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# School Plant Planning and Management and the Future of Education in Nigeria

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## ABSTRACT

Nigeria is unlikely to deliver the education reforms it has announced on school buildings that lack water, safe toilets, power, security and maintenance. This paper argues that school plant planning and management, long treated as a civil-works afterthought, is now, it is argued here, a binding constraint on access, learning quality and the country's human capital goals. The argument rests on a desk review and on Nigerian studies that are mostly correlational, so it is offered as a reasoned position and not as a proven causal finding. Using a structured desk review of national audit data, UNICEF and WHO/UNICEF monitoring reports, World Bank programme documents, budget analyses and the Nigerian school plant literature, it examines how school facilities are planned, financed, managed and protected across the federal, state and local tiers. Three conclusions emerge. First, planning is supply-led and fragmented: classroom construction is counted, but sites, standards, risk, utilities and lifetime costs are not planned together. Second, management failures, namely weak maintenance, thin data and low community ownership, erode the value of capital already spent. Third, the sector's future, shaped by a very young and growing population, digital and hybrid learning, climate hazards, insecurity and skills reform, demands a different kind of school plant. The paper proposes a whole-school, risk-informed, maintainable framework and a set of policy and practice recommendations for planners, managers and funders.

**Keywords**: school plant, educational planning, facilities management, school safety, climate-resilient schools, basic education, Nigeria

## INTRODUCTION

The school plant is the physical system that makes teaching possible: buildings, grounds, furniture, laboratories and workshops, water and sanitation, power, security and the services that keep them running. In Nigeria it has long been discussed as a matter of classroom counts. It is better understood as a precondition for other reforms, because a new curriculum, a trained teacher or a digital platform is likely to deliver little in a flooded, overcrowded or unsafe school.

The stakes are high. The World Bank puts Nigeria's Human Capital Index at 0.36, below the Sub-Saharan average of 0.40, and notes that the country has the world's largest population of out-of-school children (World Bank, 2025b, Executive Summary). Counts of out-of-school children vary with definition and source: UNICEF cites about 10.2 million at primary level from the 2021 Multiple Indicator Cluster Survey (News Agency of Nigeria, 2025), the World Bank's programme assessment estimates 14.8 million children aged 5–14 (World Bank, 2025b), and the Minister of Education has cited 15 million, with over 45 million children classified as learning poor (Adeyemi, 2025). Whatever the true figure, the physical capacity to enrol, seat, protect and teach these children does not yet exist.

Policy attention to infrastructure is rising. The Universal Basic Education Commission (UBEC) has adopted a Whole School Approach under which interventions cover classrooms, toilets, water, solar power, fencing and administrative blocks rather than isolated buildings (Acheme, 2026). The World Bank approved US$500 million in financing for the Nigeria HOPE for Quality Basic Education for All (HOPE-EDU) programme in March 2025 (World Bank, 2025a), a programme that targets about 29 million children, 500,000 teachers and

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more than 65,000 public primary schools. Yet press accounts of the programme's 2026 restructuring paper report that the grant financing tied to new classrooms was cut by more than half and that none of the credit had been disbursed at that point (Enome, 2026; Fiyinfunoluwa, 2026). Ambition and delivery are moving at different speeds.

### Problem Statement

School plant decisions in Nigeria are made across three tiers of government, many agencies and thousands of communities, usually without shared standards, reliable data or a lifetime-cost view. The result is a familiar pattern: buildings are commissioned, commissioned again after decay, and rarely maintained; rural and northern schools fall furthest behind; and hazards such as floods, fire and armed attack are met after the fact. This pattern weakens the return on every naira spent on basic education.

### Objectives

The paper aims to:

1. clarify the concepts of school plant, planning and management and the evidence linking them to learning;
2. assess how school plant is planned, financed and managed in Nigeria today;
3. examine school safety, disaster risk and environmental safeguards as design and management requirements;
4. identify what the likely future of Nigerian education implies for the school plant; and
5. propose a practical framework and recommendations for planners and managers.

