Teacher supply and demand in Jigawa

Final Report | January 2017

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EXECUTIVE SUMMARY

Teacher Supply and Demand in Jigawa | Final Report
This report outlines 10-year projections for the number of teachers required in primary and Junior Secondary Schools (JSS) in Jigawa, the costs of meeting these requirements, and suggestions for improving current systems of teacher recruitment and deployment. It seeks to support the work of the Teacher Development Programme (TDP) to work with the state government and Colleges of Education (CoEs) to ensure Jigawa has an adequate number of appropriately trained teachers in its primary schools and JSS. A key issue here is the lack of co-ordination between the CoEs and the State Universal Basic Education Board (SUBEB), which contributes to mismatches between the supply of and demand for teachers. This applies to the number of teachers being trained, their subject specialisations, and their skills and ability to deliver the basic education curriculum.

**Teacher requirements**

Teacher shortages in Jigawa have grown considerably in recent years. Between 2009 and 2014, the number of primary-level teachers in Jigawa fell by 12% while enrolment increased by 20%. At JSS, teacher numbers increased by around 15% but enrolment shot up by 55%. In both cases the pupil–teacher ratio (PTR) worsened. Despite strong enrolment growth, few teachers have been recruited in the past six years and it appears that Jigawa is struggling to replace teachers who retire. For both primary and JSS, PTRs are considerably higher in rural than in urban schools. Patterns of deployment also vary by gender, with very few female teachers in rural areas.

Demand for teachers is set to rise rapidly over the next 10 years as the school-age population continues to grow. If the state is to meet Universal Basic Education (UBE) goals by 2025 (i.e. universal enrolment and PTRs of 40:1 at primary level and 35:1 at JSS), the number of primary teachers would have to triple and almost four times as many JSS teachers would be needed compared to 2016. This would require the recruitment of around 7,000 teachers per year (4,700 primary and 2,300 JSS), and increasing overall annual enrolment in the CoEs to roughly 16,400 students by 2022.

To finance the employment of additional teachers, SUBEB personnel spending on teachers would need to increase from NGN 9 billion currently to NGN 50 billion by 2025 (increasing the budget more than five times across ten years). We project that roughly NGN 13 billion would be available for personnel spending in 2025. This points to a fiscal gap of NGN 37 billion. Training of such teachers would cost roughly NGN 6.8 billion by 2025, which is more than three-and-a-half times the likely funds available for the colleges (NGN 2 billion). This report thus finds that Jigawa faces considerable challenges to meet teacher demand. Large demographic pressures will result in significant enrolment
increases. However, the state faces a grave fiscal crisis (linked to lower global oil prices) that prevents it from recruiting the necessary teachers to keep up with rising demand.

We make the following recommendations considering these findings:

- The SUBEB should conduct an annual teacher supply/demand analysis: To better align teacher demand and supply, SUBEB should be responsible for a yearly assessment of overall teachers needed and the likely number of teachers to be recruited in the near future. These should be shared with the CoEs, and their National Certificate of Education (NCE) admissions should be aligned to this overall target.

- The SUBEB should adopt a redeployment programme from urban to rural areas: In line with the considerable disparities between urban and rural communities, additional incentives to rural teachers may be needed to induce resettlement.

- The SUBEB should incorporate subject specialisations in its recruitment drives: Currently, there is a strong oversupply of teachers for certain subjects (e.g. Hausa, Arabic and Social Studies), while shortages exist for other subjects (e.g. English and Mathematics). The SUBEB should insist that any new teacher has a specialisation to fill a current teacher needs shortage.

- The SUBEB should guide CoEs on graduate teacher numbers and subject specialisation: The SUBEB should insist that CoE intake is based on their prospective graduate teacher needs and subject specialisations needed. This may require adopting a temporary NCE admissions ban for subjects with excessive NCE graduate numbers (e.g. Hausa, Arabic and Islamic Studies).

- The Government of Jigawa should diversify its funding streams by collecting additional state tax revenue and reinvest these additional funds into the education sector. To address the demographic challenge in education, Jigawa should aim to raise more domestic resources and earmark a large share of such additional funds for the education sector. A first step would be to try and identify lessons from the experiences of states like Kano that have relatively high internally generated revenue.
Teacher supply

The CoEs are under considerable pressure to increase their student intake, based on unrealistically high estimates of their carrying capacity, financial incentives linked to student intake, and a number of initiatives by the State Ministry of Education (SMoE). This results in over-enrolment and the admission of weaker students who often do not comply with selection criteria, as well as lower teaching quality and a poor assessment system.

Student choices for NCE specialisations do not appear to align with overall teacher needs in Jigawa. CoEs have relatively little influence and incentive to steer students toward studying priority specialisations. As a result, there are large numbers of graduates for certain specialisations such as Arabic, Islamic Studies and social sciences. Few NCE graduates exist for priority science subjects or for the new specialisations – Primary Education Studies (PES), Early Childhood Development Education (ECDE), Special Needs Education (SNE) and Adult and Non-Formal Education (ANFE).

In the last five years, a large share of teacher graduates (an estimated 53–64%) have failed to find employment owing to limited teacher recruitment. While recruitment is likely to remain low in the near future, Jigawa’s teacher education system has not adjusted its intake rates to accommodate for this fact. Instead, a new CoE (the College of Islamic and Legal Studies in Ringim; CILS Ringim) has opened, thus further expanding the future number of teacher graduates, with little chance of them being absorbed into the system.

To better align teacher demand and supply, we make a case for increasing recruitment and reducing CoE intake. This will likely be the only financially feasible manner to ensure NCE graduates have a fair chance of employment. In particular, we make the following recommendations:

- Reduce CoE enrolment to align with future teacher recruitment: Given the large reserve pool of teachers and continued financial challenges in Jigawa, annual enrolment should be reduced to a maximum of 800 students for CoE Gumel and 400 students for CILS Ringim. Colleges should aim to have 45% of their intake on the new specialisations (PES, Early Childhood Care Education (ECCE), SNE and ANFE). For the other 55%, the number of courses should be reduced to subjects with JSS teacher shortages (e.g. English, Mathematics and Chemistry). These numbers should become the new ‘carrying capacity’ and be enforced by the Joint Admissions and Matriculation Board (JAMB)/National Commission for Colleges of Education (NCCE). The SUBEB should analyse and adjust these numbers annually in light of teacher recruitment prospects.

- Compensate CoEs for the loss in revenue from reducing student enrolment: Funding for the CoEs should be strictly contingent on student intake meeting the newly set carrying capacity related to teacher recruitment prospects. To offset the revenue lost from student fees, the SMoE should allocate an additional NGN 44.8 million each year to CoE Gumel and NGN 22 million to CILS Ringim.
Offer a Pre-University Course alongside the NCE: Another reason why CoEs keep enrolment high is because they serve the double purpose of training teachers and being a preparatory course for university degrees. It may be advisable to separate out these tasks, by offering a specific Pre-University Course at the CoEs.

Consolidate NCE courses across the CoEs: All Islamic and Arabic courses and specialisations should fall under the CILS Ringim, while social sciences and natural sciences courses should be under CoE Gumel. This may require shifting lecturers from one college to the other. Both would still offer the new NCE specialisations (PES, ECCE, ANFE and SNE). This should make it easier to reduce the intake for conventional (secondary school) NCE specialisations.

Popularise PES through targeted campaigns and recruitment: To improve the popularity of PES, a public campaign targeted at students and parents should highlight that this course has higher job prospects than other NCE specialisations. SUBEB's recruitment should prioritise PES students by offering guaranteed interviews for recently graduated PES students, thus increasing their likelihood of employment.

Teacher recruitment and deployment policies

Qualitative research carried out for this study highlights that while recruitment is officially structured around a state-based process of formal examinations and interviews, in practice it is dominated by local government areas (LGAs) and influenced by pressures from local political elites. This results in the recruitment of unqualified teachers. There is little space for head teachers to ensure appropriate matching of candidates to their school's needs.

It was also found that when the state is responsible for recruitment and ‘blindly’ posts teachers to rural schools, this often leads to large levels of ‘refusals’. Moreover, it undermines the formal system, as teachers tend to use their informal networks to get moved to a different location. When local governments select their own candidates, retention tends to be higher; however, this is often achieved by recruiting residents of the LGA who are unqualified to be teachers.

Jigawa has adopted a number of policy initiatives to attract and retain teachers: the Teacher Inducement Allowance (TIA), the Teacher Volunteer Programme (a retraining programme for unqualified teachers) and the Female Teacher Development Skill Initiative. These provide a promising first step to improve recruitment and deployment, but should be built on through the following measures:

Formalise and empower the local government recruitment system: Jigawa State should rationalise the (dominant) local government recruitment system so that it meets the minimum requirements set out by the state. One such system would require local government councils to organise a designated ‘event’ to conduct teacher selection, with involvement from SUBEB and head teachers from the schools for which teachers are being
Reform the TIA to incentivise rural postings: The TIA is currently uniform across the state but should be adjusted so that rural teachers receive a higher allowance. This should be done based on a transparent rule (e.g. distance from the paved road) and should be sufficiently high (+30% of the base salary may be required). The TIA should increase for more rural postings (e.g. +40% to 50% extra as a posting is more rural). A clear ‘zoning’ map should be developed to clearly explain these rules to teachers. This should be financed by SUBEB at the state level, to avoid penalising rural LGAs.

Establish a database of all trained teachers, linked to SUBEB payroll: A teacher graduate database should give each student-teacher a unique identifier that would provide a means for the SUBEB to reliably track teachers’ educational background in the future. This system should also include all currently employed teachers who are on sabbatical at a CoE to upgrade their qualifications, to monitor that they report to their duty station after completing their degree.

Raise the share of female teachers via a ‘prestigious’ recruitment scheme: Only around 12% of primary teachers and 8% of JSS teachers are female. To raise the share of female teachers, the focus should shift from training toward a designated ‘female recruitment and deployment programme’ that provides additional pay for high-quality female graduate teachers to teach in hard-to-staff rural schools. Adopting a female ‘quota’ in new recruit-ment and replacement processes could also help to increase the share of female teachers in Jigawa.
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List of abbreviations

ANFE  Adult and Non-Formal Education
ASC  Annual School Census
CILS Ringim  College of Islamic and Legal Studies in Ringim
CoE  College of Education
DHS  Demographic and Health Survey
DPRS  Department of Planning, Research and Statistics
ECCE  Early Childhood Care Education
ECDE  Early Childhood Development Education
EDOREN  Education Data, Evaluation and Research in Nigeria
FTTSS  Female Teacher Training Scholarship Scheme
GER  Gross Enrolment Rate
GIR  Gross Intake Rate
IGR  Internally generated revenue
IQS  Integrated Qur’anic school
JAMB  Joint Admissions and Matriculation Board
JSS  Junior Secondary Schools
KII  Key Informant Interview
LGA  Local Government Area
LGEA  Local Government Education Authority
NCCE  National Commission for Colleges of Education
NCE  National Certificate of Education
NECO  National Examination Council
NERDC  Nigerian Educational Research and Development Council
PES  Primary Education Studies
PQTR  Pupil-to-Qualified Teacher Ratio
PTR  Pupil–Teacher Ratio
SESP  State Education Sector Plan
SMoE  State Ministry of Education
SMoF  State Ministry of Finance
SNE  Special Needs Education
SSCE  Senior Secondary Certificate Examination
SUBEB  State Universal Basic Education Board
TDP  Teacher Development Programme
TIA  Teacher Inducement Allowance
UBE  Universal Basic Education
UTME  Unified Tertiary Matriculation Examination
CHAPTER 1
Introduction
This report outlines 10-year projections for the number of teachers required in primary schools and JSS in Jigawa, the costs of meeting these requirements, and suggestions for improving current systems of teacher recruitment and deployment.

The study has been carried out for the TDP by Education Data, Research and Evaluation in Nigeria (EDOREN). TDP is a six-year DFID-funded programme (2013–2019) that seeks to improve the quality of teaching in primary schools and JSS and in CoEs in six states in Northern Nigeria. During its first phase, TDP is working in three states – Jigawa, Zamfara and Katsina. The programme seeks to boost the quality of teaching and learning by improving in-service training for teachers, enhancing the quality of pre-service training and strengthening the evidence base on how teachers’ effectiveness and efficiency can best be improved.

This study seeks to support TDP’s efforts to work with the state government and CoEs to ensure that Jigawa has an adequate number of appropriately trained teachers in its primary schools and JSS.

In particular, TDP is working with its focus states to tackle systemic issues that limit the extent to which the CoEs deliver an appropriate supply of teachers to the public school system. A key issue here is the lack of co-ordination between the CoEs and the SUBEBs, which contributes to mismatches between
the supply of and demand for teachers. This applies to the number of teachers being trained, their subject specialisations, and their skills and ability to deliver the basic education curriculum. There is appetite within the SUBEBs and CoEs for this co-ordination to be improved.

The study seeks to contribute to these efforts by meeting the objectives listed below (the full set of research questions for the study can be found in Annex D):

- Estimating the size of any current shortages or surplus of teachers (both qualified and unqualified) at the primary and junior secondary levels, disaggregated by LGA and subject;
- Preparing 10-year projections of teacher demand and future recruitment needs at the primary and junior secondary levels;
- Estimating the financial implications of these projections and the associated fiscal gap;
- Assessing key aspects of teacher supply, e.g. how intake quotas are set, the scope for expanding the supply, the system for screening applicants to the CoEs and the likely size of the reserve pool of teachers;
- Assessing current policies and practices related to teacher recruitment, particularly the extent to which these are effective in ensuring that the best available candidates get recruited;
- Identifying potential pathways for improvements on each of these fronts.

The primary audience for the study is the SUBEB, the CoEs, the SMoE, the SMoF and TDP. The findings are also likely to be of interest to the NCCE and to other donor programmes seeking to support education outcomes in Jigawa and Nigeria more generally.

We seek to make the following contributions to each of these organisations:

- **The CoEs:** Estimates of teacher needs at the basic education level, based on which they can set their intake quotas and determine their teaching staff requirements across subject specialisations. Recommendations for improving their admission processes.
- **SUBEB:** Provide estimates of the current mismatches between the supply and demand for teachers; estimate future recruitment needs; and identify recommendations for improving teacher recruitment and deployment processes.
- **The SMoE and SMoF:** To estimate future teacher recruitment needs and their financial implications.
- **TDP and NCCE:** Each of the above outputs is expected to be relevant to TDP and the NCCE in their efforts to support the states and CoEs to improve the match between the supply and demand for teachers and advocate for evidence-based fiscal planning.

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1 In the case of Jigawa, estimates of teacher shortages are available from the State Education Sector Plan (2013–2022). The study will validate the estimates for 2014/15 using the most recent data from the Annual School Census (ASC).
The rest of this report is structured as follows.

Section 2 lays out a conceptual framework for analysing teacher supply and demand.

Section 3 outlines our estimates of current teacher shortages, future teacher demand, and the fiscal gap associated with future recruitment and teacher training needs.

Section 4 looks at the supply of teachers in the state, particularly the enrolment process, enrolment numbers, the supply of teachers by subject, graduation numbers, graduate teacher absorption, and financing of the CoEs.

Section 5 analyses recruitment and deployment practices in the state.

Each of these sections ends with a set of recommendations. Section 6 discusses the study’s main conclusions.
CHAPTER 2
Conceptual Framework
The conceptual framework for the study is largely based on Santiago’s (2002) analysis of teacher supply and demand in OECD countries. It identifies:

**THREE Interrelated areas that influence the number and profile of teachers**

The conceptual framework for the study is drawn from Santiago’s (2002) analysis of teacher supply and demand in the OECD, with some minor changes partly to reflect the Nigerian context. The framework identifies three inter-related areas that influence the number and profile of teachers in the education system (see Figure 1).

**Teacher Demand**

The first is the number of teachers required by the system. This is shaped by a set of factors that fall into three categories:

- Demographic variables;
- School participation rates; and
- Policy variables such as class size norms, the required hours of instruction per subject per year, and the stringency of promotion requirements (which has a bearing on repetition rates, and therefore the number of children in the school system).

These factors all feature in UNESCO’s Education Policy and Strategy Simulation (EPSSim) model\(^2\), which we use to generate our projections of teacher needs (see Annex A).

**Potential Teacher Supply**

The second is the potential supply of teachers – the number of qualified or eligible people who are willing to teach in the public education system under prevailing conditions of service. Santiago (2002) identifies four main sources of supply for new teachers:

- The reserve pool: former teachers and individuals who have trained to be teachers but have opted for other careers or have not yet secured employment;
- Recent graduates of teacher training programmes;
- Entrants via alternative routes: individuals who become teachers without a formal qualification and receive training while working as teachers; and

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Teachers at private schools (including faith-based schools).

Across these four groups, there is a set of decisions that influences the available pool of potential teachers for the system as a whole and in any given location. These are:

- Whether to train to become a teacher;
- Whether to work as a teacher;
- Whether to switch schools;
- How long to stay in teaching; and
- Whether to return to teaching after a career interruption.

These decisions are shaped by a broad range of factors, listed in Figure 1. Notable among these are teachers’ salaries relative to those of other similarly qualified professionals, their working conditions and the status of the profession.

The key point that emerges here is that the prospective supply of teachers is not dictated solely or even largely by the availability and quality of pre-service training programmes but rather by a much broader set of factors, many of which are related to the attractiveness of the teaching profession compared to other career opportunities for individuals with similar levels of education.

The third component of the framework consists of the policies and practices that govern the recruitment and management of teachers, which shapes how supply and demand interact. This influences who gets recruited, to what positions, and how they are paid.

The key elements of this are the nature of government involvement in teacher recruitment, the prevalence of school choice (for instance through voucher schemes), and school-level autonomy over recruitment decisions. As noted in Figure 1, there are also some feedback loops here – for instance, the way that teachers are recruited and managed influences relative salaries, career structures, and the extent to which higher-performing teachers receive a wage premium. All these factors, in turn, influence the potential supply of teachers.

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3 For instance, in systems in which funding for schools is linked to pupil numbers, schools face pressure to improve their standards in order to attract more pupils. If schools also have full flexibility in the use of their salary budgets, they are likely to use this to hire and promote the best available teachers. In the more common scenario of a centralised system of recruitment, the extent to which the best available teachers are hired will depend on recruitment policies and the quality of implementation.
Figure 1: Teacher supply and demand: A conceptual framework

1. Demand for teachers
   Influencing variables:
   - School-age population
   - Enrolment and retention rates
   - Parental preferences between public and private schools
   Policy tools:
   - Class size norms
   - Teachers’ workloads
   - Required hours of instruction
   - Structure of the curriculum
   - Graduation requirements
   - Ending age of compulsory education

2. Potential teacher supply
   Factors that shape the attractiveness of the teaching profession:
   - Relative salaries and alternative career opportunities
   - Career structure
   - Working conditions
   - Status of the profession
   - Teacher training and certification
   - Merit-based incentives
   - The relative availability of teaching positions
   Other factors that influence supply:
   - Availability of teacher training programmes
   - The cost of teaching training
   - Alternative certification opportunities
   - Personal circumstances (which influence decisions on how long to stay in teaching and whether to return to teaching after a career interruption)

3. Policies and practices governing recruitment and deployment
   The following factors influence who gets recruited from the pool of potential teachers, how much they are paid, and how they are deployed (which school, what subject they teach):
   - The role of government
   - Scope for school choice
   - School-level autonomy over recruitment decisions
   - The role of teacher’s unions

3.1. The public sector teaching workforce

The following factors influence teacher recruitment and deployment:

- Teacher’s skills, knowledge and motivation
- Student characteristics
- Quality of Teaching
- Home environment
- Learning outcomes

Teaching Environment
- Key dimensions include:
  - Standards and assessment practices
  - Class size and teaching loads
  - School facilities and instructional materials
  - Organisation and management of schools
  - Peer effects

Figure 14 provides an overview of this fiscal gap.
The lower part of the framework does not relate specifically to the supply and need for teachers, but shows how this relates to the broader performance of the education system.

2.1 The focus of this study

This study does not seek to provide a comprehensive assessment of the elements outlined in the framework but rather to shed light on certain aspects of it. On the demand side, we use baseline data on demographic variables, school participation, and the policy variables listed in Figure 1 to estimate teacher shortages and forecast future teacher needs. On the supply side, we focus on the capacity of the main NCE-awarding institutions. However, our findings do touch on some of the broader determinants of supply mentioned above. With respect to the policies and practices that mediate demand and supply, both school choice and school-level autonomy over teacher recruitment are limited in most parts of Nigeria (Humphreys and Crawfurd 2014). In line with this, we focus on the government’s role in making recruitment and deployment decisions.

As the framework highlights, the factors that influence teacher supply encompass a far broader range of issues than those that this study will focus on. These issues merit further attention as part of the state governments’ efforts to raise the quality of teaching in primary schools and JSS in the state.
CHAPTER 3
Teacher Requirement in Jigawa
Jigawa State has a shortage of 1,672 PRIMARY TEACHERS

Teacher Shortages

Primary-JSS Transition

UBE Target 100%
Male Transition 28%
Female Transition 24%
Fewer females transition from primary schools to JSS in Jigawa

Primary-JSS Transition

Teacher Deployment

UNEVEN DEPLOYMENT ACROSS LGAs
(Primary Schools)
Primary Schools in Auyo LGA, an urban area have fewer pupils per teacher than those in rural areas Kiyawa LGA

27 PUPILS TO 1 TEACHER
Auyo LGA

83 PUPILS TO 1 TEACHER
Kiyawa LGA

UNEVEN DEPLOYMENT ACROSS LGAs
(Secondary Schools)
Primary Schools in Kiri Kasama LGA, an urban area have fewer pupils per teacher than those in rural areas Birnin Kudu LGA

14 STUDENTS TO 1 TEACHER
Kiri Kasama LGA

89 STUDENTS TO 1 TEACHER
Birnin Kudu LGA

Teacher Recruitment Vs Attrition

952 TEACHERS LEFT
left the workforce between 2012 and 2014

1,661 TEACHERS RECRUITED
were recruited between 2012 and 2013

Teacher Needs Projections

37,000 teachers needed by 2025
to meet the UBE PTR target scenario in Jigawa state

N50bn annual personnel budget
is needed to employ enough teachers to meet the UBE PTR target scenario, in Jigawa state
3.1 Introduction

The first step in any teacher demand/supply study is to compare the overall number of pupils enrolled to the current number of teachers, their distribution across schools and their subject specialisations. On this basis, the study can identify teacher shortages, imbalanced teacher deployment patterns and possible mismatches between teachers’ current and required subject specialisations. By projecting forward pupil enrolment, such an analysis can also assess future teacher needs. Throughout this chapter, we will try to address these issues for Jigawa’s primary and JSS teachers.

We will begin this chapter with an overview of current teacher shortages, including an overview of teacher needs overall, by LGA and subject specialisation. We will then consider current teacher attrition and recruitment. Next, we will consider future teacher needs, based on three separate scenarios for pupil enrolment and the desired PTRs. Finally, we will assess what the likelihood is of meeting such future teacher needs by comparing projections of available financial resources to required fiscal needs.

3.2 Current teacher shortages

Overall shortages

This section will focus on current teacher shortages in Jigawa State. At an aggregate level, teacher shortages can be determined by comparing existing PTRs to the government-mandated PTR to indicate the extent of teacher shortages.

To provide an initial overview of teacher needs, Table 1 compares overall pupil enrolment with teacher numbers between 2009 and 2014. Starting with primary education, it shows that Jigawa initially had enough teachers (with a 36:1 PTR). However, across the six years, pupil enrolment increased by 10%, while the total number of primary teachers decreased by 13%. Thus, by 2014 Jigawa’s overall PTR had increased to 45:1, resulting in an overall teacher shortage. For JSS, the overall number of teachers increased by 15%, though enrolment shot up by 55%. The PTR has worsened here as well, but currently remains within official norms.
Table 1: Difference in number of primary and JSS pupils and teachers (2009–2014)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>%</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Public primary teachers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary pupils</td>
<td>502,721</td>
<td>500,295</td>
<td>475,035</td>
<td>541,025</td>
<td>548,003</td>
<td>554,981</td>
<td>10%</td>
<td>52,260</td>
</tr>
<tr>
<td>Primary teachers</td>
<td>13,990</td>
<td>13,774</td>
<td>13,044</td>
<td>13,369</td>
<td>12,786</td>
<td>12,203</td>
<td>-13%</td>
<td>-1,787</td>
</tr>
<tr>
<td>Primary PTR</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>40</td>
<td>43</td>
<td>45</td>
<td>27%</td>
<td>10</td>
</tr>
<tr>
<td><strong>Public JSS teachers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JSS pupils</td>
<td>75,464</td>
<td>80,250</td>
<td>89,286</td>
<td>105,000</td>
<td>110,897</td>
<td>116,793</td>
<td>55%</td>
<td>41,329</td>
</tr>
<tr>
<td>JSS teachers</td>
<td>3,198</td>
<td>3,861</td>
<td>3,773</td>
<td>4,620</td>
<td>4,145</td>
<td>3,670</td>
<td>15%</td>
<td>472</td>
</tr>
<tr>
<td>JSS PTR</td>
<td>24</td>
<td>21</td>
<td>24</td>
<td>23</td>
<td>27</td>
<td>32</td>
<td>35%</td>
<td>8</td>
</tr>
<tr>
<td><strong>Public basic education teachers (primary and JSS)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic education pupils</td>
<td>578,185</td>
<td>580,545</td>
<td>564,321</td>
<td>564,321</td>
<td>658,900</td>
<td>671,774</td>
<td>16%</td>
<td>93,589</td>
</tr>
<tr>
<td>Basic education teachers</td>
<td>17,188</td>
<td>17,635</td>
<td>16,817</td>
<td>17,989</td>
<td>16,931</td>
<td>15,873</td>
<td>-8%</td>
<td>-1,315</td>
</tr>
<tr>
<td>Basic education PTR</td>
<td>34</td>
<td>33</td>
<td>34</td>
<td>36</td>
<td>39</td>
<td>42</td>
<td>26%</td>
<td>9</td>
</tr>
</tbody>
</table>

Note: Authors’ calculations. Source: ASC Data from 2009/10 to 2014/15

Table 1 offers a worrying picture of fast-rising enrolment (16% across six years, or 2.7% a year), while basic education lost around 8% of all its teachers in this time (about 1.3% annually). In subsequent sections, we will analyse the underlying reasons for both these trends.

**Current shortages**

Based on the latest available ASC data (2014/15), it is found that to meet the official 40:1 PTR for Jigawa an additional 1,672 public primary teachers are currently needed (around 14% of the present teacher stock). Furthermore, only 51% of Jigawa’s teachers have the NCE, which is the minimum requirement for teaching in a primary school in Nigeria. To meet the 40:1 Pupil-to-Qualified Teacher Ratio (PQTR) would require the above-mentioned recruitment of 1,672 new teachers, together with upgrading the qualifications of 5,952 primary teachers.

For JSS teachers, there currently appears to be a surplus of teachers, with an average 32:1 PTR across the state. However, this average PTR masks large discrepancies of

---

4 Table 1 may also reflect data discrepancies within the ASC reports, as teacher numbers fluctuate widely from year to year. However, the two overall trends associated are still expected to hold, and are confirmed by the study’s qualitative findings.

5 Table C.1 in the Annex provides a breakdown of current primary teacher shortages by LGA.
teacher deployment across LGAs (see next section). PQTRs in public JSS are also favourable compared to those at the primary level; with 78% of JSS teachers qualified, this stands at an average of 41:1 in Jigawa.

