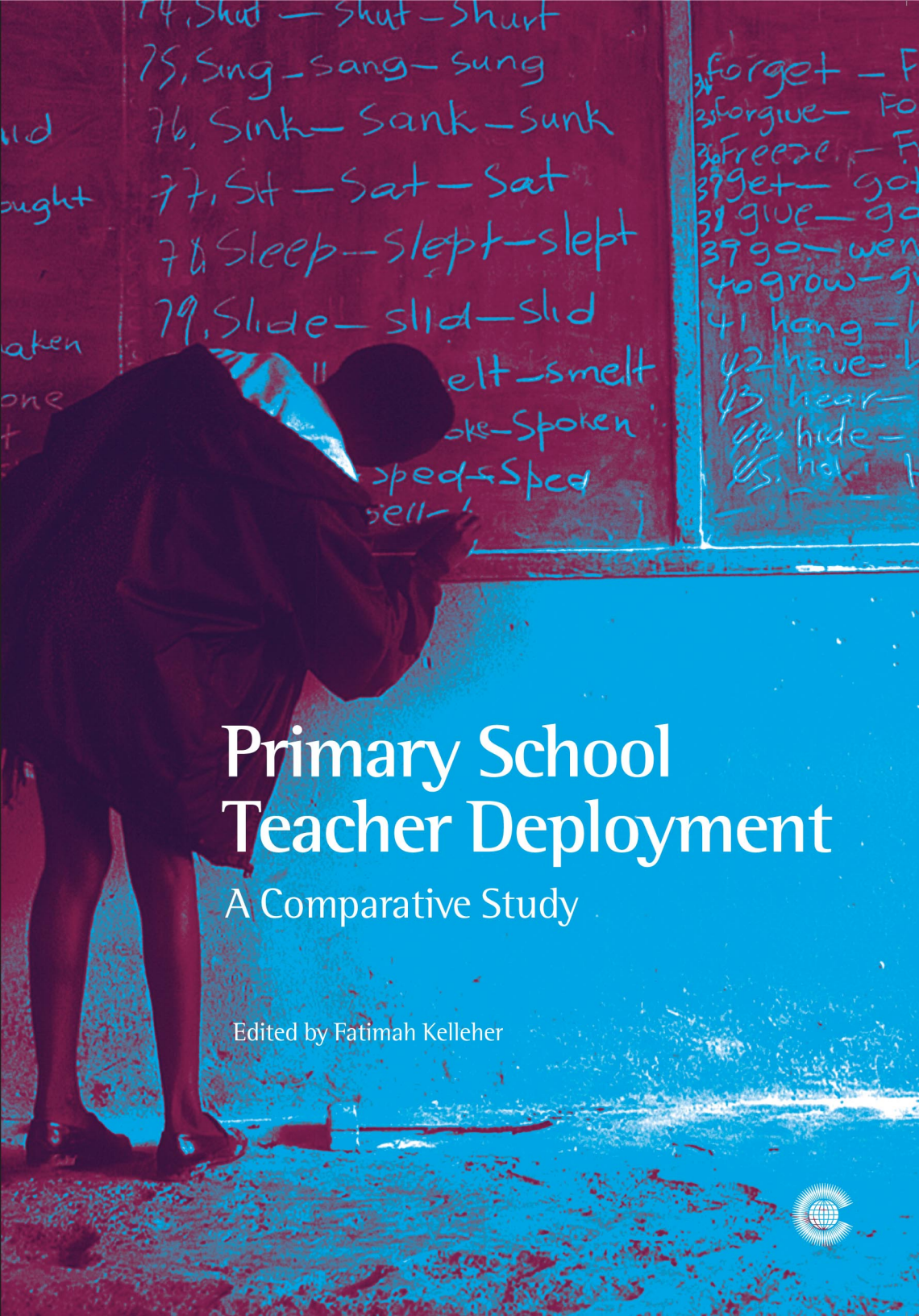

Primary School Teacher Deployment

A Comparative Study

Edited by Fatimah Kelleher

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Acronyms

AEPAM	Academy of Educational Planning and Management (Pakistan)
AJK	Azad Jammu and Kashmir
AKUIED	Aga Khan University – Institute for Educational Development
BoM	Board of Management (Papua New Guinea)
CET	Certificate of Elementary Teaching
COE	College of Education (Nigeria)
CPD	Continuing professional development
CT	Certificate of Teaching (Pakistan)
DfID	Department for International Development (UK)
DoE	Department of Education (Papua New Guinea; Tanzania)
EFA	Education For All
EM	Educational manager
ESR	Education Sector Reform
ETESP	Elementary Teacher Education Support Project (Papua New Guinea)
EU	European Union
FANA	Federally Administered Northern Area (Pakistan)
FATA	Federally Administered Tribal Area (Pakistan)
GPI	Gender parity index
GMR	Global Monitoring Report (EFA)
GER	Gross enrolment ratio
GoPNG	Government of Papua New Guinea
HSSC	Higher Secondary School Certificate (Pakistan)
ICG	International Crisis Group
ICT	Islamabad Capital Territory
LGEA	Local Government Education Authority (Nigeria)
LLG	Local-level government

MDGs	Millennium Development Goals
MoE	Ministry of Education (Pakistan)
MoEVT	Ministry of Education and Vocational Training (Tanzania)
NCCE	National Commission for Colleges of Education (Nigeria)
NCE	Nigeria Certificate of Education
NCNE	National Commission for Nomadic Education (Nigeria)
NDOE	National Department of Education (Papua New Guinea)
NEP	National Education Plan (Papua New Guinea)
NTI	National Teachers' Institute (Nigeria)
NER	Net enrolment ratio
NWFP	North West Frontier Province (Pakistan)
ODL	Open and distance learning
PEB	Provincial Education Board (Papua New Guinea)
PEDP	Primary Education Development Programme (Tanzania)
PNG	Papua New Guinea
PNGEI	Papua New Guinea Education Institute
PTC	Primary Teacher Certificate (Pakistan)
PTC	Primary Teachers' College (Papua New Guinea)
PTR	Pupil-teacher ratio
SSC	Secondary School Certificate (Pakistan)
SSCE	Senior Secondary Certificate Examination (Nigeria)
SUBEB	State Universal Basic Education Board (Nigeria)
TRCN	Teachers Registration Council of Nigeria
UBEC	Universal Basic Education Commission (Nigeria)
UNDP	United Nations Development Programme
UBE	Universal basic education
UPE	Universal primary education

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Chapter 1
Introduction

Background

The study that forms the basis of this book is the outcome of four commissioned reports on primary teacher deployment policies and practices in the Commonwealth countries of Nigeria, Pakistan, Papua New Guinea and the United Republic of Tanzania. Practices and policies that countries are following in teacher deployment and the effect these have on delivery and children' access and retention in school are critical factors towards the attainment of universal primary education (UPE) (UNESCO, 2006). Although it is understood that many countries in the Commonwealth are undoubtedly facing the problem of teacher supply, there are also serious challenges of teacher deployment (Commonwealth, 2003). Uneven deployment patterns, with surpluses in certain schools and areas co-existing with shortages in others, exist even in countries where there are sufficient teachers. Factors contributing to these challenges can vary and can include issues pertaining to urban-rural divides, along with other geographic and demographic dynamics. These can include factors such as extreme geographic remoteness, stakeholder influences, local-level versus macro-level targeting, responsiveness to regional deployment practices intricately linked to the overarching issue of decentralisation, and the lack of management and support given at the local administrative level.

Deployment patterns also have a crucial role on gender parity and gender equity, and these are often integral to the other factors already mentioned. For example, in Commonwealth Sub-Saharan Africa and South Asia, the enrolment and retention of girls is far less than that of boys, with under-representation being greatest in the rural and disadvantaged community areas. Arguably, the presence of female teachers in schools is believed to contribute positively to the presence of girls in education. Sensitivity to this gender consideration within teacher deployment policies and how to face prevailing challenges is a core issue. Underpinning the issue of access and retention is that of quality. Deployment and utilisation

of teachers impact upon the quality of education provided, and raise further issues of teacher training, qualifications, shift teaching and the use of innovative practices such as multigrade teaching.

Specifically, the book looks at the following issues:

- identification of the major issues in the country, e.g., rural-urban divides, low proportion of women teachers, low proportion of qualified teachers, lack of teachers in remote areas or conflict situations, etc;
- The teacher deployment policy (at national/regional levels) relating to minimum qualifications, training, selection, placement and ensuring the presence of women teachers in schools. Analysis of policy in the context of the major issues that exist in the country and whether they are responsive to the real issues;
- Are there any policy-practice divides? The presence (or, absence) of mechanisms to ensure that the polices are practiced as conceived, presence of norms, presence of monitoring mechanisms;
- Institutional arrangements: Does the country have institutional bases and arrangements to have suitable policy solutions and turn them into practice? and
- Suggestions for policy and institutional changes

Context

Universal primary education is a Millennium Development Goal (MDG) and one of the Commonwealth Secretariat's Six Education Action Areas, as mandated by education ministers at the 15th Conference of Commonwealth Education Ministers (15CCEM) in November 2003. The other education MDG, eliminating gender disparities and inequalities in education, is also a Commonwealth Action Area, along with ensuring quality in education, education in difficult circumstances, mitigating the impact of HIV/AIDS, and providing open and distance learning to overcome geographical barriers.

Indicators and reports suggest that progress in both UPE and eliminating gender disparities in education around the Commonwealth has been varied. Commonwealth countries in Sub-Saharan Africa and South Asia continue to have some of the greatest numbers of out-of-school children. However, the past five years have also seen large percentage increases in net

enrolment ratios (NERs) following acceleration of policies and practices towards achieving UPE. The 2006 Education for All Global Monitoring Report (GMR) showed that while worldwide progress towards UPE generally has been slow since the World Education Forum in Dakar, Senegal, 2000[1] , many regions with low participation and insufficient school supply are also the regions where enrolment ratios are increasing most rapidly and the gender gap is narrowing. However, issues pertaining to access, retention and completion still prevail, and at the sub-national level girls are the most disadvantaged, and predominantly in rural areas.

With teachers playing a central role in the achievement of both the education MDGs and Education for All (EFA)[2] , the impact of teacher numbers, their supply and pupil-teacher ratios (PTRs) – both on educational outcomes and quality – is a crucial area of concern. The countries chosen for the study that this book highlights are a cross section of Commonwealth member states that are yet to achieve UPE. Each of the countries has national PTRs between the 35.1–45.1 range, with the exception of Tanzania that falls within the 45.1–60.1 range (UNESCO GMR, 2006). However, although compared with other countries within the Commonwealth these are relatively low national PTRs, as the following report will demonstrate, this is by no means an indication of equitable distribution at the sub-national level, with regional and local indicators showing significant disparities. Additionally, both Tanzania and Nigeria have regressed from PTRs that were previously below 40 in 1998, to figures above that level by 2002. Papua New Guinea (PNG) has also shown signs of a much slighter 1-point regression in PTR, although unlike the African case studies that both exhibit NER percentage growth since the new millennium, PNG also showed a fall in NER between 1998 and 2002.

The following are synopses of the national, cultural and educational policy environments, and the institutional set-up of each of the countries analysed in the book.

Nigeria

Nigeria is Africa's most populated country and the Commonwealth's fourth largest member state. Independence saw the inheritance of a three-tiered system of primary, secondary and higher education based on the British model of wide participation at the bottom, dividing into academic and vocational training at the secondary level, and higher education for a small elite. The education system is based on the National Policy on Education (NPE) document of 1977 and has undergone several revisions since then.

Universal primary education has been a stated priority of every Nigerian government since its introduction in the 1970s. The two decades prior to the return of a democratically elected government in 1998 were a time of political instability in the country, and this had a serious impact on the education sector. The new government re-launched the Universal Basic Education (UBE) Scheme in 1999 as one of its top priorities (Moja, 2000). Currently, Nigeria has over 50,000 public primary and pre-primary schools, with over 9,000 private ones (UBEC, 2005).

Nigeria is constitutionally comprised of 36 states and the Federal Capital Territory (FCT) of Abuja and its suburbs. The states have six loose zonal affiliations grouping them together on a regional basis: the South West Zone, South East, South-South, North West, North East and North Central (also known as the Middle Belt). At present, education is on the concurrent list in the Nigerian constitution. This means federal, state and local governments and others (including individuals and organisations), can set-up schools from nursery through to universities, using guidelines and principles put into place through either consultations or Acts of the Assembly. There are also parastatal agencies that have responsibility for policy formulation and implementation. In the case of primary education, this is mainly the Universal Basic Education Commission (UBEC), although other relevant commissions, such as the National Commission for Nomadic Education (NCNE) also have a stake. Administration of the education sector is therefore shared jointly between the federal and state ministries, and these commissions (Moja, 2000). However, as a matter of policy the federal government does not operate primary schools. Public primary schools are managed and supervised by State Universal Basic Education Boards (SUBEBs) and Local Government Education Authorities (LGEAs). Implementation of the 2004 UBE Act (which provides for compulsory free universal basic education and bringing into being the legal framework for the UBEC) means that the federal government is now also disengaging in the running of junior secondary schools, because they now form part of the nine-year basic education.

Nigeria therefore presents an interesting picture of overlapping layers of responsibility for different sub-sectors within education, with federal, state and local governments all co-existing alongside each other and the overarching presence of the parastatal commissions.

Pakistan

Pakistan inherited a very meagre school education system at the time of independence in 1947. There were around 10,000 primary and middle schools, with only a small proportion (17 per cent) for girls (Jalil, 1998). The number of primary teachers at that time was 17,800, with a small percentage (13.5 per cent) being female teachers (AEPAM, 2005). The literacy rate was as low as 10 per cent at independence (Hayes, 1987). According to the latest estimate, Pakistan now has 122,873 primary schools with 43,628 schools exclusively for girls in the public sector (AEPAM, 2005); the number of teachers has increased to around 450,000, meanwhile, with 46 per cent female teachers (AEPAM, 2005). Pakistan's literacy rate has also increased to 53 per cent (AEPAM, 2005). It is to be noted that Pakistan also has a large private primary school sector, comprising 18,502 schools (AEPAM, 2005).

It is evident that Pakistan has made significant quantitative expansion in the last 59 years; however, debate continues about the quality of education in the public school system. The Ministry of Education (MoE) states that about 25 per cent of children in Pakistan are not enrolled in primary school, and 50 per cent of those who are enrolled drop out before completing primary education (MoE, 1998). These figures contrast sharply with China and Indonesia, also low-income countries, where literacy rates in 1990 were over 75 per cent and enrolment of primary-school students reached 100 per cent (Warwick & Reimers, 1995).

Since independence, Pakistan has faced a staggering number of political crises, and the rise and fall of different governments has become a common sight. This political instability has had a profound effect on the education system too. Although all education plans and policies have emphasised the importance of quality education and have reiterated improvements in teaching standards as being one way of improving quality, nevertheless efforts have not been sustained in applying the recommendations of these policies (Ahsan, 2003). Consequently not much attention has been given to the issues of teacher deployment and utilisation, which impact upon the quality of education provided and raise further issues of teacher training and qualifications (Gazdar, 1999).

Constitutionally Pakistan is a federation with four provinces: Punjab, Sindh, Balochistan and the North West Frontier Province (NWFP), and federally administered areas, Azad Jammu and Kashmir (AJK) and Islamabad (the federal capital). The federal capital has all the powers pertaining to policy-making, strategic direction and other macro-level aspects. Similarly,

education policy is also centralised and formulated at the federal level. The details and aspects of implementation are mostly transferred to provincial governments and now from provincial to district level.

In the year 2000, the Government of Pakistan announced the Local Government Plan intended to build democratic institutions and empower people at the local level. District governments were created across urban and rural areas under the Local Government Devolution Plan for addressing governance and service delivery by introducing decentralised approaches to decision-making (MoE, 2001). The most important institutional arrangement since decentralisation in 2001 has been the devolution of authority or devolution of power. Devolution brings a number of structural changes in the public sector, and education is no exception. As a result of decentralisation, education up to the higher secondary level has been devolved to the district level in all provinces.

According to the MoE (2001), governance and management issues in education are to be addressed through various means following decentralisation. Three among these are: i) capacity building at all levels; ii) adequate institutional mechanisms for ensuring resource availability at local levels; and iii) setting up an independent monitoring and research programme to track decentralisation for informing policy and practice. Keeping the devolution plan as the main framework, government initiated the Education Sector Reform (ESR) programme. Announced in January 2002, ESR is a comprehensive sector-wide programme for increased access, enhanced equity and improved quality at all levels of education (MoE, 2001). The most important objective is to develop an educated population in which every person has completed at least a minimum level of education, such as universal primary education.

The International Crisis Group (ICG, 2004) reports that the Devolution of Power Plan gives district governments lead responsibility in deciding on the location of new schools, arranging funding for their construction, monitoring the schools and carrying out annual evaluation of teachers; it also provides powers to district officers for teachers' appointments, transfers and promotions. Following devolution, massive restructuring took place to facilitate the transfer of powers to the lowest administrative level.

Papua New Guinea

Papua New Guinea (PNG) is located in the southwest region of the Pacific Basin. Physically PNG varies enormously with extremely rugged mountains, tropical rainforests, savannah grass plains, swamps and lagoons. It has

about 1,400 islands to the east and northeast parts of the country. The population is 5.2 million (53 per cent male and 47 per cent female), with an annual growth rate of 2.6 per cent. Eighty-five per cent of the country's population lives in rural areas. There are more than 800 distinct languages; however, English is the official language of education, commerce and industry, while Motu and Tok Pisin are the national languages. Approximately 55 per cent of the population is illiterate and average life expectancy is 54 years. About 45 per cent of the population is under the 15-year age bracket, indicating an enormous pressure on the formal education system.

The PNG formal education system was established in early 1970s, with approximately 1,050 institutions, 9,060 teachers and 254,000 students. By 2003, the system had grown to 4,000 elementary schools, 3,300 primary schools, 170 secondary schools and 140 vocational schools employing 33,000 teachers. The current education reforms began in 1994, which focused on the structure followed by the curriculum. The key features of education reform are:

- Provision of nine years of basic education (elementary preparatory to Grade 8);
- Introduction of community-based elementary schools providing a preparatory and elementary Grades 1 and 2. Teaching would take place in a language chosen by the community, and could be a vernacular or a national language;
- Primary schools would start from Grades 3 to 8, using a strategy called 'Bridging to English' as the medium of instruction;
- Relocate Grades 7 and 8 from high schools to primary schools; and
- Increase access to Grades 9 and 10, as well as Grades 11 and 12.

The PNG education system is highly decentralised, with provinces and local-level governments (LLGs) empowered to administer the system. The national government is responsible for policy, planning, curriculum and allocation of teachers' positions and examinations (standards). Provinces are responsible for teacher appointment, discipline and training, while LLGs are responsible for the operation and development of schools. Understanding the different players and their roles and responsibilities is important. Newly appointed District Education Administrators are yet to create an impact on supervision and monitoring of teachers' performance and school management. Boards of Management (BoMs) require better understanding to improve teaching and learning in schools.