### Method and Limits

The paper is a structured desk review that concentrates on basic and secondary schools, although many points also apply to tertiary institutions. It draws on government and agency statements, United Nations and World Bank documents, budget analyses and peer-reviewed Nigerian studies on school plant. Where sources disagree, ranges are reported rather than a single figure chosen. Two limits apply. First, no primary data were collected. Second, several recent figures reach this paper through press reports of official statements rather than through the primary releases; these are cited as reported and attributed to the body that issued them. Where a consequential figure rests on press coverage, it is corroborated with a second report or flagged as provisional in the text.

## CONCEPTUAL AND THEORETICAL FRAMEWORK

### School Plant, Planning, and Management

Nigerian scholarship defines the school plant as the environment, buildings, facilities and equipment of a school. A fuller definition includes the structure and its building systems (plumbing, electrical and power, telecommunications, security and fire suppression), furnishings and equipment, and the grounds for sport, outdoor learning and access (Adeboyeje, 2000; Akpan, 2003, as cited in Oleforo & Maxwell, 2015). This paper adopts the fuller definition because it is the one under which water, power, connectivity and safety fall inside the plant rather than beside it. Two activities need to be kept apart. School plant planning is anticipatory: deciding what is needed, where, to what standard and at what cost, from needs assessment and site selection through design and financing. School plant management is operational: equipping, operating, using, maintaining and renewing the plant once it exists. Oleforo and Maxwell (2015) describe the whole chain as determining need, programme planning, design, construction, furnishing, operation, utilisation, maintenance and modernisation. Much policy attention goes to the first half of that chain; much of the loss

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occurs in the second.

**Evidence Linking Plant to Learning**

Nigerian studies consistently report a positive association between school plant and student performance, butthe designs are modest. In Nnewi Education Zone, Anambra State, a correlational study covering the 49 schools of the zone found a positive relationship between school plant and academic performance, more plant components in urban than rural schools, and a more positive attitude to maintenance among urban principals (Asiegbu & Amojo, 2021). In Uyo, Akwa Ibom State, the management of instructional facilities and circulation space was significantly related to Biology performance, while management of recreational facilities was not (Oleforo & Maxwell, 2015). A Kwara State study examined buildings, furniture and playgrounds against performance (Omosidi et al., 2015). These studies rely on questionnaires, small samples and single subjects, and they cannot establish cause. They are best read as consistent signals, not proof. Their most useful message is distributional: the plant is unevenly provided and unevenly maintained, and rural schools are on the losing side of both.

International evidence points the same way, with caveats. In England, the HEAD project studied 153 classrooms in 27 schools and 3,766 pupils and found that the physical characteristics of classrooms explained 16% of the variation in pupils' learning progress over a year (Barrett et al., 2015). A World Bank synthesis of the evidence on school infrastructure concludes that investment in quality infrastructure is strongly associated with better learning outcomes, while marking the areas where evidence is thin (Barrett et al., 2019). Reviews of developing-country research are more cautious. One review of studies from 1990 to 2012 found some evidence that toilets improve learning and that laboratories and drinking water raise enrolment, but judged the overall evidence base to be weak (Cuesta et al., 2016). Earthman (2004), reviewing the research for a court case on school facilities in Maryland, recommended that highest priority go to the elements with a demonstrated effect on achievement and to those that bear directly on student safety.

Taken together, the literature supports two working principles for Nigeria: treat safety and basic services as first-order requirements, and measure results instead of assuming them.

**Three Lenses**

The paper uses three complementary lenses.

- Systems view. Plant is an input to the educational process, alongside teachers, curriculum and learners, and its components interact (Oleforo & Maxwell, 2015). A classroom without a toilet block, water or a fence is an incomplete input.

- Life-cycle view. A school is an asset with a cycle of planning, construction, operation, maintenance and renewal. Cost and value are judged over the whole cycle, not at handover.

- Risk and resilience view. Plant either reduces or creates exposure to hazards. Nigeria's Minimum Standards for Safe Schools organise this across six areas: school governance, violence prevention, natural hazards, conflict, everyday risks and safe infrastructure (Federal Ministry of Education [FME], 2021a).

