was introduced in 2001 for qualified teachers. Difficulties arise in determining which schools are hard-to-reach. (Mulkeen and Chen 2008)
Yemen	Incentives provided for teachers in remote rural postings	

***6. How can education officials use incentives to motivate teachers to make different professional decisions*?**

While introducing more teacher-friendly deployment practices can be an effective incentive in recruiting and retaining new teachers in needed locations, the interest of education officials is also focused on how to shape the behavior of those already in the teaching force. For example, education officials might want to encourage teachers to teach multiple subjects, attend school regularly, teach in a double-shift school, or accept a transfer to another location. Incentives used to encourage these choices sometimes include:

- free or subsidized housing,
- special allowances,
- preferential future assignments
- localized/school-based management
- professional development opportunities to meet that particular need

Several countries have experimented with new ways to influence teachers, on the assumption that a fair and transparent assignment system can operate as an incentive to encourage teachers to undertake less attractive assignments.

Nonetheless, these efforts have had mixed results, for three reasons:

- the incentive value is in teachers believing they will be treated fairly; any favoritism, real or perceived, undermines the effort
- the varying ability of governments to deliver on the promised incentives For example, the success of incentive systems that offer preferential future assignments often requires a more sophisticated system for tracking teacher assignments than are available in some countries

- benefits initially provided as special incentives, over time, can come to be viewed as entitlements. When incentives come to be viewed as baseline expectations, their incentive value is lost and teachers interpret their absence as punishment (Chapman and Miric 2005)

The lessons from international experience are:

- only offer incentives that can the education system can reasonably deliver,
- recognize that the motivational value of incentives may erode over time and need to be replaced with new incentives.

Table 4: Teacher Incentives

Country	Intervention	Comments
Bolivia	• Extra pay received for teaching near national borders, teaching bilingual students, receiving in-service professional development, performing administrative duties, and working in rural areas • Four distinct incentives are offered to teachers based on their work location alone.	• The rural teacher pay differential is meant to compensate teachers for the perceived hardship of living and working in a rural area. Rural and urban teachers, until recently, were educated in different teacher training schools. As a result, prospective teachers had to choose, even prior to studying, whether to become a rural or urban teacher. Without a salary differential, one would expect teachers to work in urban areas, which would result in stiffer competition in these schools and ultimately more qualified teachers in urban schools. • Researchers found no meaningful differences between the test scores and other educational outcomes of students of urban classified and rural classified teachers with the same background characteristics. This suggests that the rural pay differential is not successful in attracting and retaining teachers that are more effective than average urban teachers.
Peru	Salary differential offered for 15 different "behaviors". Base salary accounts for only 5% of total salary.	
Honduras and El Salvador	Decentralized, school-based management	Schools in El Salvador were closed less frequently than traditional schools. Teachers less frequently absent because of union participation. Teachers also spent greater time meeting with parents. Student scores were better in Spanish than regular schools . This was seen as partially due to time spent with parents. Teachers were less absent in Honduras, but because of teacher professional development. Changes were seen as a result, at least in part, because of more localized management. However, teachers in Honduras (PROHECO teachers) were more likely to report being dissatisfied with their salary level, and this might mitigate against their quality and behavior. Student in PROHECO schools scored higher on math, science and Spanish exams than in similar, non-PROHECO schools . This

		was seen due to increased number of hours teachers were teaching.
Gambia	Increased transparency on teacher deployment The introduction of an education management information system (EMIS) in Gambia helped reduce the role of favoritism in teacher assignments.	The EMIS provided an objective means of tracking and ranking teachers by seniority, language abilities, subject specialization, and other factors that were supposed to be used in assigning teachers to schools. The availability of this information constrained the assignment of teachers on the basis of such factors as family connections, personal friendships, or other forms of personal influence (Department of State for Education 2001)
Mozambique	Salary bonus for two-shift teaching	Urban schools are more likely to offer two-shift teaching, which carries a salary bonus. Teachers in towns and cities are more likely to take home additional earnings. This type of bonus can be a counterincentive to get teachers to go to rural areas.

7. How can education officials use incentives to motivate teachers to use different pedagogical practices?

Often incentives are sought that will encourage teachers to change their classroom teaching practices in ways that education officials believe represent better pedagogical practice. However, incentives designed to encourage teachers to adopt different classroom teaching practices are not necessarily the same as those aimed at retaining teachers in teaching.

