

Teacher Capacity Gap in Primary Schools in Kenya: A Projection to 2030 in West Pokot County in Rift Valley Region

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Abstract: Teachers play a crucial role in the classroom instructional process. The purpose of the study was to project teacher capacity gaps in West Pokot County by 2030. The study was guided by three objectives namely to determine the primary school enrolment and the number of teachers from 2008 to 2015, to determine the teacher capacity gap from 2008 to 2015 and to project the teacher requirements gap to 2030. The research design employed was mixed method and the instruments used in data collection were interview schedule and document analysis. The study findings revealed that there would be a projected teacher capacity deficit in West Pokot County by 2030 if effective planning is not carried out; it is recommended that the government through the Teachers' Service Commission should deploy more teachers to the county.

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I. INTRODUCTION

Human capital in one of the most critical resources required for the socio-economic development of a nation (ILO/UNESCO, 2012; ILO, 2012; MOE, 2008). The teacher resource is one of the most important inputs into the education system; hence their training and utilization require critical consideration. Being the focus of classroom instructional activity and curriculum delivery, teachers are critical determinants of the quality of education offered (UNESCO, 2006; 2007; 2011; ILO/UNESCO, 2015; Lauwevier & Akkari, 2015).

According to UNESCO (2011), the pupil teacher ratio has notably been on the increase from 1:32 in 1999 to 1:47 in 2010. ILO/UNESCO (2012) indicated that there is an acute shortage of teachers in sub-Saharan Africa, Arab States and South Asia because teachers' recruitment has consistently lagged behind the growth in enrolment. To achieve good quality education for all there should be enough trained teachers, who should be remunerated well. UNESCO (2014) is in agreement with this observation and points out that there is a growing demand for teachers in the Less Developed Countries (LDC's) following the expansion at the primary school where enrolment rates increased by 40 percent between 1999 and 2009.

Population changes and pupil growth affect the overall demand for education thus leading to reductions or increases in staff size. The UN estimates that the primary school-age cohort in Sub-Saharan Africa grew by almost 10 per cent between 2000 and 2005 but in Europe and Central Asia region, there was a fall of almost 15 per cent. These changes in the school-age population have implications on the demand for teachers (UNESCO, 2006; Lauwevier et al., 2015; ILO/UNESCO, 2015; Segei, 2014).

According to Sheehan (1973), there are various factors that determine the demand for teachers at any level. He pointed out that the major determinant is the number of students attending school, and any forecasts of such demand must start by making forecasts of school enrolment. These forecasts should be available as a basic feature of any system of educational planning, as they are very essential for the formulation of any judgments and plans of the future of the educational system. Estimating teacher demand means forecasting the number of teachers necessary to teach the forecasted number of pupils. According to ILO (2012), the number of teachers needed is not only depended on the number of pupils but also on system efficiency and how teachers are deployed to meet education, quality and equity goals. It was observed that teacher requirement depends on three main factors:

- i. The number of people to be taught.
- ii. The relationship between the number of people to be taught and teachers.
- iii. The number of new teachers needed to replace those leaving the profession.

Other factors that would affect the numbers of teachers required are the number of subjects taught and the average teaching loads. At other levels, class size as opposed to teacher-pupil ratio is applied. From the teaching point of view, class size seems more important than the teacher-pupil ratio, because what concerns

teachers is the number of children they are expected to teach. There is widespread belief that smaller classes will lead to higher attainment; they also lead to more employment of teachers (Segei, 2014; Lauwevier et al., 2015). According to UNESCO (2006), pupil-teacher ratio is an indicator that is commonly used to reflect the human resource capacity of education systems. High pupil-teacher ratios signify an overstretched teaching staff whereas low ratios represent additional capacity. A national pupil-teacher ratio is an average which can conceal considerable variations between schools and regions.

ILO/UNESCO (2012) recommends class sizes that allow maximum individual attention be given by the teacher to the pupils. The quality of teaching and learning conditions are the two important factors in education that are determined by class size. It has been found out that smaller class size especially at the formative years in education positively influence learning outcomes. One of the international benchmark, the EFA fast track initiative (FTI), recommends an upper limit of 40 pupils per teacher in basic education (EFA GMR 2010; Segei, 2014; UNESCO, 2007). Large class sizes impact on the workload of teachers and especially the quality of the teaching environment, this play a major role in the determination of teacher job satisfaction. The average class size at the primary school level in high income countries is slightly more than 21 students per class, in the middle-income countries, it is 40 students per class whereas in the low income countries, the average students per class is over 55 (ILO/UNESCO, 2012).

Psacharopolous and Woodhall (1985) in their research observed that forecasting concentrate on the ratio between one type of manpower and a particular population parameter, such as total labor force of school population. For example, projection on demand for teachers based on teacher pupil ratios rely on demographic forecasts combined with staffing norms. They further pointed out that teacher pupil ratios frequently differ markedly from official norms, and the teacher pupil ratio itself is influenced by factors such as the average size of class, the average teaching load per teacher among other factors.