Tanzania

Tanzania gained its independence from Britain in 1961, and inherited an elitist education system with a low level of primary school enrolment. In 1967, there was a major policy change in favour of the philosophy of 'Education for Self Reliance', which focused on combining learning with manual work and preparation for life in villages. The primary school medium of instruction was also changed from English to the national language, Kiswahili, in 1968; however, English has remained the medium of instruction in secondary and tertiary education to date. In 1977, Tanzania declared universal primary education, but due to a shortage of teachers the government recruited a large number of under-qualified teachers to fill places in primary schools at that time. In 2001, Tanzania embarked in a Primary Education Development Programme (PEDP), funded by the government through a combination of local resources and a loan from the World Bank and other donors. The programme seeks to return UPE to 100 per cent net enrolment, as it had slipped to below 70 per cent in the late 1990s.

Methodology

Data for the study that forms the basis of this book was gathered via four in-country researches of documents, using both primary and secondary sources, and through interviews with officials and stakeholders. Unless otherwise noted, indicators used in the main body of the comparative situational analysis all pertain to state/public schools.

In each of the countries, national statistics were consulted throughout. The Nigeria report used data from UBEC, the National Commission for Colleges of Education (NCCE) and the NCNE, while in Pakistan documents from the Academy of Educational Planning and Management (AEPAM) were consulted. The Papua New Guinea and the Tanzania studies used statistics gathered from the Ministry of Education and Vocational Skills and the Department of Education respectively. Respective national sector plans and action plans were also consulted, as were international reports including the Education for All (EFA) documents and the United Nations Development Programme (UNDP) Human Development Reports. Articles and papers by other authors were also referred to.

National and sub-national data are presented throughout, and these vary given the differences between the countries studied. All were disaggregated according to rural/urban and gender. All the data refer to the public education sector only, with the exception of Tanzania. The scope and depth

of the data from each country varied, partly in response to differences in size and composition, along with availability of data within the time allowed for the study. A clear example of these differences would be Nigeria's 36 states as compared to Pakistan's four provinces, despite the fact that their population counts are almost the same. The Tanzania study looked at the national, regional and district levels, using a sample from the 120 districts in the country. Pakistan used regional level data in both the public and private sectors, and conducted interviews at the regional level in the province of Sindh. Nigeria's case presented an overview of sub-national data at the state level. Given the size of Nigeria's federal structure, quite distinct trends particular to each state could be discerned, some of which were used in the study. Further analysis would have rendered the study biased in information towards Nigeria. The Papua New Guinea country study used data at the provincial level, with a further analysis of disadvantaged schools (following DoE criteria) in rural provinces.

The report is structured into four chapters, including this introductory chapter. Chapter 2 conducts a comparative situational analysis that brings out some of the key disparities in deployment indicators in each of the four countries. Major similarities are drawn on for analysis and evaluation of the causes, while more country-specific contexts and trends are also highlighted when in evidence. Chapter 3 identifies and evaluates the policies and practices being carried out in each of the case studies. Starting with a basic understanding of the institutional arrangements for teacher deployment in each country, the chapter then analyses the experiences of policy provision in areas such as teacher education and recruitment, placement and transfers. The chapter then addresses specific strategies for counteracting deployment imbalances. Using the knowledge acquired from the previous two chapters, chapter 4 sets down recommendations on what policies, practices and institutional changes are needed to improve processes towards more equitable quality teacher deployment.

The study highlighted here is the first cross-regional comparative analysis of teacher deployment in the Commonwealth, and in so being is bringing some important sub-national indicators and government institutional frameworks managing teacher deployment to light for dissemination. Within limits of time and funds, in-country researchers have been able to provide statistics and insights that would have been difficult to gather otherwise. However, much of the analysis in the study relies on data presented from official government statistics. The lack availability of alternative sources meant that alternative perspectives could not be sought, but

the study nonetheless provides an initial documentation for the case study countries. Interviews were conducted by the in-country researchers to get perspectives of various education managers and practitioners at the national, regional and district/local levels. These interviews were also used to obtain perspectives on existing institutional arrangements for teacher deployment and issues faced in order to develop suggestions for policy and institutional changes. Due to the scope of the overall study using four countries, in-depth analysis of teacher deployment at the more localised community level was not possible; as a result, it has not been possible to analyse deployment imbalances between schools within districts, for example. Such an approach may have yielded further statistical and process insights. However, the level of understanding gleaned has been sufficient for the type of multi-country study this is, and also provides a strong foundation for further in-country analysis and policy recommendations.

Notes

1 For more information see: http://www.unesco.org/education/efa/wef_2000/ [accessed 16 June 2008]
2 For more information on the MDGs, Dakar EFA Goals and the Education for All Global Monitoring Report, visit: UNESCO website (www.unesco.org) and UN website (www.un.org/millenniumgoals).

Chapter 2

Comparative Situational Analysis

Country overviews

The countries chosen – Nigeria, Pakistan, Papua New Guinea and the United Republic of Tanzania – were identified for study to illuminate key similarities in teacher deployment issues that would help to isolate common ways forward despite their being cross-regional and of varying demographic and national characteristics. It was also hoped that each had specific particularities that would be of interest within an analysis of teacher deployment. Two of the countries, Nigeria and Pakistan, are both densely populated countries with federated political systems, although Nigeria's constituted states are significant at 36 compared to Pakistan's six provinces, despite having similar population sizes. Tanzania, as a more sparsely-populated African state nonetheless has an expansive land mass and extreme rural/urban divisions. Finally, PNG is a Commonwealth small state with a diverse cultural context and remote, difficult-to-access geographical locations.

Table 2.1 gives a comparative breakdown of some of the key education indicators towards the achievement of UPE in terms of net enrolment ratios (NERs), and survival to the last grade of primary school. Unfortunately, data for both Nigeria and Pakistan are scarce upon which to gage progress in both indicators, although the 2002/2003 NERs that are available for both countries clearly show that they have a significant way to go before achieving UPE. Given also that they are two of the most heavily populated Commonwealth countries, the implication in terms of the number of out-of-school children across the membership is quite significant. Both also show a clear disparity in favour of boys within their gender parity index (GPI).

While both PNG and Tanzania show higher figures in terms of enrolment, both are still below the 80th percentile, making the four country case studies overall quite critical ones. Tanzania nonetheless displays an impressive enrolment spurt over a five-year period, largely due to the announcement of free primary education in 2001 with the country's Education Sector

Table 2.1: Comparative enrolment and survival indicators in primary education

Country	*NER (%)*				*Survival to last grade (%)*	
	1998/1999	*GPI*	*2002/2003*	*GPI*	*1998/1999*	*2001/2002*
Nigeria	NA	—	67.2	0.82	NA	NA
Pakistan	NA	—	59.1	0.74	NA	NA
PNG	74.8	0.93	73.0	0.90	61.4	43.8
Tanzania	45.8	1.03	* 77.4	0.98	73.3	** 73.9

Source: EFA Global Monitoring Report, 2006, UNESCO
NA – None available from that source; * – Data for 2003/2004; ** – Data for 2002/2003

Development Programme (Riddell, 2003). In terms of gender parity, the country has reversed slightly from a marginal disparity in favour of girls to one now marginally in favour of boys. The survival rate over a two/three year period also shows only a minimal change, and upcoming statistics in the next few years would be needed to ascertain whether the enrolment expansion following 2001 is mirrored through increased retention to the last grade of primary. PNG, on the other hand, shows slight regression in NER, a clearer disparity in favour of boys, and an alarming regression in survival to the last grade from 61.4 per cent in 1998/1999 to 43.8 per cent in 2001/2002.

Table 2.2: Comparative primary pupil-teacher ratios (PTRs)

Country	*PTR*		
	1998/1999	*2002/2003*	*2005*
Nigeria	31	42	38
Pakistan	—	40	34
PNG	36	35	35
Tanzania	38	56	—

Source: EFA Global Monitoring Report, 2006, UNESCO
2005 data in bold are drawn from recent in-country national sources

Table 2.2 shows comparative national pupil-teacher ratios (PTRs) for the four countries. The data would appear to indicate that, on aggregate at least, there are no severe teacher shortages if one is to go by an acceptable PTR of 40:1. Given the recent surges of enrolment in several of these countries, this is quite commendable. It is important to note, however, that national PTR can be all inclusive of all teachers within the system, including those only employed on a part-time basis. What is evident from this basic PTR data is that Nigeria saw a significant rise in the PTR between

1998 and 2002 from 31 to 42. Recent 2005 national data from the UBEC in Nigeria suggests that this is on the decrease. Pakistan is missing 1998 data but has a PTR of 40 for 2002, which when coupled with 2005 statistics from AEPAM suggests that the ratio is on the decrease. PNG has decreased only slightly. It is useful to note that PNG has recently undergone extensive expansion of the education system – for over a decade the average PTR was 30:1, but this has now increased due to increased access for over half-a-million students between 1992 and 2003. Tanzania shows a significant increase in the national PTR between 1998 and 2002. Conclusive 2005 data were unavailable.

Unpacking sub-national disparities

The country overviews have highlighted that whilst each of the case studies has a national pupil-teacher ratio that is not immediately alarming, when juxtaposed with their NER a conclusion can be drawn that adequate teacher numbers overall do not necessarily correlate with successful enrolment and completion of primary school. Multiple factors could contribute to this, such as quality issues, lack of adequate physical infrastructure and appropriate curricular. Understanding the extent to which imbalanced teacher deployment is also responsible is part of the objective of this book. To fully view these disparities, the study must go to the regional and local in-county levels.

The Nigerian geographic and political context presents an initial case with which to view immediate disparities at the state level. Figure 2.1 displays PTR for each of Nigeria's 36 states and the Federal Capital Territory (FCT) grouped according to the country's six geopolitical zones: North West, North East, North Central, South West, South-South and South East. At the sub-national level in Nigeria, it is possible to see some disparities in PTRs between the six geopolitical zones, and between states within those zones. An immediate perusal shows that state PTRs can vary dramatically between 97 for Bayelsa in the South-South, to 15 for Ekiti in the South West. Further analysis shows that geopolitical zones – which can be viewed as broad regional demarcations – do illuminate some noteworthy trends. However, what is clearly visible is that two of the zones – the South West and the South East – display less extreme indicators by keeping a PTR in each state below 40. In the North Central Zone also, only one state goes above 45. It is in the remaining three zones – the North West, North East and the South-South, that the poorest PTRs are seen, although the zones themselves vary internally with both high and low PTRs from state to state.

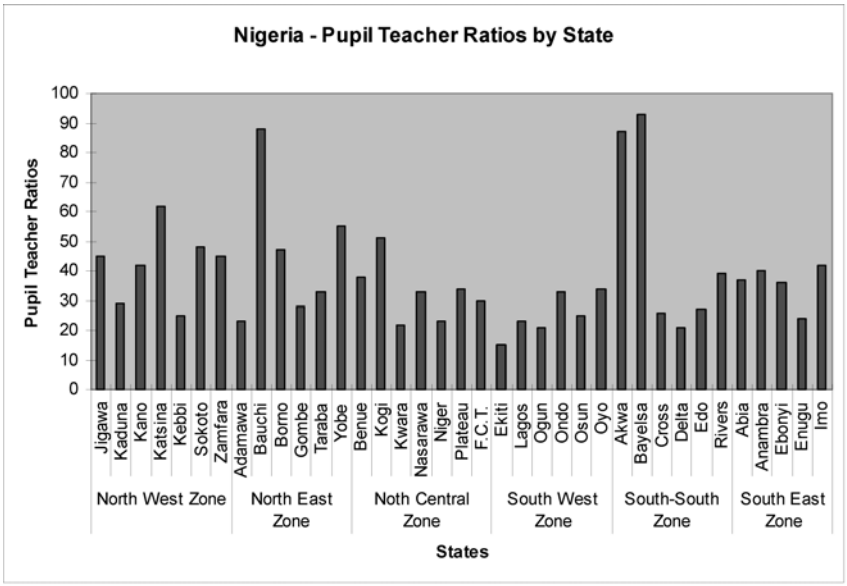

Figure 2.1:
Source: Universal Basic Education Commission, Nigeria, 2005

Table 2.3 demonstrates, however, that even when PTRs are disaggregated at the state level, further indicators can help to illuminate additional characteristics from state to state. By viewing the population count of four selected states alongside enrolment numbers (in the absence of NERs), some reasoning for the disparities can be hazarded.

Bauchi and Gombe are neighbouring states in the North East Zone. They have been selected because despite their geographical proximity and

Table 2.3: Nigeria – Population count, enrolled primary numbers and PTR in four selected states

States	*State population*	*GER*	*No. of schools*	*Enrolled pupils*	*Teachers*	*PTR*
Bauchi	4,606,909	162.68	1,793	1,248,953	13071	88
Gombe	2,448,326	87.51	1,108	325,577	9552	28
Lagos	10,601,345	37.50	908	356,455	15243	23
Oyo	7,617,720	110.94	1,739	770,522	22445	34

Source: Universal Basic Education Commission, Nigeria, 2005

close cultural and historical association, their indicators in terms of PTR could not be any more different, with Bauchi at the high end of the spectrum (88) and Gombe at the low end (28). Bauchi, however, has a population count that is only just under twice the count of Gombe, but has almost four times the number of enrolled pupils and a gross enrolment ratio (GER) of 162.68 compared to Gombe's at 87.51. With four times the number of enrolled children, the number of schools and teachers in Bauchi are clearly inadequate. This could be the result of Bauchi having undergone a recent enrolment drive, but without the infrastructure to meet the demand. Lagos and Oyo states are another interesting case in point. Lagos state is Nigeria's most populous, with over 10 million inhabitants. It also has the highest population density, and only 356,455 children are enrolled at the primary level, with a GER of 37.50. The comparatively low number of schools also demonstrates that the state does not have adequate infrastructure to cater for the school age population. Oyo state – also in the South West – is the third most populous in the country and has both a healthy GER of 110.94 and a respectable PTR of 34. Again, to ascertain what has led to this clear difference in performance of indicators a more in-depth, state-level analysis is needed. However, the authors are aware that Lagos is an almost exclusively urban state as opposed to Oyo, and struggles with issues of population density and the consequences this has on educational infrastructure. Many children will also be enrolled – both officially and unofficially – in the private sector.

These four states only scratch the surface of the complexities between the Nigerian states. Further comparisons of PTR and GER illuminate the fact that many of the North Central states with comparatively reasonable PTRs also have low enrolments, and in so doing the low PTR – rather than being a show of adequate provision – becomes indicative of a severe teacher shortage in accommodating the actual estimated number of school-age children.

Rural/urban disparities

One of the clearest disparities that first become evident is that of the urban/rural divide. In all four country case studies, the authors saw a definite disparity in favour of urban areas that puts rural and remote locations at a disadvantage in terms of teacher provision. The reasons for these are myriad and slightly different in each context, although the issue is tied to the problem of low rural school enrolment overall. In PNG, for example, rural primary schools constituted about 86 per cent of the total enrolment in 2005,

which is equivalent to the percentage of the rural population in Papua New Guinea. However, total rural enrolment constitutes 67 per cent of the 9–16 years population in rural areas compared with 77 per cent in urban areas. Enrolment patterns also show disparity between rural and urban schools within and between provinces. In Pakistan, 90 per cent of public schools are in the rural areas; however, despite this enrolment rates in rural areas are still insufficient. In Tanzania, it is possible to see a clear urban bias at the national level, with Dar es Salaam and its surrounding regions carrying the best PTRs, and those furthest from the capital having the poorest supplies of teachers. Between districts, also, the evidence shows rural/urban disparity being replicated at a sub-regional level.

Looking first at the instance of low rural participation of children, there are various contributing factors for this. Poverty is a key factor, and the inability of rural families to pay school fees and/or other costs such as school uniforms, textbooks etc. This will often have an adverse gender effect, with girls being kept back from school in favour of boys. There is also sometimes a lack of adequate infrastructure to cater for rural locations. Long distances discourage children from going to school in many rural areas that are underprovided for. Children often have to walk long distances to attend school, whether it be in the Highlands region of PNG or the Ngorogoro crater of Tanzania. In maritime provinces of PNG, travelling to school can be hazardous, especially during bad weather. Additionally, many rural households survive on subsistence farming, mostly dominated by tree crops for cash income and/or gardening to produce food for themselves, selling any surplus. Such households are dependent on their family members, including children, for help at busy times of the year – mainly for planning and harvesting. In PNG children will often be taken out of school during coffee season, for example. Some of these children never return to school.

There are still remote/isolated areas where children do not have the opportunity to attend school at all, while in some areas there are insufficient children to make up a class group, leading to schools sometimes having biennial and triennial intakes. In PNG, only 40 per cent of primary schools have an annual intake pattern, mostly in urban and semi-urban areas. Smaller schools are merged to make them viable – to make up classes and to deploy teachers – to the detriment of some children, who are forced out of school.

In some cases, the perceived lack of relevance of school (due to a rigid curriculum that often lacks cultural context and local examples) considerably undermines the value of school to parents and disinterested children.

This concern is present in each of the countries, although PNG records higher instances due to its diverse cultural and ethnic particularity. In parts of Nigeria, Tanzania and Pakistan, this issue is also of some concern regarding pastoralist/nomadic groups. Other more contextual factors also figure. Tribal fights in the Highlands region of PNG deter children from attending school for fear of revenge killing. Parents prefer to keep their children at home, rather than send them to school and risk their being killed. It is unclear what happens with children affected by the closure of schools due to tribal fighting. In some cases families are displaced to the extent that they face new challenges in getting them started in a new school.

All of the countries studied display a disparity in teacher supply to rural areas in varying degrees. Tanzania is a classic example of this in many ways. Table 2.4 is inclusive of both public and private schools, and demonstrates some immediate conclusions.

First, a closer look at the number of schools in each district shows that rural areas carry a larger number of schools than urban areas. With the exception of Dar es Salaam, most regions in Tanzania are rural. There are large regional variations in PTRs, ranging from 41.2 (Kilimanjaro) to 86.7 (Kigoma), with regions that are predominantly urban having lower PTRs. Within each region, areas that are predominantly rural and difficult to reach have the highest pupil-teacher ratios. In the Dar es Salaam region, for example, the Kinondoni and Ilala districts, both in the inner city area, have low PTR of 46 and 42 respectively, while Temeke, a large part of which is rural, has a PTR of 51. Similarly in Arusha region, Arusha city district has a low PTR of 42 while remote Ngorongoro, located deep in Masai territory, has a high PTR of 69:1, and Monduli, closer to Arusha town, has 53:1.

The highest PTRs are in other predominantly remote districts such as Simanjiro (68.1), Geita, (77.1), Ukerewe Islands in Lake Victoria (82), Kilindi (68), Lushoto in the highlands of Usambara mountains (75), Manyoni (69), Uyui (81) and Kigoma Rural (87.9). Regions that are located farthest from the capital city of Dar es Salaam, such as Singida, Shinyanga, Mwanza, Tabora, Rukwa and Kigoma also display high PTRs overall, with transport by train from the capital taking between 24 and 36 hours. Even within predominantly rural regions it is still possible to see that there are varying PTRs at the district level, with urban areas again consistently showing relative better PTRs.