Incentives that tend to be associated with improving teacher practice include:

- Release time to observe and work with peers in one's own school or in other schools
- Release time for ongoing in-service programs
- Additional planning or lesson preparation time
- Institutional support (induction programs for new teachers, especially in the first year of teaching, ongoing support and guidance/mentoring, professional recognition)
- Performance pay

Research findings about the effectiveness of incentives in actually shaping teacher behavior have been mixed, especially regarding performance pay (see country examples below).

Performance (or merit) pay was once common in schools, but difficulties in establishing professionally credible methods of assessing teaching performance led to its demise. More recently, in line with economic rationalist management models of education governance and their focus on measurable outcomes, there has been a renewed interest in performance pay for teachers.

Performance pay has been linked directly to debate on the production function of teachers and a market place approach to teaching and learning. Figlio and Kenny (2006) reported positive relationships between individual teacher performance incentives and student achievement data using United States data, although they caution about interpreting the findings as a causal link since the data were derived from cross sectional surveys and not from a controlled experiment. As far as I know, the only systems using students' standardised test results as the main basis for performance pay for teachers are in the United States. Several other countries (e.g., Germany, Korea, Mexico) use a mix of employer-assessed performance and student outcomes, measured through various forms of student assessment, to assess individual teachers.

There is considerable scepticism that employers could use student achievement alone as the basis for incentive payments to teachers (Retel & Devai, 2007), even with adjustments for other variables such as home background, as occurs in "value-added" models (Millmann, 1997). From the discussion in this paper on the content of professional standards for teachers, performance of teachers needs to include elements other than student achievement, as important as this is. My view is that regular performance appraisal for teachers is essential and that it should be a key factor in a teacher's career progression. However, having an authentic measure of professional standards, with wide consultation and on-going validation, is a prerequisite to the introduction of any scheme for teacher compensation based on performance.

Table 5: Performance Pay

Country	Intervention	Comments
India	This experimental study of performance pay for teachers in India has been implemented across a representative sample of government-run rural primary schools in the Indian state of Andhra Pradesh. The program provided bonus payments to teachers based on the average improvement of their students' test scores in independently administered learning assessments (with a mean bonus of 3% of annual pay).	• Students in incentive schools performed significantly better than those in control schools by 0.19 and 0.12 standard deviations in math and language tests respectively. They scored significantly higher on "conceptual" as well as "mechanical" components of the tests suggesting that the gains in test scores represented an actual increase in learning outcomes. Incentive schools also performed better on subjects for which there were no incentives. • No significant difference was found in the effectiveness of group versus individual teacher incentives. • Incentive schools performed significantly better than other randomly-chosen schools that received additional schooling inputs of a similar value. (Muralidharan and Sundararaman 2008).
Kenya	Teacher bonuses based on student end-of-year test scores	Teachers did increase efforts to raise short-run test scores by conducting more test preparation session, but the results tended to yield short-term rather than long-term gains in learning The bonuses did not lead to a change in teacher attendance, classroom pedagogy, the amount of homework assigned or rate of student drop-out. (Glewwe, Ilias and Kremer, 2003).
Mexico	Carrera Magisterial Program (national performance base teaching), which began in 1993 created a means by which teachers can move up consecutive levels of higher pay based on year-long assessments of a series of factors including their professional development and education, years of experience, a peer review, and student performance. The purpose of the reform was to establish incentives for teachers to improve their qualifications and effectiveness in the classroom, and to	Involves rewarding individuals Offers permanent salary increases Does not distinguish among teachers serving students from different backgrounds Because of the 70 point cut-off level, teachers with different background characteristics face different levels of incentives to improve student performance. Many teachers, whose education levels were low or who have few years of experience, could not reach the cut-off point even if they were awarded all 20 of the possible