Together they imply a simple chain used throughout the paper: sound planning produces a plant that is fit and safe; good management keeps it so; and a plant that is fit, safe and maintained supports attendance, teaching and learning.

**School Plant Planning in Nigeria**

**Who Plans, and With What Money**

Basic education infrastructure is planned and paid for across tiers. The Federal Ministry of Education sets

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policy; UBEC channels federal intervention funds, with about half of its allocation from the Consolidated Revenue Fund disbursed to states for infrastructure; State Universal Basic Education Boards (SUBEBs) deliver on the ground, and states must pay counterpart funds to draw down UBEC money (Lawal, 2022). A 2025 Federal High Court ruling opened the way for direct funding to Local Government Education Authorities (LGEAs), which stakeholders see as a boost for primary school infrastructure (Nnaike & Ogundare, 2026).

The system works only if states pay in. As of February 2022, 26 states and the Federal Capital Territory (FCT) had reportedly not accessed ₦33.6 billion in UBEC funds, and UBEC's chairman was reported to have accused states of not being enthusiastic about funding basic education (Lawal, 2022). Insecurity compounds the problem by slowing construction, causing abandonment and sometimes destroying completed projects (Lawal, 2022).

The legal basis is the Compulsory, Free Universal Basic Education and Other Related Matters Act of 2004, which created UBEC and gave states the duty to provide basic education. A state qualifies for the federal block grant only if it contributes not less than 50% of the cost of the projects (Okogba, 2021). Counterpart funding has long been the sticking point. Plan International Nigeria reports that 27 states failed to meet the requirement in UBEC's 2024 report, and it proposes raising UBEC's allocation from 2% to 5% of the Consolidated Revenue Fund (Adeyemi, 2026). In a judgment delivered on October 9, 2025, and reported in November, the Federal High Court in Lagos held that the right to free, compulsory basic education is enforceable under the Act, but that the counterpart provision is directory and conditional, not mandatory, while states remain bound by the Act's duty to provide basic education (Ajuwon, 2025). The practical effect is that no state is legally compelled to unlock the money that would build its schools.

**What the Planning Data Show**

The best national picture of the plant comes from UBEC's National Personnel Audit (NPA). The figures in Table 1 were reported in 2022 and are the most detailed in the sources reviewed; they should be treated as dated and replaced with results of the 2022 round as they become available.

**Table 1**

Selected School Plant Indicators From UBEC Audits

| Indicator | Figure | Source |
|---|---|---|
| Public classrooms required vs. available | 195,484 vs. 152,028 (deficit of 43,456) | UBEC NPA, as cited in Lawal (2022) |
| Learner–classroom ratio | 45 learners per classroom (standard cited: 40) | UBEC NPA, as cited in Lawal (2022) |
| Available classrooms in good condition | 75% nationally; 68% in the South-East | UBEC NPA, as cited in Lawal (2022) |
| Schools lacking basic furniture | About 50% | UBEC, as cited in Lawal (2022) |
| Public primary schools without toilets | About 50% (against about 15% of private schools) | UBEC 2018 NPA, as cited in Adama et al. (2020) |

Note. NPA = National Personnel Audit. The private-school figure is implied by the reported 85% of private schools with toilets.

Two features of this evidence matter for planning. First, the audit is not regular: the UBEC Act envisages it every three years, yet audits ran in 2006, 2010 and 2018, with a new round announced for 2022 (Iroegbu,

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2018; Mustapha, n.d.). Plans built on data that are years old cannot track a fast-growing school-age population. Second, national averages hide the spread. Urban schools in Anambra's Nnewi zone had more plant components than rural ones (Asiegbu & Amojo, 2021), and UBEC's 2024 verification of 80 special education schools in six states and the FCT found that most schools visited had inadequate infrastructure in poor condition (Universal Basic Education Commission [UBEC], n.d.).

The audit data also hint at a siting problem. At the Nigeria Education Forum in December 2025, the Minister of Education reported that only 10 million of 30 million pupils reached Junior Secondary One, and attributed the drop to shortages of junior and senior secondary schools, long rural distances, cost barriers and insecurity (BusinessDay, 2025). That is a capacity and location finding as much as a demand finding. It argues for planning around transition points and for placing secondary capacity where the primary pipeline will arrive.