It is likely that these relatively low PTRs reflect the small share of children enrolled in JSS, which in turn is linked to capacity constraints and low transition rates from primary schools to JSS. Evidence for this is provided in Figure 2, displaying the pupil survival rate for public primary schools and JSS in 2012. This shows that while 90% of eligible children entered the first grade of primary education (including nomadic and islamiya schools), only 75% complete the primary education cycle (Grade 6). Figure 2 then shows that most pupils do not transition to secondary school. Out of the initial cohort of pupils, only 28% of boys and 24% of girls continue through to JSS 1 (noted below as Grade 7).

Figure 2: Survival rate in public primary and JSS in Jigawa State, 2012

* See Table C.2 in the Annex for an overview of JSS shortages by LGA.
Because of such low transition, far fewer teachers are currently needed to meet the proposed PTR in JSS than for primary schooling. However, to satisfy the objectives of UBE, Jigawa would be required to increase its primary-to-JSS transition rate to 100% (thus nearly quadrupling the likely number of JSS pupils, compared to current transition rates). To maintain a desirable PTR under UBE, then, a considerable expansion of JSS teachers would also be required. This is one of the scenarios this report will analyse in greater detail.

**Current shortages of female teachers**

Alongside overall teacher shortages, Jigawa also has a specific need for more female teachers. This is shown in greater detail in Table 2. This notes that only 12% of primary teachers are female, while for JSS the number is even lower at 8% of teachers. For both education sub-sectors, only a very small share of pupils is currently taught by female teachers; the imputed pupil-to-female teacher ratio lies at 380:1 for primary education and 410:1 for JSS. This problem is even more urgent for female qualified teachers. Only 7% of all primary teachers are female with an NCE qualification, and only 6% of JSS teachers are female and qualified.

The implications of these gender gaps for girls’ education outcomes in Jigawa are unclear. One argument is that the presence of female teachers has a positive impact on girls’ enrolment, retention and educational outcomes in school (Dunne et al. 2015). However, the evidence for this in the Nigerian context is limited. After comparing girls’ attainment with schools’ gender profiles in Nigeria and Tanzania, ActionAid (2011) notes that ‘the presence of female teachers does not appear significant in supporting girls’ progression and attainment’. It further noted that female teachers needed better training and support to serve as role models for girls. Qualitative studies in Kogi and Adamawa state appear to support this, with the former finding that female teachers may also hold gender-stereotyped expectations about girls’ capabilities (Bakari 2013; Dunne et al. 2013; cited in Humphreys and Crawfurd 2014).

<table>
<thead>
<tr>
<th>Table 2: Current shortages of female teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>School type</td>
</tr>
<tr>
<td>Primary pupils</td>
</tr>
<tr>
<td>Primary teachers</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Source: ASC data 2014/15</td>
</tr>
</tbody>
</table>
3.2.1 Teacher deployment

Figures 3 and 4 show that there are large discrepancies in teacher deployment in Jigawa between LGAs. For primary teachers, this ranges from 27:1 in Auyo to 83:1 in Kiyawa. For JSS teachers, the spread is even more pronounced, with a 14:1 PTR in Kiri Kasama and 89:1 in Birnin Kudu. Comparing both figures, it becomes clear that most LGAs that are above the Jigawa PTR average are in rural areas, while those below average tend to be from urban areas (with the notable exception of Gumel, the state capital).

These general patterns are familiar to the SUBEB. As one of its members stated ‘Deployment issues are well known, but still prevalent; urban schools are filled, while rural schools are devoid of teachers. Teachers often reject rural postings, and try to get transferred elsewhere’. Chapter 5 will consider these issues in greater detail and analyse the current initiatives by the state government to improve deployment patterns.

Patterns of deployment to rural and urban schools also vary by gender. In Jigawa, 42% of female primary teachers are found in rural postings, compared to 80% of male primary teachers. Of all rural primary teachers, only 5% are female. Similarly, only 28% of female JSS teachers are posted in rural areas, compared to 64% of male JSS teachers. Overall, women comprise only 2% of rural JSS teachers. Women tend to have a strong preference for urban postings, often because they want to be near their spouses.

To the extent that the presence of female teachers has a positive effect on girls’ enrolment, deployment policies should aim to attract more female teachers to rural posts. We will return to this issue in Chapter 5, where we will describe a specific programme designed to improve female teacher recruitment and deployment in Jigawa. Chapter 5 also provides specific recommendations targeted at increasing the overall share of female teachers in primary schools and JSS.

3.2.2 Teacher needs by subject specialisation

Another key aspect of current teacher needs relates to subject specialisation. While the ASC data do not allow for direct analysis of teacher shortages by subject, we can analyse the extent to which teachers are posted to positions that appropriately utilise their skill sets and subject qualifications.

For primary school teachers, subject specialisation can be analysed under two systems. The first relates to an older system (before 2014) where primary school teachers were asked to specialise and teach in one area (e.g. English). Here, ASC data indicate that in 2014/15 only 54% of primary school teachers were teaching their subject of qualification (see Table C.3 for more detail). Figure 5 indicates the extent to which there is such a mismatch in subject supply (subject studied by the teacher) and demand (subject taught by the teacher). This shows that there are shortages of teachers of English (out of all those teaching English, 23% did not complete an English specialisation in their NCE) and Mathematics (for those teaching Mathematics, 35% did not have an NCE Mathematics specialisation). It also points toward an oversupply of Hausa teachers (there are 65% more teachers with a Hausa specialisation than those teaching Hausa). Arabic is not captured here as a separate category, but
The trend above shows that more female teachers are deployed to urban schools than rural school both at the primary and secondary level.
In light of these findings, we make the following recommendations:

1. To address the challenges of the status quo, it is essential to recruit the necessary teachers to keep up with the demand set out under the SESP policy targets, a near-tripling of public primary teachers, to meet the 40:1 PTR for primary and JSS in 2022 (an expansion of 70% compared to 2012). This shows that Jigawa initially had enough teachers, but by 2014 Jigawa's PTR had worsened. Despite the projections of teacher needs with CoEs' estimate of required annual NCE admissions, there has been no recruitment in 2015. Research also suggested that there has also been a decrease in teacher shortages, averaging 415 per year. The qualitative research also included discussions about the pupil-teacher ratio.

2. Another key aspect of current teacher needs is the prevalence of urban schools being filled, while rural schools are in need of teachers. This indicates that there are more teachers with a Hausa specialisation in urban areas and that fostering the recruitment of Hausa-specialised teachers could be an effective strategy to address this issue.

3. To expand teacher recruitment to respond to rural teachers and meet the 40:1 PTR for primary and JSS, the state government should increase its teacher personnel budget to NGN 20 billion by 2025. This reflects a funding gap of NGN 37 billion. This gap can be addressed by raising more domestic resources and earmarking them to the education sector to allow for additional recruitment initiatives.

4. The SUBEB should provide guidance to CoEs on graduate teacher numbers and possible mismatches between teachers' numbers and the projections of teacher needs. This is particularly important for Jigawa State, where Islamic Studies is a prevalent subject. Without the required number of graduates three years after recruitment, it may be particularly difficult to meet future teacher needs.

Note: Authors’ calculations. Source: Based on ASC Data from 2014/15

Figure 3: Primary PTRs by LGA, 2014/15

Figure 4: JSS PTRs by LGA, 2014/15
qualitative research for this study indicates that it is heavily oversupplied relative to student needs. As other local languages besides Hausa are not covered in the ASC, it was not possible to analyse teacher needs based on their ability to speak the local language (e.g. Fulfude, Kanuri or Badawa).

These subject specialisations predate the introduction of the new NCE curriculum in 2014, set out by the NCCE. This reports that for primary schools, teachers should not have only one subject specialisation. Instead, they should have specialised in one of the new, broad NCE specialisations such as PES or ECCE. This provides better preparation for teaching at the primary level as it allows teachers to study all the subjects that they would be responsible for teaching at primary level (see the next chapter for more details). Figure 5 suggests that currently 1,267 primary teachers have the equivalent of a PES specialisation (about 10% of all primary teachers). No teachers are reported to have the ECCE specialisation tailored to pupils from Primary 1 and 2. As such, there is a strong need to expand the number of teachers who have either of these specialisations. There is less mismatch between subjects taught and studied at JSS level. According to the ASC data, 75% of JSS teachers are teaching their subject of specialisation (see Table C.4 for more details). Figure 6 provides a breakdown by subject, which closely mirrors the patterns described above. For instance, there is a very large gap in English teachers (75% of those teaching English have not studied it) and Mathematics (32% mismatch). There seem to be adequate numbers of social science teachers, but a surplus of Hausa teachers. One area in which Figure 6 deviates is the science subjects. This is brought together here under ‘basic sciences’, but require knowledge across a set of

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**Figure 5: Mismatch between primary teachers’ specialisation taught and studied (2014/15)**

![Mismatch between primary teachers’ specialisation taught and studied (2014/15)](image)

**Note:** Authors’ calculations. Source: Based on ASC Data from 2014/15
costs are then compared to the expected enrolment from 2014). By projecting forward pupil enrolment, such recruitment of 1,672 new teachers was estimated to be more volatile under the status quo scenario. Required teacher training funding is NGN 0.9 billion by 2022 and NGN 1.1 billion in 2025, this is three-and-a-half times the likely funds available for the CoEs across 10 years. Compared to a projected 13,500 JSS teachers by 2025, which is about 196,000 by 2022 (85% growth), while enrolment is expected to nearly double to 555,000 in 2014, representing 22% overall enrolment from 2014).

Teacher training costs (see next chapter). Such scenario would still require that JSS teacher recruitment be expanded in the year (a cumulative total of 952; see Table 3). They also show that recruitment was only carried out in two of these years – 2012 and 2013. In total, between 2011 and 2014, 1,661 teachers were recruited, averaging 415 per year. The qualitative research also suggested that there has also not been any recruitment in 2015. These official figures have several weaknesses. First, the data shared by the SUBEB and reported in Table 3 are not comprehensive. Second, and more crucially, many of the teachers that leave the profession are not formally reported to SUBEB as doing so. Instead, the LGA often keeps this knowledge to itself and chooses to find a local replacement teacher. As a result of this informal process (see Chapter 5), both attrition and recruitment figures are often underrepresented in the state-level recruitment figures.

3.3 Current teacher attrition and recruitment

In this section, we will assess how many teachers left the teaching profession either through retirement, death, dismissal or resignation (attrition) and how many were added to the teacher payroll (recruitment). We will do so by relying on two separate methods for the years 2011–2014 (based on data availability).

We can firstly consider the official attrition and recruitment statistics provided to the researchers by the SUBEB. These data indicate that between 2012 and 2014 an average of 317 teachers left the teaching workforce every year (a cumulative total of 952; see Table 3). They also show that recruitment was only carried out in two of these years – 2012 and 2013. In total, between 2011 and 2014, 1,661 teachers were recruited, averaging 415 per year. The qualitative research also suggested that there has also not been any recruitment in 2015. These official figures have several weaknesses. First, the data shared by the SUBEB and reported in Table 3 are not comprehensive. Second, and more crucially, many of the teachers that leave the profession are not formally reported to SUBEB as doing so. Instead, the LGA often keeps this knowledge to itself and chooses to find a local replacement teacher. As a result of this informal process (see Chapter 5), both attrition and recruitment figures are often underrepresented in the state-level recruitment figures.

Figure 6: Mismatch between JSS teachers’ specialisation taught and studied (2014/15)

Note: Authors’ calculations. Source: Based on ASC Data from 2014/15.

subjects (e.g. Chemistry and Physics). Our qualitative interviews with the SUBEB and SMoE also highlight that there is also a consistent shortage in the number of teachers trained in these subjects.
To simulate the likely number of teachers leaving and being recruited, a second measure used here is to rely on the ASC. We start by estimating the likely teacher attrition as a specific percentage of the teaching profession based on Jigawa’s historical attrition estimates. Recruitment was then estimated based on the annual change in the reported number of primary and JSS teachers, plus the estimated annual number of teacher attrition.

The overall figures are provided in Figure 7. Based on these calculations, annual attrition between 2011 and 2014 is estimated to be around 1,000 teachers per year (650 primary, 350 JSS), or 5.7% of the overall teaching profession. This is about three times as high as the official attrition rate reported above. This can better explain the substantial decrease in overall teacher numbers reported at the start of this chapter.

Overall recruitment (including replacement) was estimated to be more volatile under the calculated estimate, with a large increase in 2012, and little to no recruitment in the other three years. In 2011–2014, 2,194 teachers were estimated to have been recruited (or around 550 annually). This is comparable to official recruitment figures. A comparison of the two recruitment measures is provided in the figure below.

### 3.4 Future teacher demand

#### 3.4.1 Three different scenarios

We project teacher demand between 2015 and 2025 under three different scenarios:

- The first scenario is the status quo. Here, the gross intake rate (GIR) – the share of six-year-olds who are enrolled in primary school – stays unchanged over the forecast period. Pupil enrolment increases in line with growth in the school-age population, which is forecast at 2.2% in line with the annual population growth rate in Jigawa between the 1991 and 2006 census. The average PTR also remains unchanged. This will lead to the most conservative estimate of overall teacher needs.

- The second scenario, meeting policy targets by 2022, is based on Jigawa’s State Education Sector Plan (SESP),

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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average</td>
</tr>
<tr>
<td>Official attrition</td>
<td>N/A</td>
<td>-106</td>
<td>-321</td>
<td>-525</td>
<td>-317</td>
</tr>
<tr>
<td>Official SUBEB recruitment</td>
<td>0</td>
<td>659</td>
<td>1002</td>
<td>0</td>
<td>415</td>
</tr>
</tbody>
</table>

Source: Based on SUBEB administrative data

---

7 From the ASC reports, a ‘teacher attrition’ number is reported, which is then averaged from 2009 to 2015. The ASC is independently conducted by the SUBEB planning department. As such, its attrition numbers can differ slightly from ‘official reported attrition’, which is taken from the human resource directory and which may suffer from omissions as explained above.

8 For instance, if primary teacher attrition is estimated at 5%, and total number of primary teachers from year 1 to year 2 increases by 1%, then total recruitment equals 6% (5% to cover attrition, plus 1% for completely new staff members).
which has a number of ambitious policy
targets. This aims to increase primary
intake rates (to 66% in primary schools)
and meet the 40:1 PTR for primary and
35:1 PTR for JSS by 2022.

The third scenario aims to meet the na-
tional targets for UBE by 2025. This means
that all six-year-old children will enter
primary school by 2025 (100% GIR), while
PTRs will decline steadily to 40:1 for pri-
mary and 35:1 for JSS. Both enrolment and
teacher demand expand the most under
this scenario.

The full set of parameters used for each of
these scenarios is outlined in the table below.
Details of how each of these parameters has
been estimated are provided in the full
description of the quantitative methodology
in Annex A.

### 3.4.2 Pupil enrolment projections

The full implications for enrolment into basic
education across the three different policy
scenarios is provided in Table C.6. Figure 8
provides a summary of findings for enrol-
ment into public primary schools. For the

<table>
<thead>
<tr>
<th>Table 4: Three scenarios and their parameters for teacher needs projections</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parameter</strong></td>
</tr>
<tr>
<td>Population growth</td>
</tr>
<tr>
<td>GIR</td>
</tr>
<tr>
<td>Promotion rate</td>
</tr>
<tr>
<td>Dropout rate</td>
</tr>
<tr>
<td>Repetition rate</td>
</tr>
<tr>
<td>Public/private ratio</td>
</tr>
<tr>
<td>PTR</td>
</tr>
</tbody>
</table>

Notes: Authors’ own calculations. Source for the SESP policy target: Jigawa State Education Sector Strategic Plan, 2013–2022.
status quo scenario, enrolment would only grow in line with overall population growth. By 2025, this would mean that there would be an estimated 670,000 pupils in public primary schools in Jigawa (compared to 555,000 in 2014), representing 22% overall growth. If Jigawa were to pursue the objectives set out in the SESP to reduce the incidence of out-of-school-children, enrolment would increase much faster, rising to 836,000 pupils by 2022 (resulting in 51% growth compared to 2014). The most ambitious and extensive expansion comes from meeting the UBE objectives, which would almost triple total primary pupil enrolment to 1.4 million by 2025 (or a 158% increase of enrolment from 2014).

A similar pattern can be found in Figure 9. Continuing the current status quo would lead to a small incremental growth in the number of JSS pupils; around 121,500 in 2025 versus 106,000 in 2014 (or 15% growth across 12 years). Both other scenarios are considerably more ambitious and strive to radically lower Jigawa’s relatively low rates of JSS enrolment. For the SESP policy targets, overall enrolment is expected to nearly double to about 196,000 by 2022 (85% growth), while the UBE target would require expanding JSS enrolment to almost four-and-a-half times its current enrolment (471,000 by 2025, or 343% growth). The large deviation between the status quo and the two policy objectives reflects the likely challenge of this set-out expansion of JSS.

**Figure 8: Total pupil enrolment in primary schools in Jigawa**

![Graph showing total pupil enrolment in primary schools in Jigawa]

**Note:** Authors’ calculations.
3.4.3 Teacher needs projections

Based on these pupil enrolments and a set of other policy parameters, Figure 10 and Figure 11 also sets out the total number of primary and JSS teachers that will be required across the three policy scenarios.

Overall teacher needs

The overall need for primary teachers is summarised in Figure 10. Here we can see that the status quo scenario requires that only around 14,900 teachers would be needed in 2025, compared to 12,500 in 2015 (a 19% increase). To cater for the enrolment expansion set out under the SESP policy targets, a total of 21,000 teachers would be needed in 2022 (an expansion of 70% compared to 2015). Lastly, to meet the proposed drop in PTR and cater for large enrolment expansion, the UBE scenario requires there to be a near-tripling of public primary teachers, to a total of 37,000 by 2025 (156% growth compared to 2016).

All three scenarios propose a different degree of expansion for primary teachers. However, Figure 10 shows that even maintaining the status quo may be challenging as, at present, there is a downward trend in the total number of primary teachers in Jigawa. If this continues, there will only be around 9,600 teachers left by 2025. As such, there seems to be a large difference between the desired and the expected number of primary teachers to be employed over the next decade.

Figure 10: Total (public) primary teacher needs across scenarios

![Graph showing teacher needs across scenarios](image)

Note: Authors’ calculations.

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* Further detail is provided in Table C.6.
* Past recruitment behaviour provides a helpful source to assess scenario feasibility. To do so, we provide calculations of a linear forward projection of number of teachers in the ASC data since 2009. This estimate may be seen as a conservative estimate and an overestimation, because Nigeria saw a large increase in public resources up to mid-2014, related to high oil prices, enabling it to recruit more staff. In the next decade, access to more limited resources may prevent further recruitment.
For JSS teachers, Figure 11 reflects an even larger difference of needs across the three scenarios. This is further illustrated in Figure 11. For the status quo scenario, total JSS teacher needs are projected to expand from around 3,400 in 2015 to 3,900 by 2025. The 2022 SESP targets propose a gradual increase in the PTR (from 31:1 to 35:1). This scenario would still require that JSS teacher numbers increase from their 2015 base, to about 5,600 in 2025 (65% growth rate). The final UBE scenario sees the largest expansion of required future teacher numbers, due to its ambitious targets for pupil enrolment. Such an objective would require there to be 13,500 JSS teachers by 2025, which is almost four times the number of JSS teachers in 2016 (or a 296% growth rate).

The trend of JSS teachers since 2009 suggests that the overall expected number of JSS teachers will be almost the same as it currently is (4,600 teachers). These projections are also roughly comparable to the status quo projections, but much smaller than overall JSS teacher numbers required according to the other two scenarios. This suggests that it will be particularly difficult to meet either of the two expansionary policy scenarios.

**Net recruitment requirements**

Each of the three scenarios has different implications for teacher recruitment. To expand the size of the teaching workforce in line with these projections, the SUBEB needs to hire enough teachers to replace those who are leaving the workforce as well as to match the rise in enrolment. Table C.6 provides a full breakdown of recruitment requirements by scenario and these are also illustrated in Figure 12 below. Here we see that to meet the status quo scenario (keeping primary and

![Figure 11: Total (public) JSS teacher needs across scenarios](image-url)

**Note:** Authors’ calculations.

---

11 Based on author’s calculations of a linear forward projection of number of public primary teachers in the ASC data since 2009.
JSS PTRs in line with enrolment projections) would still require around 1,140 teachers to be recruited every year (900 primary, 240 JSS). To satisfy the expansion proposed under the SESP by 2022 targets, teacher recruitment would need to be gradually scaled up from 1,200 per year in 2016 to 3,100 by 2022 (2,400 primary, 700 JSS). The largest expansion is required for the UBE by 2025 target. Accommodating this teacher growth requires rapid expansion of teacher recruits, from 1,400 in 2016 to 5,500 by 2022 and peaking at 7,000 teachers to be recruited by 2024 (4,700 primary, 2,300 JSS).

However, Figure 12 also provides a cautionary note. Here we see that, since 2011, recruitment has never been higher than 2,000 teachers per year, with an overall average of only 550 teachers recruited per year (see Section 3.3 above). This falls short of even the level of recruitment needed in the status quo scenario. Unless Jigawa State makes a radical break from past trends and dedicates considerable additional resources to basic education, it appears unlikely that recruitment will keep up with the demand forecasts in any of the three scenarios depicted below.

### Overall teacher training needs

Finally, to meet the above-mentioned teacher recruitment needs enough graduates also need to be trained. This section provides an estimate of required annual NCE admissions based on the three scenarios by combining the projections of teacher needs with CoEs’ data on graduation rates. As the NCE programme takes three years, the CoEs should ensure that their enrolment results in the required number of graduates three years later. Administrative data shared by CoE Gumel point to a graduation rate of 51% (see Figure 12: Total teacher recruitment requirements across scenarios

![Diagram showing total teacher recruitment requirements across scenarios](image_url)

**Note:** Authors’ calculations.
next chapter). This indicates that the college would need to enrol roughly double the number of students as are required for recruitment three years later.

Teacher recruitment needs are summarised for each of the scenarios in tables C.9, C.10 and C.11, while Figure 13 below provides an overview of the NCE admission rates required in each scenario. This suggests that CoEs can drastically reduce their NCE admissions to meet the status quo scenario; to recruit the 900 teachers required in 2019, only 1,800 students need admission in 2016. Similarly, to have 1,150 teacher graduates in 2025, only around 2,200 students need to be admitted in 2022. Note that this figure includes graduates from both of Jigawa’s CoEs (see next chapter for a more detailed description of the current capacity of these two CoEs). Due to the recent increase in the capacity of the CoEs (owing to the opening of CILS Ringim), enrolment in recent years has exceeded the required number of teachers under the status quo scenario. The associated oversupply of teachers is likely to lead to a lower teacher absorption rate (described in greater detail in Section 4.4.3).

To train the prescribed number of teachers under the SESP by 2022 target, enrolment would need to be scaled up from 4,400 in 2016 to 7,300 in 2020 onwards. Meeting the UBE target would require an even higher number of NCE admissions, ranging from 6,500 in 2016 to 12,200 in 2020 and peaking at 16,400 new enrolments in 2022. That said, these figures should be interpreted with caution. They could represent an overestimate as the CoEs’ graduation rates may improve over time. They could also underestimate training needs as not all NCE graduates choose to work as teachers.

While the previous section noted the likely challenge of meeting the two expansionary scenarios from a recruitment perspective, Figure 13 raises similar questions around teacher training. To provide the necessary
teachers would require expanding colleges far beyond their current and projected admissions numbers at a time when CoEs already report feeling stretched beyond their means. As a result, producing the numbers stipulated under either expansionary scenario would likely result in more crowded classrooms that would further lower the quality of the NCE programmes provided and the average quality of teacher graduates produced. As there are already concerns about the quality of current NCE graduates, this is a particularly troubling finding.

3.5 Fiscal gap analysis of future teacher demand

In this section, we will analyse the expected cost of the three scenarios. These are broken down by two elements: teacher employment and teacher training costs. The overall estimates are set out in greater detail in Table C.9 (for the status quo), Table C.10 (SESP by 2022) and Table C.11 (UBE by 2025).

Teacher employment costs

Employment costs are calculated by projecting forward Jigawa’s current teacher salary scale (given in Table C.7), and using these figures to estimate the cost of the overall teacher numbers set out in the sections above. This is compared to expected teacher personnel funds (based on the SUBEB’s historical personnel expenditure; see Table C.8) to establish an overall ‘fiscal gap’ for total teacher employment.

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*This linear forward projection of future resources should again be interpreted with caution, as Jigawa’s resources are highly influenced by global oil prices. For our purposes, this likely overestimates the expected teacher personnel funds (i.e. as oil prices have been higher in the last five years than they currently are, the overall expected funds are also overestimated).*

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Figure 13: Total annual NCE admissions required across scenarios
The findings are illustrated in Figure 15.

By 2025, this would mean that there would be an estimated 670,000 pupils in public schools in Jigawa. This suggests an overall surplus of 280,000 pupils, or 42% of the UBE target.

Jigawa's relatively low rates of JSS enrolment also vary by gender, with very few girls' enrolment, retention and educational outcomes in school (Dunne et al. 2015). However, the evidence for this in the Nigerian context is limited. The implications of these gender gaps for education across the three different policy scenarios: Status Quo (SQ), SESP by 2022, and a temporary NCE admissions process (see Chapter 5), both attrition and recruitment needs, Table 1 compares overall pupil enrolment-mandated PTR to indicate the extent of pupil shortages.

Figure 14: Fiscal gap of future primary/JSS needs across scenarios

Note: Authors’ calculations.

Figure 14 provides an overview of this fiscal gap. In 2015, the SUBEB’s total expenditure on public primary and JSS teachers (excluding administrative and non-teacher personnel) was around NGN 10 billion. According to the study’s estimates, employing all the stipulated teachers under the status quo scenario will double the necessary SUBEB teacher personnel budget to NGN 20 billion by 2025. However, projecting forward the current teacher personnel fund, only around NGN 13 billion would be available by 2025. This means that even simply keeping teacher numbers in line with enrolment growth (the status quo) will likely result in about a NGN 7 billion fiscal gap (56%). For the SESP by 2022 scenario, the overall cost would be around NGN 22.4 billion by 2022, requiring an additional NGN 10.8 billion per year. Lastly, by 2025 the UBE scenario is projected to need an annual personnel budget of NGN 50 billion. This reflects a funding gap of NGN 37 billion, or almost four times as large as the projected teacher personnel funds available.

Based on the qualitative research conducted as part of this study, most respondents were pessimistic about any significant increase in funding to significantly expand Jigawa’s number of primary and JSS teachers. Many respondents emphasised that Jigawa State is struggling to pay all its current salaries due to a large drop in the federal resources it receives from oil revenue, such that it could not expand its number of teachers. For instance, one SUBEB representative noted ‘one key challenge is how to sustain the current stock of teachers. Then a far bigger challenge is how to expand them to respond to the rise in pupil enrolment (...) We cannot currently afford this’. As this budgetary constraint is largely based on federal resourc-
es, there will be little that anyone at the state level can do. As a result, given the fiscal climate, recruitment is likely to remain at its current low level in the near future.

