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.

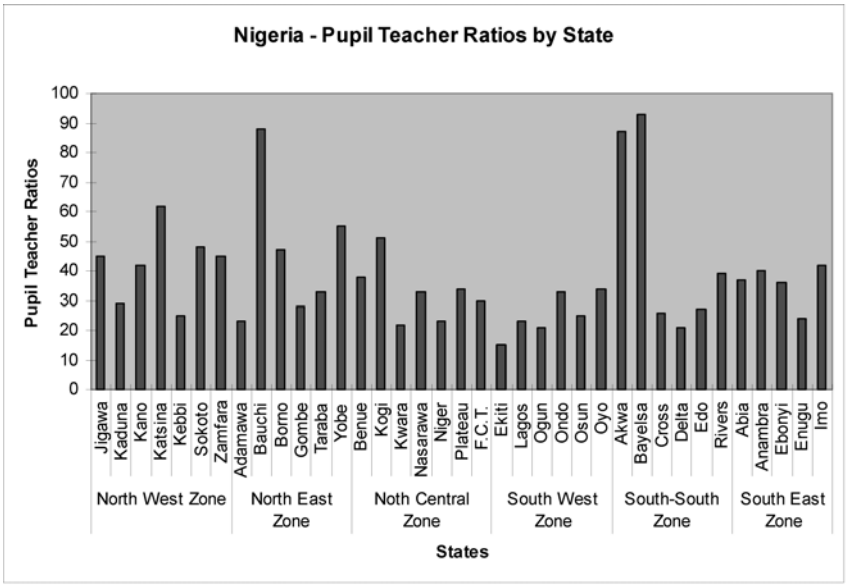

Figure 2.1:
Source: Universal Basic Education Commission, Nigeria, 2005

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'

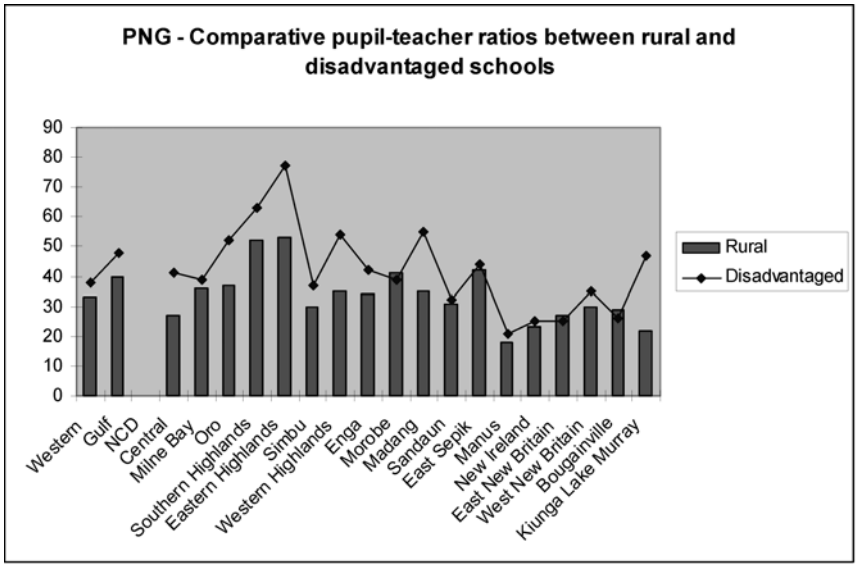

Figure 2.2:

(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 teachers above 70%	Anambra	South East	90	51	40
	Abia	South East	85	49	37
	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 teachers below 30%	Taraba	North East	26	42	45
	Yobe	North East	25	40	56
	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.