**Standards and the Move to a Whole-School Approach**

A real change is under way. UBEC now requires new school infrastructure to include perimeter fencing, security infrastructure, solar power, boreholes, adequate toilets and classrooms, administrative blocks and playgrounds, and it carries out a condition assessment before it intervenes (Acheme, 2026). It reports renovating more than 4,000 classrooms in 287 schools under this approach. That is the right model: a school planned as a system rather than as a row of rooms.

It is also small against the need. HOPE-EDU targets more than 65,000 public schools and 13,000 new primary classrooms by June 2029, but the financing for classroom construction was reported to have been reduced by more than 55% after the Global Partnership for Education allocation was cut from US$107.59 million to US$53.98 million (Enome, 2026; Fiyinfunoluwa, 2026). Both reports draw on the same World Bank restructuring document, which the author has not seen, so the figures should be treated as provisional until checked against it. The programme's focus has shifted toward learning materials, with a target that 80% of public primary schools in participating states have adequate literacy and numeracy materials (Fiyinfunoluwa, 2026). Learning materials matter, but they sit in the same classrooms that planning must still supply.

**Gaps in Planning Practice**

In the sources reviewed, four planning inputs do not appear as routine requirements. This is an inference from what is reported, not a finding of absence, and it needs testing against state-level planning documents.

- Hazard and site screening. Flood, erosion, fire and conflict risk are rarely stated as site-selection criteria, despite the exposure documented in Section 5.
- Lifetime costing. Capital budgets are announced and counted; maintenance and replacement costs are not visibly planned alongside them.
- Projection-based sizing. Classroom targets follow current deficits rather than cohort projections for a population in which about 40% are under 15 (populationpyramids.org, n.d.).
- Equity rules. There is no visible formula that directs new plant first to the schools and states with the weakest provision.

**School Plant Management**

**Maintenance: Where Value Is Lost**

The most consistent finding in Nigerian school plant research is that existing facilities are poorly maintained. In Uyo, instructional facilities in most public secondary schools were dilapidated, obsolete or inadequate, circulation space was cramped or bush-covered, and the authors urged principals to build a maintenance culture among staff and students (Oleforo & Maxwell, 2015). In Anambra, urban principals

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showed a positive attitude to maintenance and rural principals a negative one (Asiegbu & Amojo, 2021). UBEC's 2024 verification of special education schools showed a similar picture: most schools visited had inadequate infrastructure, and most of what existed was in poor condition (UBEC, n.d.).

Sanitation shows how a management failure turns into a health and attendance problem. Press reports on UBEC's audit described pit latrines that had filled up because of poor management, toilets blocked or abandoned, and children defecating in the open when water was short (Adama et al., 2020). Section 5 returns to the national water, sanitation and hygiene (WASH) data.

A state example shows the scale of repair demand. Kaduna's 2020 school census recorded 20,267 usable primary classrooms, 8,239 needing major repairs, 17,056 with insufficient seating and 12,010 without good blackboards (Lawal, 2022). Repairs of this kind are what routine maintenance is meant to prevent.

The same pattern shows at school level. At Gadadin Primary School in Dutse, Jigawa State, which has 1,084 pupils, all six pupil toilets were reported destroyed by flooding and wild animals about seven years earlier. The headmaster reported the damage to the Local Education Authority, which assessed it, but no repair followed; pupils defecate in the open, the school has no functional water source, and the headmaster linked an unprotected well that pupils had used to a cholera outbreak (Kolade, 2026). The failure here is not construction. It is the absence of a repair-response system between a school and the authority that owns the asset. Jigawa's SUBEB chairman says the state now uses desk officers to monitor WASH facilities across schools and aims for full coverage (Kolade, 2026), which shows that the monitoring tools exist and can be applied to repairs.