	create a means by which teachers could receive promotions without being promoted out of the classroom. The bonuses were substantial amounting to between 24.5 % of teacher's basic wage for the first promotion and up to 197% of base wage for the highest (fifth) promotion. Is an individual performance based pay program that awards permanent promotions (and higher compensation) to teachers based on their rank on a number of factors Attempts to improve teaching and learning be evaluating teachers and schools based on their performance on standardized exams.	points for student performance. A review showed that although teachers generally respond to incentives, they do not always do so the expected way. No apparent effect from intervention on student performance. Design flaws in performance based funding reforms were likely behind their lack of uniform success.
Chile	Sistema Nacional de Evaluacion de Desempeno de los Establecimientos Educaionales (National System of School Performance and Assessment or SNED) National performance-based teacher incentive systems implemented from 1996 and offers monetary bonuses to schools who show excellent performance in terms of student achievement. Schools are divided into homogenous groups so that schools are in competition only with other schools serving students in similar settings. The bonus was awarded to the top-performing schools serving 25% of total enrolment in each of the nation's regions. It is offered once every two years. 90% of the bonus awarded to the school is divided among each winning school's teachers. Each teacher in turn received what has typically amounted to one-half of one month's salary, or between 5-7% of a teacher's annual salary. Is a school-level performance-based pay program that awards a bonus to teachers in schools that outperform schools serving similar populations on a national student exam Attempts to improve teaching and learning be evaluating teachers and schools based on their performance on	Involves rewarding all teachers in a given school Temporary bonuses Groups schools and therefore teachers) based on the types of student population which they serve Incentive offers between 5 and 7% of annual average salaries There is some evidence that the incentive had a cumulative positive impact on student performance for those schools with relatively good chances of winning the award. Some unintended effects can happen from such an intervention including increased cheating, forcing low performing students to drop out, having paid tutorials to the detriment of other subjects etc. The possible use of these practices was not examined

	standardized exams	
Cambodia	Small program to recognize best teachers	Three teachers in each province receive a one-time award equal to US$20-30.
Australia	The Australian Government in its May 2007 budget papers, proposed bonuses of up to $50,000 for schools that "make 'significant' improvements in literacy and numeracy" (Devai, 2007, p. 1). Tenders were invited to suggest how such a scheme could operate, including taking account of value-adding, and considering options for rewarding individual teachers v. school-level allocations.	

8. <u>What conditions have to be met for incentives to be successful</u>?

- *the benefit being awarded has to be sufficiently powerful to have incentive value*. Not all teachers want the same things and, also, incentives are often culture-specific. Short of giving more salary or allowances (which seems to be universally appreciated), identifying a benefit that has incentive value to a large proportion of teachers can be a problem. There is no international list of incentives guaranteed to be effective.

- *the incentive has to be paired with the intended behavior within a short enough time frame so that the teacher recognizes the connection*. This raises the problem of who monitor teachers' behavior closely enough to make valid decides about which teachers should be awarded the incentive. In some countries, teacher supervision is the responsibility of the Inspectorate who may only visit a school once or twice a year. Such intermittent visits do not provide sufficiently timely information. Relying on the school headmaster to evaluate teacher eligibility raises issues of headmaster's competence in teacher performance assessment, their ability to withstand pressure from teachers and teacher-allies, and the risk of favoritism.

- *for the incentive to have the intended impact on teaching practice, it is important that those benefits only are awarded to those teachers who actually exhibit the intended behaviors*. Moreover, the process for selecting teachers to be awarded needs to be consistent, fair and transparent. Other teachers must see the selection as reasonable and accurate. They must believe that if they improve their performance in the intended ways, they too will get the incentive. If inspectors or head teachers are thought to award incentives based on nepotism, friendship, or kickbacks, the system is worthless. This can put a lot of pressure on those responsible for selecting who gets the incentives. They may experience hostility from those passed over for the rewards, even if the basis for deciding is objective and fair.

9. <u>Is an accountability system also required to ensure the effectiveness of incentives?</u>

Just giving out incentives is not enough to shape teacher behavior in intended ways. To be effective, the incentives need to be correctly targeted and only awarded when the desired behavior is achieved (Galal 2002; Chapman and Miric, 2005). In Egypt, teacher salaries and allowances increased, teacher:student ratios declined, and teachers were provided with in-service training opportunities. Yet the quality of education did not improve. A leading reason was that these incentives were awarded with little regard for the extent that recipients' teaching performance was improving. (Chapman and Miric 2005). In short,

effective incentives require an accountability system that ensures that the benefits are going to those teachers whose behavior was what education officials intended to encourage.

10. Are there other challenges of applying teacher incentives?

Incentives are usually appreciated by those that receive them. They often are resented by everyone else. There are often many competent teachers in the middle range of professional performance who are unlikely to ever receive rewards for their work. For those who recognize that they will ever qualify for an incentive, seeing incentives flow to their co-workers can have a negative effect on their morale and their own subsequence performance (Kohn 1999).