Of the four countries studied, Papua New Guinea has the lowest overall disparity between the rural and urban areas. A lower population count and comparative distances may be partly the reasons for this, although PNG

Table 2.4: Tanzania – Pupil-teacher ratios in selected districts, 2006

Region	*District*	*Urban or rural (U/R)*	*No. of teachers*	*No. of children*	*District PTRs*	*Regional PTR*
Arusha	Arumeri	R	3,072	153,974	50	50.2
	Arusha	U	1,437	59,857	42	
	Ngorongoro	R	345	23,737	69	
	Moduli	R	740	39,077	53	
	Karatu	R	874	48,616	55.6	
Dar es	Ilala	U	3,039	139,617	46	46.3
Salaam	Kinondoni	U	4,316	181,342	42	
	Temeke	U/R	3,112	158,381	51	
Manyara	Babati Town	U	419	17,007	41	55
	Hanang	R	976	54,904	56	
	Simanjiro	R	424	29,009	68	
	Mbulu	R/U	1,197	65,951	55	
Kilimanjaro	Hai	R/U	1,454	58,887	41	41.2
	Moshi Urban	U	771	28,064	36	
	Rombo	R	1,483	71,246	48	
	Moshi Rural	R	2,682	104,130	39	
	Same		1,420	59,195	42	
Mwanza	Geita	R	2,304	178,224	77	66.3
	Kwimba	R	1,209	72,407	60	
	Magu	R	1,720	112,269	65	
	Mwanza Ilemea	U	1,076	57,770	54	
	Ukerewe		1,064	86,964	82	
	Misungwi		1,143	68,313	60	
Coast	Bagamoyo	U/R	1,158	55,037	48	43.5
Pwani	Kibaha	R	360	13,986	39	
	Kibaha Town	U	510	18,185	36	
	Mkuranga	R	941	44,120	47	
	Mafia	R	204	10,085	49	
	Kisarawe	562	23,622	42		
Shinyanga	Shinyanga Urban	U	652	31,324	48	64.4
	Shinyanga Rural	R	943	67,749	72	
	Maswa	R	1,177	76,386	65	
	Bariadi	R	1,896	140,433	74	
	Bukombe		1,159	59,423	82	
Tanga	Kilindi	R	451	30,721	68	61.5
	Korogwe Town	U	387	12,773	33	
	Tanga City	U	1,234	93,972	76	
	Lushoto	R	2,074	155,397	75	
	Muheza	R	1,380	75,023	54	

Region	*District*	*Urban or rural (U/R)*	*No. of teachers*	*No. of children*	*District PTRs*	*Regional PTR*
Singida	Iramba		1,510	96,027	64	62.5
	Manyoni		749	51,438	69	
	Singida Rural	R	1,773	115,972	65	
	Singida Town	U	580	29,939	52	
Tabora	Igunga		1,06	61,422	59	61.8
	Nzega		1,299	91,092	70	
	Sikonge		415	26,014	63	
	Uyui		758	61,164	81	
	Tabora Town	U	934	40,808	44	
	Urambo		1,427	77,198	54	
Rukwa	Mpanda		1,635	103,783	63	60.5
	Nkasi		719	44,464	62	
	Sumbawanga		1,414	89,608	63	
	Sumbawanga Town		712	38,397	54	
Kigoma	Kasulu		2,077	128,025	61.6	86.7
	Kibondo		1,104	73,176	66.3	
	Kigoma Rural	R	1,384	121,688	87.9	
	Kigoma Urban	U	889	40,572	45.6	

Source: Ministry of Education and Vocational Skills, United Republic of Tanzania

has some of the most geographically remote locations. However, a provincial disparity is still evident (see table 2.5).

With a World Bank-set PTR target of 37:1 in PNG, it appears from the above table that about half of the provinces were below the adopted new target, except the Southern and Eastern Highlands with higher ratios. It is interesting to note that both the overall urban and rural teacher-pupil ratios are equal to the national average. However, while ratios of urban schools in various provinces ranged from 11 to 43, ratios of rural schools ranged from 18 to 53. Consequently, quality and distribution of teachers appears to be more serious than an absolute shortage of teachers nationwide.

Further analysis of schools earmarked by the Department of Education (DoE) in PNG as 'disadvantaged' in the rural areas in table 2.6 allows this research to view more protracted disparities[1] . The average teacher-pupil ratio in disadvantaged schools was 43 compared to the national average of 35 in all schools in 2005. Teacher-pupil ratios of disadvantaged schools were higher than the ratios of all primary schools in nearly all provinces.

Table 2.5: PNG – Primary school teacher-pupil ratios by rural-urban and province, 2005

Province	*Rural*	*Urban*	*Total*
Western	33	34	33
Gulf	40	30	39
NCD	—	33	33
Central	27	11	27
Milne Bay	36	33	36
Oro	37	34	37
Southern Highlands	52	31	51
Eastern Highlands	53	39	51
Simbu	30	33	30
Western Highlands	35	33	35
Enga	34	33	34
Morobe	41	43	42
Madang	35	31	35
Sandaun	31	37	31
East Sepik	42	32	41
Manus	18	25	19
New Ireland	23	34	24
East New Britain	27	31	28
West New Britain	30	33	31
Bougainville	29	30	29
Kiunga Lake Murray	22	27	22
Total	35	35	35

Source: PNG Education Statistics, 2005

However, differences in highlands provinces were higher than provinces in the other three regions. It is evident from the high teacher-pupil ratios that disadvantaged schools were experiencing teacher shortages compared with other rural and urban primary schools at the time of the research.

Figure 2.2 is a comparative chart between tables 2.5 and 2.6, highlighting the difference between rural PTRs, which are already much higher than their urban counterparts, and the NERs in the government-designated disadvantaged schools. Only three provinces – Bourgainville, East New Britain and Morobe – exhibit better PTRs in the disadvantaged schools. All other provinces show much higher PTRs, and for those provinces already suffering from a more marked rural/urban disparity, namely the Southern, Eastern and Western Highlands, a significant PTR rise among the remote disadvantaged schools can be seen.

Table 2.6: PNG – Disadvantaged primary schools' teacher-pupil ratios, 2005

Province	*Total ratio*	*Disadvantaged schools*		
		# Teachers	*Enrolment*	*Ratio*
Western	33	84	3,166	38
Gulf	39	73	3,469	48
NCD	33	n/a	n/a	n/a
Central	27	117	4,754	41
Milne Bay	36	128	4,966	39
Oro	37	92	4,769	52
Southern Highlands	51	208	13,184	63
Eastern Highlands	51	115	8,898	77
Simbu	30	302	11,210	37
Western Highlands	35	68	3,675	54
Enga	34	59	2,494	42
Morobe	42	119	4,585	39
Madang	35	65	3,547	55
Sandaun/West Sepik	31	164	5,167	32
East Sepik	41	306	13,380	44
Manus	19	41	878	21
New Ireland	24	76	1,908	25
East New Britain	28	119	2,997	25
West New Britain	31	105	3,638	35
Bougainville	29	78	2,064	26
Kiunga/ Lake Murray	22	68	3,188	47
Total	35	2,387	10,1937	43

Source: National Education Statistics, 2005

Although it is understood that Papua New Guinea is facing problems of qualified teacher supply, there appears to be no shortage of teachers in absolute terms. The shortage of teachers was estimated on the basis of a teacher-student ratio of 1.25 and based on the allocation of teachers according to the number of classes in a school. Establishment of a ceiling of 1:37 staff-student ratio, teacher requirements as projected in the Education Plan (NDOE, 2004) will increase from 18,979 in 2005 to 20,805 in 2014.

While teacher supply will remain a serious concern for education manpower planners, teacher deployment in rural areas and specifically in disadvantaged schools has emerged as a serious challenge for the policy-makers. 'Teacher deployment and retention at disadvantaged schools arose consistently as the single most important issue at all levels of consultation, including at national, provincial and district levels within the administration, teachers, head teachers, community members and Boards of Management'

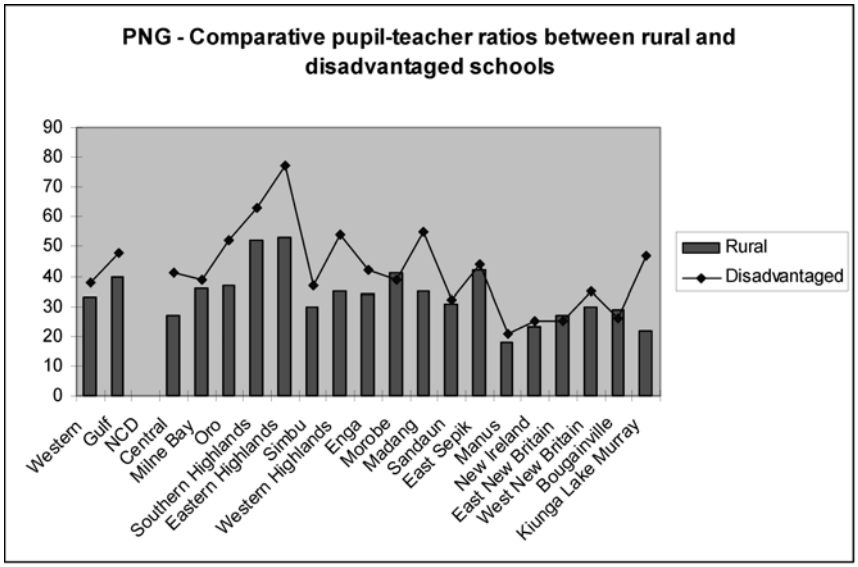

Figure 2.2:

(GoPNG & EU, 2001). The pattern of simultaneous surplus in urban and semi-urban areas and shortage in remote areas, will not be solved simply by providing more teachers. Rather, there is a need for policy intervention to attract and motivate qualified teachers to work in more remote areas of the country.

Data from Pakistan concurs to a large extent with both Tanzania and PNG in demonstrating the urban bias.

Table 2.7: Pakistan – Region-wise distribution of public primary schools

Region	*Urban*	*Rural*	*Total*
Punjab	5,131 (9.9)	46,510 (90)	51,641 (100)
Sindh	4,764 (11.5)	36,451 (88.4)	41,215 (100)
NWFP	1,355 (6.1)	20,669 (93.8)	22,024 (100)
Baluchistan	1,026 (9.9)	9,259 (90)	10,285 (100)
AJK	106 (2.5)	4,117 (97.4)	4,223 (100)
FANA	37 (3)	1,177 (96.9)	1,214 (100)
FATA	0 (0)	4,321 (100)	4,321 (100)
ICT	62 (29.6)	147 (70.3)	209 (100)
Pakistan	12,481 (9.2)	122,651 (90.7)	135,132 (100)

Source: AEPAM, 2005

Data from table 2.7 indicate that more than 90 per cent of all public primary schools in Pakistan are located in rural areas, while only 9.2 per cent of all public schools are in urban areas. This trend is observable across all the regions except Islamabad Capital Territory (ICT), where public schools in urban settings make up almost 30 per cent of all public schools. In Azad Jammu and Kashmir (AJK) and the Federally Administered Northern Area (FANA), the percentage of urban primary schools is less than 3 per cent, while there are no urban schools in the Federally Administered Tribal Area (FATA), because these are primarily rural territories.

Table 2.8: Pakistan – Region-wise number of public teachers by location and percentage

Region	*Urban teachers*	*Urban teachers (%)*	*Rural teachers*	*Rural teachers (%)*	*Total*
Punjab	22,081	15	121,622	85	143,703
Sindh	37,298	39	58,432	61	95,730
NWFP	7,688	12	55,819	88	63,507
Baluchistan	3,322	19	14,109	81	17,431
AJK	182	3	5,610	97	5,792
FANA	222	9	2,191	91	2,413
FATA	NA	NA	10,742	100	10,742
ICT	960	53	858	47	1,818
Pakistan	71,753	21	269,383	79	341,136

Source: AEPAM, 2005

Most public primary teachers in Pakistan are deployed in rural schools. Table 2.8 shows that 79 per cent of public primary teachers of Pakistan work in rural areas. This is, however, less than the percentage of public schools in rural areas (90 per cent), because urban schools normally have more teachers per school than rural schools.

Data from four provinces indicate that more than 80 per cent of primary teachers in Punjab, Baluchistan, and the North West Frontier Province (NWFP) work in rural schools. In Sindh, only 60 per cent of teachers work in rural schools, even though 88 per cent of the schools in Sindh are located in the rural areas. The teacher-school ratio is lower in Sindh as compared to Punjab and NWFP. There are obviously not enough teachers deployed in rural Sindh, even though the overall teacher-student ratio (1:30) in the province seems to be adequate. This may be because of the low school-student ratio 1:71.

There is not much difference in the rural-urban division of public teachers in ICT. FANA, FATA and AJK have more than 90 per cent of teachers

working in rural areas. The reason is that there are no large urban settings in these areas, and most schools are located in rural and far remote areas.

Comparing tables 2.7 and 2.8, it can be seen that there are more teachers than required in urban schools and fewer teachers than required in rural schools in all provinces and regions in Pakistan except in ICT. A large number of the 269,383 public teachers work in rural schools in Pakistan, but there are 122,651 schools (see table 2.7) in the rural sector; this means that the teachers per school ratio in the rural sector is only 2.19:1, which is still quite low. This means that more teachers are required in the rural schools. Although, the number of public teachers in urban schools is low when compared to the number of teachers in rural schools, an approximate estimate of the teachers per school ratio in urban settings comes to about 6:1.

Table 2.9: Pakistan – Number of primary schools according to number of teachers in them

Number of teachers	*Urban*	*Column wise % of urban*	*Rural*	*Column wise % of rural*	*Total*	*Column wise % of total*
1	1,243	13.0	27,020	22.7	28,263	22.0
2	2,175	22.8	49,020	41.2	51,195	39.8
3	1,414	14.8	21,697	18.2	23,111	18.0
4	1,207	12.6	11,457	9.6	12,664	9.8
5	1,025	10.7	4,865	4.1	5,890	4.6
> Than 5	2,489	26.1	5,034	4.2	7,523	5.8

Source: AEPAM, 2005

Table 2.9 demonstrates that most schools in rural areas have one or two teachers as compared to urban schools where most schools have three or more teachers. More than 60 per cent of schools in rural areas are one or two teacher schools, in comparison the percentage of one or two teacher schools in the urban setting, which is approximately 35 per cent. On the other hand, less than 10 per cent of rural schools have five or more teachers, while approximately 37 per cent of urban schools have five or more teachers. Uneven deployment of teachers can also be observed in the urban schools, where on the one hand there are approximately 36 per cent of schools with one or two teachers, while on the other there are 26 per cent of schools with more than five teachers.

Similarly, Nigeria's rural PTR is higher than the urban ratio at 42:1 and 31:1 respectively. The majority of schools are similar to each of the other

case studies, the rural areas holding the majority of public schools, and with a disproportionate number of teachers. While the overall rural PTR is not excessive, at the zonal level the South-South and the North East both had PTRs over 50. Further rural/urban dissagregation at the state level was not available.

Gender disparities

Rural and urban divides clearly operate within each of the countries studied in terms of supply and distribution of teachers. Gender also plays a crucial role in the teacher deployment landscape, and is indeed integral to many of the disparities witnessed at the sub-regional level, as some of the reasoning within the previous sections present. The presence of female teachers is arguably one of the most important factors for the retention of girls in school. Many of the barriers affecting access and participation for girls in schools are rooted in poverty and cultural and religious particularities – all of these are factors found at one level or another within each of the case studies. Girls are kept out of schools for reasons such as: early marriage; to help parents in the community with household and economic activities; lack of funds to send both boys and girls to school; or simply due to a fear on the part of parents that the formal schooling system will be a corrupting influence, leading to early pregnancies and alienation from community cultural norms and practices.

While some of these issues are also found in urban areas, participation of rural girls in education in particular is very low. A relatively small percentage of girls enrol in primary school, about half of these continue beyond

Table 2.10: Cross-country data on primary enrolment and numbers of teaching staff by gender, 2005

Country	*Enrolled primary children*				*Teaching staff*			
	Boys	*Girls*	*Total*	*% F*	*Male*	*Female*	*Total*	*% F*
Nigeria	11,458,353	9,230,419	20,688,772	445	258,287	236,559	494,846	448
Pakistan	6,263,943	4,428,532	10,692,475	441	215,389	125,747	341,136	339
PNG	336,330	273,952	610,282	445	10,739	6,768	17,507	339
Tanzania*	3,347,000	3,216,000	6,563,000	449	62,856	53,544	116,400	446

Source: Data calculated from in-country research statistics * Data from the GMR for 2003/04

the primary level, and even fewer reach the secondary and post-secondary level. Traditional restriction of girls' mobility and lack of access to secondary and post-secondary education near their homes negatively contribute to their schooling. As a knock-on factor from this, the number of qualified female teachers is also low in rural areas.

Table 2.10 provides a comparative analysis between the four case studies. At the national level, it can be seen that the percentage of female teaching staff is not overly disproportionate to the percentage of girls enrolled in school. Only PNG and Pakistan show a slightly lower proportion of female teachers.

However, as previously when unpacking data at the sub-national level, it is possible to see an immediate presence of disparities throughout each of the countries. In Nigeria, this can be evidenced at the state level. Table 2.11 outlines data that demonstrates extreme teacher disparity at the state level for all states that have below 30 per cent of female teachers in primary schools, and those that have above 70 per cent of female teachers.

Table 2.11 demonstrates extreme gender disparities between states, with female teacher percentages ranging from 90 per cent in Anambra State in

Table 2.11: Nigeria – Gender disparities in teacher percentages at the state level

	State	*Geopolitical zone*	*Female teachers (%)*	*Females enrolled (%)*	*PTR*
Female	Anambra	South East	90	51	40
teachers	Abia	South East	85	49	37
above 70%	Imo	South-South	83	50	42
	Lagos	South West	81	51	38
	Edo	South-South	73	49	27
	Oyo	South West	71	51	34
	Ogun	South West	70	49	21
	Ekiti	South West	70	52	15
Female	Taraba	North East	26	42	45
teachers	Yobe	North East	25	40	56
below 30%	Katsina	North West	24	35	62
	Kebbi	North West	21	33	25
	Bauchi	North East	20	39	88
	Kano	North West	14	42	42
	Sokoto	North West	12	29	48
	Zamfara	North West	10	28	45
	Jigawa	North West	8	37	45

Source: UBEC Public School Statistics, 2005

the South East Zone, to 8 per cent in Jigawa of the North East Zone. A clear pattern emerges when we look at the two opposing ends of the spectrum, with all states below the 30th percentile being from the northern geopolitical zones, and those above the 80th percentile being from southern zones. However, both groups show distinct problems when correlated with enrolment data by gender and the state PTR.