The most apparent impact of UPE is increased enrolment however, there is a drawback at the school level where abolition of school fees led to overage and underage children flocking into schools hence overcrowding classrooms which in turn led to low teacher motivation and high pupil teacher ratios. In Ghana, there is acute teacher shortage especially in rural areas hence high pupil teacher ratios as well as regional disparities. With the introduction of FPE, enrolment rates in Malawi rose significantly. This increase had a negative impact on the teacher resource which was even scarce before the FPE programme came into effect. Prior to the expansion, the pupil teacher ratio was 70:1 with 13 per cent of the teachers being unqualified. The quality of education was highly compromised with the introduction of free primary education because by 1997, more than half the teachers were untrained. In 2005, the pupil qualified-teacher ratio was 83:1 signifying low efficiency after the introduction of free primary education. In Zambia, the pupil teacher ratio had worsened from 37:1 in 1996 to 45:1 in 1998 and further to 47:1 in 1999. Teacher attrition is estimated at 5 per cent per year and the government schools hire only the trained teachers but community schools rely primarily on unqualified teachers. The situation is no better in Uganda where the pupil teacher ratio in 2001 stood at 57:1. In Kenya, the Teachers Service Commission admitted that there was a huge staffing challenge in the country occasioned by the increase in student numbers as a result of the free primary education programme as well as the increase in the number of schools (Lauwevier & Akkari 2015; ILO/UNESCO, 2015; UNESCO, 2007; Orodho, 2014; Oduor, 2016; Segei, 2014).

Teacher resource is a vital input into the education process as teachers are responsible for the delivery of the curriculum and hence are critical in determining the quality of education. With the introduction of F.P.E in 2003 there was an upsurge in enrolment, which together with freezes on teacher recruitment has resulted to high Pupil-Teacher Ratios (P.T.R.) hence exerting pressure on the human resource (Republic of Kenya, 2006). However, Wanzala (2015) reported that Kenya has enough teachers to handle early childhood, primary and secondary schools. He further pointed out that the ratio of government employed teachers to students was within acceptable range but the major problem lies in the distribution of teachers across the country. The distribution and utilization of the teacher resources in the Kenyan Educational system therefore, has major equity implication. However, there is a wide variation in the number of teachers relative to the number of pupils across the country, which may imply that teacher distribution is not in line with needs. Other issues relate to teacher qualifications, their training and effectiveness at all levels of education (Republic of Kenya, 2004; MOE, 2008; ILO, 2012; ILO-UNESCO, 2012; MOEST, 2014; Wanzala, 2015).

Teachers' Service Commission (T.S.C) is charged with the responsibility of recruiting teachers and deploying them to all public schools and institutions, however, there has been a freeze in teacher recruitment since 1997; T.S.C is only allowed to recruit teachers to replace those exiting through natural attrition. In 2001, teacher recruitment was decentralized to county level for primary school teachers and Board of Management (BOM) for secondary school teachers. The functions of the T.S.C therefore, are to verify the vacancies against the authorized establishments, advertise the vacancies, issue guidelines and materials for recruitment, receive and record the merit lists from the County Education Boards and the BOMs, verify professional and academic

certificates and process and issue letters of employment to successful applicants. Recruitment is therefore demand driven (Republic of Kenya, 2006).

ROK (2007) points out that it is the mandate of TSC to recruit and manage teachers by ensuring equality in their distribution and optimal utilization. TSC deploys primary school teachers across regions based on recommended PTR and post primary level teachers based on curriculum Based establishment (CBE). One strategy for improved curriculum delivery which TSC should consider is the hiring of teachers on contract and part-time basis to fill the gap for those on study leave, maternity leave as well as those on discipline cases and those out of duty due to illness for a longer period of time.

At the primary school level, the aim during MTP 1 had been to improve quality, equity and access as well as reducing regional disparities in order to address quality issues in education. MTP 1 target on teachers was the recruitment of additional 28,000 teachers, 21,400 for primary schools and 6,600 for post primary institutions however only 18,020 teachers were employed on permanent and pensionable terms between the period of 2008 and 2012 (ROK, 2012). Kihuria (2015) observed that Kenya suffers from a shortage of over 100,000 teachers in public institutions at the primary, secondary and tertiary levels. This shortage has negative impact on the quality of education.

One way of retaining teachers in the ASAL areas was through the introduction of hardship allowances in 2001 where teachers serving in ASAL receive an allowance calculated at 30 percent of basic salary (Ruto, Ongwenyi and Mugo, 2009).

Objectives

- i) To determine the primary school enrolment and the number of teachers from 2008 to 2015.
- ii) To determine the teacher capacity gap from 2008 to 2015.
- iii) To project the teacher requirements gap to 2030.