**Utilisation and Data**

Utilisation is the second management lever. A national learner–classroom ratio of 45 against a standard of 40 signals crowding even where buildings exist (Lawal, 2022). But a manager can only tune utilisation, from timetabling to shared specialist rooms, if the school's assets and enrolment are recorded. Planning data are irregular (Section 3), and the Ministry has named data-driven planning as one of six renewal priorities (Anyanwu, 2026). Progress is visible: 202,000 schools had been digitised on the national education management information system (EMIS) by the December 2025 forum, although only 21 states had uploaded complete datasets (BusinessDay, 2025). An asset register for every school, updated each year, is the missing management tool.

**Community Ownership**

School-based management committees (SBMCs) and parent–teacher associations (PTAs) are the cheapest maintenance workforce Nigeria has. UBEC has trained officers on SBMC operational documents in Kano and Akwa Ibom (UBEC, n.d.). At the LEA/Junior Secondary School in Nyanya-Hausawa, Abuja, which UBEC renovated under the Whole School Approach, the community and PTA hired three security personnel to guard the new facilities against vandalism, and the principal gave assurance that the school would maintain them (Acheme, 2026). Ownership of this kind should be designed in at planning stage, not hoped for after handover.

**Quality Assurance and Accountability**

Building quality determines future maintenance load. UBEC signed a memorandum of understanding with the Council for the Regulation of Engineering in Nigeria (COREN) so that public school infrastructure meets quality standards (Lawal, 2022), and it engages external auditors for its federal intervention funds (UBEC, n.d.). These are sound controls. They need to be matched by post-handover inspection, because a school that passes inspection on the day it opens can still be unusable five years later.

**A Proposed Division of Management Responsibilities**

Table 2 sets out a division of labour implied by the evidence. It is the author's proposal, not current policy.

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**Table 2**

Proposed Division of School Plant Management Responsibilities

| Level | Core management tasks |
|---|---|
| School (head teacher, SBMC, PTA) | Weekly walk-through and minor repairs; school asset register; cleaning and WASH routines; community security and vandalism watch |
| LGEA/SUBEB | Annual condition survey of every school; ring-fenced maintenance budget; repair-response targets; training of heads in basic facilities management |
| State | Maintenance and renewal formula in the education budget; hazard and equity screening of all new projects; state school-facilities database |
| Federal (FME, UBEC) | National minimum standards and unit-cost norms; regular national audit; independent post-handover inspection sample; published state scorecards |

Note. LGEA = Local Government Education Authority; SUBEB = State Universal Basic Education Board; SBMC = school-based management committee; PTA = parent–teacher association; FME = Federal Ministry of Education; UBEC = Universal Basic Education Commission. This division is the author's proposal.

**Safety, Disaster Risk, and Environmental Safeguards**

A school that is not safe is not a school plant in any useful sense. Safety, hazard exposure and environmental performance belong in the definition of the plant, and in its design and routine management.

**Armed Attacks and Insecurity**

Between 2014 and 2022 Nigeria recorded 70 school attacks, with 1,683 learners abducted, 184 killed and 25 school buildings destroyed (Save the Children, 2025). A November 2025 attack on a school in Kebbi State left the vice-principal dead and at least 25 students reportedly abducted (UN News, 2025). Nigeria endorsed the Safe Schools Declaration in 2015, and its Minimum Standards for Safe Schools cover school governance, violence prevention, natural hazards, conflict, everyday risks and safe infrastructure (FME, 2021a). Implementation is thin: a UNICEF monitoring report found early warning systems in only 37% of schools across ten states (UN News, 2025).

For planners this means that fencing, controlled access and clear evacuation routes are necessary but not sufficient. The standards also need functioning early warning, a school safety committee, drills and a link to community and security structures. These are management routines attached to the plant, and they need budget lines.

Attacks have continued. Days after the Kebbi attack, armed men abducted students and staff from St. Mary's Catholic School in Papiri, Niger State; early estimates of about 52 pupils were later reported as over 200 students and teachers (Save the Children, 2025; Usman, 2026). Save the Children also recalled the March 2024 abduction of more than 200 pupils at Kuriga, Kaduna State (Save the Children, 2025). An education policy analyst quoted by The ICIR argued that most Nigerian schools lack basic security infrastructure such as perimeter fencing (Usman, 2026), which supports the case for treating schools as critical infrastructure.