A key characteristic of the educational process is that student learning is influenced by many small factors rather than by a few large ones (Chapman et al. 2005). There are no magic strategies that, if implemented, will make a large impact. This is well illustrated by examining the relationship of education inputs and student achievement indicating that (a) across a wide variety of factors, each explains a relatively small amount of variance in student learning, (b) findings are inconsistent across studies, and (c) finding differ across settings (Anderson, Ryan and Shapiro 1989; Fuller 1987; Hanushek 2002; Wang, Haertel and Walberg 1993). The inconsistency of findings is due to differences in country situations, the target groups being investigated, the definition of key variables, and the research methodologies used (Chapman and Adams 1998). The main implication of this finding is that stakeholders may differ on what teacher behaviors they seek to encourage (through the use of incentives) as a way of improving education quality. Consequently, they may disagree on what incentives they regard as most appropriate to promote desired changes in teacher behavior.

Even when there is agreement on the desired teacher behaviors and on the most appropriate incentives, the use of incentives to shape teacher career decisions and professional practice should not be oversold. Teacher incentives are not a panacea. Incentives can backfire. They can yield unanticipated consequences. For example while good housing near the school can be significant incentive for teachers, particularly female teachers, it can be expensive to provide, especially if the government is also responsible for maintaining the property. There may be difficulties in repossessing a house for use by a new teachers, particularly where the teacher occupying the house has died or fallen ill, leaving his or her family in a precarious financial position (Mulkeen and Chen, 2008)

Even when they work, the effects may be modest. Even if incentives successfully motivate the teachers who receive them, they may demoralize teachers who not receive them. Kohn (1999) describes this situation as being 'punished by rewards'. Teachers who do not believe they will ever achieve a level of teaching performance that would result in a reward sometimes harbor resentment that shapes their outlook and their work.

Two efforts to mitigate the potentially negative effects of incentives have been to:

- distribute incentives to a larger proportion of teachers, in an effort to make the effort more inclusive
- base the allocations of incentives on school performance rather than on individual performance, in an effort to encourage collaboration in working toward the desired goals.

Neither approach seems to yield a more effective approach. A recent study found that incentives have little effect if they are distributed to a large proportion of teachers. If distributed broadly, they lose their specialness (NBER 2007).

11. What role does career progression play as an incentive?

One strategy, noted by Baumgart (2007) to improve teacher quality is to provide incentives and reward teacher performance by having a salary scale with (say, three) steps (or barriers, depending on your point of view). Progression between steps would require, in addition to formal qualifications, demonstrated performance at a specified level, as measured on the professional standards. Within each step on the salary scale, a teacher would progress in annual increments, subject to satisfactory performance appraisal.

To achieve this situation, a number of aspects need to be in place. Firstly, there would need to be an accepted system of regular performance appraisal of teachers. "Regular" could be defined as annual, or every three years, or certainly at least every five years. The appraisal would need to be conducted in line with an accepted professional standard. One possibility would be that annual appraisal, affecting only incremental progression within steps of the scale, might be conducted within the school whereas an appraisal that enabled progression to the next step might require an external evaluation. The external performance appraisal could be provided by appropriately trained inspectors, or district/provincial managers, or the principal of another school.

Table 6: External Performance Appraisal

Country	Intervention	Comments
Vietnam	In 2006, the Ministry of Education and Training (MoET) in Vietnam, working with the Ministry of Home Affairs, introduced a salary scale with three "titles" for teachers. The titles effectively provide three main steps in the salary scale, with incremental progression within each step. The intention was that eligibility for a higher step would be based on teacher professional standards as well as on qualifications. However, at the time the titles were promulgated, the professional standards (the "profile") had not been ratified so the criteria for titles were only based on qualifications. In addition, at this stage, the "profile" only applies to primary teachers and professional standards for other levels have yet to be finalised.	
Australia	Teachers in Australian government schools have had little incentive to improve their professional standards, since most teachers can achieve the top of the salary scale in 9 or 10 years. If they choose not to apply for management positions, their salary remains static. In addition, the ratio of the top of the scale to beginning salary is only around 1.4.	Almost 20 years ago in Australia, most states introduced a level called "advanced skills teacher" intended to allow a committed teacher to remain in the classroom instead of becoming a school manager. The salary of the advanced skills teacher overlapped that of deputy principal. However, with the support of quite powerful teacher unions, virtually all teachers became eligible for this higher level so that it essentially became yet another rung in the incremental scale. This situation has not been positive for teacher morale. In 1995, a review, was commissioned by the State Government, of the teaching

		service in New South Wales. At the time, there was an over-supply of teachers, particularly in primary schools, and a stable teaching force with few vacancies for promotion to management positions. As part of the review, 4,700 submissions were received, most from disgruntled teachers, who felt their teaching went unrecognised and unrewarded. Yet they were not accustomed to performance appraisal, and opposed recommendations in the report for regular reviews of teachers and for local selection to promotions positions.
Korea, Japan, OECD countries	Many countries have far more career path increments in the salary scale (37 in Korea) and the ratio of top salary to beginning salary can be quite high (2.46 in Japan; 1.71 average for OECD countries).	