II. METHODOLOGY

The research philosophy subscribed to in this study is pragmatism. Pragmatism is action-oriented in nature as it aims at solving problems in a practical and sensible way rather than by having fixed ideas or theories (Morgan, 2007). The research design adopted for this study is mixed method research which involves the combination of both qualitative and quantitative methodologies (Creswell, 2009). Document analysis and interview schedules were the instruments employed in data collection.

III. FINDINGS

The findings of the study reveal that there was a steady increase in the teacher capacity, the population corresponding to the primary school going age and the enrolment from 2008 to 2015 as presented in Table 1 below.

Table 1: Teacher Capacity, Population and Enrolment from 2008 to 2015

YEAR	2008	2009	2010	2011	2012	2013	2014	2015
Teacher capacity	98248	100928	107288	109408	111888	114168	117608	141128
Total Population (6-13yrs)	133908	137643	146346	150264	161083	162373	171775	176630
Gross enrolment	115398	122027	125868	131893	139638	144969	154876	178942

Data on teacher capacity indicated a steady increase from a capacity of 98,248 in 2008 to 141,128 in 2015 pointing to an annual increase in teacher numbers. The total county school going age population was growing from 133,908 in 2008 to 176,630 in 2015. The enrolment was also rising from 115,398 in 2008 to 178,942 in 2015. It was evident from the data that there would be a teacher deficit in the county if all the children of school going age were to enroll because the population corresponding to the primary school going age was far above the teacher capacity. Going by the enrolment in primary schools within the county, there was a deficit of teachers throughout the eight years under study since the enrolment was higher than teacher capacity. The gross enrolment in the county was increasing at a higher rate than the primary school going age such that by 2015, gross enrolment surpasses the population of 6-13 years; this is as a result of the multi-cohort enrolment experienced in the county. Teacher capacity gap is presented in Table 2

Table 2: Teacher Capacity Gap from 2008 to 2015

YEAR	2008	2009	2010	2011	2012	2013	2014	2015
County teacher capacity gap	-35660	-36715	-39058	-40856	-49195	-48205	-54167	-35502
Gross teacher capacity gap	-17150	-21099	-18580	-22485	-27750	-30801	-37268	-37814

The difference between teacher capacity and the population of 6-13 gives the county teacher capacity gap which though erratic, was in deficit throughout the study period. The difference between teacher capacity and the gross enrolment gives the gross teacher capacity gap which was also in deficit and was on the increase from a negative teacher gap of 17,150 in 2008 to a negative of 37,814 in 2015. The gross teacher gap in the county was in negative and was increasing throughout the study period. This implies that the gross enrolment was increasing faster than the growth in teacher capacity hence a widening gap. This finding is in agreement with Chebitwey (2013) who indicated that there was a shortage of teachers in West Pokot County. A projection of the teacher capacity, population of 6-13, enrolment and gaps was carried out was done and is presented in Table 3.

Table 3: Projected Teacher Capacity, Population and Enrolment from 2016 to 2030

Years	2016	2018	2020	2022	2024	2026	2028	2030
Teacher capacity	134369	145890	159238	170595	181807	193261	204236	215895
Total Population (6-13yrs)	183321	195924	208189	221025	233740	246338	258973	271531
County teacher gap	-48951	-50034	-48950	-50430	-51933	-53077	-54737	-55635
Gross enrolment	225564	243801	262107	280692	298815	317213	335292	353608
Gross teacher gap	-91194	-97911	-102868	-110098	-117008	-123952	-131056	-137713

It was projected that teacher capacity will keep increasing over the years from 134,369 in 2016 to reach 215,895 in 2030. The number of children corresponding to the primary school age was projected to grow from 183,321 to 271,315 between 2016 and 2030. The projected county teacher gap would be in deficit throughout the projected period. The deficit was projected to rise from a teacher capacity gap of negative 48,951 to negative 55,631 between 2016 and 2030. The projected number of teachers required in the county based on the projected gross enrolment revealed a persistent shortage which was projected to keep increasing over the projected period from 91,194 teacher capacity shortage in 2016 and by 2030 it would be 137,713. This implied that although it was anticipated that teachers would be increasing in number each year, this increase would be lower than the anticipated increase in enrolment. From interviews conducted it was reported that there had been a shortage of teachers which had persisted and that if no action was taken to reverse this shortage then it would continue into the future. MOEST (2014) observed that there was need to address this shortage of teachers in the region through the employment of more teachers.

IV. CONCLUSION

The actual and the projected teacher capacity gap in West Pokot County is negative and it is widening. Therefore, the PTR is high and is rising with time as we move to the target year. The government through the Teachers Service Commission should employ and deploy more teachers to the county so as to lower the pupil teacher ratio.

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