Teacher training costs

Teacher training costs are estimated by looking at the required NCE admissions set out in the section above, considering the implications this will have for overall CoE enrolment (NCE1–3), and multiplying this by the projected annual recurrent cost of training a teacher\(^\text{13}\) (see next chapter). Such costs are then compared to the expected recurrent funding for CoEs.\(^\text{14}\)

The findings are illustrated in Figure 15. Mirroring the enrolment requirements of Figure 13, the total cost for required teacher training under the status quo scenario is lower than the current or projected teacher training funding. In 2015, around NGN 1.8 billion of recurrent funds is used by CoEs, while under the status quo scenario only NGN 0.7 billion would be needed in 2016, NGN 0.9 billion by 2022 and NGN 1.1 billion in 2025. By contrast, the expected funding will be around NGN 1.2 billion in 2016, rising to NGN 1.6 in 2022 and NGN 2 billion by 2025. This suggests an overall surplus of NGN 900 million (+80%) by 2025.\(^\text{15}\)

The second scenario, SESP by 2022, would require CoE funding to increase to NGN 3 billion by 2022. This would result in a projected funding gap of about NGN 1.3 billion (43%) compared to the NGN 1.7 billion projected by 2022. For the UBE by 2025 scenario, required teacher training funding would also rapidly rise; from NGN 1.7 billion in 2016, to NGN 6 billion in 2022 and NGN 6.8

![Figure 15: Fiscal gap of future primary/JSS teacher training needs across](image-url)

Note: Authors’ calculations.

\(^{13}\) The total recurrent funding includes personnel, other government overheads and internally generated revenue (IGR) through student fees. Due to the inclusion of IGR, this cannot be directly equated to the additional government funding required.

\(^{14}\) A limitation of this method is that it does not account for infrastructural expenditure. Expanding enrolment beyond a certain point would require additional investments that are not accounted for here. This would further increase the cost estimation.

\(^{15}\) In reality, such a surplus will obviously not demonstrate itself as such. Instead, following this scenario’s stipulated NCE admissions will likely mean lower student–staff ratios and additional CoE overhead funding available per pupil.
billion in 2025. This is three-and-a-half times the likely funds available to CoEs in 2025 (NGN 2 billion). This suggests that such a rapid teacher training expansion will likely not be fiscally feasible.

### 3.6 Summary of Findings

This chapter has provided an overview of current and future teacher shortages, including an overview of teacher needs overall, by LGA and across subject specialisation. Here we found that between 2009 and 2014 the overall number of primary teachers in Jigawa has declined by 12%, while enrolment increased by 20% over this period. At JSS, the total number of teachers increased by about 15%, but enrolment shot up by 55%. In both cases the overall PTR has worsened. Despite strong enrolment growth, few teachers have been recruited in the past six years and it appears that Jigawa is struggling to replace teachers who retire. For both primary and JSS, PTRs are considerably higher in rural than in urban schools. Patterns of deployment also vary by gender, with very few female teachers in rural areas.

Demand for teachers is set to rise rapidly over the next 10 years as the school-age population continues to grow. If the state is to meet UBE goals (universal enrolment and PTRs of 40:1) by 2025, the number of primary teachers would have to triple, while almost four times as many JSS teachers would be needed compared to 2016. This would require recruitment of around 7,000 teachers per year (4,700 primary and 2,300 JSS), and increasing the annual enrolment in CoEs up to 16,400 students by 2022.

To finance the employment of additional teachers, overall SUBEB personnel spending on teachers would need to increase from NGN 9 billion currently to NGN 50 billion by 2025 (increasing the budget over fivefold across 10 years). Compared to a projected NGN 13 billion available by 2025, this points to a fiscal gap of NGN 37 billion. Training of such teachers would cost roughly NGN 6.8 billion by 2025, which is more than three times the likely funds available for the CoEs (NGN 2 billion).

All in all, the Government of Jigawa finds itself in a difficult situation. It is faced with considerable demographic pressures that are likely to result in significant enrolment increases. However, it is also in the middle of the worst fiscal crisis of its recent history. Partly due to this, it has not been able to recruit the necessary teachers to keep up with rising demand. These financial challenges are likely to continue in the near future, in line with forecast trends in global oil prices. While most stakeholders are likely to be acutely aware of these challenges, this chapter has highlighted the gravity of the situation. Jigawa is far off-track to meeting the ambitious national policy objectives of UBE. It is also unlikely to meet its own targets set under its SESP, unless it strongly prioritises the education sector by collecting additional domestic revenues that are earmarked to the education sector.
3.7 Recommendations

In light of these findings, we make the following recommendations:

1. The SUBEB should conduct an annual teacher supply/demand analysis

The SUBEB should regularly conduct a similar (possibly simplified) teacher supply/demand analysis, where it assesses overall teachers needed and the likely number of teachers to be recruited in the near future. To make this assessment more realistic, it should compare future recruitment and training needs to historical trends (as done in this chapter). These should be shared with the CoEs and their NCE admissions should be aligned to this overall target (this is discussed further in the next chapter).

2. The SUBEB should adopt a redeployment programme from urban to rural areas

This should be linked to additional incentives to rural teachers to reduce deployment disparities. Chapter 5 provides a set of initiatives to do so, linked to both training and recruitment initiatives.

3. The SUBEB should incorporate subject specialisations in its recruitment drives

Currently, there is a strong oversupply of teachers from specific subjects (e.g. Hausa, Arabic and Social Studies), while shortages exist for other subjects (e.g. English, Mathematics and basic sciences). This partly comes from an inability to adequately select teachers based on subjects. Chapter 5 provides some indication as to why this may be the case (through local, informal recruitment), but the SUBEB should insist that any new teacher has a specialisation to fill a current teacher needs shortage.

4. The SUBEB should provide guidance to CoEs on graduate teacher numbers and subject specialisations needed

Another reason why there is a strong oversupply of teachers from specific subjects (e.g. Hausa, Arabic and Social Studies) is because CoEs insufficiently steer entrants to high-priority specialisations (see next chapter). The SUBEB should insist that college intake is based on prospective graduate teacher needs and the subject specialisations needed. This may require adopting a temporary NCE admissions ban for subjects with excessive NCE graduate numbers (e.g. Hausa, Arabic and Islamic Studies).

5. The Government of Jigawa should diversify its funding streams by collecting additional state tax revenue and reinvest these additional funds into the education sector

To meet the considerable and growing demands of Jigawa’s children, it is vital that additional resources are allocated to the education sector to allow for additional teacher recruitment. This presents two specific challenges. First, Jigawa State has already been dedicating a large share of its recurrent expenditure to education; from 27% in 2009 up to 31% in 2015 (SPARC 2015). Second, Jigawa is financially heavily dependent on federal resources.
As a result of Nigeria’s wider financial situation related to low oil prices, Jigawa is unlikely to see significant increases in personnel funds in the near future.

To address both these challenges, it is vital for Jigawa to diversify its funding streams by collecting additional state tax revenue (referred to domestically as IGR) from its citizens. According to the Nigeria Governors Forum (2015), Jigawa has the lowest share of IGR of all states (only 1.2% of revenue is collected at the state level, with the rest being federal funding). Thus, raising this share, even by a small margin, could provide a fruitful basis for additional funding.

Figure 16 clearly shows the importance of federal versus state funds for basic education financing. For a sample of six states, Jigawa is the most dependent on federal funding, with only 2.4% of funds levied through IGR. In comparison, Kano and Lagos states raise 20% and 40% of education funds themselves, showing that it is possible for states to diversify their funding streams.

To face up to the considerable demographic challenge in education, Jigawa should aim to raise more domestic resources, and earmark a large share of such additional funds to the education sector. Learning lessons from neighbouring states with high state tax revenue (e.g. Kano) offers an important first step.
CHAPTER 4
Teacher Supply
INFOGRAPHIC SUMMARY

Introduction

The goal of teacher training system is to supply high-quality teachers.

National Certification of Education (NCE) is the minimum qualification to be a teacher.

There are currently only two NCE-awarding institutions in Jigawa: CoE Gumel & CILS Ringim.

Enrolment Pathways

At Colleges of Education (CoEs)

1. JAMB (Joint Admission Matriculation Board).
2. COE's internal admission process.
3. One year pre-NCE Course.

Enrolment Numbers

Three of the most popular subjects for which NCE students enrolled are:

- Arabic: 16%
- Islamic Studies: 11%
- Hausa: 11%

4,000
Average NCE Admissions at Colleges of Education (CoEs) between 2013-2015

CoE Student Graduation & Absorption into the Teaching Profession

4,641 Students

Graduated from the CoEs in Jigawa between 2011 and 2014

1,661 Teachers

Only 1,661 teachers were employed between 2011 & 2014 in Jigawa State

4% of students at CoE Gumel enrolled in PES.

1% of students at CILS Ringim enrolled in PES.

70% enrollment in PES course required to meet primary level teacher demand in the next decade.
SUBEB is not aware of how many teachers are being produced every year, because there is no clear plan of what they want. SUBEB is supposed to tell CoE Gumel look, in the next five years we need 500 teachers in Chemistry, so the College can produce only those 500. But instead, the CoEs just produce what they want, introduce any course the way they want. (...) And this year alone, between Ringim and Gumel we will be expecting three to four thousand graduates. Where do they go from here? Nowhere, you understand me?

- Representative from the SMoE

4.1 Introduction

From the perspective of a teacher demand/supply study, the key purpose of the teacher training system is to supply the education sector with an appropriate number of high-quality teachers. As set out in the conceptual framework, an appropriate number implies that there are sufficient graduate teachers to fill recruitment positions, while ensuring a reasonable likelihood of employment into the teaching profession after graduation. This requires that there is a close match between teachers graduating and the likely number of recruitment positions. Ensuring quality implies that NCE students are provided with the appropriate specialisation and teaching skills to best prepare them for their future teaching career. Throughout this chapter, we will see to what extent Jigawa’s teacher training institutes provide these two vital elements.

In this chapter, we will provide a close look at Jigawa’s two teacher training institutes: the CoE Gumel and CILS Ringim. We will first focus on student enrolment into the NCE programme, with specific emphasis on intake process and quotas. Next, we consider student training and performance, with a specific emphasis on the new NCE curriculum. We will then focus on teacher graduation, absorption into the education system, and CoE financing. Lastly, we will summarise and set out recommendations for how the CoEs could best be reformed to supply the education sector with the necessary number and type of teachers.

4.2 CoE enrolment

There are two institutes responsible for training Jigawa’s teachers. The first is the Jigawa State College of Education, Gumel, which was established in 1980 with the specific objective to train NCE teachers. As this was originally the only teacher training institute, it offers a comprehensive set of subjects to prepare students to teach in basic, secondary and technical/vocational education (CoE Gumel, 2015).

![There are only two NCE-Awarding institutions in Jigawa State](image-url)
The second institute, the Jigawa College for Islamic and Legal Studies Ringim, was established in 1991. This was originally exclusively focused on training judges and registrars for the Magistrate Courts. In 2013/14, however, CILS Ringim expanded its capacity and began offering the NCE. The college has a focus on Islamic and Arabic Studies, while also providing other primary and secondary education subject specialisations.

An important difference between these two institutions is the availability of facilities. CoE Gumel has boarding facilities, and thus draws students from all over Jigawa. CILS Ringim lacks such facilities and thus only draws in local students (thus particularly benefitting the Ringim LGA).

4.2.1 Enrolment process

Enrolment requirements

Admission into an NCE course requires credits in five subjects in the Senior Secondary Certificate Examination (SSCE) of the National Examination Council (NECO) or the West African Examination Council. Two subject credits must be relevant to the course candidates wish to study. Credits in English and Mathematics are required for all NCE courses to meet departmental requirements (CoE Gumel, 2015).

There are three separate paths that CoEs use to enrol students into the NCE programme: i) an official application process through the JAMB; ii) an informal application process through a college’s internal admissions process; and iii) deferred entry through a Pre-NCE programme.

i) NCE Enrolment through JAMB

The official procedure into an NCE is to apply through JAMB. This body is responsible for all admissions to Nigeria’s tertiary education institutions. It provides students who have completed their secondary education\(^{16}\) with a process to select their first, second and third choice of study. This includes the specific institution and degree of choice. JAMB then requires a multiple-choice examination of four subjects in the Unified Tertiary Matriculation Examination (UTME). One of these subjects must be English, while the other three are of the student’s choice but should align with their prospective degree. Each subject score ranges from 0 to 400, with the overall average score defined as a student’s ‘JAMB score’.

Selection into any tertiary institution is decided based on students’ JAMB scores, with a specific ‘cut-off point’ for each institution. In previous years, this had three tiers: university entry required a JAMB score of 180, for polytechnics a score of 150 was needed, and for CoEs 130 was sufficient.\(^ {17}\) After examination, JAMB disqualifies students’ choices with scores that fall below the cut-off point and forwards all remaining applications to institutions’ admission boards, which make the final selection. Students with higher

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\(^{16}\) This includes obtaining the NECO or West African Examinations Certificate

\(^{17}\) For the academic year 2016/17, the cut-off point for all three types of tertiary institutions is 180 points. This may reduce the number of low-performing students coming to the NCE through JAMB. However, with limited student interest in the NCE, and the pressure for CoEs to meet enrolment numbers, this will likely increase the importance of CoEs’ internal admissions process.
JAMB scores are more likely to be selected for their first choice.

For teacher education, one problem with this system is that ‘the number of students who choose Colleges of Education as a first choice [in JAMB] is very minimal’, as noted by a CoE admission officer. ‘Only 30 people will select teaching as a first choice. Then maybe 3,000 will go for second choice, if they don’t get into university’. CoEs are often placed as a third-preferred choice (after university and polytechnics), as a last resort for individuals expecting a low JAMB score. This results in enrolment onto the NCE of weaker performing students with limited desire to become a teacher. Yet because the JAMB system does not allow for further assessments or interviews of candidates after referral, this means that the CoE is forced to accept their admission.

**ii) NCE enrolment through CoEs’ internal admission processes**

By pre-selecting candidates, JAMB also limits the total number of students offered to CoEs. At times, there is such little demand for specific NCE courses that CoEs have to actively go out and recruit additional students to meet their enrolment requirements. For instance, a staff member from CILS Ringim mentioned that ‘in 2015, JAMB gave our School of Education only seven candidates, so the college had to source for more students’. Similarly, CoE Gumel notes that ‘in most cases, the number of students coming in with JAMB is not many and so we have to bend the rules to get more students’. This thus provides a second admissions path.

CoEs are often placed as a third-preferred choice (after university and polytechnics), as a last resort for individuals expecting a low JAMB score. This results in enrolment onto the NCE of weaker performing students with limited desire to become a teacher.

To encourage applications for specific NCE courses, departments engage in enrolment drives, advertise in local newspapers or provide a registration fee waiver. CILS Ringim also reports recruiting in specific catchment areas, which include its own LGA (Ringim) and other LGAs with low levels of qualified teachers.

All new applicants are still required to have five SSCE/NECO credits, but instead of the UTME they can sit an internal examination at the CoE, with a formal interview and a written exam. This covers questions on Maths, English and two subjects a student wants to study at NCE level. Examples of tests are provided in the Annex, in Table C.12 (Economics), Table C.13 (Business Education) and Table C.14 (Social Studies).

As most of these ‘sourced’ candidates come from poorer, rural areas, it also means that their average academic quality is lower than that of candidates with JAMB admissions. To accommodate this, CoEs often have to provide leniency during the intake process, as most individuals sitting internal examinations do not attain the 60% minimum score. As a result, both colleges have admitted to
adjusting their intake requirements ‘so that the college gets a reasonable number of students’. This further undermines the average quality of NCE students.

**iii) NCE enrolment through the Pre-NCE programme**

Whenever students do not have the necessary SSCE/NECO credits or strongly underperform in the CoE’s internal examination, they are enrolled into the ‘Pre-NCE programme’. A minimum requirement for admission is that the student holds at least three SSCE/NECO relevant credits, with at least two passes, including English language. Completion of this year-long course then provides automatic access into the NCE programme the following year (CoE Gumel, 2015).

### 4.2.2 Enrolment numbers in CoEs

Both CoEs are under considerable pressure to train a large number of teachers. The overall expected enrolment at CoEs is based on their ‘carrying capacity’, which is determined by their number of facilities, classrooms and teaching staff. This is part of the accreditation process, and enforced through the NCCE and the JAMB.

The reported carrying capacity for each NCE cohort is set at 2,500 for CoE Gumel and at 1,070 students for CILS Ringim. A summary of the resulting NCE admissions in the last six years is presented in Table 5. This shows that between 2013 and 2015, an average of more than 4,000 NCE students were admitted annually.

While often presented as a cap on the annual number of students that can be admitted into the NCE programme, in reality the carrying capacity often forms a quota that a college is forced to fill. For example, a representative from CoE Gumel mentioned that ‘JAMB will query a college for not taking that number they give us. They will not mind if you take more, but if you take less you will have a query from JAMB’.

Another reason why CoEs tend to admit large numbers of students relates to their drive to increase overall funding through student tuition fees. In the absence of regular state funding, this often forms the only reliable source of funding for college overheads, and sometimes provides an extra source of income for lecturers.

This is reflected in concerns expressed by

<table>
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<th>Table 5: Total NCE admission into CoEs</th>
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<tr>
<td>College</td>
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<tr>
<td>CoE Gumel</td>
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<tr>
<td>CILS Ringim</td>
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<td>Total NCE admissions</td>
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Source: Administrative data from CoE Gumel and CILS Ringim.
SMoE staff:

‘We cannot allow the colleges to be on their own. We need to control admissions [...] because otherwise [the colleges] will just want to make money’.

Both colleges widely acknowledge that their current enrolment is too large, and that this undermines the quality of NCE teaching. For instance, a staff member from CoE Gumel notes that,

‘the quota given to us by JAMB is too much. Lecturers are complaining that the students are too many and they cannot handle them all. There is as need to reduce the number to a more manageable size’.

Excessive pressure and perverse financial incentives to admit more students strongly undermine the quality of the NCE programme. As shown above, they lead to the admission of weaker students that often do not meet selection criteria. Large classrooms also undermine teaching quality and contribute to a weak assessment system. In neighbouring states, this undermined the NCE so much that some graduates were found to lack even the most basic subject knowledge and teaching skills (Bennell et al. 2014; Dunne et al. 2015; De et al. 2016). In the words of an SMoE member ‘Nowadays, colleges cannot properly train teachers because there are too many students, because there is no control on the admission’. In addition to this, Jigawa’s difficult fiscal situation restricts the scope for heavily expanding its teaching force at present. In light of these factors, the carrying capacity set for each college is too high and should be revised significantly downwards.\(^{18}\) One important means of doing so would be to cap the CoEs’ carrying capacity based on the staff available for each subject.

The role of the SMoE in setting enrolment numbers

As stated above, CoEs mainly set their enrolment numbers based on the quota provided to them by NCCE/JAMB. However, the SMoE and SUBEB have also tried to influence enrolment in three separate cases.

As a result of TDP-sponsored ‘linkages’ meetings aimed at improving enrolment numbers, CoE Gumel scaled up its PES course to 114 students

The main attempt to influence CoE enrolment numbers was through a set of TDP-sponsored ‘linkages’ meetings. This aimed to influence overall enrolment numbers but ended up focusing primarily on shifting CoE focus onto specific NCE courses. In particular, the SMoE and SUBEB tried to move CoEs away from classic NCE double subject combinations (mainly used for secondary school teachers) and toward a new set of broad-based specialisations tailored toward primary teachers, including PES and ECCE. As a result of these meetings, CoE Gumel scaled up its PES course to 114 students and introduced an ECCE course for 120 students in 2014. CILS Ringim started both courses in 2015, with over 100 students for each. However, as these are new courses,

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\(^{18}\) This report recommends that the state’s teacher recruitment potential is assessed annually and communicated directly to the CoEs. If the fiscal outlook improves, enrolment can be scaled up to better serve the teacher needs in basic education.
both CoEs chose to add these on top of their original programmes so that this initiative further expanded overall student numbers. This happened without increases in the number of CoE lecturers or the number of teachers recruited in the state. As a result, the introduction of the new courses has likely contributed to a mild increase in the pupil-to-lecturer ratio, as well as lowered the overall teacher absorption rate.

The Government of Jigawa also actively pushed expansion of CoE enrolment through a ‘Free Girls Education’ initiative launched by the Commissioner of Education. This policy stipulates that the state government will pay all school fees for female NCE students. On this basis, both CoEs reported facing pressure from the state and from parents to increase enrolment for (female) students. This has particularly been the case for CILS Ringim, where female enrolment has indeed increased since the introduction of this initiative.

In a third initiative, the SMoE issued a directive in 2015 asking CILS Ringim to limit its intake to 500 in an attempt to better match training and recruitment, as well as improve teacher training quality. However, as it contradicted the previous call from the Government of Jigawa to expand enrolment for women, this directive was disregarded by the CoE. It also led to protests on the side of CILS Ringim, which felt that only NCCE/JAMB had the authority to set enrolment numbers for colleges.

In sum, CoEs are under considerable pressure to increase their intake, based on their NCCE/JAMB carrying capacity, financial incentives and through a number of initiatives from the SMoE. There has been relatively little attempt to control intake numbers and to better align intake with prospective recruitment, and any such efforts have thus far been in vain.

4.3 Student training and performance
4.3.1 Subject specialisations

There are two types of NCE programme. One is directed toward secondary school teachers and is focused on two subject combinations (e.g. English/Hausa or Economics/Geography). Another type relates to a new structure introduced under the NCE curriculum review, and provides a broad-based set of subjects to be taught in primary schools. This structure has four specialisations: PES, ECCE, SNE and ANFE.

Table 6 provides a breakdown of enrolment by subject specialisation and shows that some subjects are much more popular than others. The number of students per NCE course is mainly based on applicant numbers per specialisation, which in itself relates to students’ preferences and secondary school credentials.
Recent years (although there are a number of new specialisations related to PES, ECDE, toward studying priority specialisations. As a
account for the recruitment of teachers that more students’. Similarly, CoE Gumel notes students to meet their enrolment require-
ment processes

...
Arabic, Islamic Studies and Hausa

Three of the most popular subjects are Arabic (16%), Islamic Studies (11%) and Hausa (11%). Jointly, these constitute around 40% of all NCE students, and nearly 60% of all CILS Ringim students. An important reason for this is that a considerable share of CoE entrants come from Jigawa’s Arabic secondary schools. These students often struggle to gain entry to other tertiary institutes and so rely on CoEs as a last resort for tertiary education, or as a stepping stone into university. Matching their credentials, they mostly choose to specialise in Arabic and Islamic Studies.

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<th>Three of the most popular subjects</th>
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<tr>
<td>Arabic 16%</td>
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<td>Islamic Studies 11%</td>
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<td>Hausa 11%</td>
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Other popular subjects

Other subjects with high enrolment include Social Studies (12%), English (12%), Economics (7%) and Biology (5%). This is primarily driven by students’ areas of interest, but (besides English) are unfortunately not the main priorities of Jigawa’s secondary schools (see previous chapter). This further emphasises that the CoEs have relatively little influence in steering students to apply to specific priority specialisations. A representative from CoE Gumel confirmed this, noting that ‘when we said to students that “this combination is not available, what other combination do you want?”, many people simply prefer not to study at the CoE, and apply again next year.’ Due to limited interest, neither CoE currently meets the federally mandated admissions ratio of 60% science and 40% arts courses. Science specialisations for which there is high demand in Jigawa, such as Physics, Chemistry and Mathematics, are not offered by CILS Ringim and jointly make up only 10% of all students in CoE Gumel.

New curriculum specialisations

Table 6 also shows that the new NCE curriculum (primary school) subjects are among the least popular choices for the NCE programme. Both PES and ECCE make up only 1% of all students in CILS Ringim, and 4% and 2% of students in CoE Gumel. This is partly to be expected of a new course, which takes time to attract interest from students. However, it also reflects a deeper-rooted problem related to the stigma associated with being a primary teacher, including for students’ parents. For instance, a representative from CoE Gumel reported: ‘Whenever we mention PES, parents will immediately say no. They do not want their child only to end up in primary school, with no further chances of reaching higher levels’. As a result, these subjects are often under-subscribed. To fill the designated spaces, almost all students for these courses were sourced from local communities (and outside of JAMB). As students who enter CoEs through this alternative pathway also tend to have lower academic qualifications (as noted above), this also undermines the overall performance of the average student in the primary school subjects.
4.3.2 Student–staff ratios by subject specialisation

As mentioned above, with large numbers of students enrolled in the college, there is a risk of lowering the quality of the courses provided. To assess what the effect is of specific subject specialisations, tables 7 and 8 provide the student–staff ratios by subject specialisation for CoE Gumel and CILS Ringim.

**CoE Gumel**

When considering CoE Gumel’s student–staff ratio in Table 7, a number of important points can be drawn. First, there is an extremely large shortage of staff members for the School of Education. As this covers courses that all NCE students must take, and are particularly vital (related to pedagogy and curriculum), this is worrying. Most notably, the course ‘Educational Foundation’ has a student–staff ratio of 1,000:1. With a maximum capacity classroom of 250 seats, this means that each staff member takes four classes of 250 students each. As a result, lecturers have no ability to interact with individual students and are stretched beyond capacity when it comes to marking all examination papers. This severely lowers the quality of the overall NCE course provided. An increase in staff members at the School of Education is therefore urgently needed just to cater to existing student numbers.

The new NCE curriculum courses (PES, ECCE, SNE and ANFE) all appear to be relatively well staffed, with the highest student–staff ratio being 49:1 in PES. This is a commendable achievement of the CoE Gumel, and will likely lead to much stronger student performance in these classes (although this is ultimately conditional on subject content and pedagogy).

For schools of Arts & Social Sciences, Languages and Sciences, there does not seem to be any noticeable attempt to restrict the student–staff ratio to a particular cap, and each course has between six and 13 staff members, irrespective of the number of students. This means that popular courses such as Economics (115:1), Biology (111:1), Social Studies (94:1), Islamic Studies (82:1) and English (79:1) have significantly higher student–staff ratios than other courses. The one exception relates to Arabic Language, which has 20 staff members and a 42:1 student–staff ratio. To ensure comparable quality across courses, the CoEs should predefine a cap on all their courses, based on their total number of staff members.