12. What role might teachers unions play in designing and implementing teacher-incentive reforms?

This is an area often not reported on in the literature. The regional study in Latin America by Vegas and Umansky (2005) provides some useful insights for policy-makers:

- Teacher unions are critical stakeholders in many country systems so should not be avoided
- Teacher unions are typically opposed to teacher-incentive mechanisms, particularly those which generate competition among teachers and which link pay to testing outcomes or other proxies for student learning or teaching quality.
- Teacher unions often have compelling reasons to resist reforms that affect teacher incentives, and policy makers need to recognize these and address these concerns which include:
  - Teacher incentive mechanisms that reward individual or small-group (school) performance undermine collective teacher identity and affiliation that allow unions to mobilize teachers for collective campaigns and actions.
  - If teacher salary levels become largely determined at local or regional levels, unions may effectively lost their power of collective bargaining.
  - Individualism among teachers may also weaken teachers' interest in becoming union members or in following union instructions for collective bargaining
  - Demand side reforms that affect the incentives teacher face, such as community-managed schools or vouchers, can also limit unions hold on teachers by making them more accountable to local stakeholders.
- The existence of capable institutions with good leadership appears to be important for having a collaborative relationship between teachers unions and education authorities
- The model of a teacher's union needs to be a move from an "industrial" model which is primarily concerned about wages and working conditions, to a "professional" model interested in improving education.
- Public accountability can build pressure for unions to support teacher-incentive reforms.
- Incorporating teachers unions into the design process can improve likelihood of implementation success.

- A context of reasonable salaries and working conditions can increase the likelihood that teachers' unions will support the creation of incentive mechanisms, including those which are performance based.

Table 7: Role of Teachers' Unions

Country	Intervention	Comment
Chile	SNED	• The teacher's union consented to the teacher-incentive programs as well as collaborating in the design • Negotiations between the Ministry of Education and the teachers union regarding creation of SNED took place in a context of across-the-board salary increases. These universal salary increases meant that the union did not have to be concerned about the SNED being seriously divisive and thereby threatening teachers' collective identity or the union's ability to mobilize teachers for strikes or other collective actions. It also meant that it did not need to be concerned that some teachers would enjoy salary increases while others continued to receive substandard wages
Mexico	Carrera Magisterial	Consented to the teacher-incentive programs as well as collaborating in the design

Annex 1

A Practical Strategy for Assessing Possible Incentives[1]

There are two main approaches to identifying teacher incentives. One is to ask teachers to suggest those incentives they would find most attractive. The second is to observe what incentives actually result in desired teacher behaviors. The first approach is more participatory and faster; the second is often more accurate. These approaches do not always yield the same results. Things that teachers say they value may not actually result in the behavior changes being sought. With that caveat in mind, the following example describes a stakeholder-involvement approach, in which teachers rate possible incentives which can then subjected to a feasibility assessment. This example illustrates a three-phase approach to assessing the value and feasibility of possible teacher incentives.

Context: Education officials in Delmot, an imaginary country, have had considerable difficulty getting teachers to accept postings to rural and remote schools. This has led to large disparities in student achievement scores between urban and rural areas. The officials want to design a special incentive system that would reward teachers for better attendance, but they also want to be sure that whatever system they design is manageable.

Step 1: They interviewed a group of 50 teachers to generate a list of benefits they regard as holding the most incentive value and, from that, distilled a list of promising incentives.

Step 2: They then asked a much larger group of teachers from across the country to rate each of those promising incentives (as illustrated in Table 8). Since incentives can be used to shape different aspect of teacher behavior (e.g., remain in teaching, deploy to remote locations, use different teaching practices in the classroom), the interview or survey had to be very specific about *which outcome behavior* is being investigated.