Those states with high female teacher percentages also demonstrate near gender parity in their enrolment indicators, with the percentage of females enrolled only varying between 49 per cent and 52 per cent. Unless there are major gender imbalances within the overall state populations, it would be fair to assume that any shortfall in NERs is not identifiable at the state level as an access problem with gendered characteristics. Although the authors conclude that high female teacher percentages in this regard is not necessarily having a disparate impact in favour of girls' enrolment as opposed to boys', gender parity within the teaching population is arguably a desirable norm in itself for the basic needs of an equitable society.

In those northern states with low female teacher percentages, a more distinct trend can be evidenced. Thirteen of the 15 states with low teacher numbers have less than 45 per cent female enrolment, while nine have less than 40 per cent. Two states with less than 15 per cent female teachers – Sokoto and Zamfara – also have very low female enrolment indicators of 29 per cent and 28 per cent respectively. Regionally, northern Nigeria presents a challenge in achieving gender parity and equality in both primary and secondary enrolment for formal schooling. Reasons for this include cultural and religious factors that prevent girls from being enrolled. Many girls in the north will attend Islamic *Madrassas* in place of formal schooling. Suspicion of public education, rooted as it is in western norms and values, is sometimes thought of – especially among rural communities – as a potentially corrupting medium for girls in particular. Other factors, such as the interface between poverty and gender privileges in favour of boys, means that girls are often kept back in the family home or prepared for early marriages.

The impact of the above regional variations does not present a distinct trend in the state PTRs. Both groups have states with both low and high PTRs. So in the southern zones sampled, each with near gender parity in enrolment and high female teacher percentages, the authors still saw extreme PTR ranges from 87:1 (Akwa Ibom) to 15:1 (Ekiti). Similarly in the northern states, with lower female enrolment gender parity and fewer female teachers, the authors saw demonstrations of 87:1 in Bauchi to 22:1 in Adamawa.

While a general north-south imbalance of female teachers can be evidenced, this can be seen to be protracted even when urban/rural desegregations are made. Nationwide, Nigeria has more than twice as many enrolled students in the rural areas than in urban, and more than four times as many schools, but percentage-wise female enrolment is poorest in the rural areas, particularly in the northern zones. Nationally, there are only 37 per cent female teachers in rural Nigeria, as compared to 66 per cent in urban areas. This overall trend is quite common, as will be evidenced when looking at Pakistan and – to a certain extent – Papua New Guinea later. However, in Nigeria's southern states female teachers remain the majority in both rural and urban areas (58 per cent and 83 per cent respectively). In the northern states, while the urban female percentage is an acceptable 48 per cent, the rural areas only have 22 per cent female teachers. A fuller understanding of this disparity can be evidenced at the sub-state level: for example, Adamawa state is one case in point. Although boasting a state PTR of 22:8, the female teacher proportion stands at only 30 per cent (for a 44 per cent female enrolment count). Adamawa, like much of Nigeria, is a rural state. It also has a significant pastoralist population. Analysis of Adamawa state at the sub-state level shows PTR among the 74 officially-designated nomadic schools stands at a healthy 19:1. However, of these only nine of the 308 teachers are female.

Table 2.12 shows that female teachers in Pakistan make up only 37 per cent of the total number of primary teachers. There are more male teachers than female teachers in all the provinces. Approximately equal numbers of male and female teachers work in urban public schools, while in rural schools 67 per cent are male teachers as compared to 33 per cent female. One reason for the larger number of male teachers in rural schools is that there are far more boys' than girls' schools in rural areas. In the public sector, male teachers are usually deployed in the boys' schools and female teachers are deployed in girls' schools. There are around 68,000 boys' schools as compared to 39,000 girls' schools in rural areas.

According to the statistics available in the table, all urban teachers in the ICT are female. In Punjab and Sindh, there is not much difference in numbers between male and female teachers in urban schools. Significant differences in the number of urban male and female teachers can be observed in NWFP, Baluchistan, AJK and FANA. In NWFP and Baluchistan, the number of male teachers in urban schools is higher than the number of female teachers. In AJK and FANA, the number of female teachers is higher than the number of male teachers in urban schools. The rural picture of

Table 2.12: Pakistan – Region-wise number of public primary teachers by gender and location

Region	*Urban*				*Rural*				*Total*				
	Male	*%*	*Female*	*%*	*Male*	*%*	*Female*	*%*	*Male*	*%*	*Female*	*%*	*Total*
Punjab	11,278	51	10,803	49	71,019	58	50,603	42	82,297	57	61,406	43	143,703
Sindh	18,036	48	19,262	52	48,844	84	9,588	16	66,880	70	28,850	30	95,730
NWFP	4,462	58	3,226	42	37,744	68	18,075	32	42,206	66	21,301	34	63,507
Baluchistan	2,219	67	1,103	33	9,787	69	4,322	31	12,006	69	5,425	31	17,431
AJK	82	45	100	55	3,192	57	2,418	43	3,274	57	2,518	43	5,792
FANA	73	33	149	67	1,379	63	812	37	1,452	60	961	40	2,413
FATA	—	—	—	—	6,828	64	3,914	36	6,828	64	3,914	36	10,742
ICT	—	—	960	—	446	52	412	48	446	25	1,372	75	1,818
Pakistan	36,150	50	35,603	50	179,239	67	90,144	33	215,389	63	125,747	37	341,136

Source: AEPAM, 2005

public primary teachers shows that the number of female teachers is less than male teachers irrespective of the province or the region. However, the situation in Sindh is quite critical, as the percentage of female teachers in rural schools is very low (16 per cent).

Papua New Guinea provides an opportunity to see similar trends, where in urban areas 64 per cent of teachers are female compared with only 38 per cent female teachers in rural areas. At the provincial level, this disparity is further magnified, with rural areas in certain provinces. In the Southern Highlands, for example, the female teacher percentage in rural areas stands at 21 per cent, compared to 67 per cent in the urban areas. However this low rural percentage is not reflective of the female enrolment, with up to 41 per cent being enrolled in the rural areas of the Southern Highlands.

Table 2.13: PNG – Female participation in disadvantaged primary schools

Province	*All primary schools*		*Disadvantaged schools*	
	% Female enrolment	*% Female teachers*	*% Female enrolment*	*% Female teachers*
Western	47	29	46	13
Gulf	43	37	41	32
NCD	47	64	—	—
Central	44	38	41	21
Milne Bay	49	53	48	38
Oro	47	51	44	27
Southern Highlands	41	23	38	10
Eastern Highlands	42	32	44	13
Simbu	42	22	40	10
Western Highlands	43	36	41	12
Enga	38	28	35	8
Morobe	47	43	45	17
Madang	44	38	39	17
Sandaun/West Sepik	44	43	42	47
East Sepik	46	40	45	36
Manus	47	55	51	37
New Ireland	49	61	49	55
East New Britain	48	65	45	44
West New Britain	45	47	43	29
Bougainville	48	45	48	44
Kiunga/ Lake Murray	44	41	45	18
Total	45	42	43	26

Source: National Education Statistics, 2005

It is evident from table 2.13 that female students' enrolment in extreme remote schools, classified as disadvantaged schools (43 per cent), is nearly equal to the national average (45 per cent) in all primary schools. However, female teachers in disadvantaged schools constitute only 26 per cent compared with their counterparts, while female teachers in all schools and urban schools were 42 per cent and 64 per cent respectively. The percentage of female teachers in disadvantaged schools was lower than the rural schools (38 per cent), indicating an increased gender imbalance.

Teacher qualifications

With problems of remote/rural areas and unequal female placements playing a significant part in teacher deployment disparities within each of the four countries, quality issues need further analysis regarding the presence of any disparities among teachers being deployed to certain areas. Many parts of the Commonwealth are already suffering a shortage of trained teachers, with Sub-Saharan Africa and South Asia in particular feeling the effects of this. Rapid expansion as has been seen in primary education indicators in Sub-Saharan Africa in particular, causing stakeholders to be weary of quality standards. Overall at the country level the following dynamics can be observed: of 589,550 teachers at the primary level in Nigeria, only 37 per cent are fully qualified and in possession of the Nigeria Certificate of Education (NCE)[2]; in Pakistan, only 2 per cent of teachers are deemed to be unqualified, although the minimum standard of qualification for this figure is not specified; in PNG, 66 per cent of the teachers engaged in the elementary education held full Certificates of Elementary Teaching (CET), with the remaining 34 per cent at different stages of the CET programme.

As has been seen, teacher deployment has regional and gendered dimensions that lead to disparity. Within these dimensions the distribution of the most qualified is also a crucial factor, as such disparity contributes to the perpetuation of barriers towards attaining UPE. Although so far each of case studies has presented similar problems in terms of an urban/rural imbalance in favour of the urban centres, and fewer female teachers overall and particularly in rural areas in terms of their meeting the enrolment needs of girls, there are nonetheless differences between the countries due to their demographic circumstances. For example, although parts of both Nigeria and Pakistan have high percentages of girls out of school (for very similar cultural and religious reasons), in Nigeria 59 per cent of qualified teachers at the national level are female, while in Pakistan only 37 per cent are. The vast majority of schools in Pakistan are located in the rural areas, and

females are sorely underrepresented both in terms of primary enrolment and in the number of teachers available. In Nigeria, on the other hand, the densely populated southern states have much higher percentages of female teachers – accounting for the national figure above – while the northern areas have an acute female teacher shortage that even outstrips the disparity of primary enrolment numbers. Taking Adamawa state once again as an example: of the 308 teachers deployed to nomadic schools catering for pastoralists, 232 are NCE qualified; of those, however, only one is female (out of an already low female total of 9, as stated in the previous section).

The table below demonstrates some of Pakistan's internal teacher qualification disparities.

Table 2.14 presents primary teachers' professional qualification from the Primary Teacher Certificate (PTC) to M.Ed (Master of Education) and other training. The data is limited in that no information was available about the professional qualifications of 60,690 teachers. Thus, these teachers are excluded from the analysis.

The data indicates that 98.39 per cent of the total number of teachers has professional qualification, and majority of those (66 per cent) have the PTC, which is the minimum professional qualification for a primary school teacher. More than 10 per cent of teachers have the Certificate of Teaching (CT), about 14 per cent have a B.Ed (Bachelor of Education) and less than 2 per cent have a M.Ed. Overall, more female teachers (69 per cent) than male teachers (64 per cent) have a PTC, while male teachers have higher percentages in other degrees such as CT, B.Ed and M.Ed. Thus it is possible to conclude that male teachers generally have higher professional qualifications than female teachers, although there are more women overall than men with an initial PTC. Better-qualified female teachers are nonetheless concentrated in the urban centres (when looking at formal training qualifications between PTC and M.Ed). This means a further deficit of sorts for the rural areas, which are already suffering a female teacher shortage. There are, however, substantially more teachers in the rural areas who are considered to be 'trained' but do not fall under the previous qualifications, and of these, there are more females. The nature of this training is ambiguous, but could suggest higher presence of informal training programmes in the rural areas. If this is the case, then the quality issue still needs to be ascertained, and it is fair to say that further exploration into the potential benefits and shortfalls of such programmes is needed.

In Tanzania, the researchers found similar patterns. Data from table 2.15 at the district level provides further insight into more specific

Table 2.14: Pakistan – Professional qualification of male and female teachers in urban and rural schools

Professional qualification	*Urban*			*Rural*			*Grand Total*		
	Male (%)	*Female (%)*	*Total (%)*	*Male (%)*	*Female (%)*	*Total (%)*	*Male (%)*	*Female (%)*	*Total (%)*
PTC	18,802 (58.4%)	20,446 (64.8%)	39,248 (60.04%)	90,057 (65.3%)	48,447 (71.4%)	138,504 (67.3%)	108,859 (64.01%)	68,893 (69.3%)	177,752 (65.9%)
CT	4,269 (13.2%)	3,744 (11.9%)	8,013 (12.5%)	15,834 (11.4%)	5,301 (7.8%)	21,135 (15.1%)	20,103 (11.8%)	9,045 (9.10%)	29,148 (10.8%)
B.Ed	6,349 (19.7%)	5,044 (15.9%)	11,393 (17.8%)	18,886 (13.6%)	7,733 (11.4%)	26,619 (12.9%)	25,235 (14.8%)	12,777 (12.86%)	38,012 (14.11%)
M.Ed	1,113 (3.4%)	1,077 (3.4%)	2,190 (3.4%)	2,457 (1.78%)	707 (1.04%)	3,164 (1.53%)	3,570 (2.09%)	1,784 (1.796%)	5,354 (1.98%)
Others (trained)	1,230 (3.8%)	713 (2.2%)	1,943 (3.05%)	8,226 (5.96%)	4,571 (6.74%)	12,797 (6.22%)	9,456 (5.56%)	5,284 (5.32%)	14,740 (5.47%)
Untrained	404 (1.25%)	512 (1.6%)	916 (1.4%)	2,420 (1.75%)	1,007 (1.48%)	3,427 (1.66%)	2,824 (1.66%)	1,519 (1.52%)	4,343 (1.61%)
Total	32,167	31,536	63,703	137,880	67,766	205,646	170,047	99,302	269,349

Source: AEPAM, 2005

Table 2.15: Tanzania – Distribution of primary school teachers by district and gender

District	*Enrolment*	*% Grade B/C*			*% Grade A*			*% Dipl. and Grad.*		
		M	*F*	*T*	*M*	*F*	*T*	*M*	*F*	*T*
Bagamoyo	55,037	1.41	1.50	2.91	1.40	2.80	4.2	2.30	2.80	5.1
Bukoba rural	98,402	3.20	3.60	6.8	3.30	2.30	5.6	0.80	0.80	1.6
Bukoba urban	17,613	0.20	0.89	1.09	0.40	1.10	1.5	1.40	0.40	1.8
Bunda	79,526	3.10	2.80	5.9	1.94	1.80	3.74	2.90	0.00	2.9
Geita	178,224	3.70	2.10	5.8	4.99	2.60	7.59	5.30	2.00	7.3
Ilemela	57,770	0.40	1.50	1.9	0.90	2.60	3.5	0.30	0.40	0.7
Iringa Rural	63,678	2.30	1.70	4	1.80	2.97	4.77	3.20	2.40	5.6
Iringa municipal	21,680	0.08	0.89	0.97	0.70	2.30	3	2.90	10.40	13.3
Karagwe	106,643	2.30	1.87	4.17	3.91	2.30	6.21	1.80	0.40	2.2
Kibaha district council	13,986	0.33	0.53	0.86	0.40	0.98	1.38	0.80	0.40	1.2
Kibaha urban	18,185	0.20	1.10	1.3	0.50	1.50	2	0.90	2.00	2.9
Kigoma rural	121,688	2.90	1.60	4.5	2.50	1.60	4.1	3.20	1.60	4.8
Kigoma ujiji	40,572	0.50	1.30	1.8	1.40	2.10	3.5	1.80	1.20	3
Kilwa	37,795	1.90	0.90	2.8	0.94	0.60	1.54	1.50	0.40	1.9
Kisarawe	23,622	0.60	0.42	1.02	0.90	1.40	2.3	1.80	2.00	3.8
Liwale	17,897	0.80	0.27	1.07	0.70	0.40	1.1	0.80	0.00	0.8
Magu	112,269	3.10	1.93	5.03	2.96	2.60	5.56	1.70	3.20	4.9
Masasi	94,168	4.30	2.10	6.4	3.40	2.40	5.8	1.10	1.60	2.7
Moshi municipal	28,064	0.20	2.10	2.3	0.30	1.92	2.22	0.50	5.20	5.7
Moshi rural	104,130	2.20	8.98	11.18	2.30	5.00	7.3	3.50	5.60	9.1
Mtwara rural	43,218	1.80	0.62	2.42	1.50	0.99	2.49	0.30	0.00	0.3
Mtwara urban	16,840	0.20	1.10	1.3	0.70	1.20	1.9	0.60	2.00	2.6
Mufindi	74,883	1.80	1.93	3.73	2.60	2.60	5.2	3.20	3.60	6.8
Muleba	90,048	2.60	2.10	4.7	3.10	1.80	4.9	0.50	0.80	1.3

District	*Enrolment*	*% Grade B/C*			*% Grade A*			*% Dipl. and Grad.*		
		M	*F*	*T*	*M*	*F*	*T*	*M*	*F*	*T*
Musoma rural	102,176	3.70	2.97	6.67	2.40	1.80	4.2	0.90	0.00	0.9
Ngara	60,569	2.20	0.99	3.19	1.90	1.10	3	0.30	0.80	1.1
Njombe	103,512	2.50	3.50	6	3.20	3.60	6.8	6.30	6.00	12.3
Nyamagana	61,398	0.20	1.20	1.4	1.10	3.30	4.4	1.70	4.00	5.7
Ruangwa	24,524	1.30	0.50	1.8	0.70	0.50	1.2	0.80	0.00	0.8
Sengerema	134,159	3.00	2.60	5.6	3.30	2.60	5.9	1.70	0.40	2.1
Serengeti	48,414	1.60	1.20	2.8	1.70	0.92	2.62	0.80	0.80	1.6
Sikonge	26,014	0.90	0.50	1.4	0.70	0.60	1.3	0.20	0.80	1
Tandahimba	42,877	2.40	0.70	3.1	1.40	0.80	2.2	0.20	0.00	0.2
Tarime	141,054	4.90	3.40	8.3	3.90	2.40	6.3	4.10	2.00	6.1
Urambo	77,198	1.70	2.10	3.8	2.20	1.70	3.9	1.40	0.40	1.8

complexities within sub-national disparities. As evidenced earlier when analysing urban-rural disparities, urban centres, especially in regions closest to the capital of Dar es Salaam, benefit from far healthier PTRs than those considerable distances away in remote locations with sporadic transport and facilities.

The table shows the percentage of teachers of various grades in primary schools in selected districts (out of the total 112 districts). The percentage of teachers out of the total present in each district is indicated for each category of teacher.

The following observations are to be noted from the table: the 10 districts with the highest percentage of diploma and graduate teachers in primary schools include: Iringa municipal (13 per cent), Njombe (12.3 per cent), Moshi rural (9.1 per cent), Geita (7.3 per cent), Tarime (6.1 per cent), Moshi municipal (5.7 per cent), Mufindi (6.8 per cent) and Nyamagana (5.7 per cent).

Those with the largest percentage of Grade A teachers (O levels plus two or three years training) include: Geita (7.6 per cent), Moshi rural (7.3 per cent), Njombe (6.8 per cent), Karagwe (6.2 per cent), Tarime (6.3 per cent), Sengerema (5.9 per cent), Masasi (5.8 per cent) and Magu (5.56 per cent).

Combining these two pieces of data one can notice that the gold mining town of Geita has 7.6 per cent of the national Grade A teacher total and 7.3 per cent of the national diploma teachers, Iringa municipal, a prosperous urban district in the south highlands, has 13.3 per cent of all diploma teachers and 3 per cent of the Grade A teachers. Moshi rural, a relatively prosperous agricultural district with good road networks and a supportive local population, has 7.3 per cent of all Grade A and 9.1 per cent of all diploma teachers, while also carrying 11.18 per cent of all Grade B/C teachers. Njombe, Souh of Iringa is also a well-off district and has 6 per cent of Grade B/C, 6.8 per cent of Grade A and 12.3 per cent of diploma/graduate teachers.