![Student–staff ratios by popular subjects](image)

### Student–staff ratios by popular subjects

- **115:1**
  - Economics

- **111:1**
  - Biology

- **82:1**
  - Islamic Studies

- **79:1**
  - English
college's response would be if this plan
little chance of them being absorbed into the
toward studying priority specialisations. As a
choose to recruit from the pre-existing stock
absorption rate as NCE graduates may have
presented in Table 8, provide a worrying
CoEs. At times, there is such little demand for
By pre-selecting candidates, JAMB also
admission processes
that the CoE is forced to accept their admis-
ring in primary school, with no further chances
CoE Gumel and 400 students for CILS
been recruited annually between 2011 and
1. Reduce CoE enrolment to align with
this report makes four recommendations.
4.3.3 Curricula of the new NCE specialisa-
appears to be history, which has a 24:1
other LGAs with low levels of qualified
3. Reduce CoE fees
the college gets a reasonable number of
thereafter, related to overall teacher recruitment
30:1
4.2.2 Enrolment numbers in CoEs
in Mathematics and only 38 in Physics. There
Jigawa (averaging 1,160 per year). Based on
the number of NCE courses in the CoEs it
CILS Ringim, while any social science
funding, as shown in Table 13. It does not
CILS Gumel has boarding facilities, and thus
education subject specialisations.
4.3.1 Subject specialisations
examined in the previous chapter. Based on official
data, CILS provides a reasonable estimate of the total
CILS Gumel reported facing pressures
CoEs have relatively little
system.
4.1 Introduction
of lowering the quality of the courses provid-
education subject specialisations.
performing their tasks, by offering a specific Pre-Uni-
related to overall teacher recruitment
30:1
4.4.1 Graduation requirements
allowed. Any individual who fails to complete
any external officers, and assess the role of IGR through
funding a variety of sources, and assess the role of IGR through
46:1
8:1
39:1
111:1
19:1
28:1
11:1
19:1
44:1
35:1
19:1
45:1
3:1
19:1
30:1
59:1
9:1
27:1
8:1
28:1
11:1
19:1
4:1

Table 7: CoE Gumen staff-student ratios by department, 2015/16

<table>
<thead>
<tr>
<th>School of Education</th>
<th>Educational Foundation</th>
<th>6</th>
<th>6,000</th>
<th>1,000:1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Psychology</td>
<td>8</td>
<td>4,000</td>
<td>500:1</td>
</tr>
<tr>
<td></td>
<td>Curriculum &amp; Instructions</td>
<td>8</td>
<td>4,000</td>
<td>500:1</td>
</tr>
<tr>
<td></td>
<td>General Studies of Education</td>
<td>15</td>
<td>7,500</td>
<td>500:1</td>
</tr>
<tr>
<td>School of Adult/Non-Formal &amp; Special Needs Education</td>
<td>SNE</td>
<td>3</td>
<td>88</td>
<td>29:1</td>
</tr>
<tr>
<td></td>
<td>ANFE</td>
<td>5</td>
<td>83</td>
<td>17:1</td>
</tr>
<tr>
<td>School of Early Childhood Care &amp; Primary Education</td>
<td>ECCE</td>
<td>5</td>
<td>218</td>
<td>44:1</td>
</tr>
<tr>
<td></td>
<td>PES</td>
<td>8</td>
<td>389</td>
<td>49:1</td>
</tr>
<tr>
<td>School of Secondary Education: Arts &amp; Social Sciences</td>
<td>Social Studies</td>
<td>9</td>
<td>847</td>
<td>94:1</td>
</tr>
<tr>
<td></td>
<td>History</td>
<td>7</td>
<td>132</td>
<td>19:1</td>
</tr>
<tr>
<td></td>
<td>Islamic Studies</td>
<td>12</td>
<td>984</td>
<td>82:1</td>
</tr>
<tr>
<td></td>
<td>Geography</td>
<td>13</td>
<td>635</td>
<td>49:1</td>
</tr>
<tr>
<td></td>
<td>Economics</td>
<td>6</td>
<td>688</td>
<td>115:1</td>
</tr>
<tr>
<td>School of Secondary Education: Languages</td>
<td>English Language</td>
<td>12</td>
<td>952</td>
<td>79:1</td>
</tr>
<tr>
<td></td>
<td>Arabic Language</td>
<td>20</td>
<td>834</td>
<td>42:1</td>
</tr>
<tr>
<td></td>
<td>Hausa</td>
<td>13</td>
<td>590</td>
<td>45:1</td>
</tr>
<tr>
<td>School of Secondary Education: Sciences</td>
<td>Physics</td>
<td>8</td>
<td>216</td>
<td>27:1</td>
</tr>
<tr>
<td></td>
<td>Chemistry</td>
<td>8</td>
<td>541</td>
<td>68:1</td>
</tr>
<tr>
<td></td>
<td>Mathematics</td>
<td>9</td>
<td>417</td>
<td>46:1</td>
</tr>
<tr>
<td></td>
<td>Integrated Science</td>
<td>8</td>
<td>625</td>
<td>78:1</td>
</tr>
<tr>
<td></td>
<td>Physical Higher Education</td>
<td>8</td>
<td>218</td>
<td>27:1</td>
</tr>
<tr>
<td></td>
<td>Computer Science</td>
<td>8</td>
<td>312</td>
<td>39:1</td>
</tr>
<tr>
<td></td>
<td>Biology</td>
<td>9</td>
<td>1002</td>
<td>111:1</td>
</tr>
<tr>
<td>School of Secondary Education: Vocational &amp; Technical Education</td>
<td>Agricultural Education</td>
<td>11</td>
<td>206</td>
<td>19:1</td>
</tr>
<tr>
<td></td>
<td>Business Education</td>
<td>11</td>
<td>305</td>
<td>28:1</td>
</tr>
<tr>
<td></td>
<td>Home Economics</td>
<td>4</td>
<td>45</td>
<td>11:1</td>
</tr>
<tr>
<td></td>
<td>Fine and Applied Arts</td>
<td>4</td>
<td>76</td>
<td>19:1</td>
</tr>
</tbody>
</table>

Total | 235 | 10,403 | 44:1 |

Source: CoE Gumel Institutional Self-Assessment Report
The School for Vocational and Technical Education has the lowest student–staff ratio, with classes running from 11:1 for Home Economics to 28:1 in Business Education. This is very low, and given consistently low preferences for such courses it may be worthwhile to shift some staff members to other departments.

**CILS Ringim**

The student–staff ratios in CILS Ringim, presented in Table 8, provide a worrying picture. An average student–staff ratio of 334:1 or 367:1 is completely unworkable for any lecturer, and will strongly undermine the quality of the course. The overall number of students admitted also seems to exceed the staff capacity of almost every single course. This is true of Social Studies (298:1), Economics (281:1), English (171:1) and Hausa (151:1). Even CILS Ringim’s core specialities of Islamic Studies (110:1) and Arabic Language (83:1) still have overenrolled classes. This will make it difficult for any teacher to realistically deliver the NCE curriculum as its focus on student-based learning, continuous assessment and extensive micro-teaching practice. The only exception to this appears to be history, which has a 24:1 student–staff ratio.

### 4.3.3 Curricula of the new NCE specialisations

The study also briefly considered the effectiveness of the new NCE specialisations’ curricula, which were generally regarded as a strong improvement on the old system. For instance, a SUBEB representative noted that

*‘the new PES specialisation is very good, as the move from subjects toward broad specialisations ensures that teachers can now teach all the subjects’.*

An advantage of this programme is that

<table>
<thead>
<tr>
<th>School of Education</th>
<th>Department</th>
<th>Staff</th>
<th>Students</th>
<th>Student–staff ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
<td>10</td>
<td>3,669</td>
<td>367:1</td>
</tr>
<tr>
<td>General Studies of Education</td>
<td></td>
<td>11</td>
<td>3,669</td>
<td>334:1</td>
</tr>
<tr>
<td>School of Secondary Education: Languages</td>
<td>Arabic Language</td>
<td>11</td>
<td>910</td>
<td>83:1</td>
</tr>
<tr>
<td></td>
<td>Hausa Language</td>
<td>9</td>
<td>1,355</td>
<td>151:1</td>
</tr>
<tr>
<td></td>
<td>English Language</td>
<td>7</td>
<td>1,195</td>
<td>171:1</td>
</tr>
<tr>
<td></td>
<td>Social Studies</td>
<td>4</td>
<td>1,190</td>
<td>298:1</td>
</tr>
<tr>
<td>School of Secondary Education: Arts &amp; Social Sciences</td>
<td>Islamic Studies</td>
<td>17</td>
<td>1,875</td>
<td>110:1</td>
</tr>
<tr>
<td></td>
<td>Economics</td>
<td>2</td>
<td>562</td>
<td>281:1</td>
</tr>
<tr>
<td></td>
<td>History</td>
<td>4</td>
<td>95</td>
<td>24:1</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>75</td>
<td>3,669</td>
<td>49:1</td>
</tr>
</tbody>
</table>

*Source: CILS Ringim Institutional Self-Assessment Report 2014/15*
alongside the conventional teaching subjects (e.g. pedagogy, psychology and general education studies), PES students are also being taught exactly how to tackle the learning peculiarities of primary children. This is then combined with micro-teaching practicals. In addition, both schools report shifting their teaching practice from teacher-centred to student-centred learning, with a greater emphasis on small classrooms, continuous assessment and student feedback.

Colleges also reported the importance of the Nigerian Educational Research and Development Council (NERDC) curriculum. This is used to train students on teacher methods such as making a lesson plan, which students rely on during their practicals. Curriculum-based training was seen as vital, because it provides practical experience and offers a tool for graduates to take with them to their teaching assignments.

The major reported challenge was that the overall content of the curriculum was too large to cover all the different elements during term time. Stakeholders at both CoEs were of the view that the curriculum should be shifted to assign a greater part of it to micro-teaching, classroom observation and teaching practice. There is also insufficient time to conduct all the required practicals and classroom observations due to the limited number of teachers teaching the new curriculum. Another suggestion made by the colleges was for each classroom subject (e.g. English, Mathematics, etc.) to have pedagogical components integrated into them. Given the strong pressures to adhere to the NERDC curriculum, it is difficult for CoEs to deviate and allocate more time to specific elements; as a result, such self-recommendations are rarely implemented.

4.3.4 Student motivation and performance

Most of the students entering CoEs are from Jigawa State and tend to come from rural areas. Usually their parents are farmers, and they come from low- or middle-income backgrounds. In general, there are three reasons that motivate students to join the CoEs. First, they may use it as a stepping stone to be granted access into another higher education institute (e.g. university). Second, it may represent a last resort for those who want to have some form of tertiary education, in the hope of finding a non-teaching job (e.g. police, immigration, customs or the army). Or third, students may actually have a desire to become a teacher. Stakeholder interviews suggest that this third category accounts for only a minority of students (approximated by CoE staff to be around 30–40% of students). In the words of a CoE Gumel representative, most students only apply for the NCE ‘because they want to access higher education. But they never wanted to become teachers. That is why when they finish, they go elsewhere. The Nigerian notion is that you need a university degree. It is only when they are unable to have that, that they apply for the NCE as an alternative.’

The reason why students join the CoE has implications for their performance. Stakeholders at the CoEs note that those that want to become teachers study harder, repeat fewer classes and drop out less than the other students. In addition, CILS Ringim notes that students in secondary subjects perform better academically than those
enrolled in primary school subjects (e.g. PES or ECCE). This likely reflects CoEs’ struggle to fill all places for such primary school subjects, leading to enrolment of weaker students.

Interestingly, when asked about students’ performance, most college representatives provided feedback on how graduate students perform at university. For instance, a member from CoE Gumel reported that ‘most graduates from this college get admission into universities’. This suggests that, even in their view, CoEs are not preparatory schools for teachers but mostly provide a foundational course to enter university.

4.3.5 Student assessment, dropout and repetition

Performance assessment in both colleges is made up of 40% continuous assessment and 60% for end-of-semester examinations. Students who have attended less than 75% of a course's lectures are barred from sitting that semester’s examinations and automatically fail the course. Students who fail a course are ‘on probation’ and must re-sit that course at the next available opportunity.

Table 9: Annual repetition/dropout rate per college

<table>
<thead>
<tr>
<th>College</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>CoE Gumel NCE Admissions</td>
<td>5.3%</td>
<td>13.0%</td>
<td>8.2%</td>
<td>13%</td>
<td>49%</td>
<td>10.0%</td>
<td>16.5%</td>
</tr>
<tr>
<td>CILS Ringim NCE Admissions</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>4.1%</td>
<td>28.2%</td>
<td>N/A</td>
<td>16.2%</td>
</tr>
</tbody>
</table>

Note: This rate is calculated on the basis of non-completion of all course subjects. Source: Administrative data from CoE Gumel and CILS Ringim.

Dropout and repetition rates

Table 9 provides an overview of the dropout and repetition rates for both CoEs. It suggests that, while such scores deviate from year to year, an average of around 16% of students fail to complete all their course subjects every year. Members from CoE Gumel did report how both dropout and repetition rates have fallen over the last few years, but this is not reflected in Table 9.

4.4 Student graduation and absorption into the teaching profession

4.4.1 Graduation requirements

Every full-time student is required to register for a minimum of 18 credit units and a maximum of 24 credit units per semester. To graduate, students must pass all courses of compulsory status offered during the NCE programme. The total (minimum) number of credit units for graduation varies between departments, but cannot be below 128 credit units, including six credit units obtainable during a 12-week period of practical teaching for students.
The minimum duration for obtaining an NCE is three years, of two semesters each. The maximum duration is five years, which means only two probationary years are allowed. Any individual who fails to complete the course within these five stipulated years thus has to withdraw from the course without an NCE.

4.4.2 Graduation numbers

An overview of the number of graduate students by subjects for CoE Gumel is provided below in Table 10. This firstly shows that the total number of NCE graduates widely varies from year to year, ranging from around 500 to 1,500, with an average of just over 1,000 graduates annually.

![1,000 graduates yearly from CoE Gumel on the average](image)

The distribution of NCE graduates by subject specialisation is similar to the pattern seen with enrolment in Table 6. Arabic (14%), Islamic Studies (10%) and Hausa (13%) are dominant, with a joint cumulative share of 37% of all graduates, or 1,875 graduates between 2010 and 2014. Other subjects that account for a relatively high share of graduates include Social Studies (11%), Biology (11%), English (7%), Economics (6%) and Geography (6%). There have been very few NCE science graduates; across the five years, only 134 graduated in Chemistry, 130 in Mathematics and only 38 in Physics. There are currently still no graduates of the new curriculum courses (PES, ECCE, etc.), as CoE Gumel only started offering these in 2014/15. The first such students are thus due to graduate in 2017/18.

4.4.3 Graduate teacher absorption

To further assess the linkages between teacher demand and supply, it is important to identify what share of NCE students could find a teaching job after they graduated. Unfortunately, neither CoE had any system that tracked whether the NCE graduates were in formal employment after leaving the college, though CoE Gumel did emphasise their intention to do so in the future.

To provide an estimate of the share of graduate teachers recruited, we will compare the overall graduates produced by CoE Gumel with the total number of teachers recruited over the last five years. We will do so using the two separate recruitment figures, set out in the previous chapter. Based on official recruitment statistics, 1,661 teachers were recruited between 2011 and 2014 (averaging 415 per year). Over the same period, 4,641 NCE holders graduated from the CoEs in Jigawa (averaging 1,160 per year). Based on these figures, a rough estimate suggests that only 36% of all graduate teachers managed to find a teaching job over this period. This

![36% of all graduate teachers managed to find a teaching job between 2011 to 2014](image)

---

19 As mentioned above, given that CILS Ringim only started training teachers in 2013/14 it has not yet produced any graduates.
may be an underestimate of the graduate absorption rate as NCE graduates may have found teaching jobs elsewhere (such as a private school or in other states) or secured other types of employment. However, it could also be an overestimate as the state may choose to recruit from the pre-existing stock of teacher graduates, from outside Jigawa or from among candidates who do not have the NCE.

The second recruitment figure also aims to account for the recruitment of teachers that were replacing others that have left the profession, retired or passed away.\textsuperscript{20} Estimates suggest that between 2011 and 2015 a total of 2,194 teachers have been recruited (an average of 549 per year). Compared to the 4,641 graduate teachers, a rough estimate (noting the caveats above) suggests that 47% of teacher graduates have been recruited between 2011 and 2015.\textsuperscript{21}

In sum, the last five years have seen many teacher graduates fail to be recruited into the teaching profession (with tentative estimates ranging somewhere between 53% and 64% in the authors’ calculations). This is further confirmed by all institutions interviewed, who mentioned that they all know of

\textsuperscript{20} Because ‘replacement’ is generally informal and conducted at the LGA level (see Chapter 5), official state-level recruitment figures often underrepresent the full recruitment. To simulate the likely recruits, the authors relied on the Annual School Census, and considered the annual change in the reported number of primary and JSS teachers, factoring in an annual 5% attrition rate.

\textsuperscript{21} This provides an upper bound estimate, as LGAs do also choose to recruit unqualified, local teachers rather than NCE graduates.
a large body of graduated teachers who are looking for employment but fail to find this due to limited recruitment. The estimates of such a reserve pool of graduates ranges from 2,000 (CILS Ringim) to 10,000 (SUBEB). Indeed, staff from the SMoE appear to be convinced that ‘so many NCE holders are not employed; if the government would only employ these [already trained] teachers then it would fill in the gaps and there would be sufficient teachers’. A staff member from the SUBEB mentioned that ‘some of them have been looking for a teaching job for more than 10 years’. As such, job prospects are limited, and teacher graduates appear increasingly desperate for employment.

For 2016/17, the SUBEB has requested recruiting 4,000 teachers, which would absorb two full years of teacher graduates. However, due to limited resources, most government representatives report that it is unlikely to be approved. The SUBEB did report that an exercise to identify ghost workers (see Box 3 in the next chapter), has freed up space for around 350 additional places. If these new places are filled with new recruits, it would cover around 14% of the annual expected NCE teacher graduates.

**Future teacher absorption**

As noted above, tentative estimates suggest that currently fewer than half of all teachers trained at CoE Gumel are being recruited into the teaching force. As a result, the overall size of the reserve pool of graduates is expanding rapidly. Moreover, starting from 2016/17, CILS Ringim will have its first set of NCE graduates. Table 11 provides an estimate of the total NCE graduates from that year onwards, suggesting this initially lies somewhere between 1,700 and 2,500 graduates yearly. From 2019, an average of 2,118 NCE teacher graduates are expected every year.

In relation to its prospective recruitment, Jigawa is faced with a large medium-term oversupply of teacher graduates. Figure 17 provides an indication of what this will do to the overall number of teachers trained versus those recruited. Projecting forward the current recruitment rate suggests that only 639 teachers will be recruited annually (around 30% of all graduates). As a result, unless recruitment is increased, or CoE enrolment reduced, every year around 70% of teachers will not be able to find a job.

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CoE Gumel graduates</td>
<td>1,940</td>
<td>1,170</td>
<td>1,086</td>
<td>1,379</td>
<td>1,379</td>
<td>1,379</td>
<td>1,379</td>
<td>1,379</td>
<td>1,379</td>
<td>1,379</td>
</tr>
<tr>
<td>CoE Ringim graduates</td>
<td>579</td>
<td>987</td>
<td>649</td>
<td>739</td>
<td>739</td>
<td>739</td>
<td>739</td>
<td>739</td>
<td>739</td>
<td>739</td>
</tr>
<tr>
<td>Total NCE graduates (estimated)</td>
<td>2,519</td>
<td>2,157</td>
<td>1,735</td>
<td>2,118</td>
<td>2,118</td>
<td>2,118</td>
<td>2,118</td>
<td>2,118</td>
<td>2,118</td>
<td>2,118</td>
</tr>
<tr>
<td>NCE graduates (cumulated since 2016)</td>
<td>2,519</td>
<td>4,676</td>
<td>6,411</td>
<td>8,529</td>
<td>10,647</td>
<td>12,766</td>
<td>14,884</td>
<td>17,002</td>
<td>19,120</td>
<td>21,238</td>
</tr>
</tbody>
</table>
Gumel, who asked for a ‘clear plan on teacher hiring’ to be followed by a strong case to be made for increasing recruitment figures. He estimated that the number of teacher graduates being recruited in the future will be 550, although recruitment is likely to remain at its current level. There are caveats related to this estimate; see section 3.2 for details.

As a result of these challenges, Gumel suggested that around 550 teachers have been absorbed by the CoE Gumel. Colleges should be strictly forced not to absorb more than this number. This number would cover both CoE Gumel and CoE Ringim. Colleges should be strictly forced not to absorb more than this number. This number would cover both CoE Gumel and CoE Ringim.

Table C.14 (Social Studies).

The NERDC curriculum makes it difficult for CoEs to shift from core subjects to new specialisations (PES, ECCE, SNE and TDP-sponsored ‘linkages’ meetings). This is then combined with micro-teaching, which is a common practice. An increase in staff members at the CoE Gumel has freed up some of the burden of marking. This is part of the accreditation process. As shown above, they lead to better quality of NCE students. This means that popular courses (such as Social Studies (12%), English (12%), Economics (12%) and Mathematics (26%)) have significantly higher student numbers. This is in line with the NCE programme. As shown above, they lead to better quality of NCE students.

Table 11 provides an overview of the distribution of students across different courses in CoEs. It is only when they need a university degree. It is only when they need a university degree. It is only when they need a university degree.

The average quality of NCE students has been found to be around 79:1. This is part of the accreditation process. As shown above, they lead to better quality of NCE students. This is in line with the NCE programme. As shown above, they lead to better quality of NCE students. This means that popular courses (such as Social Studies (12%), English (12%), Economics (12%) and Mathematics (26%)) have significantly higher student numbers. This is in line with the NCE programme. As shown above, they lead to better quality of NCE students.

Some of the students are directly financed by the state government through JAMB. This is part of the accreditation process. As shown above, they lead to better quality of NCE students. This means that popular courses (such as Social Studies (12%), English (12%), Economics (12%) and Mathematics (26%)) have significantly higher student numbers. This is in line with the NCE programme. As shown above, they lead to better quality of NCE students. This means that popular courses (such as Social Studies (12%), English (12%), Economics (12%) and Mathematics (26%)) have significantly higher student numbers. This is in line with the NCE programme. As shown above, they lead to better quality of NCE students.

The following figure shows the projected number of NCE graduates versus teacher recruited (cumulative). It can be seen that there is a significant gap between the number of graduates and the number of teachers recruited. This is part of the accreditation process. As shown above, they lead to better quality of NCE students. This means that popular courses (such as Social Studies (12%), English (12%), Economics (12%) and Mathematics (26%)) have significantly higher student numbers. This is in line with the NCE programme. As shown above, they lead to better quality of NCE students.

In this chapter, we first saw that CoEs are key to the improvement of the quality of teacher education in Jigawa. CoEs have relatively little influence on the quality of teacher education in Jigawa. CoEs have relatively little influence on the quality of teacher education in Jigawa.

Note: Authors’ calculations. Source: Based on ASC Data from 2009-2014, Administrative data form CoE Gumel and CILS Ringim.
The difference between the number of NCE graduates and number of teachers recruited is the teacher graduate reserve pool. Figure 18 provides an overview of what is currently likely to happen. Between 2016 and 2025, over 18,000 teachers (67% of all teachers trained) will struggle to find employment.

4.5 Financing CoEs

To have a better understanding of the CoEs, it is also important to consider their financial sources, and assess the role of IGR through student fees.

For CoE Gumel, Table 12 shows that the main sources of teacher education financing are salaries provided by the state government (54%) and the Tertiary Education Trust Fund (TETFund), which provides federal development funding for elements such as infrastructure and furniture, but also library books and other learning materials (43%). Together, these elements make up 97% of all funding. The other 3% relates to IGR, which the college gets from sales of admission forms, publications and student registration fees. Table 12 also shows that, across the last six years, CoE Gumel received little to no overhead funding. As such, for its daily expenses, it is fully dependent on IGR. This reflects the finding from above that CoEs are incentivised to over-enrol students to provide additional college funding, in order to ensure daily operations are funded (e.g. paying for water and electricity, maintenance and other incidentals). The overall average cost of training a student at CoE Gumel is about NGN 220,000. Excluding personnel costs (which are directly financed by the state government), the college can only spend whatever funds it collects in per-student revenue, which amounts to NGN 6,700 per year. This is extremely low, and is likely preventing the college from financing much-needed overheads to support student learning. Additional (government) recurrent funding is thus needed to support CoEs and make them less dependent on student contributions.

CILS Ringim is even more restricted in its funding, as shown in Table 13. It does not receive anything from the TETFund and as a result almost all of its funding relates to personnel (90%). The only other source is IGR, which makes up the other 10%. This dependency on student fees makes CILS Ringim particularly prone to over-enrolment (as it is the college’s only source of operational funding), and explains the large rise in its student numbers in recent years. On average, the cost per student in CILS Ringim is about NGN 145,000, or NGN 12,700 in student fees. Note that this is almost twice the cost of fees in CoE Gumel.

4.6 Summary of findings

In this chapter, we first saw that CoEs are under considerable pressure to increase their intake, based on their NCCE/JAMB carrying capacity, financial incentives and through a number of initiatives from the SMoE. This results in over-enrolment, which leads to admission of weaker students that often do not comply with selection criteria, lower teaching quality, and a poor assessment system.

Students’ choice of NCE specialisations also does not appear to align with overall teacher needs in Jigawa. CoEs have relatively little influence and incentive to steer students...
toward studying priority specialisations. As a result, there are large enrolment and graduation numbers in a select number of specialisations including Arabic and Islamic Studies, and the social sciences. Few NCE graduates exist for priority science subjects, or for the new specialisations related to PES, ECDE, SNE and ANFE.

It is tentatively estimated that only between 36% and 47% of teacher graduates have been absorbed into the teaching force in recent years (although there are a number of caveats related to this estimate; see section 4.4.3). In the previous chapter, we noted that the low overall teacher recruitment levels in Jigawa were mainly due to the financial challenges resulting from low oil prices, and that recruitment is likely to remain at its current low level in the near future. This chapter, however, has shown that Jigawa’s teacher education system has not adjusted intake rates to accommodate for this fact. Instead, during this time, a new CoE (CILS Ringim) has opened, thus further expanding the future number of teacher graduates but with little chance of them being absorbed into the system.

All in all, this chapter suggests that to better align teacher demand and supply, there is a strong case to be made for increasing recruitment and simultaneously reducing the CoE intake. This will likely be the only (financially feasible) manner to ensure that NCE graduates have a fair chance of employment. This point was also stressed by staff from CoE Gumel, who asked for a ‘clear plan on teacher demand and supply that sets out exactly how many we should train’. When asked what the college’s response would be if this plan prescribes that fewer students are needed than are currently trained, the respondent replied, ‘Then we should train fewer students. That will be better than to simply train more that will roam around without being employed. We want to get to a situation where whatever number you train, they are all absorbed.’

4.7 Recommendations

To improve the teacher education system, this report makes four recommendations.

1. Reduce CoE enrolment to align with future teacher recruitment

To ensure a better match between teacher supply and demand, and improve the overall quality of teacher education in Jigawa, CoE enrolment should be scaled down.

A casual look at the state recruitment figures suggests that around 550 teachers have been recruited annually between 2011 and 2014. Out of this number, 45% were primary teachers (around 250 per year), while 55% were JSS teachers (around 300 per year). As a result, being cognisant of the large reserve pool of teachers and continued financial challenges facing Jigawa State, it is recommended to reduce the number of NCE graduates to 600 NCE teachers per year in total. This number would cover both CoE Gumel and CILS Ringim.

From historical figures, it seems that around 50% of all students in CoE Gumel who started their NCE graduated from their course. This suggests that new enrolment should be reduced to a maximum of 800 students for CoE Gumel and 400 students for CILS Ringim. Colleges should be strictly forced not
to exceed such enrolment numbers, and also aim to have 45% of their intake focus on the new specialisations (PES, ECCE, SNE and ANFE). For the other 55%, the total number of courses should be reduced to focus on the subjects with JSS teacher shortages (e.g. subjects such as English, Mathematics and Chemistry).

These numbers should become the new ‘carrying capacity’ for the CoEs and be enforced by JAMB/ NCCE. The SUBEB should analyse and adjust this number annually, related to overall teacher recruitment prospects.

### 2. Financially compensate CoEs for reduction in student enrolment

A reduction in CoE intake numbers is likely going to be politically difficult to implement. Box 1 provides a case study from Kwara, where a similar proposal failed despite strong backing from the Commissioner for Education. It suggests that a critical element to improve the likelihood of successful reform is to financially compensate CoEs for the reduction in student enrolment. Receiving funding should be strictly contingent on student intake meeting the newly set carrying capacity related to teacher recruitment prospects. This will likely also assist the quality of teacher training by increasing CoEs’ per-student spending.

If CoE Gumel admits only 800 students each year, it will have around 2,400 NCE students overall. Compared to an average total student number of 9,088 (in 2013–2015), this means a proposed reduction of 6,688 students. With an average cost of NGN 6,694 per student attributed to non-personnel costs, (see Table 12), this suggests that the SMoE should pledge a minimum of NGN 44.8 million every year on overheads to offset the loss of student revenue for CoE Gumel.

CILS Ringim currently has 4,262 NCE students overall, so that limiting intake to 1,200 students overall (400 students annually) would mean a reduction of 3,062 students. Students contribute NGN 8,294 per year (see Table 13), so CILS Ringim should receive compensation of at least NGN 22 million every year.

### 3. Offer a Pre-University Course alongside the NCE course

Another important reason why CoEs keep enrolment high is because they serve the double purpose of training teachers and being a preparatory course for university degrees (see Section 4.2 and Box 1 above). As an alternative suggestion to lowering enrolment, it may be advisable to separate out these tasks, by offering a specific Pre-University Course at the CoEs.