Table 8: Example of a survey of possible incentives

To what extent would each of the following benefits make it more likely that you would accept a teaching assignment to a rural school?	
1=not at all likely 2=somewhat likely 3= very likely 4=extremely likely	
List of possible teacher incentives	**Rate each item**
• Increased salary of 20%	___
• Higher beginning salary	___
• Faster progression on salary scale	___
• More regular of payment of salary	___
• Merit pay	___
• Materials allowance	___
• Cost of living allowance	___
• Hardship allowance	___
• Travel allowance	___
• Free or subsidized housing	___
• Free or subsidized food	___
• Scholarships for children	___
• More paid leave	___
• Sick leave	___
• Maternity leave	___
• Health insurance	___

[1] This section draws heavily from Chapman, D.W. (1994). Reducing teacher absenteeism and attrition: Causes, consequences and responses, The management of teachers series, IIEP research and studies program, International Institute for Education Planning, Paris: UNCESCO.

• Medical assistance	—
• Improved pension	—
• Bonus for student achievement	—
• Increased availability of teacher guides & teaching aids	—
• Increased availability student textbooks	—
• Instructional supervision & feedback	—
• Greater transparency in school finances and management	
• More assistance with lesson preparation	
• Improved career opportunities	
• Positive school climate	
• Improved school and classroom facilities	
• Lower student:teacher ratio	

Note: The list above is only illustrative; items were adapted from Figure 1. The items used in any particular country can be adapted to the situation of that country.

Step 3 examines the extent that education and government leaders think the incentives that teachers favor (from Step 1) are likely to be effective and feasible? To assess this, stakeholders most involved in the management and administration of the education system were asked to participate in the following activity. Participants in step were each given a list of the 12-15 incentives most favored by the teachers and asked to assign each incentive to one of the cells in Figure 3. This required them to make a judgment, based on their own knowledge and experience, about how difficult each incentive would be to implement and the likely impact of each incentive on encouraging rural deployment. The cell in which any particular incentive is placed may vary by country. There is no right or wrong answer. The purpose of this activity is to give stakeholders a framework for thinking about incentives and as a way to spark discussion.

Figure 3: Education leaders' assessment of the feasibility and likely pay-off of proposed incentives on teacher deployment

Impact on deployment	Hard to Implement	Easy to Implement
High Impact	(A)	(B)
Low Impact	(C)	(D)

For purposes of this example, let's assume that teachers assigned high incentive value to the following items:

Table 9: High Incentive Values

Increased salary of 20%	More paid leave
More regular payment of salary	Increased availability of teacher guides
Materials allowance	Increased availability of textbooks
Hardship allowance	Greater transparency in school finances and management
Travel allowance	Preferential subsequent job assignment
Free housing	Positive school climate
Scholarships for children	

Imagine, then, how education leaders might assess the feasibility of these incentives within the grid illustrated in Figure 5. One possibility is presented in **Figure 4**.

Figure 4: Illustration of how education leaders might assess the feasibility and pay-off of proposed incentives

Impact on deployment	Hard to Implement	Easy to Implement
High Impact	(A) Increased salary of 20% More regular payment of salary Free housing Increased availability of teacher guides Increased availability of textbooks Preferential subsequent job assignment Improved school and classroom facilities	(B) Hardship allowance More paid leave
Low Impact	(C) Materials allowance Greater transparency in school finances and management Positive school climate	(D) Travel allowance Scholarships for children

Once incentives have been allocated to cells, the grid provides a useful stimulus for discussion. In reflecting on the placement of incentives, it is useful to consider the following:

(A) ***High impact/hard to implement***: These interventions represent the tough political and economic choices. They represent trade-offs between resource and political capital, yet the pay-off of implementing them is anticipated to be high. These incentives have consequences.

(B) ***High impact/easy to implement***: If they are easy to do and have a significant pay-off in encouraging rural deployment, chances are they are already being implemented. Consequently, they represent the least insightful grouping of interventions. Nonetheless, if they are not yet being tried, they should be. They offer easy payoff.

(C) ***Low impact/hard to implement***: Interventions that are hard to implement and, once implemented, have little impact in encouraging deployment are a waste of time and money. These can be quickly discarded.

(D) ***Low impact/easy to implement***: It is foolish not to implement these incentives. While they area not expected to have much impact they, nonetheless, may contribute to a marginal difference and are generally easy to implement.

The value of this exercise is in its ability to stimulate discussion among important stakeholders regarding what actions and benefits are likely to have incentive value and the feasibility of providing those incentives considered as most likely to be effective. Reasonable people can disagree. The goal is not necessarily to force consensus, but to provide a framework for addressing these issues.

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