The lowest proportions of diploma and graduate teachers are in the remotest districts, including Bukoba rural and urban (1.6 and 1.8 per cent), which is located on the boarder with Uganda in a heavily HIV/AIDS-prevalent area. Kibaha district has a very traditional rural community, sometimes viewed as unwelcoming and unsupportive to teachers due to its tendency to practice the traditional education system of *unyago*. This also applies to Mtwara and Bagamoyo. Others with a low proportion of diploma and graduate teachers include Ngara (1.1 per cent), bordering Bukoba

rural, Musoma rural (0.9 per cent) on the border with Kenya, and Mtwara rural (0.3 per cent) on the southern border with Mozambique.

Some of the reasons for the low percentage of teachers with higher qualifications in the districts include:

- Poor infrastructure (Ngara, Ruangwa, Liwale, Ilemela, Serengeti, Muleba and Tandahimba);
- Poverty and difficult living conditions (Kilwa, Mtwara rural, Ngara – heavily inhabited by refugees where the crime rate is high – Sikonge and Urambo); and
- Low availability of natives of the area as educated role models and teachers, to the extent that teachers have to be brought in from other districts (this is the case with Urambo, Mtwara rural and urban, Kisarawe and Kigoma Ujiji).

The data in table 2.15 is of course just a sample, but the picture emerging supports the report's earlier hypothesis that teacher distribution across the districts depends on practical accessibility, community awareness and support for teachers, and the economic status of the district. The data also shows that even neighbouring districts may have different distributions of qualified teachers. For example, why do Bunda and Geita vary so much, while they are both in the same region? The difference is that Geita is a mining town with a more economically well-off population than Bunda, hence most teachers prefer to work in Geita. A similar comparison can explain why Nzega has a better distribution of teachers than Tabora municipal (a larger town) or Tabora rural, though they are also all located in the same region, Tabora being the regional headquarters. Nzega is also a mining town.

Challenges to equitable teacher deployment

Deploying teachers to rural areas is a major issue, as trained and experienced teachers prefer to teach in urban and semi-urban areas. Interviews with teachers in each of the four countries found very similar concerns regarding rural placements, explaining to a large extent some of the reasons why governments may encounter barriers with effective deployment to rural areas. As a result, positions in rural primary schools remain unfilled for the whole or a considerable part of the year. Key issues in teacher reluctance for rural placements include the following:

- *A lack of basic services,* with unreliable electricity and water are major factors. This is a similar problem in many places. In PNG, for example, teachers reported having to collect and use rainwater if there were no tanks or an accessible fresh water supply. Other factors include the absence of amenities such as shops, postal services and cheque-cashing offices. Often teachers in the rural areas will not receive their salaries on time, or are unable to pay for goods due to lack of money changers. In Tanzania's Malambo ward, teachers had to board the village lorry, which only operated once a week, to go to the Education Office in Loliondo in order to collect their monthly salary, and on many occasions they were told their monies had not been processed. To go shopping for goods they had to travel to another town, despite practically no transport to go there or return. It could take someone a week to do this.
- *Lack of accommodation* plays a key role. In many places, adequate housing is not readily available. In PNG, many teacher houses provided by the Boards of Management (BoMs) in remote areas are made of bush materials, which lack not only electricity but also furniture and sanitation. These bush-material houses are not easy to maintain, resulting in rapid deterioration within a short period of time. Many teachers complain that they have to invest their own funds to make the houses hospitable. The housing allowance given per fortnight is not realistic to meet this need. In Ngorongoro district of Tanzania, teachers working in the Maasai territory had to share bedrooms.
- *Security issues* in remote locations are another deterrent. In remote districts, such as Kigoma rural, Bariadi and Magu of Tanzania, teachers fear threats by local people who say they will harm them if they enforce the law requiring punishment to parents who do not enrol their children in school by the age of seven. Coupled with the issue of inadequate housing, lack of security presents a particular barrier for the deployment of female teachers to remote districts.
- Rural teachers have *limited or no access to learning resources,* like library books, materials and information. Scope for upgrading knowledge and information is almost zero due to a lack of opportunities for continuing professional development (CPD). Urban settings provide teachers with opportunities for both CPD, and an

opportunity to earn extra supplementary wages as private tutors in their spare time. Nigerian teachers interviewed expressed their concern that teachers in rural areas were less likely to enjoy regular promotion than their urban colleagues. In Tanzania, it was reported that an urban Grade-A-qualified teacher could upgrade within five years to diploma through exposure to workshops and being able to enrol in teacher training colleges, while a teacher posted in a remote district would have to wait ten years before getting such an opportunity. There are many teachers who have not been on a refresher course ten years after qualification. Any avenues for professional upgrading that may be open are often not affordable on a teacher's salary.

- Rural areas also present *a less conducive environment for teachers with families.* The general lack of facilities and security fears means that many older, more experienced teachers with families are more likely to insist on urban postings for the health and educational benefits of their own children. Those that do take remote postings are likely to leave their families behind in urban or semi-urban areas, leading to increased absenteeism in some instances and the increased likelihood of requests for transfers within a short period of time. Female teachers with families are also less likely to be available for such postings, while even single teachers would be reluctant to commit for any substantial period of time on the basis that urban centres provide them with better opportunities for marriage and starting a family of their own.
- The rural/urban divide also presents *management consequences.* Rural areas witness high instances of teacher absenteeism. This can be partly attributed to poor management infrastructure in terms of inspections and accountability, as is the case in the extreme locations of PNG, or due to the inconvenience of distances for teachers who may live far from schools. Absenteeism from sickness will also have a greater effect in rural areas where access to medical facilities will be more limited. Additionally, the divide also has detrimental effects in terms of quality issues. As has been seen, rural areas tend to receive the least qualified teachers, and this is even more the case among the female teaching population. However, an interesting reverse effect of this issue is that an additional reason for teachers to seek urban placements is the presence of extra-work activities that

will provide additional income, such as private tuition. This can have an adverse effect on quality issues in urban areas, with teachers sometimes leaving class early to make their private appointments. Although monitoring in the urban areas is better, poor management is not unheard of.

More specifically in the case of female teachers, as noted in the tabular demonstrations, there is evident gender imbalance at the sub-national level in all four countries, with female teachers heavily concentrated in urban areas. In each of the countries at the national level, there is already an overall gender disparity in primary enrolment, with fewer girls in schools than boys. This is most evident in Pakistan. In some countries, like Pakistan and PNG, there is a clear need for more female teachers equitable with the percentage of girls enrolled. Once analysis goes to the state, provincial, regional or district level, it is possible to see more extreme variations in gendered deployment trends. In Nigeria at the state level, a clear disparity between northern and southern states can be observed, with northern states displaying both low female enrolment and corresponding low female teacher percentages. Cultural barriers play a role in this, and the two indicators are intrinsically tied to one another, with many girls being withheld from school due to the lack of female staff, and states with low female access to and completion of education being unable to produce the calibre of females needed to become teachers themselves. This pattern is mirrored to a large extent within the gendered rural/urban disparity in Pakistan, where again low female enrolment in rural areas is coupled with low female representation. In PNG, basic rural/urban disaggregated statistics do not show the same kind of extremes evident in the larger countries, but once disadvantaged schools in extreme remote locations are further factored into the analysis, a more distinct trend of male-biased gender disparity can be seen.

While increasing the numbers of female teachers overall is a long-term objective that the analysis suggests needs to be adopted by relevant governments, deploying current female numbers to rural postings and extreme remote locations is a hurdle that also needs to be surmounted. Many of the reasons for reluctance on the part of teachers to be deployed to these locations – as outlined above – are even more relevant to female teachers. Given the law and order problem in PNG, for example, posting single women to unfamiliar remote areas can be a cause of distress for new graduates worried about safety. There are increasing incidences of rape and assault of teachers in rural areas by criminals with little respect for the teachers or the law. Nor does posting young, single female teachers to remote areas help their future

prospects for marriage should they wish that. As mentioned earlier, for married women a rural posting means separation from family, as husbands may not want to move due to job requirements or for cultural reasons. Married women are unlikely to accept rural postings for fear separation from their husbands will cause them to seek out another wife.

There are also other more contextual factors. In PNG, there are differences in the socio-cultural norms across the country. In the Highlands region, for example, women are considered to be a tradable commodity, because the husband pays 'bride price' to marry a woman. The woman is bound to the husband by the bride price, and any desire to break free from the marriage can to be done only with a refund of the bride price to the husband and his people. In the traditional matrilineal cultures (Bougainville, Milne Bay, New Ireland etc.), women hold considerable influence because they inherit property from their mothers. Women teachers are often reluctant to take postings in remote locations in the Highlands regions, because of the strong cultural tradition that undermines the rights of the female teacher when compared with her male counterpart, or even in some cases with her male students.

The teacher deployment situation in all four of the countries studied has been able to confirm strong similarities in terms of challenges to equitable deployment, despite their varying national characteristics. Basic indicators show that all four countries are below the 80th percentile in terms of enrolment indicators, with significant numbers of children out of school in each. While the number of teachers currently within their systems is adequate to present acceptable national PTRs, the low enrolments indicate the need for substantial numbers of new teachers to be trained and recruited if governments are to achieve quality universal primary enrolment and completion.

Disaggregation of pupil-teacher ratios at the sub-national level has illuminated and confirmed three major areas of disparity in terms of teacher presence across states, provinces, regions and districts:

- Rural and remote areas suffer from larger classes, with much higher PTRs overall as compared to the urban centres of all four countries;
- This rural/urban disparity has a gendered characteristic, with female teachers concentrated primarily in urban areas;
- The deployment of the most highly qualified teachers is also biased in favour of the urban centres, with lesser qualified female teachers found in greater numbers than their male counterparts.

The reasons given for these disparities are tied to the issues of rural poverty, insufficient infrastructure and the lack of incentives within the teaching profession generally, but even more so for those deployed to rural and remote areas. These reasons are exacerbated for female teachers, for whom the issues of security, amenities and proximity to family and local community are doubly important.

The next chapter provides an opportunity to address in more detail the policies and practices that governments are currently employing in the deployment of teachers. It includes an assessment of the policy provisions and institutional frameworks, and what strategies are being used to address the current imbalances in teacher provision across different regions.

Notes

1 The criterion for identifying disadvantaged schools in this regard are: Any school more than four hours combined walking distance from (a) a centre supplying basic services including medical care, (b) a trade store carrying basic food items, and (c) cheque-cashing facilities and minimum communications, which include postal services and reasonable access to a transceiver.
2 This figure is inclusive of both public and private and primary school teachers, with the number of public school teachers numbering 494,846.

Chapter 3

Policies and Practices

Despite differences between each of the countries in terms of size, population, culture and political infrastructure, there are distinct similarities between all pertaining to the under-staffing of qualified teachers to the rural areas, and strong gender imbalances. This chapter looks at some of the policy provisions and institutional arrangements that are in place for recruiting and deploying teachers.

All four countries have devised policy frameworks for bringing their out-of-school children back into school through education sector plans, structural reform or legal constitutional Acts. The expansionist drive inherent in each represents a key challenge in itself, as each country struggles to develop suitable infrastructure at an accelerated pace, and the mass training and recruitment of teachers is a key aspect of this aim. However, more teachers does not automatically result in equitably distributed teachers according to need, and the imbalance demonstrated in the previous chapter runs the risk of being exacerbated if deployment policy and practice are not combined correctly.

Teacher deployment systems

Methods of teacher deployment vary, and the four case studies in this book again show both similarities and differences in their processes. Arguably and broadly speaking, two main systems exist – deployment by a central authority or deployment by a 'market system' (Mulkeen, 2005). Centrally planned systems can either be directed from the national or provincial level, and their rational is based on the premise that they will ensure the fair deployment of teachers, free from local pressures. However, not surprisingly the greatest drawback with centralised systems is the inability to keep abreast and respond quickly to local-level needs. Decentralising the teacher deployment process has become an approach reviewed and in some cases adopted by ministries in an attempt to create more efficiency.

'Market' systems provide teachers not through a central system where teachers are recruited and deployed to schools, but where teachers apply for specific posts in schools of their choice. Such a system is more naturally conducive to the private sector. Schools have more autonomy in this process, and this can be beneficial as the needs of the locale are addressed directly. Arguably, this better ensures the hiring of local teachers. Another benefit is the expediency that the system provides, avoiding as is does the 'red tape' and distant processes of centrally-determined recruitment machinery. However, this system has the very large disadvantage of easily perpetuating some of the disparities that even the centralised system struggles with: for example, it ensures that the most qualified teachers go to the most desirable locations (often urban), leaving rural areas with minimal competition and the least qualified teachers.

The countries in this book have undergone varying degrees and attempts at decentralisation and devolution towards the aim of empowering provincial and district-level management with authority in making key education decisions. This has had mixed results for teacher deployment processes. The following summaries give an overview of the basic deployment frameworks in each of the countries: Nigeria, Pakistan, Papua New Guinea and Tanzania.

Nigeria

As earlier indicated, Nigeria operates a three-tier system of government, federal, state and local governments. Education is on the concurrent legislative list, whereby each of the tiers can set up schools, employ and deploy teachers within its jurisdiction. There are, however, national bodies that coordinate the implementation of policies, as shown in chapter one.

As a matter of policy, the federal government does not operate primary schools and, by the Universal Basic Education Act, is disengaging in the running of junior secondary schools because they now form part of the nine-year basic education[1] . By law, local governments are supposed to be in charge of recruitment and deployment of teachers at the primary school level. However, these functions have been centralised in all states, and in practice they are currently carried out by the State Universal Basic Education Boards (SUBEBs). The SUBEBS are the state-based bodies that carry out the mandate of the parastatal Universal Basic Education Commission (UBEC), which effectively answers to the Ministry of Education. Among the reasons given for this centralisation, is the need to have high-caliber supervision of the school system and to avoid duplicating structures within

the states in order to conserve funds to be used directly in the schools. The structure of the SUBEBs allows for technical consultations among all the education secretaries of the local governments (there can be up to 44 education secretaries in a state) for input into decision-making at the SUBEBs.

Pakistan

There are no specific written policies in Pakistan for the recruitment and deployment of teachers. However, a devolution plan has been implemented to give more power to district education authorities to make important decisions. This has endowed district governments with certain powers at the local level, including the actual posting of teachers, although the recruitment of teachers and the creation of new posts are still at the provincial level. Multiple tiers of authority exist at the district and provincial level, each with a designation and a set of responsibilities. The most notable ones to mention for the purposes of this study are as follows. At the provincial level, the ultimate authority is the Secretary of Education (SE), who advises on policy issues and is responsible for the implementation and evaluation of plans in the province. Three rungs below the SE is the executive district officer, who plays the crucial role of approving the procurement of goods and the appointment, transfer, promotion, selection and leave of teachers and other education staff. Further down the hierarchy there are other key designations, such as the learning co-ordinator and the president of the School Management Committees, who are responsible for teacher absenteeism, and the Citizen Community Board, which mobilises resources to improve schools and voice community concerns to local governments.

Papua New Guinea

Papua New Guinea is arguably this book's most decentralised case study. Since the introduction of education reform and enactment of the Organic Law on Provincial Government and Local Level Governments, including the Education Act and Teaching Service Act in 1995, PNG has adopted a decentralised teacher deployment system. Education is a decentralised function of provinces, with certain core functions retained by the national department. Teacher deployment, in particular, is carried out at provincial level, with each province recruiting and deploying teachers to schools in each respective province.

Tanzania

The management of primary education in Tanzania is decentralised in the districts. Teachers used to be centrally allocated to the districts from headquarters, but since 2000 districts have been able to hire directly and it is not easy for teachers to transfer from one district to another. The Ministry of Local Government, which manages the districts, is responsible for teacher welfare, while the Ministry of Education and Vocational Training (MoEVT) is responsible for the curriculum, textbook production and other academic matters. This division between two ministries sometimes results in many management problems for district education officers, who must ensure the wellbeing of both teachers and students. The 2002–2006 Primary Education Sector Plan acknowledges the need for increased numbers of teachers in rural areas, and the necessary training and deployment initiatives.

Teacher provision cycle

Teacher education and training

The supply of qualified and motivated teachers to the education system is one of the most critical components of achieving universal primary education (UPE) and to implementing successful education sector reform. Findings from chapter 2 demonstrated that the supply of qualified teachers overall is slightly short of the requirements for the countries studied. Deployment of the most qualified teachers also favours urban and semi-urban settings. All four countries also showed the need for more female teachers in certain target areas, and particularly in the rural and remote locations. Raising quality standards among teachers is a further concern, and one that must be addressed in both the initial recruitment of new teachers and through in-service development.

PNG: Teacher supply following education reform

Expansion, upgrading and restructuring of education systems are important periods for the appraisal of the effectiveness of teacher education and training policy, and are also necessary for effecting change. In Papua New Guinea, the structural changes of the education system into elementary, primary and secondary education levels – for example, the phasing-out of Grades 1 and 2 from community schools and the establishment of elementary schools with a Prep, E1 and E2 contingent of about 16,000 trained

teachers – has created an enormous pressure on the training of new teachers and re-training of existing teachers.

The Papua New Guinea Education Institute (PNGEI) currently conducts the Certificate of Elementary Teaching (CET), which takes three years for completion through mixed mode. The minimum qualification of entrants to the elementary teacher-training course is Grade 10 formal education; teachers are selected and nominated by their own communities. The training programme has three components: first to attend a workshop that is run at district level during Lahara, the Christmas vacation; second, during the year, teachers are expected to complete a series of self-instructional, self-paced, in-service modules; and third, elementary teachers are visited and supervised by teacher trainers in the classroom.

Since the introduction of elementary schools, teacher recruitment has been carried out by hiring untrained teachers, who are later trained through the donor-funded Elementary Teacher Education Support Project (ETESP). Recruitment of a large number of untrained teachers has raised the question of standard of education in the elementary schools. However, in 2005 about 12,000 teachers were engaged in elementary schools, of which 8,000 had graduated in the CET and the remaining were at different stages of the CET programme.

The critical component of the implementation of education reform in PNG was to offer an opportunity to community school teachers to upgrade their qualification from certificate to diploma level through in-service programmes and through Primary Teachers' Colleges (PTCs) to enable new teachers to qualify for entrance into the reformed curriculum.

From the supply side, the long-term training needs for preparing teachers for teaching Grades 3–8 are being met by seven PTCs. Entry level has increased from Grade 10 to 12, and the duration of the programme has been reduced from three to two years through the introduction of three terms (or the trimester system), which keeps the same teaching time of six semesters. The change has resulted in a decrease of the unit cost of producing a primary teacher and a decrease in enrolment capacity in colleges by 50 per cent. The 2003 PTCs enrolment was:

	Year – 1	*Year – 2*	*Year – 3*	*Total*
Total enrolment	1,154	734	445	2,333
% of female	42%	42%	44%	42%

However, the percentage of female teachers in training remains below that of males, and there is an acute imbalance of gender equity in PTCs.