These could provide a one- or two-year training programme that specifically prepares students for a future university course (side-by-side with a three-year NCE programme). This course would not serve as a teaching diploma; students would not have to follow the education modules (thus freeing up vital space for NCE students) and are not considered ‘qualified teachers’ upon graduation. Yet by offering courses in liaison with state universities it would offer a faster, more direct pathway into university.

The tuition fees from these courses can also be used by the CoE to cross-subsidise their
Box 1: The difficulty of reducing CoE intake (Kwara State case study)

In 2007, Kwara State’s teacher education system was facing a grave mismatch of supply and demand. The three state CoEs jointly produced over 13,000 NCE graduates per year, while only 2,000 extra teachers were needed annually according to the SESP. Colleges kept taking in more students to attract tuition fees from incoming students. The resulting over-enrolment also affected CoE teaching quality, with many NCE graduates failing to meet minimum teacher competency requirements. In response to this, Kwara’s SMoE, together with ESSPIN, launched a broad new initiative. This consisted of consolidating the three teacher training institutes into one college (Oro), reducing overall student intake numbers to be in line with Kwara’s teacher demand, and launching a set of management reforms to make Oro College a ‘centre of excellence’.

The reform started off on a strong footing. An agreement was reached setting the maximum pre-service student intake at 1,000 at Oro College. The Commissioner of Education was also in strong support, stressing that from that point onwards intake quality would be more important than meeting intake targets. This was assured by an extensive screening exercise consisting of an examination and interview. In the first year, only 287 students were admitted, compared with over 5,000 in the previous year. In the second year, this was still only 758. This resulted in a very favourable student-staff ratio and much greater attention to student-centred learning and teaching practice. The SMoE also drastically raised the budget for the college to compensate for the financial impact of reduced student numbers.

However, about two years in, the reforms started to slow down and were eventually reversed. With an election looming in 2009, the prescribed integration of the two other CoEs never took place, and colleges were again put under political pressure to produce high enrolment figures. In addition, after two years, most of the budget allocations to Oro College still had not materialised, so that the college saw a consistent drop in their overall finances, felt deceived and became less motivated to pursue the reforms. To safeguard their non-staff recurrent funding, Oro College finally decided to raise their intake again.

The reforming of teacher education in Kwara State was generally considered a failure. This was partly due to insufficient political traction to pursue the reform. The state was not committed enough to compensate Oro College for its reduced income from student fees. Yet the most important reason for failure was that many actors (including college provosts) were never convinced about the need to align college intake with prospective teacher recruitment. This is because they do not see the NCE solely as a training ground for future teachers. Instead, they believe that its main purpose is to serve as a broad, preparatory body for higher education to expand access to university degrees (sometimes referred to as Nigeria’s informal policy of ‘universal university education’). Without addressing this view, it will be near-impossible to align teacher supply and demand.
core NCE teacher training programme. This would allow the college to avoid funding cuts, improve the quality of the NCE programme through better selection of students, and reduce the overall number of NCE students.

4. Consolidate the NCE courses across the CoEs

Another suggestion to reduce overall intake, strongly supported by selected representatives at the SMoE, is to consolidate NCE courses across the CoEs.

Under this system, all Islamic and Arabic courses and specialisations would fall under the CILS Ringim, while any social science and natural science courses would be under the CoE Gumel. This may require shifting lecturers from one college to the other. Both would still offer the new NCE specialisations (PES, ECCE, ANFE and SNE), but by reducing the number of NCE courses in the CoEs it would be easier to reduce the intake for conventional (secondary school) NCE specialisations.

5. Popularise PES through targeted campaigns and recruitment

A final recommendation is focused on improving the popularity of the PES specialisation. This is generally regarded to lead to much better primary teachers by ensuring they have a broad understanding of all the taught subjects. As a result, most future teacher recruits should come from this specialisation. At the moment, however, this is not feasible because few students choose to enrol in this course.

To improve the popularity of PES, two elements are critical. First, there should be a public campaign that is directly targeted to students and parents, highlighting the importance of PES, that it has higher job prospects than other specialisations, and noting that it can lead to a strong career path within the SMoE (so that students are aware they are not only confined to primary schools their whole lives). Second, the SUBEB’s recruitment drives should explicitly prioritise PES students, and offer a guaranteed interview for any recently graduated PES student, thus increasing the likelihood of their employment.
As the recruitment and deployment process has been driven largely by local governments since 2013, there are considerable challenges in attracting and deploying teachers. Many respondents emphasised that informal teacher 'replacement' mechanisms play an important role in increasing the share of female teachers in Jigawa.

Senior Secondary School Examination (SSS) teachers often use fake certificates or impermanent qualifications. Upon graduation, teachers are required to bring an application form to check the authenticity of any NCE qualification. During this training, many teachers also suggest that the Teacher Improvement Programme (TIP) is attracting different candidates who could be made more effective through a different location. When local governments are reluctant to give up their recruitment and deployment budgets, they will look more closely into the overall recruitment process but instead is driven largely by local governments. Evidence from other rural schools, Jigawa should reform its TIA.

A final priority relates to the need to increase the share of female teachers in Jigawa. Many respondents emphasised that many local candidates, thus reducing the share of female teachers in Jigawa. This rule should be applied at local government level is also likely to increase the share of female teachers in Jigawa.

A SUBEB representative admitted that the Teacher Development Skills Initiative (TDI) provides a large improvement from the past. It is clear that most recruitment does not conform to other teachers to get employment. Volunteer Programme and most recently the Teacher Improvement Programme (TIP) have a number of implications: (i) a teacher and the wider education system. 'Politically appointed' teachers can be less likely to have a designated 'event' where needed to have a designated 'event' where local government recruitment system so sight with decentralised recruitment and deployment disparities. Instead, the focus should shift from training to compensating rural teachers. The only constraint is largely based on federal privilege local candidates, thus reducing the share of female teachers in Jigawa. Teachers Development Skills Initiative. This also suggests that the TIA is attracting qualified candidates but mainly relates to filling establishments tends to be political and sight with decentralised recruitment and deployment disparities.

The TIA; forms a hybrid model that combines central over-reach with a more equitable local empowerment to oversee all teacher recruitment and supply was to create a teacher graduate recruitment budget' is then submitted to the SUBEB. On this basis, the SUBEB creates a final report, which will begin this chapter with an overview of the teacher recruitment procedures most commonly observed. There is a strong difference between Jigawa and other states. The Department of Planning, Research and Statistics collects ASC data collected through the Local Government Education Authority (LGEA) office. Failure to do so after three years is also a significant challenge in attracting and deploying teachers. The only mechanism to increase the number of policy initiatives to attract and retain more teachers in its workforce. These are the TIA, the Teacher Improvement Programme (TIP) and the Teacher Recruitment Programme (TRP).

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For that reason, the creation of new teacher establishments created. This also increases the numbers applying for the Senior Secondary School Examination (SSS) and the Junior Secondary School Examination (JSS). As both parties are mainly concerned with achieving their professional needs with the resources to provide NCE or other qualifications. Upon graduation, teachers are often required to bring an application form to check the authenticity of any NCE or other qualifications. During this training, many teachers also suggest that the Teacher Improvement Programme (TIP) is attracting different candidates who could be made more effective through a different location. When local governments are reluctant to give up their recruitment and deployment budgets, they will look more closely into the overall recruitment process but instead is driven largely by local governments. Evidence from other rural schools, Jigawa should reform its TIA.

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Some of our [politician] colleagues, due to their selfish interests, just give offers to their brothers. They will be employed as teachers, but they will not even go there, to the village (...) Also, when local government realised that there will be a recruitment exercise, they bring their candidates and tell the SUBEB their own candidates must be employed. (...) So, local government also contributes a lot toward recruiting unqualified and ineffective teachers due to selfish interests.

- Representative from the SUBEB

5.1 Introduction

The previous two chapters looked at teacher demand and teacher supply. In this chapter, we will analyse the main mechanism that puts these two elements together: the overall policies and processes used to recruit and deploy new teachers into the workforce. We will begin this chapter with an overview of the factors that normally determine the number of new teachers recruited in Jigawa. Next, we will look more closely into the overall recruitment and deployment process, making a distinction between the formal process of state-level recruitment and the generally observed informal process of local government-level recruitment. We will then assess a range of recent initiatives aimed at improving teacher recruitment and deployment. We conclude by setting out a range of recommendations.

5.2 Creating new teacher establishments

A first step to recruiting additional teachers is the creation of new ‘establishments’ (posts).\(^\text{23}\) Each LGA has a pre-specified number of teaching positions. For the SUBEB to open up new teaching posts, additional funding has to be made available and the Governor has to provide explicit permission. For that reason, the creation of new teacher establishments tends to be political and discretionary, and often distantly removed from the perceived formal, annual process based on teacher needs.

Creating new teacher establishments often start with a needs assessment, conducted by the SUBEB alone, and based only on the ASC data collected through the Local Government Education Authority (LGEA). This sometimes includes specific requests from head teachers but mainly relates to filling establishments in official policy guidelines; primarily the PQTR. On this basis, the SUBEB creates a proposal of the total number of new teachers to be recruited and sets out the additional financial resources this would require. Such a ‘recruitment budget’ is then submitted to the Governor. This provides the biggest determinant of recruitment, as noted by a staff member from the SMoE: ‘Budgetary provisions determine the recruitment of teachers. (...) Even if the demand for teachers stands at for instance 10,000 teachers, it is the budget that will determine the number to be employed.’ The Chairman of the SUBEB is then expected to follow up at intervals to remind the Governor for approval of new teacher establishments. Only after final approval (which can happen at any point throughout the year) can SUBEB formally start the recruitment process.

5.2.1 Major challenges

The most important challenges to creating new teacher establishments relates to fund-
ing availability, political timeframes, and disconnects from planning documents such as the SESP:

Many respondents emphasised that Jigawa State is struggling to pay all its current salaries due to a large drop in federal resources it receives from oil revenue, so that it definitely cannot expand its number of teachers. For instance, one SUBEB representative noted: ‘one key challenge is how to sustain the current stock of teachers. Then a far bigger challenge is how to expand them [number of teachers] to respond to the rise in pupil enrolment (...) We cannot currently afford this’. As this budgetary constraint is largely based on federal resources, there will be little that anyone at the state level can do. As a result, most SUBEB members thought it would be unlikely that there will be any large recruitment drive in the next year, despite submitting a request for 4,000 new teachers.

Because the decision to create establishments lies largely in the hands of the Governor, it is also heavily politically influenced. More establishments are often generated in the year preceding the elections. The location of new establishments is also often not based on overall teacher needs but can be used to provide patronage to citizens in specific LGAs. This can also exacerbate existing teacher inequalities.

Because of the discretionary and politicised process, there is often a large difference between the overall number of teachers requested by the SUBEB and the new teacher establishments created. This also means that formalised plans with multi-annual teacher needs projections, such as the SESP, often deviate very strongly from the affordable or the politically proposed numbers of new establishments. They thus tend to have limited practical application within the recruitment process. Within the SMoE and the SUBEB, development of the SESP was mainly driven by the Department of Planning, Research and Statistics (DPRS) but no other departments were aware of its existence, including the recruitment officers. It is therefore not used as a practical tool for planning or executing future rounds of recruitment.

5.3 Recruitment and deployment process

There is a strong difference between Jigawa’s formal recruitment and deployment procedures stipulated in laws and regulations and the actual recruitment and deployment procedures most commonly observed. To provide the best overview, we will describe both ways in which teacher can be recruited: the formal recruitment process through SUBEB and the informal replacement process through local government.

5.3.1 Formal teacher recruitment and deployment process (through SUBEB)

Formally speaking, the recruitment of all primary teachers is the responsibility of the SUBEB.\textsuperscript{24} In the past, LGAs were also allowed to appoint certain local, unqualified teachers but only in the lowest salary grades (i.e. 1 to 6). However, it is now a formal prerequisite that any newly recruited teacher has a minimum of an NCE qualification. As any NCE teacher must come in at a minimum of

\textsuperscript{24} Following the National Policy on Education and the State UBE acts of 1999.
Salary Grade 7, this places the SUBEB squarely in charge of all recruitment (ESSPIN 2009). After creating the new teachers’ establishments, the SUBEB decides which LGAs will receive new teachers. This is determined by the SUBEB alone (see above), and thus lacks consultation from schools’ head teachers. To start the process, the SUBEB holds an examination for all potential recruits, which has been assisted by CoE Gumel in previous years. The examination date is advertised through print media, radio and television. No vacancy details are advertised but potential recruits are often required to bring an application letter to the examination. The examination tends to be a written examination and, for successful candidates, an interview. In addition, the recruitment process also aims to check the authenticity of any NCE or other degree certificates. Teachers cannot formally indicate a location preference for their school’s location or the grades or subjects they wish to teach (Thomas 2011).

After the SUBEB selects teachers, they are then posted to a specific LGAs, where deployment to the school is led by the LGEA. Given that LGEAs are responsible for monitoring and recording each schools’ teacher needs, they are generally regarded to be best placed to match teachers’ preferences and specialisms to individual schools.

**Major challenges**

The most important challenge to the formal system described above is that this recruitment and deployment process is often overlooked or underutilised in favour of more informal, local recruitment (see below). However, there are additional challenges that are worth noting here:

- Head teachers have no direct input into the overall selection or deployment of teachers. As such, they cannot ensure that only the most effective teachers are selected or ensure that the teacher posted to their school best matches the school’s requirements.
- This has contributed to limited oversight from schools to prevent recruitment of ineffective teachers, and ensured teacher postings are sometimes poorly matched to the school needs.
- Candidates also have no formal input into their posting. Teachers cannot formally indicate a location preference for their school’s location or the grades or subjects they wish to teach. If they do not like their posting (e.g. they wish to avoid a rural posting), they cannot rely on any formal process but instead have to rely on their informal (political) connections. For those without such connections, such teachers are disappointed and more likely to drop out of teaching (ESSPIN 2009).
- Deployment issues are well known but are still prevalent. In the words of a SUBEB representative, ‘Urban schools are filled, while rural schools are devoid of teachers. Teachers often reject rural postings and try to get transferred elsewhere’. Despite considerable challenges in attracting teachers to specific rural schools, there are no specific incentive schemes or scholarship programmes to attract teachers to rural areas. As such, the system is insufficiently addressing deployment issues.
5.3.2 Informal teacher replacement process through local government

As was touched on earlier, in practice the formal recruitment process described above is often not utilised. This is because LGAs can be reluctant to give up their recruitment authority to the state, and prefer to employ their own, unqualified locals rather than qualified ‘foreigners’ (ESSPIN 2009). For that reason, selected representatives from the SMoE and SUBEB also reported that LGAs have blocked the SUBEB from initiating new recruitment rounds.

Local governments have two main ways to conduct their own recruitment. The first way is to rely on their ability to recruit Salary Grade 1–6 teachers. This has previously resulted in the appointment of unqualified teachers (ESSPIN 2009), although currently this is less common in Jigawa.

The second and most common way that LGAs conduct their own recruitment is by focusing on teacher ‘replacement’. LGAs are allowed to take responsibility for replacing staff that have retired or died. This process is classified differently in the system, and therefore does not have to follow the same formal recruitment process. In the absence of considerable ‘formal’ recruitment drives, informal teacher ‘replacement’ mechanisms have become the main method of teacher recruitment in Jigawa since 2013.

Major challenges

As the recruitment and deployment processes become less based on formal interviews, they come to be subject to pressures from elites, traditional rulers and politicians. This has a number of implications:

- Teachers are appointed with inappropriate qualifications, and many do not hold the required NCE or have only passed the Senior Secondary School Examination.
- ‘Politically appointed’ teachers can be less effective than others because they are less accountable to the school’s head teacher and the wider education system. A SUBEB representative admitted that ‘some of these teachers are relatives of politicians. There is one house of assembly member, I think he has seven of his family members on the payroll of the SUBEB – but they have never gone for even one day of teaching’.
- Unqualified teachers with political connections often use fake certificates or impersonate other teachers to get employment. This further undermines trust in teacher certificates and the wider system of teacher recruitment.
- The LGA level still has considerable political interference within (re)deployment. A member from CILS Ringim noted how ‘Even last week I heard of a list of names that was submitted to the LGEA for redeployment to some remote schools because of political reasons’. Such explicit politicisation of postings further undermines teacher morale and creates a culture of fear and submission.

25 While this is technically not permitted under the NEP, informally this is seen as acceptable if no better candidate can be found.
26 Based on interviews with the SUBEB, MoE, CoE Gurnel and CILS Ringim.
5.4 Current policy initiatives to improve recruitment and deployment

In recent years, Jigawa has adopted a number of policy initiatives to attract and retain more teachers in its workforce. In this section, we will analyse four such initiatives:

- The TIA;
- The Teacher Volunteer Programme;
- The Female Teachers Development Skill Initiative; and
- Upgrading of unqualified teachers.

5.4.1 The TIA

The most important state policy on teacher recruitment is the TIA. This was first introduced in 1999, and is aimed primarily at helping to retain those already employed and attracting higher-skilled individuals to apply for a teaching position. The TIA provides a 47.7% top-up of basic education teachers’ salaries, and a 100% increase for senior secondary teachers.

Both the SMoE and SUBEB emphasise that the TIA has helped reduce teacher attrition and also reduced the number of teachers opting for early retirement because the salary is considered to be competitive. This provides a large improvement from the past. For instance, one respondent noted that ‘When I was a principal [before the TIA], about five teachers were posted to my school but they all left within that year and went for jobs at the customs service because at that time teachers’ salary was not good. But now that it has increased, many people stay in teaching.’ Similarly, the TIA has also increased the numbers applying for the NCE programme, according to CoE Gumel, and their students are more motivated to come to teaching. This suggests that the TIA is also attracting different candidates who previously would not have chosen to go into teaching. Informal reports from the SUBEB also suggest that the TIA is attracting qualified teachers from neighbouring states to apply for teaching positions in Jigawa.

However, the TIA also has a number of weaknesses. A first relates to the higher allowance provided to secondary school teachers, which has created strong incentives for teachers to cross over from basic education into senior secondary schools. This is further facilitated by the splitting of the teaching body across two institutions (SUBEB for basic education teachers and SMoE for senior secondary teachers). As both parties are mainly concerned with achieving their own PTR, this generates internal competition over teachers. As a result, between 2014 and 2016 the SMoE admitted to absorbing over 400 basic education teachers into senior secondary schools. This further exacerbates the large teacher shortage at basic education level.

Second, according to a representative from the SMoE, ‘paying the TIA gulps up a lot of money and is making it difficult for the state to recruit new staff’. The SUBEB also emphasised that an increased average teacher salary has been one of the main reasons why Jigawa has much fewer teachers on its payroll than neighbouring states; additional recruitment is too expensive.

Third, the TIA provides a missed opportunity to incentivise deployment to rural schools. At the moment, the allowances are equal irrespective of the teacher’s location. As a result, there is very little that the SUBEB can
different recruitment systems have on contributing to the perpetuation of low-quality teaching with considerable challenges that are contributed by the current process. In the absence of a comprehensive dataset of all current student-teacher relationships, it is difficult to find enough academically qualified women from rural communities to enter the FTTSS. Partly as a result, an assessment of the programme found only a small share of students graduating from senior secondary schools and providing teachers with teaching qualifications. Upon graduation, they are expected to take up teaching jobs in their communities for a minimum of two years.

Stakeholders expressed widespread support for a scheme of this kind that promotes the recruitment of female teachers, particularly to rural areas. However, they also noted that the FTTSS has encountered various implementation challenges. While trainees are supposed to be from rural areas, in practice many are not and only manage to get selected to the scheme because of their political connections. There are cases where trainees say they are from rural areas during the selection process but refuse to work in rural schools upon graduation because their families have moved to a city. A number of trainees have been out of the school system for a few years and struggle with the NCE.

An initial EDOREN evaluation also suggests that the FTTSS may not be the most effective way to increase the number of female teachers in rural schools. Research in Niger and Bauchi highlights that it is difficult to find enough academically qualified women from rural communities to enter the FTTSS. Partly as a result, an assessment of the programme found only a small share of students graduating within four years (45% in Bauchi and 17% in Niger State). It was also found that its focus on teacher training in states with graduate teacher oversupply (as is the case in Jigawa) may be ill-advised. Instead, it was recommended that ‘the processes from graduation to deployment need greater specific attention, to realise the FTTSS objective of getting more female teachers into rural schools’ (Dunne et al. 2015).

...to compensate rural teachers. The only exception to this relates to the small number of schools with their own accommodation for use by their teachers. As a result of this lack of compensation, many teachers offered a position in a rural school will often refuse to relocate there and instead try to use political influence to get redeployed to an urban centre.

5.4.2 The Teacher Volunteer Programme

Another initiative used in Jigawa is the Teacher Volunteer Programme. This initiative came in to act as a temporary solution in the absence of formal recruitment drives. Here, the SUBEB provides LGAs with large teacher needs with the resources to provide NCE graduates with an NGN 10,000 monthly allowance to teach in priority schools. It is unclear how many such teacher volunteers are currently provided with stipends in Jigawa, although several members from the SUBEB and SMoE emphasised it to be an important interim measure to deal with teacher shortages in basic education.

5.4.3 The Female Teachers Development Skill Initiative

A third initiative, recently initiated by Jigawa’s Commissioner for Education, is the Female Teachers Development Skills Initiative. This programme, inspired by the Female Teacher Training Scholarship Scheme (FTTSS), aims to provide training and mentoring to guide
women from LGAs with higher teacher needs into the teaching profession (see box 5.1 below). This will start by selecting students in senior secondary schools and providing them with extra classes on pedagogy and the education curriculum. From here, they will enter into a CoE and are provided with a government sponsorship, in return for pledging to teach in a rural primary school for two years upon graduation. This new programme is funded under the new Global Partnership for Education programme and will commence in 2017.

5.4.4 Upgrading of unqualified teachers

Another mechanism to increase the number of qualified teachers is to upgrade currently unqualified teachers. This is coordinated under the SUBEB’s Teacher Training Development programme and provides teachers with a three-year sabbatical at one of the CoEs to train for an NCE qualification. During this time, the SUBEB continues to pay their salaries while also paying for all their tuition fees. For this reason, it is a particularly popular programme for teachers to go through.

From the perspective of the teacher trainers, CoE Gumel mentioned that these SUBEB teachers are generally highly motivated, and are more serious about pursuing their subjects. They also know that they will get a promotion upon receiving the NCE, and are thus often more willing to work hard for it. Nonetheless, this does not mean that all teachers take such upgrading seriously. In particular, it was found that many teachers abuse the limited oversight during their time upgrading their qualifications in order to abscond from the programme entirely. Box 3 provides an account of such an occurrence in Jigawa.
5.5 Summary of findings

Box 3: The challenge of attrition in upgrading Jigawa’s unqualified teachers

Throughout 2016, the SUBEB conducted a staff verification assessment in an effort to identify how many teachers on the payroll are actually teaching in primary schools and JSS. Specific attention here was given to identify those teachers who were previously provided with scholarships to further their education.

The team quickly discovered that many employees finished their qualification many years previously, but never returned to their original schools. Yet, because of the limited oversight given to these teachers, their salaries had continued to be paid. Some were even found to be employed elsewhere, thus collecting two salaries. These cases were particularly bad for students going abroad. A representative mentioned that one teacher went to Sudan to study Arabic 12 years previously and has been living in Jigawa, collecting his wage without teaching, for over a decade now.

Depending on the gravity of the violation, teachers are either dismissed or required to give back one year’s worth of salary if they want to remain in the teaching force (or receive a pension). From this exercise, the SUBEB recommended a total of 350 ‘ghost’ workers be dismissed, which will free up scarce resources for the recruitment of an equivalent number of new teachers.

Source: Based on interviews with SUBEB representatives.

Our brief description of the current process of recruiting and deploying teachers in Jigawa suggests that the system is faced with considerable challenges that are contributing to the perpetuation of low-quality teaching in Nigeria’s education system.

This chapter shows that while recruitment is officially structured around a state-based process of formal examinations and interviews, in practice it is dominated by local governments and heavily influenced by pressures from local political elites. Unqualified teachers are employed based on their recommendations, passing off fake certificates or impersonating other teachers. All the while, there is little space for other actors, such as head teachers, to ensure adequate quality standards and ensure appropriate matching of candidates to each school's needs.

This chapter also shows the impact that different recruitment systems have on deployment. When the state is responsible for recruitment and ‘blindly’ posts teachers to rural schools, this often leads to large levels of ‘refusals’. Moreover, it undermines the formal system, as teachers tend to use their informal influencing channels to get moved to a different location. When local governments select their own candidates, their overall number of teachers employed improves but this is often realised by recruiting locals who are unqualified to be teachers.

Jigawa has adopted a number of policy initiatives to attract and retain more teachers in its workforce. These are the TIA, the Teacher Volunteer Programme and most recently the Female Teachers Development Skill Initiative, as well as a retraining programme for unqualified teachers. These provide promising first step to improve recruitment and deployment, but could be made more effective through the measures proposed below.
5.6 Recommendations

1. Formalise and empower the local government recruitment system

It is clear that most recruitment does not flow through the SUBEB’s official recruitment process but instead is driven largely by local government’s informal ‘replacement’ processes. This chapter, however, shows that this informal system has many weaknesses and therefore should be reformed. Jigawa State must therefore try to find a way to rationalise the local government recruitment system so that it meets the minimum requirements set out by the state. In return, it would be formally empowered to oversee all teacher recruitment and deployment.

One possible way to enforce this system, and improve its transparency, is to follow Zambia’s hybrid model that combines central oversight with decentralised recruitment and deployment. For Jigawa, this would mean that local government councils would be required to have a designated ‘event’ where they conduct the teacher selection, organised by the Local Government Education Adviser. A state/SUBLEB representative has to attend to ensure all processes are respected. All head teachers from schools with proposed postings are also invited to take part in the teacher selection process. Other members, such as the Teacher Union and representatives of the Governor could also be invited as ‘observers’ to ensure the system is implemented fairly. 27

This system would benefit local governments, allow for SUBEB oversight and improve matching between teachers and school needs through head teachers’ involvement in recruitment and deployment. Selection at local government level is also likely to privilege local candidates, thus reducing deployment disparities.

2. Reform the TIA to incentivise rural postings

To further ensure teacher deployment to rural schools, Jigawa should reform its TIA. This is currently uniform across the state but should be adjusted so that rural teachers receive a higher allowance. Such an allowance adjustment should be done on the basis of a transparent rule (e.g. distance from the paved road). Evidence from other countries in sub-Saharan Africa suggests that such rural teaching allowances only adequately incentivise rural postings if the amount is high enough; at least +30% of the base salary is commonly required. Similarly, the TIA should increase for more rural postings (e.g. +40% to 50% extra as a posting is more rural) (Mulkeen 2009). A clear ‘zoning’ map should be developed to clearly explain these rules to teachers. This rule should be financed by SUBEB at the state level, to avoid penalising rural LGAs.

3. Establish a database of all trained teachers, linked to the SUBEB payroll

In the several SUBEB–CoE linkages workshops held in Jigawa, one of the agreed proposals to better align teacher demand and supply was to create a teacher graduate database (Junaid 2015). This initiative should be formally followed up and can be jointly coordinated by SUBEB’s Department of Planning and its representatives at the CoEs. This system should provide a comprehensive dataset of all current student-teach-

27 For more information, see Mulkeen (2009) and Mulkeen and Chen (2008).
ers. It should also give each individual a unique student-teacher identifier, which they should have to present to the SUBEB when applying for a teaching position (i.e. to demonstrate the authenticity of the graduate’s degree). If recruited, this number should then also be directly incorporated into the SUBEB’s payroll database, to provide a means for the SUBEB to reliably track teachers’ educational background.