Only 20 per cent of the teachers employed in these colleges in 2000 were women.

An estimated 10,000 teachers in the field in PNG are without a diploma-level qualification, which is the requirement for teachers to teach in the reformed curriculum. An in-service programme – the Diploma in Education, Primary (In-service) community, known as the DEPI, has been offered since 2002 in PTCs in regional locations through the PNGEI.

Nigeria: Encouraging student teachers into the primary sub-sector

Generally, teacher education fails to attract adequate candidates in Nigeria. This is even more the case for the teachers of primary schools. Students training to become teachers used to have a bursary and scholarship, which encouraged good students to go into teaching. Ukeje (1995) lamented the poor quality of candidates entering into teacher training programmes. Ukeje also noted that the admission of poor-quality candidates is an indictment of the recruitment and preparation processes. Further to this, the reputation and allure of the teaching profession has suffered significantly in recently decades in the country. This is not necessarily an issue isolated to developing countries, as the chronic teacher shortages in parts of the developed world testify to.

Nigeria currently has 83 Nigeria Certificate of Education- (NCE-) awarding institutions, with over 300,000 students – most of whom are females. Twenty of these are Federal Colleges of Education; 41 are owned by state governments; 11 are owned by individuals and faith-based organisations; one is owned by the Nigerian Army; nine are state-owned polytechnics; and there is a federal parastatal, the National Teachers' Institute (NTI), which offers in-service teacher training using open and distance learning methods.

Candidates for admission into a first-degree teacher programme must possess five credit-level passes at the Senior Secondary Certificate Examination (SSCE). Students then spend four years studying methodology, content and practical teaching. By comparison, a candidate for the NCE must possess only three credit-level passes at the SSCE, which must include a pass in English language; he or she will then spend three years in a College of Education (COE).

It should be noted that most students prefer to wait and obtain five credits in SSCE for university admission, rather than taking the NCE in a College of Education, because this may 'sentence' them to teaching at primary school level only. Thus most COEs now admit a large proportion of

their students through the pre-NCE programme. The programme lasts one academic session, and is designed to remedy the deficiency candidates have in their SSCE. The course content is based on the SSCE curriculum. Successful pre-NCE candidates then carry on to study the NCE proper. Initially, the programme was limited to courses like technical education, sciences and languages. With time, the pre-NCE mode of admission has become even more popular than the direct entry mode.

Table 3.1 Distribution of NCE students by mode of entry in 36 sampled Colleges of Education

Year	*Total enrolment in NCE1*	*No. of candidates from pre-NCE*	*% admitted through pre-NCE*
2000/01	17,182	13,860	80.66
2001/02	25,491	17,821	69.91
2002/03	30,638	23,898	78.00
2003/04	31,087	19,409	62.43
2004/05	25,272	20,314	80.38

Source: Primary data collected from COEs (NCCE, 2005).

Beside the general problem of getting fully-qualified students to train as primary school teachers, there are other problems. These include training teachers for special education, with only one College of Education providing training to teachers in this field. It should be noted, however, that all graduates of the NCE are exposed to courses for the identification and treatment of students with special educational needs in the mainstream. There is also the case of teachers for the Nomadic population, which will be treated later in this chapter. The last problem to be mentioned is the case of local language teachers (*beside the three main languages of Hausa, Igbo and Yoruba).* It is very difficult to convince students to study their own language, to teach in it or to teach it to others. To learn or teach in local languages is treated as being very low status, even though studies showed that pupils learn faster if taught in their first languages. There is also the provision of Islamic and Arabic teachers for the Muslim population in the North. Here a suspicion of modern education still exists, which accounts for some of the poorer enrolment ratios and PTRs demonstrated in chapter 2. It is worth noting that the National Commission for Colleges of Education (NCCE) has a curriculum for these teachers, which the colleges in the states populated by Muslims run. However, there are still shortages of qualified teachers in this area.

Pakistan: Negotiating competing challenges of quality and numbers in under-staffed areas

In Pakistan, all primary teachers are expected to complete the Primary Teacher Certificate (PTC) prior to applying for teaching positions. The minimum entry qualification for PTC is matriculation ('matric') or Secondary School Certificate (SSC). The National Education Policy (1998–2010) stipulates raising primary teachers' academic qualification from SSC to Intermediate or Higher Secondary School Certificate (HSSC).

The National Education Policy also talks about launching a new stream of (10+3) Diploma courses for elementary education. It explains that this diploma will enable a teacher to study up to the HSSC level, as well as obtain pedagogical skills for teaching at the primary level. In this way, teachers will be able to receive integrated training both in school subjects as well as pedagogical skills, and will be able to pursue either general studies up to BA-, BSc- and MSc-level or continue to serve the teaching profession.

However, the National Education Policy also talks about relaxing the qualification for appointment where no female teacher is available. This policy is in response to the unavailability of an adequate number of female teachers in some of the remote and rural areas of Pakistan. Thus, as could be seen from table 2.14, female teachers, especially of rural schools, have much lower academic and professional qualifications than male teachers. The majority of female teachers have 'matric' and the PTC, which are minimum teaching qualifications.

In the province of Baluchistan, the minimum qualification for a male teacher is SSC second division with PTC. For female teachers, the condition of PTC is waived. This is because of the scarcity of female teachers in rural areas such as Baluchistan, and because it is very difficult to post a female teacher in a far-flung area or one out of her local residence. As one educational manager (EM) reported:

'Minimum qualification of a primary teacher is SSC second division with PTC for male teacher and for female teacher condition of PTC is removed. The reason for this is that in our rural areas qualified female teachers are less in number. You know that we cannot post a lady teacher to remote areas or out of her local residence.'

In Punjab, there are also some recommendations for relaxing the qualification for female teachers, since it is difficult to find and retain women with high qualifications in rural primary schools.

Nor is the National Education Policy being implemented uniformly in all provinces in Pakistan. The minimum academic qualification of most of

the primary teachers (both male and female) in the province of Sindh is HSSC and the minimum professional qualification is PTC. According to an interview source, a new policy is under consideration in Sindh, according to which the minimum academic qualification of a primary school teacher will be graduation (BA/BSc/BCom). However, the implemented policy is to have an HSSC degree with PTC. The policy of having a graduate degree is now being implemented in the province of Punjab only, where the minimum qualification is a graduate degree with a professional Bachelor of Education (B.Ed) degree. In the North West Frontier Province (NWFP), the minimum qualification is HSSC with PTC, but most of the teachers are graduates.

Tanzania: Challenges of in-service upgrading

In 1977 in Tanzania, teachers were mostly primary school leavers who had been given a short three-month training and posted to the newly-established schools. They were supplemented by an itinerant trainer system based in the local wards. The recruitment of under-qualified people into the Universal Primary Education (UPE) programme in 1977 and the lowering of minimum entrance grades into the profession have been attributed as being major reasons for a decline in the teaching profession in the country. Over the years, teacher training has concentrated on a certificate programme, which enrolled secondary school leavers with 'O' ('ordinary') level passes, runs for three years and offers a two-year training. These certificates are eligible for upgrading to a diploma after working for at least two years and enrolling in another two-year teaching diploma programme. Students completing 'A' ('advanced') levels after sixth form can also enrol in the diploma in education programme, but upon completion these teachers are posted in junior secondary schools to teach forms one and two.

In 2000, the Ministry of Education prepared a Teacher Education Master Plan to raise the status of teachers in general. One large programme in that plan (currently being implemented) is to upgrade the UPE teachers who remain in the lowest Grades C or B into a Grade IIIA category. This requires that they study and obtain 'O' level passes in at least three subjects. While a number have been able to upgrade, many have failed and continue to re-try. Table 3.2, below, shows the success rate in Bunda district, as reported by Maganga (2006).

As table 3.2 indicates, there were no candidates who scored divisions I, II and III; most scored divisions IV and 0, with women teachers' performances being worse than men's. [Division 1 is the highest score, while 0 is a

Table 3.2: Tanzania – Performance of teachers who pursued 'O' level upgrading by sitting for the National Certificate for Secondary Education (NCSE) in Bunda District, 2000-2002

S/No	*TRC*	*# Teachers Took Examination*		*2000 Exam Results*				*2001 Exam Results*				*2002 Exam Results*			
				DIV IV		*DIV O*		*DIV IV*		*DIV O*		*DIV IV*		*DIV O*	
		M	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*
1.	Balili	50	59	10	5	8	25	9	9	15	7	6	3	10	10
2.	Kung'ombe	20	15	3	1	7	4	8	2	2	8	—	—	—	—
3.	Nyamuswa	40	20	9	4	11	4	15	6	5	6	—	—	—	—
4.	Kibara	18	13	4	1	5	6	2	1	2	2	3	1	2	2
5.	Mwitende	12	9	2	1	4	4	1	1	5	3	—	—	—	—
6.	Mkula	21	12	—	—	—	—	2	3	3	2	4	2	11	5
7.	Nyashimo	97	63	9	4	49	47	6	3	35	20	7	2	12	8
8.	Kiloleli	22	11	0	1	20	10	—	—	—	—	1	0	1	0
9.	Nyalikungu	30	22	10	7	7	3	5	3	3	4	3	3	2	2
10.	Nyanguge	24	11	1	2	2	0	2	0	16	9	0	0	4	0
11.	Kisesa	32	26	20	18	0	2		12	3	0	3	—	—	—

Source: Teacher Resource Centre Offices and National Examinations Council of Tanzania (NECTA).

failure]. The total number of teachers in this category in 2000 was 62,000, and since most of them are close to the retirement age of 55, they are waiting to exit the profession. Teachers who upgrade to diploma status prefer to lobby for appointment as inspectors, head teachers or ward education co-ordinators, which takes them out of school. Current policy is to appoint diploma holders as head teachers, but due to their shortage only urban schools have these individuals as heads. A further concern is the loss of teachers who upgrade to the secondary sector.

Recruitment, placement and transfer

Methods of recruitment and placement have a direct bearing on the equitable distribution of teachers within the education system. Factors that impact on these aspects include the efficiency of the current process, and the appropriateness of various designations of authority in the recruitment and placement process. The extent to which a system is decentralised also impacts – both positively and negatively – on the efficiency of the process. Policy intents are not always translated into effective practice due these factors.

Designations and authority in recruitment and placement

As has been noted, in Nigeria the federal government does not operate primary schools as a matter of policy, while state governments are responsible for recruitment at the secondary level. With the SUBEBs in charge of primary school deployment at the state level, recruitment is based on local government representations. In other words, a quota system is used and within it merit is injected as a critical factor. The main criteria used are the teacher needs of local government education schools.

There is, however, an unwritten practice of unwillingness by states to recruit teachers from other states. This leads to the issue of scarcity in the midst of adequate numbers. This issue is compounded by the accepted dictum that primary school teachers need to speak the local language of the area where they teach, making non-indigenes unwelcome. There is currently a need to recruit around 300,000 qualified teachers nationwide in Nigeria to cover the overall shortage and to replace unqualified teachers in the primary school sector.

Prior to 2006, before the Nigeria Certificate of Education (NCE) was declared to be the minimum teaching qualification, many of states recruited under-qualified and in some cases untrained secondary school leavers to teach. The main reason given for this was lack of finance. These teachers

were paid less than the qualified NCE holders. Of course this practice eventually affected the standard of education at the primary and other levels.

In Pakistan, the devolution process has on the one hand empowered both provincial and district managers with key decision-making powers. However, the district education managers do not have any clear written policy regarding teacher selection and recruitment. A ban on fresh appointments in the early 1990s (with no indication in the National Education Policy Plan 1998–2010 of when it will be lifted) means that new posts cannot be created (MoE, 1998). Posts become available when teachers leave schools for any reason – for example, retirement, death or transfer. When these posts become available, each district invites application for appointments, but the ultimate decision on teacher recruitment still lies at the provincial level, demonstrating another anomaly in the system.

The education managers at the district level make school-specific vacancy statements according to the school's requirements. Every first week of the month, a vacancy statement is sent to the directorate. According to the process of recruitment, the district-level offices only have the authority to place teachers, but do not have the authority to recruit teachers. The exception to this is in Punjab, where teachers are posted and recruited by district offices. In Baluchistan and Sindh, the authority to recruit teachers lies with the education secretary at the provincial level.

In Papua New Guinea, teacher recruitment and placement is also handled at the provincial level, with each province recruiting and deploying teachers to schools in each respective province. Although provincial administrations invite applications for teaching positions from qualified teachers from any part of the country, teachers with a good reputation with a local community receive favourable recommendations from officials such as inspectors and principals and they are usually retained in the same school. Provincial Education Boards (PEBs) screen and select applicants for teaching positions, and deploy teachers to vacant positions within the province. PEBs also receive and consider appeals regarding selection.

While both Pakistan and Nigeria also have systems that are devolved from the centre, there are of course variations. Of the three countries, PNG – perhaps due to its comparatively much small population – is the most advanced in this sense. However, the decentralisation in teacher deployment in PNG brings both benefits and risks. The provincial, district and local-level governments, along with teachers and students, are in a better position to respond quickly and flexibly to needs. This devolved system in some cases helps teachers get more than one offer, sometimes from different

provinces; this is more likely to occur with the best teachers. Once a good teacher declines to accept remote school posting, it is difficult to find a 'good' substitute as so-called good teachers have taken up other postings, mostly in urban locations. Thus, the teachers who were not selected during the first round of recruitment are left with the option of taking up positions in remote schools.

However, weak administrative capacity at the district and local levels in PNG, where there is greater possibility of undue influence being exerted by individuals or groups, may undermine the teacher deployment process (Hallak, 1990). In PNG, where provincial and district administration is highly politicised and cronyism or '*wantokism*'[2] is often practiced, deployment decisions are prone to abuse.

A recent study in PNG highlighted this concern of a decentralised system:

> 'In many instances, teacher shortages result from inadequate (and even corrupt) recruitment procedures at the provincial level. Eligible teachers are not being appointed and reasons for non-appointment not being given. For example, in Madang Province in 1999 there were 700 applicants for 916 positions, but only 200 were appointed. In other provinces, despite an average of 2.5 applications for each available position, many eligible teachers are rejected on the grounds that they are, 'suitable but not recommended'. Worse some 'rejected' applicants are appointed instead. …. Many of the teachers interviewed complained of the "*Wantok*" system (i.e. preference along family, clan or tribal lines)'. (GoPNG, and EU, 2001, p.12).

Until 1995, the teacher recruitment policy in Tanzania was based on centralised hiring by the Ministry of Education. In 1996, the system was decentralised and recruitment was transferred to the districts once they had completed their training successfully. However, the entire system of teacher training is currently controlled by the Ministry of Education and Vocational Training (MoEVT), including recruitment of trainees, the development and revision of the teacher education curriculum and materials, and certification and licensing. Licensing is a shared responsibility between the MoEVT and the Teachers' Service Commission. In terms of welfare and promotion, there are specific guidelines issued by the Teachers' Service Commission. The Presidential Commission on Education chaired by the former Minister of Education, Jackson Makwetta, recommended in 1980 the establishment of the Teachers' Service Commission, which is an

extra-ministerial department charged with promotions, pensions, employment and discipline (URT, 1995). This body has branches at all districts, and still functions and is responsible for discussing and recommending promotions and disciplinary actions on primary teachers based in the districts.

Despite the existence of this body and the good work that it does, there are still many complaints of delays in teachers' promotion, disbursement of salaries and pension funds. There is also the problem of the two ministries, the MoEVT and the Local Government Ministry, which runs the district councils and is hence responsible for the salaries of primary school teachers (secondary school teachers' welfare is still largely managed from the MoEVT headquarters). Teachers in remote areas spend long hours travelling to district headquarters, and seldom receive their little pay on time.

Recruiting and placing female teachers

The need for female teachers in rural and remote areas is acknowledged at the national level, but in practice the overall recruitment and placement of female teachers is inevitably biased towards deployment in the urban centres. In Nigeria, the criteria for appointment of candidates to teach are not segregated on the basis of gender, and usually no special consideration is given to any disadvantaged group. In Pakistan, however, a separate vacancy statement for males and females is created, although the deployment of female teachers is almost always limited to familiar local community areas or urban centres, leaving the most remote areas – where indigenous qualified female teachers are far less prevalent – without.

In the northern states of Nigeria, all female qualified teachers who are willing to teach are normally given automatic employment to encourage other females to go to schools, but there is no deployment policy to rural areas. Some states (mainly in the South West) make it a policy to deploy new teachers to rural areas, but young women and married women are usually given preferential posting to urban centres or to areas where their husbands or parents live. Where there are single sex schools, appropriate gender is considered during deployment.

Recruitment and training targeted specifically for women teachers in rural areas is another approach. While Pakistan's National Education Policy does not lay down any specific procedures for selecting teachers, it does present a mechanism for selection according to requirement, and attracting and retaining talented students and rural females in particular in the

Strategies for addressing deployment imbalances:
Targeted training and recruitment

Targeted recruitment to meet teacher shortages in remote and rural schools is rapidly becoming a widely-accepted strategy. Nigeria provides a focused case study of targeted teacher recruitment for addressing one particular community that is in need of more teachers, and more female teachers in particular – nomadic pastoralists. At present, there is no clear written policy for teacher deployment to nomadic schools, although Nigeria has a National Commission for Nomadic Education (NCNE). Teachers are deployed according to the request from the designated schools and the benefiting communities. The major obstacles are: getting the consent of the chairmen of the local government areas concerned, as this secures the funds to pay teachers; and finding qualified teachers that are willing to adapt to the life of the nomads. The same problem is encountered during transfers. It should be noted that there are more transfers out of the nomadic schools, because of the nature and culture of the nomads which non-nomads find hard to bear. This is despite incentives like additional allowances (about 15 per cent of basic salary), means of transport (a free bicycle or motorcycle), mobile accommodation and opportunities for periodic training.

The federal government established a commission to cater for the education of the nomads in 1989 (Act 41 of 1989). The NCNE was charged, among other things:

i. to integrate the nomads into national life by providing them with relevant and functional education; and

ii. to upgrade the survival skills of the nomads through improved methods of animal husbandry (Tahir, 1998).

Presently, there are about 1,820 nomadic schools nationwide, with over 350,000 pupils and over 6,000 teachers. The SUBEBs shoulder the responsibility of the employment, deployment and payment of salaries of the nomadic teachers. From reports and discussion with those in charge of the education of the nomads, it is difficult to recruit teachers who can cope with the nature and life of the nomadic people. Staff turnover is very high.

Faced with the above situation, the NCNE along with the UK Department for International Development (DfID) under a Community Education Programme, started a project by identifying young boys and girls among the nomadic communities to be trained as teacher aides at the Federal College of Education, Yola. The programme was later modified for the trainees to obtain Grade II Teachers Certificates. Ninety-five such teachers were trained for the Adamawa and Taraba states. Another set of 125 would be graduating in 2006. However, the change of minimum teaching qualification to NCE poses another challenge. Those teachers that have no NCE must be upgraded. The NCNE is working with the National Teachers' Institute (NTI) and Education Trust Fund (ETF) to achieve this through in-service training.

Stakeholders among the nomads suggested the expansion of the nomadic teacher programme to be offered in more teachers' institutions, so that qualified

graduates with a nomadic background can be sent back to their communities to serve for a minimum period of three years. There is also the suggestion that more permanent grazing reserves should be established, which would make the schools more permanent – even if some of the pupils move, they can carry their records along.

Targeted recruitment has also been a recent, but increasingly prevalent, development in Papua New Guinea. On advice from the provincial Board of Management (BoM), local young people who have the requisite qualifications are recruited to attending teachers training. The newly-recruited trainee teachers are bonded for a minimum of five years to teach in their local schools after completion of teacher training. Given the high rate of unemployment among young people, targeted training is a viable option for addressing two problems: teacher shortages in remote areas and growing unemployment among young school leavers.

One of the important criteria for selection of trainee teachers, apart from the requisite qualification, is their ability to speak a local language and family roots in the locality. The individual trainees who have family connections and roots in the local village, and who live there after completion of school studies, will be more willing to return and remain in the rural environment (Craig, Kraft and du Plessis, 1998).

This strategy is based on the assumption that once the teachers become established within their own village and get married within that village, they will prefer to stay in the same location after the five-year bonding period. In PNG, where law and order is a major problem, teachers also feel more secure living within their communities. In addition, they will get regular help from their extended family, to the extent of producing their own food on their own land. However, the downside of living close to relatives is that there may be too many demands placed on them for financial assistance. Education is also seen as a means of social mobility. PNG communities used to share the cost of the education of their children, with an expectation that those children would become '*bigman*' and bring material benefit for the community. Material demands and attitudes of the community may influence the bonded teacher to leave their local school after five years to seek better opportunities.

It is yet to be seen if targeted recruitment compromises the quality of newly-recruited teachers. It is assumed that given educational opportunities, brighter students continue their studies in colleges and universities after completion of secondary school education. However, school leavers who fail to take advantage of such opportunities usually return to their community, where they are usually considered failures. Thus, this strategy is often not based on merit, but on the availability of a person with the minimum required qualification who is willing to teach in their local school. Nonetheless, given the rapid increase in school leavers due to expansion of high schools and secondary schools, a good number of meritorious students will fail to gain admission in higher education institutions. Gradually, targeted recruitment will become a more merit-based system.

teaching profession. The policy also presents three measures to encourage more female teachers, which are that:

- 70 per cent of newly-established primary schools will be staffed by female teachers; these schools will provide education to both boys and girls;
- during the summer vacation, staggered pre-service training courses will be launched at Primary Teacher Certificate and Certificate of Teaching levels, through which untrained female teachers will be provided with pre-service training; and
- there will be no upper-age restriction for female teachers to join the teaching profession.

However, the extent to which these policies have been implemented has been difficult to measure within the research limitations of this study.

Transfers

In Nigeria, transfers are done periodically to move teachers according to needs. However, some transfers take place on request – such as the transfer of a wife when her spouse is moved, or on disciplinary grounds. The abuse of transfer policies can arguably occur within most systems, and nepotism and corruption can be instrumental in ensuring that teachers in undesirable remote or rural areas are transferred out. Overall, the transfer of teachers is a complex aspect of the deployment cycle. While it is preferred that transferring teachers be kept to a minimum for reasons of stability, transfers also provide an opportunity to address disparities in teacher provision within a country.

In Pakistan, this duality was observed, and there is a conflict between policy and practice. With regards to primary teachers' transfers, the National Education Policy (1998–2010) in the country clearly states that: 'teachers shall be assigned to schools on the basis of empirical need and the transfer rate shall be reduced by recruiting local teachers for schools' (MoE, 1998, p.29). This policy aims to reduce teacher transfer by deploying local teachers to schools on the basis of those schools' needs. However, a reduction in the teacher transfer rate has not been observed in practice. In fact, the issue of teacher shortages in some schools and surpluses in others is actually being addressed through teacher transfers.

The district governments in Pakistan have the authority to transfer Grade 1 to Grade 16-level teachers. With this authority, district govern-

ments are able to better place teachers according to schools' needs and requirements. Based on the process of needs assessment, teachers can be transferred from schools where they are in surplus to schools where they are in shortage. The National Education Policy (1998–2010) clearly states that in this manner: 'better distribution and optimum utilisation of teachers shall be ensured. The teaching force shall be redeployed from schools where there is a surplus to schools where there is a shortage' (MoE, 1998, p.30). So the devolved system has the potential to resolve uneven deployment, but will take time and at the time of writing still varied across districts. As one education manager disclosed:

'So, wherever we have a shortage we shift people accordingly, but the process is quite difficult. Teachers from urban areas are not willing to work in rural areas. Even they do not wish to be transferred from one Union Council to another Union Council. And for that they use different sources and political pressures to provide hindrances in the way of their transfers'.

Forced deployment

Forced deployment is a strategy that has several barriers to working successfully. In order to be fully implemented, the system of deployment would need to be a relatively centralised one and this is not necessarily the most conducive system for ensuring local-level responses are met. On the surface, forced deployment is a straightforward approach that, if executed effectively, should allow planners to fill the necessary understaffed areas with teachers. However, the policy produces complex consequences.

In Nigeria some states – mainly in the South West – make it a policy to deploy new teachers to rural areas. While this may bolster overall numbers to understaffed regions, the immediate consequence of this strategy of course is that rural and remote areas receive the least experienced teachers, thus perpetuating the disparity in quality. Such strategies are also arguably instrumental in making the public teaching profession undesirable to graduates. Ultimately, the success of such a system would depend on very careful management (Mulkeen, 2005).

Forced deployment has been a regular practice in Papua New Guinea, with mixed success. While this strategy is essential to meet the staffing needs of remote schools, it is detrimental to teachers' morale and ultimately can affect the quality of teaching. When teachers are strongly encouraged or forced to take up teaching positions in remote locations, they may leave teaching to look for alternative employment. Alternatively, some teachers hang around the provincial administration in the hope of get a better

Strategies for addressing deployment imbalances:
Teacher incentives – salaries, stipends and allowances

Teacher incentives are a necessary policy approach that countries have yet to fully appreciate in practice. As noted earlier, teacher reluctance to be placed in rural and remote locations remains a key factor in both the unequal distribution of teachers nationally, but also in the overall appeal of the teaching profession. This is more the case in countries like the four case studies, where rural life still predominates. Nor is teacher dissatisfaction a new phenomenon. Since 1980, studies conducted locally in Tanzania, for example, have revealed that poor motivation is a serious issue in the profession. Mwakilembe (1981) and Mwolontalima (1981) showed teacher dissatisfaction based on their low salaries and low social status – which used to be much higher prior to 1968. More recently, large numbers of teachers remain in their jobs, but try to supplement their low pay by running small gardens, animal husbandry and other 'backyard' projects or small businesses (Katunzi, 1995). The need for such extra-work activities are not only a disincentive for teachers to enter the profession – particularly in the rural areas where pay is generally lower and irregular – but can also contribute to the major issue of teacher absenteeism.

In Nigeria, teachers in nomadic areas have been provided with an additional allowance (about 15 per cent of the basic salary). Meanwhile the National Education Policy (1998-2010) in Pakistan also talks about a stipend scheme to be started for studies at the intermediate and degree levels, whereby the students receiving the stipend will be contracted to join the teaching profession on the completion of their studies. Those receiving higher qualifications during their service will be given adequate incentives of advance increments, as well as rapid promotion within their cadres so as to retain them in the profession.

Pakistan's National Education Policy chalks out various incentives for providing a suitable number of trained teachers to disadvantaged institutions. These are:

a) providing a stipend to female students at school and college levels, and then contracting them to serve specific institutions for a period of three to five years; and

b) providing incentives in terms of special pay and allowances for working in far-flung rural institutions.

Data in Pakistan suggest there has been no raise in teachers' salaries for those deployed in remote rural areas. This means that the National Policy directive of providing incentives such as special pay and allowances for working in remote rural institutions is not being implemented. As one education manager disclosed: 'A teacher who is being deployed to a far-flung area is receiving only about Rs.4,000 salary. How can he/she support his/her children and live a decent life?'

The government in Papua New Guinea has also attempted to make working in disadvantaged schools more attractive through the use of incentives. A system of allowances for those working in such schools has increased to K1000.00 per teacher, per year; this is equivalent to approximately 10 per cent of a primary school

teacher's salary. This allowance is paid to compensate for teachers' additional transport costs, and hardships they face while living in remote and isolated locations. However, the amount is generally acknowledged to be too small to encourage qualified teachers to take up positions in disadvantaged schools. In most cases, the allowance is only a fraction of the additional transport costs for cashing the fortnightly salary cheque, travelling for medical treatment and visiting family. A general complaint against the DoE administration in PNG is to do with non-payment and late payment of the disadvantaged school allowance to teachers. The country's National Education Plan 2005-2014 (NDOE, 2004) calls for a review of remote and disadvantaged schools for the purpose of attracting a disadvantaged school allowance. There will also be enhanced incentives to attract teachers to remote areas.

posting; if unsuccessful, they move to the remote posting a few months after the school year commences.

Another detrimental aspect is the use of forced deployment as a system of punishment (Mulkeen, 2005). This system may not work, because relocating misbehaving teachers to remote location carries the risk of less supervision and more trouble for the schools. For example, if teachers are sent to remote locations for disciplinary reasons, the chances of them becoming more troublesome are great because of the lack of supervisory visits by inspectors.

Forced deployment alone is further complicated as a strategy, because it is clear that in all four case studies female teachers cannot for various reasons be a part of such a systematic approach (reasons that include security and cultural factors, such as women being expected to not move too far from their locales). Such constraints make this strategy very difficult to implement. Ultimately, teachers working in remote locations for several years deserve to be recognised and rewarded for serving in difficult conditions, and it is perhaps only with this in mind that any approach of systematic forced deployment to remote and rural areas can be successful. It would be useful to consider a system where a condition for teaching in urban schools, and even promotions, is based on an individual's service in remote areas. Strategies that help to provide a more conducive environment for hosting teachers are also needed.

Teachers on short-term contracts

Teachers are also being recruited on contracts. In Pakistan, this happens at the district level. Two reasons have been shared for contractual

Strategies for addressing deployment imbalances:
Teacher incentives – housing and travel

A second major incentive for teachers to relocate to remote schools is the provision of housing for teachers. Teachers who live far away from a school are likely to spend considerable time walking to and from that school, often arriving late and leaving early. This has implications for the amount of quality time teachers spend preparing lessons. Moreover, there is a strong association between the availability of housing and female teachers.

In Nigeria, the policy approach to travel barriers was similar to that adopted as an incentive for teachers in nomadic areas, that is through the provision of free bicycles and motorcycles. In Pakistan, the National Education Policy has tried to use incentives for alleviating the difficulties of travel to key facilities. Apart from extending residential facilities, daily commuter services to remote institutions are also mentioned in the Policy, as are the opening of day care centres near the schools for women teachers' dependents. Besides these measures, retired personnel may also be engaged to teach in these institutions until regular staff is attracted to serve these institutions through various programmes of incentives.

In PNG, development and maintenance of infrastructure such as teachers' housing is the responsibility of the LLGs and BoMs. Annual budgetary support to schools for infrastructure development and maintenance are usually inadequate or in some cases almost not available to build new houses or to maintain existing ones. A European Union-funded project has now targeted school infrastructure development, including teachers' houses in disadvantaged and remote schools. The project is showing promising results in terms of attracting young, trained teachers to disadvantaged schools. Although good-quality housing for teachers is a significant incentive for teachers, and essential for female teachers, it is very expensive for the government to provide. Increasingly, however, the wider community is becoming more conscious of their children's education. Parents and community members are taking initiatives to use local resources to build houses to attract and retain quality teachers in local schools. Although these are both good initiatives, the task is too big to provide housing in all disadvantaged schools.

In Tanzania, teachers are supposed to get housing at the school where they are working. Even in the recent Primary Education Development Programme (PEDP), newly built schools are encouraged to also build houses for teachers. This is done faster in better-off districts and more slowly in poorer districts. Moreover, the houses so built belong to the schools and not the teachers. There is no arrangement yet for teachers to borrow money in order to build their own houses. Thus after retirement, many teachers who have not used their own initiative find themselves homeless or living in very poor conditions. Regarding transport, no policy exists to assist teachers in Tanzania – even to acquire bicycles on a loan basis. Recently, a credit and saving co-operative movement has begun helping many employees and teachers to form similar saving movements in districts.

recruitment, the main one being to attract talented people into the profession to improve the quality of education. The second reason, which is more disturbing, is to cut the costs of employing teachers – since pensions and other benefits do not have to be paid if they are employed on short-term contracts.

The teachers recruited on contracts in Pakistan are being posted in schools where teachers are required, at least in Sindh and Punjab. The practice is then to confirm the appointment of those contractual teachers who produce good results. This means that contract teachers who perform well are absorbed into the system as permanent teachers.

Nigeria also hosts a category of teachers who are recruited by the primary teaching authorities to fill gaps. Usually these groups of teachers are employed on a temporary or part-time basis[3] . They tend not to be reliable and present problems of continuity and quality in many instances.

Teacher utilisation as a compensatory alternative

Innovative practices in teacher utilisation such a multigrade and shift teaching have been developed in some countries as a compensatory strategy for managing the teacher shortages that exist in rural areas. The place of these approaches within this book is interesting, as they do not represent an actual teacher-deployment strategy in themselves. In the absence of effective teacher deployment, there is no doubt that they are useful innovations, and multigrade in particular has unique pedagogical benefits. However, it is important to analyse in what contexts they can be used as remedial and appropriate alternatives in areas where there is a short supply of teachers.

Villages in Papua New Guinea are characterised by their small populations and are geographically dispersed and isolated, often separated by long distances of valleys, mountains, rivers and seas. Average rural primary schools have up to 100–150 students, compared with an average of 500 students in urban schools. Distance is the major factor affecting children's attendance at school. Enrolment in rural schools falls off very rapidly the longer the distance children have to travel to school (World Bank, 2004). Enrolments in rural schools also fluctuate between years and within years depending on the distance of schools from catchment areas, social instability, weather patterns and seasonal farming activities.

Rural schools are characterised by small enrolments and one teacher per class. The problem with not enough teachers taking up rural positions means that many positions remain unfilled for months, and even whole terms or years.

Strategies for addressing deployment imbalances:
Continuing professional development

Teachers in remote and rural locations are at a distinct disadvantage in the pursuance of professional development throughout their careers. A teacher posted to such an area for an extended period of time runs the risk of not receiving regular promotion like his or her colleagues, and would rarely be sponsored for workshops or conferences. Even where there are avenues for upgrading professionally, such teachers can seldom afford to pay or get sponsorship from employers. As a result, it is possible to find teachers in rural locations who have not attended any refresher course years after qualification.

The geographical difficulty of providing continuing professional development (CPD) to teachers in rural and remote locations has required the use of innovative approaches. Nigeria provides courses for upgrading mounted by the National Teachers' Institute (NTI), colleges and faculties of education. With the new policy of the Nigeria Certificate of Education (NCE) being the minimum teaching qualification, the NTI has intensified retraining programmes by distance learning as a means of reaching teachers in removed locations. Currently, there are over 100,000 teachers undergoing NCE/Distance Learning System (NTI Annual Report, 2005).

The federal government established the Teachers Registration Council of Nigeria (TRCN) in 1993, among others, to control and regulate teacher education, training and practices at all levels in order to match teacher quality, discipline, professionalism, reward and dignity with international standards. The Council intends to promote effective teacher registration and licensing, monitor their training and mandatory professional development, and to maintain discipline among practitioners. Its mandate covers the whole country. At the time of writing (2006) the TRCN was due to start prosecuting unqualified teachers. It is hoped that the quality of teachers will improve very soon.

Teachers in Nigeria also have a central union – the Nigeria Union of Teachers (NUT) – with state branches. Although it uses strikes, works-to-rule and demonstrations to get its demands, it has also started to collaborate with subject associations to give its members avenues to acquire more knowledge. For example, it has a working relationship with associations like the Science Teachers' Association of Nigeria and the Mathematical Association of Nigeria.

In Tanzania, the lowest cadre of teachers is the grade B/C, which includes primary school leavers who have undergone a certificate course of between one and three years and are licensed teachers. The current policy since the Teacher Education Master-plan (TEMP) of 2000 is to upgrade all grade C teachers (ex-primary school leavers) to B through provision of secondary education up to junior secondary 'O' level. Most of the 62,000 grade C teachers who existed in 2000 have studied and passed at least three 'O'-level subjects and received the certificate of secondary education 'O' level.

The PNG National Teacher In-service Plan (2007–2014) reaffirmed that: 'finding the best models for professional development is one of the serious, unresolved problems of educational research' (Elliot, 2005). The primary focus of the Teacher

In-service Plan is teachers in ongoing employment, and competence to adopt curriculum reforms in programming, content, teaching methodologies and assessment. Among numerous stakeholders, the Plan emphasises the leading role of teachers as education providers and to support the successful implementation of the In-service Plan. This will require Primary Teachers' Colleges (PTCs) and others to reflect, in their programmes and practices, the focus of the current curriculum reform and to develop the capacity to accommodate the changes needed. Given that most of the current in-service training in Papua New Guinea is funded by donors, there is however, a question of the sustainability of the programme.

The PNG National Education Plan (NEP) emphasises the need to strengthen and expand the provision of teacher training, including in-service training through flexible delivery mechanisms. This appears to be a rational move to meet the enormous training needs for primary teachers. However, the capacity of open and distance learning (ODL) in PNG is very limited and needs substantial investment to develop capacity in developing self-instructional materials and delivering programmes. Current initiatives of ODL providers, including the PNG Education Institute (PNGEI) and the Papua New Guinea Association for Distance Education (PNGADE), need strong support from the government and donors to engage meaningfully in teacher professional upgrading.

In order to address the above issues, the National Department of Education (NDOE) has introduced a policy of allocating teachers to schools on the basis of enrolments, rather than the number of grades or classes, leading effectively to a system of multigrade teaching. The National Education Plan (NEP) 2005–2014 (NDOE, 2004) recommended a staff-student ratio of 1:37 during the plan period. The Plan also emphasises the institutionalisation of multigrade teaching. Multigrade teaching, popularly known as composite classes, was common in PNG during the 1960s as a strategy for allowing an annual intake and increasing access. The system was phased out in the 1970s following independence: 'This was because the primary teaching force was localised and the teacher educators at the time deemed it wise that Papua New Guineans should not be asked to deal with any more than one class group at a time' (NDOE, 2002, p.15). The phasing out of multigrade teaching was mainly due to the capability of the then primary teachers to teach more than one grade because, in 1975, Grade 8 was the entry level for teacher training. The other reasons for its phasing out were:

- teachers did not like the system, because it took more commitment and work;
- head teachers did not promote it due to the possibility of the downgrading of his/her school;

- communities did not accept it, because the status of their school was diminished; and
- administrators avoided multigrade teaching because of its complicated administration.