This system linking a student-teacher identifier to the SUBEB’s payroll database should also include all currently employed teachers who are on sabbatical at a CoE to upgrade their qualifications. Upon graduation, teachers should then be required to report to their LGEA office. Failure to do so after three years from starting their course should directly result in a disciplinary hearing, with the potential for dismissal. This would ensure that teacher training provides a way to strengthen the education system, rather than offer a damaging pathway for individuals to become ghost teachers and receive payment without teaching.

4. Raise the share of female teacher with a prestigious recruitment scheme

A final priority relates to the need to increase the share of female teachers. In Chapter 3, we noted that only around 12% of primary teachers and 8% of JSS teachers are female. In this chapter, we described the government’s efforts to raise the share of female teachers through the Female Teachers Development Initiative. However, this focus on training additional women will not necessarily benefit schools given Jigawa’s low absorption rate of teacher graduates (see Box 2). Instead, the focus should shift from training toward a designated ‘female recruitment and deployment programme’.

Such a recruitment scheme should provide additional pay for high-quality female graduate teachers to teach in hard-to-staff rural schools. This should be the priority for any new recruitment drives. This scheme could provide a powerful example of improving the professionalism of primary schools and JSS by linking them to a formal, transparent and robust recruitment system that combines content knowledge and teaching skills (Watts and Allsop 2015).

Alongside such an ambitious programme, adopting a female ‘quota’ in new recruitment and replacement processes will also likely play an important role in increasing the share of female teachers in Jigawa.
CHAPTER 6
Conclusion

This report considers two broad policy scenarios to identify the 'idealised' number of teachers that need to be trained by the CoEs. The first scenario is based on Jigawa’s SESP, which aims to increase primary intake rates and improve PTRs by 2022. The second scenario entails even larger changes to current enrolment and teacher numbers. Pupil enrolment shoots up to 1.9 million (+204%) with the UBE scenario, which would need to increase to 14,000 per year in 2025. From the teacher supply side, this would mean that the annual intake into CoEs would need to increase to over 6,000 teachers every year (+275% over the status quo training costs of NGN 0.8 billion by 2022).

In the SESP scenario, over 3,000 teachers will attain the norms and targets associated with the CoEs. This would help to boost the systems for recruiting and deploying teachers in line with the recommendations in Chapter 4.

Overall, the findings outlined in this report highlight that Jigawa’s basic education sector faces significant challenges. Strong demographic pressures are likely to result in a large reserve pool of graduate teachers. We also find that current resource outlays associated with the SESP will be vital for the state to identify additional sources of revenue, and in particular to increase in demand for teachers. However, large enrolment increases and an associated increase in demand for teachers. This is linked to lower global oil prices that restricts the state’s access to federal oil resources, combined with very low fiscal projections as given and tried to identify these needs in each of these scenarios. The key policy implications. It is therefore helpful to briefly consider each of these approaches in order to meet these goals, teacher recruitment and training. This final chapter briefly reflects on the position of what is currently fiscally attainable set of policy options for Jigawa. To do this, it became clear that the current availability of revenue. This highlighted that the state could seek to expand its teaching scope to expand teacher recruitment.
This report has outlined 10-year projections for the number of teachers required at the basic education level in Jigawa, the costs of meeting these requirements, and suggestions for improving teacher recruitment and deployment. This final chapter briefly reflects on this exercise, and the two types of approaches that have been used in this report. The first approach is focused on an ‘idealised planning’ perspective. It involves asking: what level of resourcing is needed to recruit enough teachers to meet key policy goals in Jigawa? The second involves taking a ‘budgetary’ perspective. This starts from the position of what is currently fiscally attainable, and offers recommendations based on this analysis. Throughout this report, we have used a mix of these approaches. However, each approach points to a different set of policy implications. It is therefore helpful to briefly consider each of these approaches separately.

6.1 The idealised planning approach

This report considers two broad policy scenarios to identify the ‘idealised’ number of teachers that need to be trained by the CoEs and employed by the state government. The first scenario is based on Jigawa’s SESP, which aims to increase primary intake rates and improve PTRs by 2022. The second scenario is based on the premise that Jigawa will attain the norms and targets associated with the policy of UBE by 2025. Chapter 3 provided a detailed overview of teacher needs in each of these scenarios. The key elements of this are summarised in Table 14 below. This highlights that both scenarios entail a very ambitious expansion of pupil enrolment and teacher numbers.

In the SESP scenario, over 3,000 teachers need to be recruited every year by 2022 (+204%). To finance this, overall annual employment costs would need to increase to NGN 22.6 billion (or 45% higher than the NGN 15.6 billion under the status quo scenario). Annual admissions into the NCE programme (teacher training numbers) would have to increase to 7,200 (+230% compared to the status quo). Such an expansion of teacher training would cost NGN 3 billion per year (+275% over the status quo training costs of NGN 0.8 billion by 2022).

[Diagram showing 3,000 teachers need to be recruited every year by 2022 to meet the SESP scenario of teachers need.]

The UBE scenario entails even larger changes. Pupil enrolment shoots up to 1.9 million (compared to 790,000 under the status quo scenario) and teacher numbers would need to go up to almost 50,000. To satisfy such an increase, annual recruitment would have to increase to over 6,000 teachers every year (+430% compared to the status quo). To finance this, the teacher employment bill...
would have to increase to NGN 50 billion (almost NGN 30 billion higher than the NGN 20 billion under the status quo scenario in 2025). From the teacher supply side, this would mean that the annual intake into CoEs would need to increase to 14,000 per year in 2025 (+540% compared to the status quo), and the overall bill for teacher training would be NGN 6.8 billion (NGN 5.7 billion higher than the NGN 1.1 billion expected under the status quo scenario by 2025).

In order to meet these goals, teacher recruitment and training would need to expand at a pace that has not been seen before in Nigeria’s history. Additional resources would need to be mobilised to achieve this, particularly by significantly raising tax revenue generated within the state.

### 6.2 The budgetary perspective

If instead one starts from the position of what is ‘feasible’, it is critical to first accept that Jigawa is in the midst of a serious fiscal crisis. Owing to its financial dependence on federal oil resources, combined with very low global oil prices, the state is unlikely to see significant increases in the budget for teachers’ salaries in the near future.

In light of this, we have tried to identify a feasible set of policy options for Jigawa. To do this, we first used trend analysis to project

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**Table 14: Overview of different scenarios on key education indicators**

<table>
<thead>
<tr>
<th>Indicator (for primary and JSS)</th>
<th>Status quo</th>
<th>SESP by 2022</th>
<th>UBE by 2025</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>By 2022</td>
<td>By 2025</td>
<td>Number</td>
</tr>
<tr>
<td>Pupil enrolment</td>
<td>740,568</td>
<td>791,289</td>
<td>1,032,391</td>
</tr>
<tr>
<td>Teacher needs</td>
<td>17,596</td>
<td>18,803</td>
<td>26,510</td>
</tr>
<tr>
<td>Annual recruitment</td>
<td>1,029</td>
<td>1,146</td>
<td>3,133</td>
</tr>
<tr>
<td>Annual teacher employment cost (in NGN billion)</td>
<td>15.6</td>
<td>20.5</td>
<td>22.6</td>
</tr>
<tr>
<td>Teacher training numbers (annual NCE admissions)</td>
<td>2,200</td>
<td>2,200</td>
<td>7,278</td>
</tr>
<tr>
<td>Annual teacher training cost (in NGN billion)</td>
<td>0.8</td>
<td>1.1</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations.
available revenue. This highlighted that the resource outlays associated with the SESP and UBE scenarios are overly ambitious compared to recent spending and historical trends in Jigawa. Second, we took the overall fiscal projections as given and tried to identify how Jigawa could best optimise its educational outcomes given these constraints. On this basis, it became clear that the current annual number of teachers trained far exceeds the likely level of annual teacher recruitment (see Chapter 4).

Our estimates suggest that a large share of NCE graduates have not been absorbed into the teaching profession in recent years. This has contributed to a large reserve pool of graduate teachers. We also find that current levels of enrolment into the CoEs are associated with the admission of weaker students who often do not comply with selection criteria, lower teaching quality and a poor assessment system. Taken together, these findings suggest there is a case to substantially lower the student intake at the CoEs.

6.3 Key implications

Overall, the findings outlined in this report highlight that Jigawa’s basic education sector faces significant challenges. Strong demographic pressures are likely to result in large enrolment increases and an associated increase in demand for teachers. However, the state faces a grave fiscal crisis (linked to lower global oil prices) that restricts the scope to expand teacher recruitment.

The state could seek to expand its teaching force in line with its SESP or the UBE objectives. Chapter 3 provides an overview of the outlays that would be required to deliver on such objectives. If these goals are pursued it will be vital for the state to identify additional sources of revenue, and in particular to increase internal revenue mobilisation. However, such an expansion may not be considered fiscally feasible. If so, then the state should take steps to scale back enrolment into the CoEs. This would help to boost the quality of prospective recruits to the teaching workforce by helping ensure only the best applicants receive teacher training, that more resources are allocated to their training, and that these NCE holders have a high chance of being recruited and deployed to schools in the state. In either scenario, there is a case to improve systems for recruiting and deploying teachers in line with the recommendations in Chapter 5.
Annex A: Quantitative methodology

The projections for teacher demand in Jigawa have been developed using the EPSSim model. EPSSim is a tool to analyse, explore and project complex education systems and the impact that government decisions have on this system. The model can be used to contribute to national education policy and strategy by working in three stages: entering baseline data, identifying policy goals, and projecting results. The EPSSim model is a generic model in that it encompasses the features of modern school systems, rather than country-specific characteristics, as well as optional features that can be included or excluded to adapt to the country-specific features. This affords the model flexibility and wide applicability in different contexts.

Furthermore, the EPSSim model uses a demographic rather than budgetary approach to forecasting, which is well-suited to the Nigerian government’s goal of achieving UBE as well as international consensus around Education for All. Demographic models assume that all potential learners should receive and benefit from education, rather than budgetary models that assume that the number of learners in school is constrained by the pre-determined budget. Therefore, the EPSSim model projects the financial and resource implications of a given enrolment target.

We have chosen to use the EPSSim model over other models for a variety of reasons. Importantly, the EPSSim model is widely used and accepted as an education forecasting model and has credibility as it was developed by UNESCO. As mentioned above, the model offers flexibility in terms of the features one can choose to include or exclude as well as the option to forecast under different scenarios. Forecasting different scenarios allows decision-makers to compare the impact of different policy actions on the education system in order to make evidence-based policy. Furthermore, the EPSSim model has been used in other teacher demand and supply studies in Nigeria including in Katsina1 and Zamfara2 and, hence, the use of the model allows for comparability between states and has credibility in the Nigerian context. The model is sector-wide and thus takes the interests of different ministries, including education, finance and planning, into account. Finally, the model is a self-contained package that can be used by country planners without external training, making it accessible and transparent to planners. Relative to other models, the EPSSim model has modest data requirements and uses data that are easily available. Crucially, however, the quality of the EPSSim model’s outputs and projections depend on the quality of data inputted as well as the parameters entered to define the forecasting scenarios.

As noted above, the core parameters that need to be set for scenario development are: the enrolment rate, dropout and repetition rates, and PTRs. The information gathered through field work will feed into the selection of scenarios, so these will only be precisely defined at a later stage. However, we can clarify certain aspects of our approach to scenario development. First, we will consider modelling three broad scenarios: one in which the parameters mentioned above remain at current levels and growth in teacher demand is driven only by population growth; a second in which these parameters gradually shift toward the state’s policy targets; and a third in which the national-level goals of UBE and PTRs of 40:1 at primary level and 35:1 at JSS are achieved by the end of the forecasting period. Second, given concerns about the reliability of census data (discussed above), if estimates of the school-age

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population derived from different sources are found to differ significantly, we will consider developing two sets of scenarios associated with each estimate of the population size and growth.

Efforts to model the UBE scenario are likely to be complicated by the presence of different types of schools in Jigawa. In particular, in line with the government’s policy of delivering secular education through Integrated Qur’anic schools (IQS), the goal of achieving UBE does not necessarily imply 100% enrolment in regular public schools but could be met through a mix of enrolment in regular schools and IQSs. Each type of school has different requirements related to the number of government-funded teachers. IQSs are only required to dedicate a small portion of total teaching time to the secular curriculum, so need far fewer state-funded teachers (controlling for pupil numbers) than regular schools. One objective of the field work will be to explore how IQSs should be accounted for in scenario development. This has two broad components: identifying the appropriate ratio of pupils to secular, state-funded teachers at the IQSs; and exploring state officials’ views on interpretations of UBE and the role that IQSs are expected to play in meeting this goal.

The three scenarios which we consider are:

a) Aforementioned parameters remain at current levels and growth in teacher demand is driven only by population growth;

b) The parameters gradually shift toward the state’s policy targets by 2022; and

c) The national-level goals of UBE and PTRs of 40:1 at primary level and 35:1 at JSS are achieved by the end of the forecasting period.

School-age population projections

Projections of the school-age population are key to forecasting teacher demand. During fieldwork, we were able to get the Demographic and Health Survey (DHS) for 2008 and 2013 but could not obtain the Nigerian census data from 2006, which we had proposed using in the concept note due to lack of availability of the dataset in the state. However, the state-level population size disaggregated by gender is published on the National Population Commission’s website. Hence, using the population count for 1991 and 2006, we calculated the inter-censal population growth rate for Jigawa. Assuming that this growth rate is constant each year (a strong assumption) and applying this growth rate to the 2006 population count allowed us to estimate the 2014 state population by gender. Crucially, we need to disaggregate the population projection by age in order to determine the school-age population. In order to disaggregate this data by age, we calculated the age distribution in Jigawa using the 2013 DHS data and apply this to the population estimate in order to estimate the school-age population by age in Jigawa in 2014.

Although we had planned to triangulate these estimates using birth registration records to forecast the school-age population, such data could not be collected during fieldwork and hence could not be used as a source of triangulation. Therefore, we proceed to make population projections based on the strong assumption that the population estimates provide an accurate reflection of the population in Jigawa and furthermore that the inter-censal population growth rate has remained constant between 1991 and 2006 as well as over the period of forecasting.

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For the purpose of our projections, it is useful to calculate the percentage of pupils that would enrol, now or in the future, in public schools. Due to the scope of our projections, pertaining specifically to public primary schools and public JSS, it is important not to assume that achieving UBE implies that 100% of these children are enrolled in public schools. To this end, we use the ASC data, which also cover private schools, Islamiyya schools and nomadic schools, and determine the proportion of children enrolled in these types of schools relative to children enrolled in public schools. Using the ASC 2014/15, the ratio of pupils enrolled in public to private schools is 88:12 for males and 84:16 for female pupils. However, it is important to note that the coverage of private schools by the ASC is poor and, therefore, this ratio serves as an upper bound to our estimates.

Gross enrolment rates (GERs)

The EPSSim model calculates GERs by combining the school-age population projections with projections of the enrolled population. For 2014/15, we input enrolment, which is counted in the ASC data, and restrict our enrolment figures to only pupils enrolled in public primary schools or JSS. However, it is important to note that enrolment rates are often significantly higher than attendance rates due to pupils enrolling in school but then having a poor attendance record. Furthermore, there may be an incentive structure to inflate enrolment figures in schools (Mezger 2014). The best estimate we have is from the Multiple Indicator Cluster Survey (MICS) 2011, which provides the net attendance rate in primary school of 42% compared to the GER from the ASC in 2011/12 of 53.5%. According to the Jigawa SESP, GERs were 50% for female children compared to 63% for male children with an overall enrolment rate in the state for primary schools of 56.4% calculated from the Education Management Information System data in 2011/12. Similarly, gross enrolment at JSS level is a mere 26%. Gross enrolment was obtained from the 2014/15 ASC data and was restricted to enrolment in either public primary schools or public JSS.  

Pupil flow

Administrative data indicate that repetition and dropout rates are low for primary and secondary school children. Grade repetition rates are reported in the ASC data, which records annual pupil flow. Repetition rates are around 1% in Jigawa for each grade. This is an unusually high figure but, in Nigeria, the government’s official policy is to promote 100% of pupils in each school year. Hence, a promotion rate of 99%, or equivalently a repetition rate of 1%, indicates that this policy is not applied in all schools. There is also some concern that this policy may also incentivise teachers to underreport repetition as it goes against the government’s policy and, therefore, actual repetition rates may in fact be higher than 1%.

Similarly, we use cohort analysis to calculate transition rates between P6 and JSS1 by comparing enrolment in P6 in 2013/14 to enrolment in JSS1 in 2014/15. Transition rates in Jigawa of 46% for females and 46% for males are exceptionally low.
Net teacher recruitment

Using the aforementioned data, we could project teacher demand over the 10-year forecasting period. However, these projections need to be translated into estimates of net teacher recruitment needs per year. To this end, we used data on teacher retention rates and retirement rates obtained from the Jigawa SUBEB that indicate that 525 teachers left the profession (including through retirement and death) in 2014, suggesting an attrition rate of 4%. Since we do not have data on attrition for JSS, we assume that the attrition rate in public primary schools is also applicable to JSS.

Table A.1 indicates the data sources required to generate projections of teacher demand and ensure that the data are reliable and hence the projections robust. It is clear that the data in Jigawa are patchy and that to strengthen the education sector in the state better data are required. Nevertheless, we are able to project teacher demand based on the aforementioned data and, in some instances, the strong assumptions, necessary to make such projections.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Data source</th>
<th>Dataset available</th>
<th>Indicator available</th>
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</thead>
<tbody>
<tr>
<td>School-age</td>
<td>Census 2006</td>
<td>No</td>
<td>• Population count available by gender</td>
</tr>
<tr>
<td>population</td>
<td>Census 1991</td>
<td></td>
<td>from National Population Commission</td>
</tr>
<tr>
<td></td>
<td>DHS 2013</td>
<td>Yes</td>
<td>• Inter-censal growth rate calculated</td>
</tr>
<tr>
<td></td>
<td>Birth registration</td>
<td>No</td>
<td>• No age disaggregation</td>
</tr>
<tr>
<td></td>
<td>records</td>
<td></td>
<td>• No mortality rates</td>
</tr>
<tr>
<td></td>
<td>MICS 2011</td>
<td>Yes</td>
<td>• Age disaggregation for the sample</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• No mortality rates</td>
</tr>
<tr>
<td>GERs</td>
<td>ASC 2014/15</td>
<td>Yes</td>
<td>• Calculated using enrolment figures</td>
</tr>
<tr>
<td></td>
<td>DHS 2013</td>
<td>Yes</td>
<td>• No, only have attendance rates</td>
</tr>
<tr>
<td>Pupil flow</td>
<td>ASC 2014/15</td>
<td>Yes</td>
<td>• No, only have attendance rates</td>
</tr>
<tr>
<td>Teacher numbers</td>
<td>ASC 2014/15</td>
<td>Yes</td>
<td>• Yes</td>
</tr>
<tr>
<td>Teacher</td>
<td>SUBEB payroll data</td>
<td>Yes</td>
<td>• Yes</td>
</tr>
<tr>
<td>attrition</td>
<td>SUBEB data</td>
<td>Yes</td>
<td>• Yes</td>
</tr>
</tbody>
</table>
Annex B: Qualitative methodology

Following the mixed-methods approach of the study, the researchers utilised two types of data collection: qualitative instruments and a documentation checklist for data requirements. Both sets were developed on the basis of a detailed research matrix that formed part of the study concept note. This aligned each of the research sub-questions with specific data requirements and likely source for such data. This could be either through a Key Informant Interview (KII) with selected officials (relying on the qualitative instruments) or on additional administrative records or policy documentation that need collecting (relying on the data checklist).

Qualitative instruments

There were three separate qualitative instruments developed for the exercise. Table B.1 provides more detail. The first instrument was directed at the CoEs, and aimed to learn more about their student-teacher intake and the teacher graduation numbers (intended both for primary and JSS). The second instrument was focused around primary teachers, aimed at the SUBEB. The third considered junior secondary school teachers, and was therefore directed to the SMoE in Jigawa.

The choice was made to develop one set of questions per institution, broken down by a set of different ‘components’. This allowed the interviewer to initially gauge the respondent’s knowledge and understanding of the various areas, and probe or skip related questions where necessary. This ensured that all interviewees were asked about areas of which they have knowledge (e.g. the college bursar may be in a position to comment on student intake from a financial perspective) while saving time by ensuring that respondents were not asked about issues they were not able to comment on (e.g. the college bursar may simply only know about the college finances, and be unaware of the student intake process).
As shown in Table B.1, the instrument for CoEs consists of four components: intake, training and assessment, college finance and payroll, and the college’s interaction with wider education policy, recruitment and deployment. The instruments on primary teachers (tailored to SUBEB) and JSS teachers (tailored to the SMoE and education boards) each have five components: overall teacher needs, linkages with pre-service teacher training, recruitment policies and practices, deployment policies and practices and issues around teacher financing (including payroll, promotion and affordability of new recruitment).

### Quantitative data checklist

A detailed ‘data checklist’ was developed for the quantitative data collection exercise. This included all the elements that were required for the overall teacher demand and supply projections (e.g. ASC data, figures on teacher retention and recruitment, etc.), together with some other additional components that were deemed helpful for descriptive statistics (e.g. student average intake rates in the CoEs). These checklists were again split by the three target institutions: CoEs, SUBEB and the SMoE.

While general guidance was given in the checklists on where specific data can be found, in practice this is often more of a ‘wish list’. However, there are often many types of documentation that may ‘hint’ at particular issues or provide a partial answer (e.g. offering data for only a sub-set of the chosen years of analysis). As such, this checklist was very helpful as a reminder, while the ability to collect such documentation that can be considered sensitive often relied heavily on the initiative and trust established by the field researchers.
During the day-long piloting exercise, the data checklist was also evaluated. Some minor elements were added to the data checklist after the piloting exercise was completed, particularly related to the financial data required for the study.

**Fieldwork**

The field team consisted of six individuals. Five were Nigeria-based consultants that EDOREN had worked with in the past and who had strong affiliation with education research as well as teacher education in Northern Nigeria. The team leader for the field work was the EDOREN Research Officer, who also oversaw the design of the instruments, co-led the training and oversaw quality assurance and logistics of all fieldwork activities. For an overview of all members, see the table below.

<table>
<thead>
<tr>
<th>Table B.2: Field team for the teacher supply and demand study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Institution</strong></td>
</tr>
<tr>
<td>Victor Steenbergen (Team Lead)</td>
</tr>
<tr>
<td>Dr Binta Ado Ali</td>
</tr>
<tr>
<td>Dr Aminu Dukku</td>
</tr>
<tr>
<td>Jiddere Kaibo</td>
</tr>
<tr>
<td>Dawuda Aaron Kognet</td>
</tr>
<tr>
<td>Fahad Lawal</td>
</tr>
</tbody>
</table>

The fieldwork was designed so that all field team members would jointly go to Jigawa State for the first week, followed by Zamfara State during the next week. Ideally, all teams would split up into teams of two (see quality assurance below), with one interviewer and one note taker. However, to cover the large number of institutions and individuals to interview, this was not always possible. As a result, the team would often split up into two groups (three individuals each), and then visit multiple institutions concurrently (e.g. CoE Gumel and CILS Ringim on Monday 18 July). Wherever necessary, the teams would then rely on one-to-one interviews with all targeted interviewees.

The table below provides an overview of the fieldwork dates and actual institutions visited each day. Due to the strong organisational support and planning from the TDP state team leads, these dates closely match the originally developed field plan. In general, one day was sufficient to interview all relevant individuals for each institution, although the team made use of most afternoons and the whole of Thursday to follow up with institutions to collect outstanding administrative data or records.

<table>
<thead>
<tr>
<th>Table B.3: Fieldwork dates and institutions visited</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weekday</strong></td>
</tr>
<tr>
<td><strong>Date</strong></td>
</tr>
<tr>
<td><strong>Institutions visited (week 1)</strong></td>
</tr>
<tr>
<td><strong>Date</strong></td>
</tr>
<tr>
<td><strong>Institutions visited (week 2)</strong></td>
</tr>
<tr>
<td><strong>Date</strong></td>
</tr>
</tbody>
</table>
Sampling

The sampling for the qualitative data collection was purposive rather than representative, with the aim of identifying the individuals responsible for the particular ‘component’ assessed in each institution. Based on initial discussions with TDP and previous experience working with these institutions, ‘primary respondents’ were identified for all elements (see Table B.1 above).

However, to account for duplication of responsibilities and unavailability of selected staff, this sampling was supplemented with a snowball sampling approach in the field, whereby key stakeholders whose relevance only became clear during the field work were added to the list of interviewees for the study.

In many cases, sampling was done on a participatory basis; starting with the general head of an institution, the various elements were highlighted, and the respective head was asked to bring the relevant officers to the initial meeting. This contributed to establishing trust with the institution heads, which helped to facilitate the research.

Sample coverage

The full list of institutions and staff members interviewed is provided in Table B.4. This shows that all the intended institutions were covered. In all cases, the visits were amicable and productive.

For Jigawa, the team was able to meet the heads of all institutions, and all originally identified primary respondents were interviewed. One issue related to the unavailability of some members from the two CoEs, due to an overlapping training from TDP. This was overcome by scheduling additional interviews with such respondents in their training’s tea-breaks and lunch-time, thus ensuring full coverage.
For Zamfara, the team was able to meet all heads of institutions, with the exception of the SMoE (relying instead on the Director of Administration to facilitate interviews) and the CoE Maru (relying instead on the Deputy-Provost). Three institutes were also added that were not originally part of the list, but were deemed of importance for the study. These are the two other education boards in Zamfara (Teacher Service Board and Female Education Board) to get additional data about JSS teachers, and the state’s Ministry of Economic Planning and Budget, to access reliable budget data for the study's teacher financing component.

Table 8.4: List of institutions and key informants interviewed in Jigawa

<table>
<thead>
<tr>
<th>Institution</th>
<th>Key informants interviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDP</td>
<td>• State Team Lead</td>
</tr>
<tr>
<td>ESSPIN</td>
<td>• Jigawa Officer</td>
</tr>
</tbody>
</table>
| SMoE        | • Commissioner for Education  
              • Special Adviser to the Governor on Tertiary and Non-Formal Education  
              • Director of Planning, Research and Statistics  
              • Director Private Schools  
              • Director School Services |
| SUBEB       | • Executive Chairman  
              • Permanent Member 2  
              • Director Planning, Research and Statistics  
              • Director of Admin and Finance  
              • Director of Works  
              • Director of Quality Assurance  
              • Deputy-Director Training |
| CoE Gumel   | • Provost  
              • Deputy-Provost  
              • Director of Quality Assurance  
              • Principal Accountant  
              • Academic Secretary  
              • Exam Officer |
| CILS Ringim | • Provost  
              • Director Quality Assurance  
              • Dean School of Education  
              • Bursar  
              • Registrar  
              • Continuous Professional Development Coordinator |

Quality assurance

To ensure the quality of both the qualitative and quantitative data collection, a number of steps were taken.

- Initial training. All members of the field team were involved in a week-long training session. This provided all participants with a strong understanding of the study objectives and approach, experience in working with the instruments, and training on qualitative research methods and techniques for collecting government administrative data. This led to a knowledgeable and skilled field team.
• Interview teams. Where possible, teams were combined to involve both an interviewer and a notetaker. This allows for optimal probing and responsiveness on the side of the interviewer, while the notetaker can best keep track of all the respondents’ replies. At times this was not possible due to time constraints (see fieldwork challenges), meaning we had to rely on one-to-one interviews.

• Recording of interviews and detailed transcriptions. Where possible, all interviews were recorded. The field team used these for detailed transcriptions, with a standardised template for ease of data coding and analysis of the interviews.

• Building trust to access government data. In order to get access to sensitive government records (e.g. finance and payroll data), it was vital to establish a good working relationship with all the institutions. This was done by ensuring the field team was introduced by a trusted member (usually the TDP state team lead) and by spending sufficient time with the head of each institution, who would them commonly grant us permission to interview their staff members and provide access to their administrative records.

Fieldwork challenges

• Staff availability. Many senior officials are busy individuals, and it can be a challenge to ensure that all the respondents were available. This was avoided by ensuring that the TDP state team leads had sufficient time to plan well-ahead, and let the institutions know we were coming. In addition, having spill-over days to reschedule interviews for respondents who could not made it that day worked well.

• Time constraints for the field team. To ensure that all the planned interviews could take place within the short window of time, it was not always possible to conduct every interview in teams of two. Instead, one-to-one interviews had to be relied on. Given the strong capability of the team members and their understanding of the study through training, this was deemed acceptable.

• Limited working relationship with selected offices. The strong reliance on TDP to be introduced to the senior officials also meant that when working relationships were less strong, it was more difficult to schedule all interviews or access all data. This was addressed by allocating more time to such institutions, and providing more initial explanation about the nature of the exercise. In some cases, we could also rely on referrals by other government institutions (rather than TDP alone).

• Data availability on time. It was sometimes difficult for institutions to respond to the large data requests presented to them at short notice. To assist in this, the data checklists were shared with the relevant institutions by the TDP state team leads before the field teams conducted their visits, which meant that, at least sometimes, all the necessary data was ready for collection on arrival.

• Data are not available. In some cases, records were simply not available to members of the institutions in a presentable manner. This was addressed by spending considerable time with the relevant technical officers and trying to identify other sources of information that may be helpful or may indirectly help answer the research question. In one case, the field team addressed a shortage of much-needed data by working with the TDP state team lead to
request the digitisation of hard copies of information (which the institution had never digitised themselves).

In conclusion, through a combination of a strong team, sufficient training and careful management and quality assurance in the field, the team managed to collect a large body of data, both in terms of rich interviews and extensive administrative records, such that would ensure the provision of a high-quality report.
### Annex C: Additional data tables

<table>
<thead>
<tr>
<th>LGA</th>
<th>Average PTR</th>
<th>Number of pupils enrolled</th>
<th>Number of current teachers</th>
<th>Additional teachers required&lt;sup&gt;6&lt;/sup&gt;</th>
<th>% qualified teachers</th>
<th>Average PQTR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auyo</td>
<td>28</td>
<td>14,064</td>
<td>496</td>
<td>-144</td>
<td>60%</td>
<td>47</td>
</tr>
<tr>
<td>Babura</td>
<td>63</td>
<td>30,173</td>
<td>482</td>
<td>272</td>
<td>43%</td>
<td>146</td>
</tr>
<tr>
<td>Biriniwa</td>
<td>45</td>
<td>17,796</td>
<td>396</td>
<td>49</td>
<td>41%</td>
<td>110</td>
</tr>
<tr>
<td>Birnin Kudu</td>
<td>69</td>
<td>32,003</td>
<td>467</td>
<td>333</td>
<td>60%</td>
<td>114</td>
</tr>
<tr>
<td>Buji</td>
<td>31</td>
<td>9,332</td>
<td>299</td>
<td>-66</td>
<td>38%</td>
<td>82</td>
</tr>
<tr>
<td>Dutse</td>
<td>49</td>
<td>34,056</td>
<td>696</td>
<td>155</td>
<td>56%</td>
<td>87</td>
</tr>
<tr>
<td>Gagarawa</td>
<td>47</td>
<td>14,658</td>
<td>313</td>
<td>53</td>
<td>67%</td>
<td>70</td>
</tr>
<tr>
<td>Garki</td>
<td>39</td>
<td>19,609</td>
<td>500</td>
<td>-10</td>
<td>44%</td>
<td>89</td>
</tr>
<tr>
<td>Gumel</td>
<td>36</td>
<td>14,785</td>
<td>407</td>
<td>-37</td>
<td>75%</td>
<td>48</td>
</tr>
<tr>
<td>Guri</td>
<td>46</td>
<td>13,453</td>
<td>291</td>
<td>45</td>
<td>43%</td>
<td>108</td>
</tr>
<tr>
<td>Gwaram</td>
<td>62</td>
<td>31,963</td>
<td>517</td>
<td>282</td>
<td>49%</td>
<td>126</td>
</tr>
<tr>
<td>Gwara</td>
<td>49</td>
<td>13,252</td>
<td>269</td>
<td>62</td>
<td>36%</td>
<td>137</td>
</tr>
<tr>
<td>Hadejia</td>
<td>42</td>
<td>19,594</td>
<td>472</td>
<td>18</td>
<td>81%</td>
<td>51</td>
</tr>
<tr>
<td>Jahun</td>
<td>59</td>
<td>24,876</td>
<td>420</td>
<td>202</td>
<td>46%</td>
<td>129</td>
</tr>
<tr>
<td>Kafin Hausa</td>
<td>50</td>
<td>33,953</td>
<td>682</td>
<td>167</td>
<td>66%</td>
<td>75</td>
</tr>
<tr>
<td>Kaugama</td>
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<td>21,277</td>
<td>557</td>
<td>-25</td>
<td>45%</td>
<td>85</td>
</tr>
<tr>
<td>Kazaure</td>
<td>34</td>
<td>15,656</td>
<td>455</td>
<td>-64</td>
<td>49%</td>
<td>70</td>
</tr>
<tr>
<td>Kiri Kasama</td>
<td>27</td>
<td>18,070</td>
<td>668</td>
<td>-216</td>
<td>44%</td>
<td>61</td>
</tr>
<tr>
<td>Kiyawa</td>
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<td>24,976</td>
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<td>332</td>
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</tr>
<tr>
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<td>18,733</td>
<td>377</td>
<td>91</td>
<td>72%</td>
<td>69</td>
</tr>
<tr>
<td>Malam Maduri</td>
<td>31</td>
<td>19,079</td>
<td>612</td>
<td>-135</td>
<td>50%</td>
<td>62</td>
</tr>
<tr>
<td>Miga</td>
<td>69</td>
<td>18,169</td>
<td>262</td>
<td>192</td>
<td>33%</td>
<td>210</td>
</tr>
<tr>
<td>Ringim</td>
<td>46</td>
<td>25,655</td>
<td>554</td>
<td>87</td>
<td>33%</td>
<td>140</td>
</tr>
<tr>
<td>Roni</td>
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<td>11,709</td>
<td>341</td>
<td>-48</td>
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<td>118</td>
</tr>
<tr>
<td>Sule Tankakar</td>
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<td>28,041</td>
<td>633</td>
<td>68</td>
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</tr>
<tr>
<td>Taura</td>
<td>48</td>
<td>20,809</td>
<td>435</td>
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<td>54%</td>
<td>89</td>
</tr>
<tr>
<td>Yankwash</td>
<td>30</td>
<td>9,240</td>
<td>310</td>
<td>-79</td>
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<td>60</td>
</tr>
<tr>
<td>Jigawa</td>
<td>45</td>
<td>554,981</td>
<td>12,203</td>
<td>1,672</td>
<td>51%</td>
<td>89</td>
</tr>
</tbody>
</table>

Source: Authors' calculations using ASC 2014/15 data.

<sup>6</sup>This is calculated as the number of additional teachers required in each LGA in order to meet the PTR of 40:1.
Table C.2: PTRs and teacher shortages in public JSS in Jigawa, 2014/15

<table>
<thead>
<tr>
<th>LGA</th>
<th>Average PTR</th>
<th>Number of pupils enrolled</th>
<th>Number of current teachers</th>
<th>Additional teachers required(^7)</th>
<th>% qualified teachers</th>
<th>Average PQTR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auyo</td>
<td>21</td>
<td>2,483</td>
<td>117</td>
<td>-46</td>
<td>85%</td>
<td>25</td>
</tr>
<tr>
<td>Babura</td>
<td>45</td>
<td>5,443</td>
<td>121</td>
<td>35</td>
<td>75%</td>
<td>60</td>
</tr>
<tr>
<td>Biriniwa</td>
<td>18</td>
<td>1,892</td>
<td>108</td>
<td>-54</td>
<td>73%</td>
<td>24</td>
</tr>
<tr>
<td>Birnin Kudu</td>
<td>89</td>
<td>6,492</td>
<td>147</td>
<td>38</td>
<td>86%</td>
<td>52</td>
</tr>
<tr>
<td>Buji</td>
<td>18</td>
<td>1,056</td>
<td>59</td>
<td>-29</td>
<td>81%</td>
<td>22</td>
</tr>
<tr>
<td>Dute</td>
<td>32</td>
<td>9,794</td>
<td>304</td>
<td>-24</td>
<td>70%</td>
<td>46</td>
</tr>
<tr>
<td>Gagarawa</td>
<td>24</td>
<td>1,453</td>
<td>61</td>
<td>-19</td>
<td>89%</td>
<td>27</td>
</tr>
<tr>
<td>Garki</td>
<td>24</td>
<td>3,083</td>
<td>130</td>
<td>-42</td>
<td>79%</td>
<td>30</td>
</tr>
<tr>
<td>Gumel</td>
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<td>4,691</td>
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<td>-13</td>
<td>93%</td>
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<tr>
<td>Guri</td>
<td>28</td>
<td>4,071</td>
<td>147</td>
<td>-31</td>
<td>82%</td>
<td>34</td>
</tr>
<tr>
<td>Gwaram</td>
<td>52</td>
<td>8,674</td>
<td>166</td>
<td>82</td>
<td>68%</td>
<td>77</td>
</tr>
<tr>
<td>Gwiwa</td>
<td>47</td>
<td>2,851</td>
<td>61</td>
<td>20</td>
<td>72%</td>
<td>65</td>
</tr>
<tr>
<td>Hadejia</td>
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<td>8,900</td>
<td>164</td>
<td>90</td>
<td>90%</td>
<td>61</td>
</tr>
<tr>
<td>Jahun</td>
<td>35</td>
<td>4,874</td>
<td>138</td>
<td>1</td>
<td>62%</td>
<td>57</td>
</tr>
<tr>
<td>Kafin Hausa</td>
<td>32</td>
<td>5,546</td>
<td>171</td>
<td>-13</td>
<td>88%</td>
<td>37</td>
</tr>
<tr>
<td>Kaugama</td>
<td>29</td>
<td>3,817</td>
<td>130</td>
<td>-21</td>
<td>79%</td>
<td>37</td>
</tr>
<tr>
<td>Kazaure</td>
<td>21</td>
<td>3,956</td>
<td>186</td>
<td>-73</td>
<td>88%</td>
<td>24</td>
</tr>
<tr>
<td>Kiri Kasama</td>
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<td>2,366</td>
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<td>-101</td>
<td>79%</td>
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<tr>
<td>Kiyawa</td>
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<td>3,780</td>
<td>86</td>
<td>22</td>
<td>83%</td>
<td>53</td>
</tr>
<tr>
<td>Maigatari</td>
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<td>-20</td>
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<td>Malam Maduri</td>
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<td>5,695</td>
<td>171</td>
<td>-8</td>
<td>78%</td>
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<tr>
<td>Miga</td>
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<td>2,405</td>
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<td>56%</td>
<td>51</td>
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<tr>
<td>Ringim</td>
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<td>7,007</td>
<td>168</td>
<td>32</td>
<td>70%</td>
<td>60</td>
</tr>
<tr>
<td>Roni</td>
<td>23</td>
<td>2,654</td>
<td>115</td>
<td>-39</td>
<td>74%</td>
<td>31</td>
</tr>
<tr>
<td>Sule Tankakar</td>
<td>34</td>
<td>3,945</td>
<td>115</td>
<td>-2</td>
<td>90%</td>
<td>38</td>
</tr>
<tr>
<td>Taura</td>
<td>30</td>
<td>4,572</td>
<td>151</td>
<td>-20</td>
<td>73%</td>
<td>42</td>
</tr>
<tr>
<td>Yankwashi</td>
<td>17</td>
<td>2,773</td>
<td>162</td>
<td>-83</td>
<td>76%</td>
<td>23</td>
</tr>
<tr>
<td>Jigawa</td>
<td>32</td>
<td>116,793</td>
<td>3670</td>
<td>-333</td>
<td>78%</td>
<td>41</td>
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</table>

Source: Authors’ calculations using ASC 2014/15 data.

\(^7\) This is calculated as the number of additional teachers required in each LGA in order to meet the PTR of 35:1.
### Table C.3: Subject mismatch in public primary schools – Jigawa

<table>
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<tr>
<th>Subject of teaching</th>
<th>General Primary</th>
<th>English</th>
<th>Mathematics</th>
<th>Social studies</th>
<th>Basic science</th>
<th>Hausa</th>
<th>Other</th>
<th>None</th>
<th>Total Supply</th>
</tr>
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<tbody>
<tr>
<td>General Primary</td>
<td>380</td>
<td>244</td>
<td>166</td>
<td>134</td>
<td>75</td>
<td>109</td>
<td>140</td>
<td>19</td>
<td>1,267</td>
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<tr>
<td>English</td>
<td>76</td>
<td>679</td>
<td>152</td>
<td>61</td>
<td>46</td>
<td>48</td>
<td>88</td>
<td>12</td>
<td>1,162</td>
</tr>
<tr>
<td>Mathematics</td>
<td>59</td>
<td>89</td>
<td>544</td>
<td>53</td>
<td>51</td>
<td>46</td>
<td>72</td>
<td>5</td>
<td>919</td>
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<tr>
<td>Social studies</td>
<td>42</td>
<td>116</td>
<td>134</td>
<td>495</td>
<td>64</td>
<td>61</td>
<td>80</td>
<td>6</td>
<td>998</td>
</tr>
<tr>
<td>Basic science</td>
<td>54</td>
<td>115</td>
<td>136</td>
<td>74</td>
<td>351</td>
<td>107</td>
<td>237</td>
<td>15</td>
<td>1,089</td>
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<tr>
<td>Hausa</td>
<td>73</td>
<td>132</td>
<td>142</td>
<td>107</td>
<td>91</td>
<td>636</td>
<td>463</td>
<td>190</td>
<td>1,834</td>
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<tr>
<td>Other</td>
<td>60</td>
<td>124</td>
<td>126</td>
<td>61</td>
<td>59</td>
<td>101</td>
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<td>17</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>29</td>
<td>1,092</td>
<td>1,172</td>
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<tr>
<td>Total demand</td>
<td>752</td>
<td>1,509</td>
<td>1,417</td>
<td>989</td>
<td>742</td>
<td>1,115</td>
<td>2,646</td>
<td>1,447</td>
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### Table C.4: Subject mismatch in public JSS – Jigawa

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<th>Mathematics</th>
<th>Social studies</th>
<th>Basic science</th>
<th>Hausa</th>
<th>Other</th>
<th>None</th>
<th>Total Supply</th>
</tr>
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<tr>
<td>English</td>
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<td>23</td>
<td>10</td>
<td>15</td>
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<td>337</td>
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<td>Mathematics</td>
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<td>172</td>
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<td>4</td>
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<td>Social studies</td>
<td>17</td>
<td>17</td>
<td>220</td>
<td>15</td>
<td>12</td>
<td>22</td>
<td>9</td>
<td>312</td>
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<tr>
<td>Basic science</td>
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<td>22</td>
<td>10</td>
<td>251</td>
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<td>21</td>
<td>5</td>
<td>332</td>
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<td>Hausa</td>
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<td>15</td>
<td>16</td>
<td>17</td>
<td>227</td>
<td>45</td>
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<td>347</td>
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<td>Other</td>
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<td>60</td>
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<td>51</td>
<td>39</td>
<td>83</td>
<td>54</td>
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<td>6</td>
<td>1</td>
<td>7</td>
<td>18</td>
<td>403</td>
<td>447</td>
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<tr>
<td>Total demand</td>
<td>1,260</td>
<td>313</td>
<td>327</td>
<td>354</td>
<td>310</td>
<td>976</td>
<td>486</td>
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<td>-------</td>
<td>-------</td>
<td>-----------</td>
<td>---------</td>
<td>------------</td>
</tr>
<tr>
<td><strong>Primary teachers</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary teachers – numbers</td>
<td>13,824</td>
<td>13,774</td>
<td>13,143</td>
<td>13,365</td>
<td>12,796</td>
<td>13,270</td>
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</tr>
<tr>
<td>(a) Change from previous year</td>
<td>-50</td>
<td>-631</td>
<td>222</td>
<td>-569</td>
<td>-583</td>
<td>-390</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>(b) Projected attrition (5%)</td>
<td>689</td>
<td>657</td>
<td>668</td>
<td>640</td>
<td>611</td>
<td>644</td>
<td>2,576</td>
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</tr>
<tr>
<td>(c) Projected recruitment and replacement (a+b)</td>
<td>639</td>
<td>26</td>
<td>890</td>
<td>71</td>
<td>28</td>
<td>254</td>
<td>1,015</td>
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<td><strong>JSS teachers</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JSS teachers – numbers</td>
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<td>3,773</td>
<td>4,620</td>
<td>4,152</td>
<td>3,670</td>
<td>4,054</td>
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<tr>
<td>(a) Change from previous year</td>
<td>725</td>
<td>-150</td>
<td>847</td>
<td>-468</td>
<td>-482</td>
<td>-63</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>(b) Projected attrition (5%)</td>
<td>196</td>
<td>189</td>
<td>231</td>
<td>498</td>
<td>514</td>
<td>358</td>
<td>1,432</td>
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<tr>
<td>(c) Projected recruitment and replacement (a+b)</td>
<td>921</td>
<td>39</td>
<td>1,078</td>
<td>30</td>
<td>32</td>
<td>295</td>
<td>1,179</td>
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<td><strong>All SUBEB teachers</strong></td>
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</tr>
<tr>
<td>SUBEB teachers – numbers</td>
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<td>17,547</td>
<td>17,763</td>
<td>17,517</td>
<td>16,466</td>
<td>17,323</td>
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</tr>
<tr>
<td>(a) Change from previous year</td>
<td>675</td>
<td>-781</td>
<td>1,069</td>
<td>-1,037</td>
<td>-1,065</td>
<td>-454</td>
<td>N/A</td>
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<tr>
<td>(b) Projected attrition (5%)</td>
<td>885</td>
<td>846</td>
<td>899</td>
<td>1,138</td>
<td>1,125</td>
<td>1,002</td>
<td>4,008</td>
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</tr>
<tr>
<td>(c) Projected recruitment and replacement (a+b)</td>
<td>1,560</td>
<td>65</td>
<td>1,968</td>
<td>101</td>
<td>60</td>
<td>549</td>
<td>2,194</td>
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Note: Authors’ calculations. Source: Based on ASC data from 2009/10 to 2014/15
### Table C.6: Projected enrolment and teacher demand across three scenarios

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<tr>
<td><strong>Public primary schools</strong></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary student admission (status quo)</td>
<td>554,981</td>
<td>559,966</td>
<td>564,612</td>
<td>571,074</td>
<td>578,375</td>
<td>586,913</td>
<td>600,078</td>
<td>613,438</td>
<td>627,092</td>
<td>641,049</td>
<td>655,316</td>
<td>669,870</td>
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<td>Primary student admission (SESP by 2022)</td>
<td>554,981</td>
<td>565,419</td>
<td>582,146</td>
<td>607,175</td>
<td>639,220</td>
<td>678,666</td>
<td>729,293</td>
<td>781,852</td>
<td>836,441</td>
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<tr>
<td>Primary student admission (UBE by 2025)</td>
<td>554,981</td>
<td>572,512</td>
<td>603,937</td>
<td>651,567</td>
<td>714,355</td>
<td>792,853</td>
<td>891,130</td>
<td>1,100,905</td>
<td>1,328,943</td>
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<tr>
<td>Primary teachers needed (status quo)</td>
<td>12,333</td>
<td>12,444</td>
<td>12,547</td>
<td>12,691</td>
<td>12,853</td>
<td>13,043</td>
<td>13,335</td>
<td>13,632</td>
<td>13,935</td>
<td>14,246</td>
<td>14,563</td>
<td>14,886</td>
</tr>
<tr>
<td>Primary teachers needed (SESP by 2022)</td>
<td>12,333</td>
<td>12,742</td>
<td>13,309</td>
<td>14,084</td>
<td>15,048</td>
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<td>17,693</td>
<td>20,911</td>
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<tr>
<td>Primary teachers needed (UBE by 2025)</td>
<td>12,333</td>
<td>12,880</td>
<td>13,757</td>
<td>15,030</td>
<td>16,691</td>
<td>18,766</td>
<td>21,370</td>
<td>24,151</td>
<td>1,100,905</td>
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</tr>
<tr>
<td>Primary teachers to recruit per annum (status quo)</td>
<td>618</td>
<td>604</td>
<td>601</td>
<td>601</td>
<td>601</td>
<td>601</td>
<td>601</td>
<td>601</td>
<td>601</td>
<td>601</td>
<td>601</td>
<td>601</td>
</tr>
<tr>
<td>Primary teachers to recruit per annum (SESP by 2022)</td>
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<td>902</td>
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<td>1,307</td>
<td>1,527</td>
<td>1,771</td>
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<td>2,419</td>
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<td>Primary teachers to recruit per annum (UBE by 2025)</td>
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<td>1,040</td>
<td>1,392</td>
<td>1,892</td>
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<td>2,826</td>
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<td>4,052</td>
<td>4,381</td>
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<td><strong>Public JSS</strong></td>
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</tr>
<tr>
<td>JSS student admission (status quo)</td>
<td>105,551</td>
<td>104,440</td>
<td>103,626</td>
<td>105,893</td>
<td>108,904</td>
<td>111,075</td>
<td>111,618</td>
<td>112,385</td>
<td>113,476</td>
<td>116,077</td>
<td>118,719</td>
<td>121,419</td>
</tr>
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<td>JSS student admission (SESP by 2022)</td>
<td>105,551</td>
<td>106,978</td>
<td>111,929</td>
<td>122,890</td>
<td>135,615</td>
<td>148,463</td>
<td>159,927</td>
<td>175,560</td>
<td>195,950</td>
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<tr>
<td>JSS student admission (UBE by 2025)</td>
<td>105,551</td>
<td>109,183</td>
<td>118,511</td>
<td>135,932</td>
<td>155,710</td>
<td>176,122</td>
<td>195,169</td>
<td>225,442</td>
<td>268,968</td>
<td>330,693</td>
<td>401,258</td>
<td>471,339</td>
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<tr>
<td>JSS teachers needed (status quo)</td>
<td>3,405</td>
<td>3,369</td>
<td>3,343</td>
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<td>3,601</td>
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<td>5,089</td>
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<td>JSS teachers needed (UBE by 2025)</td>
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<td>9,649</td>
<td>11,585</td>
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<td>JSS teachers to recruit per annum (status quo)</td>
<td>93</td>
<td>100</td>
<td>108</td>
<td>207</td>
<td>234</td>
<td>211</td>
<td>161</td>
<td>169</td>
<td>180</td>
<td>230</td>
<td>235</td>
<td>240</td>
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<tr>
<td>JSS teachers to recruit per annum (SESP by 2022)</td>
<td>93</td>
<td>127</td>
<td>238</td>
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<td>480</td>
<td>486</td>
<td>449</td>
<td>573</td>
<td>714</td>
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<td>JSS teachers to recruit per annum (UBE by 2025)</td>
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<td>213</td>
<td>393</td>
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**Note:** Authors’ calculations.
### Table C.7: Jigawa teacher salary scale (2016)

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<th>Teacher type</th>
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<th>Rent</th>
<th>Trans</th>
<th>Meal</th>
<th>Utility</th>
<th>Enter</th>
<th>Dom All</th>
<th>Leave Grt</th>
<th>Medical</th>
<th>Total 2016</th>
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<td>Teacher (unqualified)</td>
<td>GL-01</td>
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<td>23.748</td>
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<td>6.600</td>
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<td>-</td>
<td>11.880</td>
<td>36.000</td>
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<td>126.33</td>
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<td>133.45</td>
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<td>8.640</td>
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<td>307.33</td>
<td>63.876</td>
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<td>181.27</td>
<td>33.840</td>
<td>14.520</td>
<td>11.640</td>
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<td>218.080</td>
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</table>

Source: SUBEB administrative data.