The initiative to institutionalise multigrade teaching in PNG is supported by the introduction of a multigrade teaching allowance, equivalent to 10 per cent of gross salary, and provision of in-service courses for multigrade teachers. A study (Guy et al, 2003) of selected rural and urban primary schools in eight provinces covering four regions of the country, found that of the total 1,752 teachers, only 216 (12 per cent) were teaching 28 different combinations of multigrade classes in 2002. There were some unusual combinations, but these were the results of staggered intakes in largely one-teacher or two-teacher schools.

Despite the phasing-out of multigrade in PNG in the 1970s, due to its unique conditions of very small student populations (e.g. schools with 40 students) the approach can be viable and perhaps more practical overall. Multigrade teaching as a pedagogical approach also has an appeal in increasing performance and abilities among children. The existence of teachers in remote locations with multigrade skills is certainly an advantage, as this can be of use to cover teacher absenteeism due to ill-health (Mulkeen, 2005). However, more generally in the case of remote locations with high PTRs, multigrade as a concerted approach cannot be viewed as a strategy to be prioritised above the need for increased teacher numbers and strategies that seek to directly address the deployment imbalances in disadvantaged areas, such as targeted education and recruitment.

The Tanzanian PEDP 2002–2006 specifies quite clearly that although the ideal standard teacher-pupil ratio is 1:45, 'in practice, some schools will need to function with a morning session and an afternoon session for several years'. Research conducted in Morogoro Region showed some interesting perspectives on the implementation of this policy (Davidson, 2004), with double-shift systems being used in the majority of schools visited. However, while class sizes were reduced, there was a compromise on quality, with timetables having to be re-written and fewer periods per week. Double shifts were also very unpopular with teachers, for reasons similar to the discontent displayed by teachers regarding multigrade in PNG. Moreover, Davidson's research displayed crucial evidence that although the PEDP had made budgetary provision for incentives to teachers who were required to teach double shifts, these were not being delivered in practice.

Myriad experiences and challenges

Investigations into policies and practices in the four case study countries have demonstrated that all four have decentralised education management systems to varying degrees. Of the four, Nigeria is arguably the least devolved, although the very nature of its federated system means that while there is a separation of authority from the federal ministry by each of the individual state governments, further devolution to local level governments has yet to be achieved (in practice at least). Additionally, the existence of the parastatal Universal Basic Education Commission (UBEC), which effectively delegates matters pertaining to basic education through the State Universal Basic Education Boards (SUBEBs), further complicates the line of decentralisation.

Pakistan, Tanzania and Papua New Guinea have all legislated for decentralisation of their education systems down to the district levels. In practice, difficulties persist due to multiple layers of authority and responsibilities that have convoluted the efficiency of the teacher deployment cycle. In Pakistan, this is manifested in limited power at the district level to recruit, which is still held at the more centralised provincial level (although districts do have the power to place). In Tanzania, the existence of two ministries has created some conflict, although their responsibilities do not cross over on the teacher deployment issue as much. PNG – perhaps the most devolved case study – demonstrates one of the side effects of devolution without effective safeguards – nepotism; this is in turn having a disparate impact on teacher deployment.

Teacher education is a key aspect of ensuring sufficient newly-qualified teachers enter the system, and of providing in-service teachers with the opportunity of upgrading their skills. PNG demonstrates teacher education policies implemented following the restructuring of an education system and subsequent teacher supply shortages. Nigeria provides a classic example of the difficulties faced in encouraging student teachers to choose the primary sub-sector as a preferred career route, and Pakistan demonstrates the challenges of ensuring adequately trained teachers that meet the expected national certification, without losing numbers. Tanzania's attempts at in-service upgrading in a rural district were also observed.

Recruitment and placement of teachers are processes that are reliant on effective decentralised systems, without the overlaps in authority or nepotism already mentioned. Successful approaches potentially include well-planned, targeted training and recruitment, and teacher incentives that tackle the challenges of poor/untimely pay, housing and travel

considerations. Intrinsically these approaches also address gender considerations, although overall the research did not uncover any major current policies or practices within the institutional frameworks that can assist in redressing the imbalance between male and female teachers in rural areas. Teachers on short-term contracts can provide manpower when needed – especially in the absence of clear authority to recruit new teachers – but also create issues of quality.

Transfers as a remedial approach to deployment imbalances were witnessed in Pakistan, contrary to the government policy that stated it wanted to minimise the disruption of transfers. As a long-term approach transfers are problematic, because they create destabilised systems. In many cases redeployment would carry the same provisos as forced deployment, and this was found to be ineffective in PNG as a strategy for addressing deployment imbalances. Arguably, for such policies to work in practice, a joint strategy of teacher incentives to accompany them is needed.

The myriad experiences and challenges inherent in the policy and implementation of teacher deployment have been explored to some extent in this chapter, along with some of key approaches needed for tackling those challenges. The following chapter seeks to formulate recommendations in this regard from the cumulative lessons learnt from the four case studies.

Notes

1 However, the federal government will continue to run federal government colleges (102 of them) at the senior secondary level. Currently, it recruits teachers (*mainly graduates of universities*) and deploys them to the schools. Recruited federal teachers can be deployed to any part of the country and can be transferred at will by the Federal Ministry of Education. State governments recruit teachers for their secondary schools mainly through the State Ministries of Education or Teaching Service Commission (TESCOM).

2 '*Wantokism*' is a Melanesian pidgin. '*Wan*' means 'same' or 'similar' or sometimes 'a common link', while *Tok* means 'talk'. In an urban context, *Wantok* means people who come from same clan, tribe or district, even though they may not talk same language.

3 There are also teachers who are under the employment of private or faith-based organisations. They have a different scheme of service, and are usually treated differently from public service teachers.

Chapter 4

Conclusions and Recommendations

Ensuring equitable, quality teacher deployment is clearly a challenge for countries, and particularly so for those undergoing expansion and re-structuring of their education systems. As demonstrated in the situational analysis, one of the first challenges for each of the country case studies is the dual responsibility of increasing teacher numbers as means of increasing access to education for the large numbers of children still out of school, coupled with the need for appropriate measures that will prevent an exacerbation of the regional and gendered deployment imbalances that already exist.

It was primarily for this reason that the four case studies were chosen: all had low net enrolment ratios and were looking towards the mammoth task of putting large numbers of children into school by 2015. Two of the countries – Nigeria and Pakistan – account for a significant number of children who are out of school in the Commonwealth. One of the countries in particular – Tanzania – has had its teaching population quite severely affected by the prevalence of HIV/AIDS. In contrast to the other cases, PNG was actually displaying regressive indicators in terms of enrolment at the time of the study. Several strong similarities came through in the situational analysis, which suggest issues of teacher deployment are universal in developing countries. Although pan-Commonwealth and quite different in terms of national contexts, some prominent trends were clearly validated.

The rural/urban divide is a deep-seated and complex problem that is caused by the integral factors of both teacher reluctance in rural deployment, and insufficient government policies, processes and infrastructure to address the issue. The inequalities regarding gender are an inseparable aspect of this challenge, and it needs to be clearly stated and understood that women teachers are the key issue in improving rural teacher intakes, and vice versa. Allied to all this again are the quality imbalances that weave through each of the challenges already discussed, with rural areas and women teachers (particularly in rural areas) generally suffering from the lowest

quality indicators in terms of minimum standard teaching qualifications and advanced diplomas and degrees.

One of the concerns this book has brought to the fore is that there is still the need for a more developed, concerted policy approach to teacher deployment. Most such policies lack cohesion, and in some cases are open to contradictions that make implementation confusing, particularly at the devolved district levels where clear understanding of policy papers is absent and/or capacity to carry out those policies has yet to be fully developed following devolution. Some recommendations for addressing this issue could include educational reforms, sector development plans and decentralisation of management of the education system and devolution of power and authority at provincial, district and local levels of government, putting a premium on strengthening management at all levels for delivery of education services. In principle, this should provide more effective teacher deployment. However, it is evident that many players involved in making key deployment decisions at different levels can create blockages in the efficiency of identifying and solving deployment concerns at the community level. There is also sometimes a variance in their understanding of roles and responsibilities.

Understanding that the issues affecting teacher deployment are multiple, this book nonetheless now offers some recommendations for policymakers and planners that attempt to address some of the more universal barriers hindering effective teacher deployment, despite various approaches in the form of primary sector policy papers and decentralisation.

Recommendations

Clear, well-informed and inclusive policies

There need to be well-written policies on recruitment and deployment of teachers. At present the countries studied each have provisos that acknowledge the need for more teachers as a whole and better deployment practices. However, national plans are vague on what the mechanics of these processes will be. Additionally, despite varying degrees of centralisation, these policies are rarely defined and articulated with a 'bottom-up' approach. Although it needs to be addressed from an education management perspective, the challenge for teacher deployment in rural and remote schools should also be seen in the broader context of the urban and rural divide with regard to the quality of life of the people who live in those areas. For example, while many countries may stipulate a pupil-teacher ratio of either

40:1 or 45:1 as a policy goal, they rarely address the possibility that a school with a good pupil-teacher ratio may only have one female teacher. Such intricacies need to be clearly addressed at the policy level first, rather than being a late discovery once implementation has been attempted. Study and research should be conducted to assess the extent of problems in rural areas, and the effectiveness of past policy measures and incentives in resolving teacher deployment problems. These should form part of the foundation for future policy documents.

A focused approach to the education and recruitment of female teachers

Female teachers need to be mainstreamed throughout all policy papers, planning papers and at each level of institutional authority more effectively. This must follow a clear understanding of what the gender dynamics are. For example, simply stating that it is desirable to have 50 per cent female teachers in a certain region in five years' time is not enough. This must be coupled with the corresponding targeted teacher-education initiatives tailored to the specificities of that area, which will encourage more young female graduates into the teaching profession. Similarly, teacher incentives must be articulated with an understanding of the desired effect they will have on female teachers. Finally, at the bureaucratic level, the process of advertisement for and recruitment of teachers also needs to be able to respond fully to gender needs at the district and school levels.

Addressing major country-specific deployment barriers

While gender and rural/urban divides are universal concerns that need to drive the formulation of effective deployment policy, other nation-specific factors that contribute to the teacher deployment problem must also be identified and effectively planned for at the policy and implementation levels. This could take the form of PNG's example of identifying 'disadvantaged' schools. More specifically, the death rate due to HIV/AIDS – primarily in Tanzania in the present study – and ineffectiveness at work due to the illness is a serious problem, as is an increasingly high turnover of teachers due to resignation or refusal to report to work in districts severely affected. Such districts need to be identified and planned-for separately at both the national and local levels, to ensure sufficient planning focus and the necessary resources reach the right areas.

Effective decentralisation

Even where policies do exist, translation of these into practice is another matter. Despite efforts towards decentralisation, there is still the need for more involvement by local governments in important decisions such as recruiting teachers, and several countries need to actually make this explicit within their policy documents. Recommendations in this respect include the need for:

- *Clearer designations of authority.* Decentralisation is supposed to give more power to local education authorities to make important decisions. However, data from this study have illustrated that this has not always been the case. For example, in some cases local education managers are responsible for the placement of teachers, while not being responsible for the creation of posts or recruitment. This lack of authority at the district level adversely affects teacher recruitment in that teachers cannot be recruited in a timely manner as and when the need arises. Education policies and practices need to be made open and as transparent as possible. Bureaucratic and hierarchical tendencies create more confusion for education managers, and there has also been confusion regarding what local authorities can and cannot do. Thus, it is necessary to clarify the role and responsibilities of local authorities and empower them to make decisions related to teacher deployment.
- *Transparency and communication.* It is important to communicate policies and procedures to every level of the education system. Few teachers and lower-management staff have ever seen those policy documents that do exist. They have come to know about them through oral communication or through trainings. This leads to confusion and hinders management from taking decisions on firm grounds. It is hoped that better communication strategies will lead to better understanding of the education system and informed decisions.
- *Building capacity.* District and local authority positions need to be filled by qualified staff and supported with resources. Key challenges that prevent qualified teachers from wanting to accept rural postings, such as late payment of salaries, are dependent on the increased capacity of administrative staff to manage financial systems and other relevant processes.

- Similarly, district and local education authorities should become more active in monitoring the performance of teachers and responding to needs where relevant. They should ensure regular visits by inspectors to schools at least once a year, with compulsory inspection to remote schools. District education agencies may share some of the roles and responsibilities assigned to inspectors. Appropriate monitoring tools need to be developed, to be used by education agencies at all levels, and specialist and administrative training should be provided to district/local education authorities, inspectors and head teachers to be more effective in supporting and monitoring teachers' performance.

Implementing transparent and objective deployment criteria / quota and reservation systems

Political influencing and nepotism in teacher placement and transfer has emerged as an important challenge for teacher deployment. Political transfers create imbalance in the student-teacher ratio in schools. The recruitment process needs to be streamlined and quality should supersede the other criteria of selection and recruitment. Some strong steps need to be taken to minimise such influences and practices, which can only happen through the will of the parties and change from within. Under devolved/decentralised plans, another tier of political influence has been created at the local level; therefore, it becomes all the more important to change attitudes overall.

Raising standard in pre-service and in-service teacher training

The need to increase the number qualified teachers is a major concern, but ensuring diploma teachers and graduates focus on primary school training is also necessary. There is an urgent need to produce graduate teachers specially trained to teach pre-primary and primary school, instead of making graduates a luxury in the teaching profession, deployed to secondary schools only. This approach is tied to the need for a more concerted government approach in raising the reputation of teaching.

The policy of relaxation of qualifications – such as that for employing female teachers in Pakistan – may bear immediate results in terms of participation of female teachers being enhanced in rural areas. However, in the long run the policy of qualification relaxation may have negative affect: teachers with poorer qualifications may not be able to offer quality education, and stratification between urban and rural school students' learning

will further widen. Thus, it is suggested that these rural teachers are provided with intensive in-service professional training and support, using ODL methods if appropriate.

Targeted training and recruitment

Current policies of government hiring local teachers need to be strengthened by providing extra training and incentives (for example, subsidised housing and travel allowances etc.) for rural areas. This becomes all the more important due to the lack of quality teachers and reluctance of urban teachers to take posts in rural schools. It also allows for the provision of trained mother-tongue teachers who understand the cultural norms and values of a particular locale, and minimises the risk of transfer requests. This approach overall is the key recommendation for addressing teacher deployment imbalances in the long term, and is one that government policy must recognise and commit to in terms of facilitation through both increased resources and de facto localised decision-making. More pointedly:

- All countries need to pursue a vigorous policy of training and recruiting indigenous female teachers from rural and marginalised communities (such as nomadic groups). Specialist schools aimed at streaming young girls into the teaching profession should be established. These can be attached as necessary to regional institutes/academic centres for the provision of guidance and curriculum. These will need to be heavily subsidised by government, donors or both as required.
- Targeted recruitment initiatives should also be complemented by the delivery of training at remote locations through the distance mode. Study through the distance mode will enable target teachers to receive training without their having to leave rural and remote areas. This can reduce the tendency of teachers to seek urban postings and will help to develop a core, stable teaching workforce in rural and remote areas.

Teacher incentives

Teacher incentives are a crucial strategy in alleviating the overall teacher shortage being experienced by developing countries. A fall in the status of the teaching profession, coupled with low teacher morale has led to lower intakes into teacher colleges overall, and this has been most strongly felt by

the primary school sector. However, teacher incentives acquire a more urgent slant when put into the context of the teacher deployment imbalances that clearly exist at the sub-national level. Recommendations therefore include both general primary teacher incentives and those targeted specifically for recruiting to understaffed areas. As already noted under targeted training and recruitment, the success of those earlier recommendations can only be effective through the supplementary practice of competitive teacher incentives so that more teachers are willing to remain in/be located to rural areas. The need for incentives is particularly relevant for encouraging qualified female teachers.

Primary teachers' salaries need to be competitive, and while it may not be possible to equalise a primary teacher's pay with that of a secondary teacher's, the shortfall must be narrowed significantly in order to make the sub-sector more appealing to potential graduates. As an extension of this, there should be a uniform career ladder for primary teachers providing them with motives to perform well and excel.

More specifically, incentives should be reviewed to compensate appropriately the advantages of urban postings. This can take the form of additional stipends and allowances to compensate for difficulties encountered in rural and remote areas in terms of housing and travel.

In order to achieve successful delivery of such incentives, administrative processes and procedures need to be developed to reward rural school teachers in terms of promotion, training opportunities and the payment of financial incentives on time. A mechanism needs to be found for district/local government treasuries to facilitate efficient salary disbursement to minimise absenteeism and loss of teaching time.

Improved housing, water and sanitation facilities need to be created in rural and remote areas for teachers. As a further incentive, it could be useful to consider joint ownership schemes for housing between teachers and local education authorities to ensure future security for teachers once they retire. Further facilities such as childcare provision would also be a strong incentive for female teachers, although admittedly this would require substantial resources that many local communities would find it difficult to provide.

Even with the provision of stipends and allowances to compensate for travel expenses, it is worthwhile for governments to consider additional travel incentives, such as regular subsidised buses, or the distribution of bicycles among rural teaching staff.

Teacher utilisation

While multigrade teaching and shift teaching are effective methods for maximising the use of teachers in remote schools while deployment imbalances persist, these methods must remain compensatory strategies in times of need. Multigrade, for example, should ideally be envisioned in the longer term in schools with small numbers of children only. However, it is still imperative that teachers in a multigrade teaching school should be well trained and supported with sufficient materials for effective teaching. Policies also need to be in place for compensating multigrade teaching through appropriate benefits, and this should be determined by teaching load.

However, it is also understood that the above recommendations, like those before them, will require concerted political will on the part of government and other stakeholders. The need for increased resources is an obvious yet key test in this, which will be required for most of the recommendations above. This will be felt most strongly in the areas of targeted training and recruitment and teacher incentives, but is ultimately unavoidable if quality, motivated teachers are to be trained and deployed successfully. Finally, although as a concrete recommendation it would be difficult to carry out successfully, the challenge of rural teacher deployment must be viewed within the broader contexts of the quality of life of the people who live in those areas. From this perspective, ministries and departments of education cannot be expected to bear the burden alone, and ultimately improved standards of living, which play an important part in the retention of teachers in rural areas, will also be reliant on improved policies and practices by other government organs. Strategies such as housing and travel may therefore benefit from increased collaboration with other relevant government departments.

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Ensuring Education for All at the primary school level is not just a matter of recruiting enough teachers: they must be deployed effectively across the education system. Even countries with sufficient total numbers of teachers may have shortages in some areas, or be unsuccessful in recruiting female teachers, with consequences for the participation rate of girls in schools.

Primary School Teacher Deployment presents four detailed studies, from countries with low net educational enrolment levels: Nigeria, Tanzania, Papua New Guinea and Pakistan. The book demonstrates the effects of inequitable teacher deployment, and the attempts to address these problems at the country level.

The contributors make overall recommendations on deployment policies and practices in a number of areas to assist educational planners to achieve Education for All goals, particularly with regard to female teachers, but also dealing with training and recruitment, in-service training, teacher incentives, teacher utilisation, and effective decentralisation.

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