### Table C.8: Jigawa SUBEB personnel expenditure (in NGN million)

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</tr>
</thead>
<tbody>
<tr>
<td>SUBEB personnel expenditure</td>
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<td>7,975</td>
<td>10,387</td>
<td>12,498</td>
<td>12,053</td>
<td>11,607</td>
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<td>Personnel costs (SUBEB Headquarters)</td>
<td>168</td>
<td>190</td>
<td>247</td>
<td>297</td>
<td>287</td>
<td>276</td>
<td>271</td>
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<tr>
<td>Personnel costs (LGEAs)</td>
<td>6,885</td>
<td>7,785</td>
<td>10,140</td>
<td>12,201</td>
<td>11,766</td>
<td>11,331</td>
<td>12,714</td>
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<tr>
<td>Personnel costs (LGEAs - teachers only)*</td>
<td>4,409</td>
<td>4,985</td>
<td>6,494</td>
<td>7,813</td>
<td>7,534</td>
<td>7,256</td>
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Source: Jigawa Budget Information and SUBEB administrative data. * Estimated based on SUBEB administrative data.
Table C.9: Fiscal gap analysis for meeting status quo scenario

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</thead>
<tbody>
<tr>
<td><strong>Cost of recruiting new teachers (in NGN million)</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional primary teachers to recruit</td>
<td>601</td>
<td>645</td>
<td>670</td>
<td>704</td>
<td>814</td>
<td>830</td>
<td>849</td>
<td>868</td>
<td>887</td>
<td>906</td>
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<tr>
<td>Additional JSS teachers to recruit</td>
<td>108</td>
<td>207</td>
<td>234</td>
<td>211</td>
<td>161</td>
<td>169</td>
<td>180</td>
<td>230</td>
<td>235</td>
<td>240</td>
</tr>
<tr>
<td>All additional teachers to recruit (total)</td>
<td>709</td>
<td>852</td>
<td>904</td>
<td>914</td>
<td>975</td>
<td>999</td>
<td>1,029</td>
<td>1,098</td>
<td>1,122</td>
<td>1,146</td>
</tr>
</tbody>
</table>

**Fiscal gap for recruiting new teachers (in NGN million)**

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</thead>
<tbody>
<tr>
<td>Cost of recruiting new teachers required</td>
<td>290</td>
<td>670</td>
<td>1,110</td>
<td>1,664</td>
<td>2,313</td>
<td>3,041</td>
<td>3,921</td>
<td>4,940</td>
<td>6,075</td>
<td>7,416</td>
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<tr>
<td>Teacher personnel funding required (estimated)</td>
<td>9,349</td>
<td>10,133</td>
<td>10,791</td>
<td>11,694</td>
<td>13,002</td>
<td>14,330</td>
<td>15,581</td>
<td>16,988</td>
<td>18,622</td>
<td>20,494</td>
</tr>
<tr>
<td>Teacher personnel funding (projected)</td>
<td>9,059</td>
<td>9,463</td>
<td>9,681</td>
<td>10,030</td>
<td>10,689</td>
<td>11,289</td>
<td>11,660</td>
<td>12,048</td>
<td>12,547</td>
<td>13,078</td>
</tr>
<tr>
<td>Fiscal gap as % of personnel budget</td>
<td>3%</td>
<td>7%</td>
<td>11%</td>
<td>17%</td>
<td>22%</td>
<td>27%</td>
<td>34%</td>
<td>41%</td>
<td>48%</td>
<td>57%</td>
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**Cost of training new teachers (in NGN million)**

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</tr>
</thead>
<tbody>
<tr>
<td>Required NCE admission</td>
<td>1,773</td>
<td>1,792</td>
<td>1,912</td>
<td>1,959</td>
<td>2,018</td>
<td>2,153</td>
<td>2,200</td>
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<tr>
<td>Required NCE graduates</td>
<td>709</td>
<td>852</td>
<td>904</td>
<td>914</td>
<td>975</td>
<td>999</td>
<td>1,029</td>
<td>1,098</td>
<td>1,122</td>
<td>1,146</td>
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<tr>
<td>Required overall NCE enrolment</td>
<td>6,884</td>
<td>6,903</td>
<td>5,477</td>
<td>5,663</td>
<td>5,889</td>
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<td>6,553</td>
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**Fiscal gap for training new teachers (in NGN million)**

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</thead>
<tbody>
<tr>
<td>Unit cost per teacher trained</td>
<td>159</td>
<td>214</td>
<td>257</td>
<td>299</td>
<td>358</td>
<td>417</td>
<td>485</td>
<td>498</td>
<td>504</td>
<td>503</td>
</tr>
<tr>
<td>Teacher Training Cost Required (estimated)</td>
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<td>750</td>
<td>625</td>
<td>678</td>
<td>741</td>
<td>810</td>
<td>883</td>
<td>954</td>
<td>1,009</td>
<td>1,060</td>
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<tr>
<td>Teacher training funds (projected)</td>
<td>1,308</td>
<td>1,248</td>
<td>1,394</td>
<td>1,464</td>
<td>1,537</td>
<td>1,614</td>
<td>1,694</td>
<td>1,779</td>
<td>1,868</td>
<td>1,961</td>
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<td>Fiscal gap as % of CoE budget</td>
<td>-46%</td>
<td>-40%</td>
<td>-55%</td>
<td>-54%</td>
<td>-52%</td>
<td>-50%</td>
<td>-48%</td>
<td>-46%</td>
<td>-46%</td>
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**Note:** Authors’ calculations
Table C.10: Fiscal gap analysis for meeting the SESP by 2022 scenario

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</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of teachers to recruit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional primary teachers to recruit</td>
<td>1,077</td>
<td>1,307</td>
<td>1,527</td>
<td>1,771</td>
<td>2,125</td>
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<td>Additional JSS teachers to recruit</td>
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<td>423</td>
<td>480</td>
<td>486</td>
<td>449</td>
<td>573</td>
<td>714</td>
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<td>All additional teachers to recruit (total)</td>
<td>1,315</td>
<td>1,730</td>
<td>2,007</td>
<td>2,257</td>
<td>2,574</td>
<td>2,850</td>
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<tr>
<td><strong>Fiscal gap for recruiting new teachers (in NGN million)</strong></td>
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<tr>
<td>Total recruitment cost of new teachers</td>
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<td>1,306</td>
<td>2,275</td>
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<td>5,202</td>
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<td>Teacher personnel funding required (estimated)</td>
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<td>10,928</td>
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<td>14,068</td>
<td>16,571</td>
<td>19,415</td>
<td>22,637</td>
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<tr>
<td>Teacher personnel funding (projected)</td>
<td>9,059</td>
<td>9,463</td>
<td>9,681</td>
<td>10,030</td>
<td>10,689</td>
<td>11,289</td>
<td>11,660</td>
</tr>
<tr>
<td>Fiscal gap as % of personnel budget</td>
<td>7%</td>
<td>15%</td>
<td>26%</td>
<td>40%</td>
<td>55%</td>
<td>72%</td>
<td>94%</td>
</tr>
<tr>
<td><strong>Number of teachers to train</strong></td>
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<td>Required NCE admission</td>
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<td>Required NCE graduates</td>
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<td>Required overall NCE enrolment</td>
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<td>21,834</td>
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<td><strong>Fiscal gap for training new teachers (in NGN million)</strong></td>
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<td></td>
</tr>
<tr>
<td>Unit cost per teacher trained</td>
<td>159</td>
<td>214</td>
<td>257</td>
<td>299</td>
<td>358</td>
<td>417</td>
<td>485</td>
</tr>
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<td>Teacher training cost required (estimated)</td>
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<td>2,452</td>
<td>2,777</td>
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<td>1,394</td>
<td>1,464</td>
<td>1,537</td>
<td>1,614</td>
<td>1,694</td>
</tr>
<tr>
<td>Fiscal gap as % of CoE budget</td>
<td>-6%</td>
<td>12%</td>
<td>25%</td>
<td>41%</td>
<td>60%</td>
<td>72%</td>
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Note: Authors’ calculations
### Table C.11: Fiscal gap analysis for meeting the UBE by 2025 scenario

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</thead>
<tbody>
<tr>
<td><strong>Cost of recruiting new teachers (in NGN million)</strong></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Number of teachers to recruit</td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>Additional primary teachers to recruit</td>
<td>1,392</td>
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<td>3,734</td>
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<td>Additional JSS teachers to recruit</td>
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<td>1,480</td>
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<td>2,322</td>
<td>2,345</td>
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<td>3,587</td>
<td>4,179</td>
<td>4,817</td>
<td>5,532</td>
<td>6,415</td>
<td>7,052</td>
<td>6,080</td>
</tr>
<tr>
<td>Fiscal gap for recruiting new teachers (in NGN million)</td>
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<td>20,470</td>
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<td>28,399</td>
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<td>50,321</td>
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<td>9,463</td>
<td>9,681</td>
<td>10,030</td>
<td>10,689</td>
<td>11,289</td>
<td>11,660</td>
<td>12,048</td>
<td>12,547</td>
<td>13,078</td>
</tr>
<tr>
<td>Fiscal gap as % of personnel budget</td>
<td>9%</td>
<td>21%</td>
<td>37%</td>
<td>58%</td>
<td>80%</td>
<td>107%</td>
<td>144%</td>
<td>188%</td>
<td>237%</td>
<td>285%</td>
</tr>
<tr>
<td><strong>Cost of training new teachers (in NGN million)</strong></td>
<td></td>
<td></td>
<td></td>
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<td>Number of teachers to train</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Required NCE admission</td>
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<td>7,627</td>
<td>8,888</td>
<td>10,425</td>
<td>12,239</td>
<td>14,594</td>
<td>16,431</td>
<td>14,078</td>
<td>14,078</td>
<td>14,078</td>
</tr>
<tr>
<td>Required NCE graduates</td>
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<td>2,730</td>
<td>3,312</td>
<td>3,890</td>
<td>4,533</td>
<td>5,317</td>
<td>6,242</td>
<td>7,443</td>
<td>8,380</td>
<td>7,180</td>
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<td>Required overall NCE enrolment</td>
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<td>17,459</td>
<td>23,069</td>
<td>26,940</td>
<td>31,552</td>
<td>37,258</td>
<td>45,324</td>
<td>45,103</td>
<td>44,587</td>
<td>42,234</td>
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<tr>
<td>Fiscal gap for training new teachers (in NGN million)</td>
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<td></td>
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</tr>
<tr>
<td>Unit cost per teacher trained</td>
<td>159</td>
<td>214</td>
<td>257</td>
<td>299</td>
<td>358</td>
<td>417</td>
<td>485</td>
<td>498</td>
<td>504</td>
<td>503</td>
</tr>
<tr>
<td>Teacher training cost required (estimated)</td>
<td>1,750</td>
<td>1,897</td>
<td>2,625</td>
<td>3,227</td>
<td>3,969</td>
<td>4,921</td>
<td>6,000</td>
<td>6,567</td>
<td>6,817</td>
<td>6,780</td>
</tr>
<tr>
<td>Teacher training funds (projected)</td>
<td>1,308</td>
<td>1,248</td>
<td>1,394</td>
<td>1,464</td>
<td>1,537</td>
<td>1,614</td>
<td>1,694</td>
<td>1,779</td>
<td>1,868</td>
<td>1,961</td>
</tr>
<tr>
<td>Fiscal gap as % of CoE budget</td>
<td>34%</td>
<td>52%</td>
<td>88%</td>
<td>120%</td>
<td>158%</td>
<td>205%</td>
<td>254%</td>
<td>269%</td>
<td>265%</td>
<td>246%</td>
</tr>
</tbody>
</table>

**Note:** Authors’ calculations
Instructions: Answer ALL questions. Each question carries equal marks.

1. Which of the following statements is correct?
   (a) Economics attains the same degree of precision and accuracy as Biology, Physics and Chemistry
   (b) Economics is a science
   (c) The will be opportunity cost even if human wants are few and the means for satisfying them are unlimited
   (d) Human wants are of equal importance

2. Which of the following statements is not necessarily true?
   (a) Human wants are
   (b) It is not difficult to find means of satisfying all our wants
   (c) Without scarcity there will be no economics
   (d) Human wants are of varying importance

3. Opportunity cost is a measure of:
   (a) The time it takes to carry out an action
   (b) Foregone alternatives
   (c) The money spent in the purchase of a commodity
   (d) The intrinsic satisfaction derived from the purchase of human of a commodity

4. Production is:
   (a) Making goods that have market value
   (b) Creation of goods and services needed for the satisfaction of human wants
   (c) Creation of services that have utility value
   (d) None of the above
5. The reward of land is:
   (a) Profit (b) Rent (c) Salaries (d) Wages

6. Jigawa State Government is so rich that it does not worry about opportunity cost. TRUE or FALSE

7. A commodity that cannot be physically transferred from one place to another is not an economics good. TRUE or FALSE

8. Air, though useful, is of no interest to the economist. TRUE or FALSE

9. Scarcity is usually measured in absolute terms. TRUE or FALSE

10. To an economist, cost has to do with optimal allocation of resources. TRUE or FALSE

11. One thing that distinguishes business organisations from other organisations is: (a) The profit motive (b) The structure of the building (c) The number of members (d) None of the above

12. Which of the following applies to sole proprietorship?
   (a) Quick and easy decision (b) Greater specialisation in management function (c) Flexibility in admission of new members (d) Involvement of shareholders in making decisions

13. The long run is a period during which:
   (a) A firm can vary all of its factors in supply (b) 6–9 years elapse (c) A firm ceases to be an infant industry (d) Long-term loans are repayable

14. Limited liability implies that:
   (a) The owners are protected against the sale of their personal assets for the settlement of business debt (b) The owners of the company are very rich (c) The obligations of the owners are very few (d) None of the above

15. Which of the following is the least mobile?
   (a) Land (b) Labour (c) Capital (d) Entrepreneurs

16. Proportional tax system as the name implies, is where payers the ……. Or equal ……… of their income
   (a) same & percentage (b) rate & percentage (c) percentage & income (d) percentage & same

17. Which of the following is an example of a public limited liability company?
   (a) First Bank Nigeria Plc. (b) Agro Nigeria Limited (c) A & B (d) None of the above

Marks of students in Economics Test are: 10, 5, 6, 4, 5, 2, 3, 1, 9

Use the above information

18. Mean score is: (a) 3 (b) 8 (c) 5 (d) 6

19. Median score is: (a) 3 (b) 4 (c) 5 (d) 3

20. Mode score is: (a) 4 (b) 3 (c) 5 (d) 6

Source: CoE Gumel, 2013/14
Instruction: Answer ALL the questions. Each question is followed by four options, lettered A to D. Find out the correct option for each question and shade the answer space which bears the same letter as the option you have chosen. Give only one answer to each question.

BOOK-KEEPING AND ACCOUNTING

Q1. Which of the following is NOT a subsidiary book of accounts?
   a. Cash book
   b. Journal proper
   c. Ledger
   d. Purchase

Q2. The transport fare of goods from factory to customers should be charged to
   a. Balance sheet
   b. Petty cash book
   c. Profit and loss account
   d. Trading account

Use the information below to answer questions 3–6. The following information is extracted from the books of Malam Magaji, a sole trader, for the year ended 31st December 2012.

- Net sales 30,000.00
- Net purchases 12,000.00
- Stock (1/1/12) 10,000.00
- Salaries 2,500.00
- General expenses 1,500.00
- Stock (31/12/12) 5,000.00

Q3. What is the gross profit?
   a. N9,000.00
   b. N12,000.00
   c. N13,000.00
   d. N17,000.00

Q4. What is the net profit?
   a. N22,000.00
   b. N17,000.00
Q5. Calculate the cost of goods sold
   a. N17,000.00
   b. N9,000.00
   c. N22,000.00
   d. N13,000.00

Q6. What is the average value of stock?
   a. N10,000.00
   b. N9,000.00
   c. 13,000.00
   d. 7,500.00

Q7. The maximum amount which a firm is allowed to raise by way of selling shares is
   a. Capital employed
   b. Authorised capital
   c. Issued capital
   d. Working capital

Q8. XYZ It sold its shares of N1 each for N2.05k while ABC ltd shares are sold at
   a. Cash price
   b. Par
   c. Discount
   d. Premium

Q9. A contract for the hire of a ship is known as
   a. Charter party
   b. Hire purchase
   c. Ship brokers
   d. Shippers council

Q10. Which of the following is not an aim of advertising?
   a. Creating a desire to purchase the goods
   b. Arousing the interest of the public
   c. Inspiring public confidence in the goods
   d. Reducing the cost of the goods produced

Q11. The granting of permission to pay at a future date for something of value received now is called
   a. Hire purchase
   b. Credit
   c. instalment al payment
   d. overdraft

Q12. The sum which the insured pays periodically to his insurance company is called
   a. a brokerage
   b. a commission
   c. a premium
Q13. An allowance made to a customer for prompt payment is known as
   a. allowance
   b. trade discount
   c. cash discount
   d. commission

Q14. A tax paid on goods manufactured and consumed in your country is called

Q15. Banks issue cheque books to customers holding ............ accounts
   a. current
   b. deposit
   c. fixed deposit
   d. savings

ECONOMICS
Q16. The reward for entrepreneurship is
   a. interest
   b. profit
   c. rent
   d. wages

Q17. If a 20% rise in the price of whisky leads to a 30% increase in the quantity of demand for schnapps, the cross elasticity of demand is
   a. 3.0
   b. 2.5
   c. 2.3
   d. 1.5

Q18. Which of the is NOT applicable to per capita income?
   a. It is calculated as national income year population
   b. It is calculated as population over national income
   c. It helps in the assessment of standard of living
   d. It is used as one of the indicators of economic growth

Q19. The characteristic of money that ‘each unit held by different individuals must be identical’ is referred to as
   a. Durability
   b. General acceptability
   c. Homogeneity
   d. Portability

Q20. A record that shows the relationship between one country’s total payments to all other countries and its total receipts from them is called
   a. Balance of payment
   b. Balance of trade
   c. Capital account
   d. Terms of trade

Source: CoE Gumel, 2013/14
1. The content of Social Studies is dynamic in nature because it’s based on the
   a. Need of the society
   b. Level of the society
   c. Problems of the society
   d. Knowledge of the society

2. Gold, diamond, petroleum and uranium are examples of
   a. Social resources
   b. Agricultural resources
   c. Human resources
   d. Natural resources

3. Culture can be defined as
   a. Way of dressing
   b. The language spoken by people in the society
   c. Total way of life
   d. The way we worship God

4. All of the following are Social Studies objectives except
   a. Development foreign values
   b. Citizenship education
   c. Inculcating of the right types of values and attitudes

5. ................ is the conveyance of goods, persons and services from one place to another
   a. Movement
   b. Transportation
   c. Marketing

6. Which of the following is not a purpose of population census in led to
   a. Determining the population size
   b. Rural–urban migration
   c. Determining taxes and levies
   d. Determining fertility rate

7. The creation of more states and local government has led to
   a. Disunity in the country
   b. Grassroots development
   c. Satisfaction of self interest
   d. Disintegration

8. The three organs of government are
   a. Local, state and federal government
   b. Executive, capitalism and socialism
   c. Military, civilian and police

9. ................ is the atmospheric condition of a place or an area over a short period of time
a. Temperature
b. Human
c. Weather
d. Rainfall

10. Marriage can be defined as:
   a. A contract arrangement between a man and a woman
   b. Coming together of a man and a woman to live as husband and wife
   c. Legal union of a man and a woman to live as husband and wife

11. .................. is the group of people who have blood relations
   a. Community
   b. Family
   c. Society
   d. Town

12. The right of a citizen to vote in an election is referred to as
   a. Delegation
   b. Nomination
   c. Authority
   d. Franchise

13. Separation of power means
   a. Functions of government must not be concentrated in one hand
   b. Organs of government must not cooperate
   c. Organs of government must not work together
   d. Legislature and executive must antagonise each other

14. Case laws are made by
   a. The executives
   b. The legislative
   c. The judiciary
   d. The local government

15. The physical environment comprises features that are:
   a. Created by society
   b. Created by Almighty God
   c. Created by Dantata and Sawoe
   d. Created by federal government

16. Monogamy is a system of marriage whereby
   a. One man marries only two wives
   b. One man marries only one wife
   c. One man marries more than one wife

17. .................. is a type of family comprising father, mother, children, uncle, grandfather, grandmother, etc.
   a. Nuclear family
   b. Extended family
   c. Homogeneous family
   d. Large family

18. Define Social Studies

19. List three subjects that are related to Social Studies education

20. State two reasons why you want to study Social Studies

Source: CoE Gumel, 2013/14
## Annex D: Research matrix

<table>
<thead>
<tr>
<th>Research questions</th>
<th>Data requirements</th>
<th>Data sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Teacher demand</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Current teacher demand:</td>
<td>• Baseline PTRs and PQTRs per LGA</td>
<td>• ASC data, 2014/15</td>
</tr>
<tr>
<td></td>
<td>• Official targets on PTRs and PQTRs</td>
<td>• State policy documents, KIIs with SUBEB officials</td>
</tr>
<tr>
<td></td>
<td>• Data on teachers’ specialisation and subjects taught</td>
<td>• Jigawa: ASC data, 2014/15</td>
</tr>
<tr>
<td></td>
<td>• State-level practices related to subject-specific teaching</td>
<td>• Zamfara: SUBEB records&lt;sup&gt;8&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>• Data on teachers’ specialisation and subjects taught</td>
<td>• KIIs with SUBEB officials</td>
</tr>
<tr>
<td></td>
<td>• What are the official targets related to the main policy levers that influence demand (class sizes, teaching workloads, required hours of instruction)?</td>
<td>• State policy documents, KIIs with SUBEB officials</td>
</tr>
<tr>
<td>2. Future teacher demand:</td>
<td>• Jigawa SESP</td>
<td>Zamfara:</td>
</tr>
<tr>
<td></td>
<td>• School-age population</td>
<td>• 2006 Population Census</td>
</tr>
<tr>
<td></td>
<td>• Total enrolment</td>
<td>• DHS – various years</td>
</tr>
<tr>
<td></td>
<td>• Pupil flow (repetition, dropout and transition rates)</td>
<td>• ASC data, 2013/14 and 2014/15</td>
</tr>
<tr>
<td></td>
<td>• Targets for PTRs and enrolment</td>
<td>• National Population Council birth records</td>
</tr>
<tr>
<td></td>
<td>• Teacher retention rate (attrition, retirements, dismissals)</td>
<td>• SUBEB records</td>
</tr>
<tr>
<td></td>
<td>• What is the estimated overall future demand for teachers in Jigawa from 2013 to 2022?</td>
<td>• State education policies (including IQS policy)</td>
</tr>
<tr>
<td></td>
<td>• What is the estimated overall future demand for teachers in Zamfara from 2016 to 2025?</td>
<td>• CoEs’ records</td>
</tr>
<tr>
<td></td>
<td>• What does this mean for net recruitment requirements in Zamfara over this period?</td>
<td></td>
</tr>
</tbody>
</table>
## Research questions

<table>
<thead>
<tr>
<th>Research questions</th>
<th>Data requirements</th>
<th>Data sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher attrition rate disaggregated by qualification and years of service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State’s retirement policy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Teacher supply

1. Providers of teacher training in the two states:
   - Who are the main providers of teacher training?
   - How many teachers do they train per year?
   - How do they set their intake quotas?
   - How much flexibility do they have to expand provision?
   - What role do private providers play in the provision of teacher training?

   - No. of CoE graduates per year over the last 10 years
   - Key probes: scope to recruit additional lecturers, spare capacity

   - KII with TDP pre-service lead
   - CoEs’ records
   - KII with CoE officials
   - KII with TDP pre-service lead

2. How efficient is the teacher training system?

   - Graduation, repetition and dropout rates over the last 10 years

   - CoEs’ records

3. The credentials of teacher trainees:
   - What is the calibre of teacher trainees and how has this changed over time?
   - What are the enrolment requirements at the CoEs? How strictly are they enforced?
   - How do the academic achievements of teacher trainees compare to that of the rest of their cohort?

   - End of NCE final exam results
   - Average SSCE grades of teacher trainees
   - Entry requirements for popular university degrees

   - KII with CoE officials (key probes: subject knowledge, level of motivation)
   - CoEs’ records
   - KII with CoE officials
   - CoEs’ records
   - KII with officials at leading universities

4. What is the likely size of the reserve pool of teachers?

   - No. of graduates from CoEs (over the last 10 years)
   - Annual teacher recruitment

   - CoEs’ records
   - SUBEB’s records
   - SUBEB’s records

---

9 The team will need to check that data on teacher recruitments obtained from the SUBEBs include any LGEA-level recruitment. The numbers obtained from the SUBEB can also be triangulated against ASC data.
### Research questions

<table>
<thead>
<tr>
<th>Data requirements</th>
<th>Data sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Number of applicants per post advertised by the SUBEB</td>
<td>• KIlIs with SUBEB officials</td>
</tr>
</tbody>
</table>

**C. Teacher financing**

<table>
<thead>
<tr>
<th>Research question</th>
<th>Data requirements</th>
<th>Data sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is the annual personnel cost (salaries and allowances) associated with the additional demand for primary and JSS teachers?</td>
<td>• Salary scales for primary and JSS teachers • Teacher allowances • Additional teacher demand • Nigeria inflation forecasts</td>
<td>• Projections • IMF</td>
</tr>
<tr>
<td>2. What is the annual pre-service training cost for newly recruited teachers?</td>
<td>• CoE unit costs • Additional recruitment needs</td>
<td>• CoEs’ records • Projections</td>
</tr>
<tr>
<td>3. What is the gap between available and required salaries and training budgets over 2016 to 2020?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Data requirements</th>
<th>Data sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Baseline budget for teachers’ salaries • Historical data on budgets for teacher’ salaries • Baseline budget for CoEs • Inflation and growth forecasts</td>
<td>• SMoE’s records • IMF</td>
</tr>
</tbody>
</table>

### D. Teacher policy and processes

#### D.1. Recruitment

<table>
<thead>
<tr>
<th>Research question</th>
<th>Data requirements</th>
<th>Data sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Annual recruitment levels:</td>
<td>• What processes do the state governments use to set annual recruitment levels? Are there systematic processes in place to determine the number of new teachers required per grade, subject, and school? • If there are no such processes, what are the reasons for this? • How straightforward would it be to introduce a regular system for assessing teacher recruitment needs? • Once recruitment needs have been identified, what is the process for obtaining the release of funds to pay for new recruitment?</td>
<td>• KIlIs with SUBEB officials • KIlIs with SMoE officials</td>
</tr>
<tr>
<td>2. Recruitment processes:</td>
<td>• What are the different pathways for recruitment? What are the requirements associated with each of these? (Formal qualifications, any additional tests, practical assessments)</td>
<td>• KIlIs with SUBEB officials</td>
</tr>
</tbody>
</table>

---

10 This is the period over which inflation and growth forecasts from the IMF are available for Nigeria.

11 Where feasible, we will look into alternative sourcing of funding that may help to close this gap (e.g. unaccessed funds from the UBE Intervention Fund).
<table>
<thead>
<tr>
<th>Research questions</th>
<th>Data requirements</th>
<th>Data sources</th>
</tr>
</thead>
</table>
| • How effective are these in terms of ensuring that the government is recruiting the best available candidates? Are there mechanisms in place to ensure that the top NCE graduates are the first to be recruited?  
• What procedures do the states have in place to ensure that teachers’ certifications are authentic?  
• To what extent are recruitment practices shaped by federal-level policies?  
• To what extent are state-level policies on recruitment adhered to in practice? | |  
| 3. Schools’ influence on the recruitment process:  
• Are there processes in place for head teachers to inform LGEAs/SUBEBs about their staffing needs (number of teachers required per subject and grade, additional requirements related to experience or qualifications)?  
• Do schools have any say in the recruitment of teachers?  
• What are the views of state officials on the desirability of the current degree of school-level involvement/autonomy in the recruitment process? | | • KII s with SUBEB officials  
| 4. Are there any planned or ongoing initiatives to improve recruitment practices? | | • KII s with SUBEB officials  
| D.2. Teacher deployment | |  
| 1. Deployment processes:  
• What systems do the states have in place to assess schools’ staffing needs and make decisions on where to deploy teachers?  
• How do these processes work in practice?  
• What role do LGEAs play in deploying teachers?  
• Are there clear and transparent processes for deciding which schools to post teachers to?  
• Do teachers have any say over where they get posted? What are the merits and demerits of current practices on this front?  
• What is the official process for making decisions on teacher transfers? How does this work in practice? | | • KII s with SUBEB officials  
| 2. Equity considerations:  
• Are there any mechanisms in place to ensure that the most disadvantaged students have access to more qualified/experienced/better-performing teachers? | | • KII s with SUBEB officials  

Teacher Supply and Demand in Jigawa | Final Report
<table>
<thead>
<tr>
<th>Research questions</th>
<th>Data requirements</th>
<th>Data sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Are there any mechanisms in place to ensure that remote/rural/disadvantaged schools have PTRs that lie within official norms?</td>
<td></td>
<td>• ASC data</td>
</tr>
<tr>
<td>• What are the views of senior state-level officials on the desirability and feasibility of such processes?</td>
<td></td>
<td>• ASC data (Jigawa); SUBEB’s records (Zamfara)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Teacher demand projections</td>
</tr>
<tr>
<td>3. The efficiency of current deployment patterns:</td>
<td></td>
<td>• KIIs with SUBEB officials</td>
</tr>
<tr>
<td>• How even are PTRs across schools? To what extent is variation in PTRs driven by schools’ locations?</td>
<td></td>
<td>• KIIs with SMoE officials</td>
</tr>
<tr>
<td>• To what extent is there a match between teachers’ subject specialisations and the subjects that they teach?</td>
<td></td>
<td>• Review of relevant state documents, obtained from state officials</td>
</tr>
<tr>
<td>• How evenly are teachers deployed across primary and JSS?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Do official targets related to teaching loads differ at the primary and JSS levels? Is there a clear rationale for these differences? If these targets are federally mandated, are they indicative or binding at the state level?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. What policies have state governments introduced to improve deployment patterns?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key policies that will be considered:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• TIA in Jigawa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• SESP projections of teacher demand in Jigawa. [To what extent have these influenced teacher recruitment and the CoEs’ intake quotas?]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• FTTSS in Zamfara</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. What further steps can be taken to make the pattern of teacher deployment more efficient?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.3. Teacher training policy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. What procedures do CoEs have in place to match their intake to overall demand?</td>
<td></td>
<td>• KIIs with CoE officials</td>
</tr>
<tr>
<td>What steps can be taken to improve this process?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. What procedures do CoEs have in place to improve their intake quality and graduation credentials? What steps can be taken to improve this process?</td>
<td></td>
<td>• KIIs with CoE officials</td>
</tr>
</tbody>
</table>
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