**Floods and Climate Hazards**

Flooding damages buildings, closes schools and widens inequality between affected and unaffected schools. In Jigawa State, the 2024 floods destroyed or damaged 115 school buildings and facilities and left about 92,518 school-age children across 27 local councils facing prolonged closures (Bello, 2025). National

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figures for children affected are reported inconsistently, as roughly 200,000 in one account and 2.2 million in another (Aramide, 2025; Bello, 2025), and need confirming against the UNICEF reports themselves. A geospatial analysis of Lagos found that more than a million students attend schools exposed to flood risk, with repeated closures falling disproportionately on poorer communities (Purcell, n.d.). A study in Makurdi, Benue State, found that flooding made schools uninhabitable, cut access through collapsed bridges and culverts, and led to schools being used as shelter for displaced families (Tsavhemba & Tyondo, n.d.).

The plant response is well understood: elevated buildings and improved drainage (Shittu, 2025), together with safe siting and alternative learning arrangements during closures. UNICEF, with support from the United Kingdom government, has invested £19 million in climate-resilient facilities, delivering 84 health and education facilities in Kano and Jigawa (Paki, 2026). The task is to make this standard practice rather than a donor pilot.

The educational cost of flooding is large even where buildings survive. A survey by the Geohazards Risk Mapping Initiative in Lagos and Kogi States found that most schools surveyed were in low-risk zones, yet the intensity of flooding still forced temporary closures. The same briefing cited National Bureau of Statistics data that students in flood-affected areas missed an average of 53 school days in 2022, and estimated that 2.5 million children and youths in Nigeria live in flood-prone areas (Shittu, 2025).

Flood risk therefore has to be assessed for the catchment, the access route and the community, not only the school compound. The Makurdi study cited above surveyed 120 students and teachers in twelve schools, so it is best read as a documented case, not a national estimate.

**Water, Sanitation, and Hygiene**

School WASH figures differ widely by source and definition, which is itself a planning problem (Table 3).

**Table 3**

Reported Water, Sanitation, and Hygiene Provision in Nigerian Schools

| Measure | Reported figure | Source |
|---|---|---|
| Schools lacking basic water / sanitation / hygiene services | 64.4% / 57.1% / 76.4% | WHO/UNICEF JMP, as reported by Intelpoint (n.d.) |
| Rural vs. urban schools with basic water | 29.9% vs. 47.9% | WHO/UNICEF JMP, as reported by Intelpoint (n.d.) |
| Rural vs. urban schools with basic sanitation | 33.1% vs. 63.5% | WHO/UNICEF JMP, as reported by Intelpoint (n.d.) |
| Schools with basic WASH services (combined) | 11% | UNICEF, as cited in Paki (2026) |
| Schools without basic sanitation | 70% (about 91,000 schools) | UNICEF, as cited in allAfrica (2024) |
| Public schools in Jigawa with basic WASH (1,575 assessed) | 2% | Kolade (2026) |

Note. JMP = Joint Monitoring Programme for Water Supply, Sanitation and Hygiene.

The spread reflects different indicators (single service versus all three together), survey dates and coverage. The JMP-based water and hygiene figures, for instance, are unchanged from 2012 estimates, while the

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sanitation figure reflects 2023 data (Intelpoint, n.d.). All of them point the same way: most schools lack at least one basic service, and rural schools are worst off. UNICEF links missing WASH to higher absenteeism, particularly among girls (Paki, 2026).

It also notes that sanitation took only about 4% of total WASH spending in the years studied, against 31% for water (allAfrica, 2024). Counting a toilet block as built, without water and handwashing, overstates provision.

**Environmental Safeguards, Safeguarding, and Inclusion**

Externally financed school construction now carries safeguards obligations. HOPE-EDU, for example, was assessed through an Environmental and Social Systems Assessment (World Bank, 2025b). For schools, the practical implications fall into three groups. These points are the author's analysis of good practice, not findings from the sources above.

- Environmental management. Construction waste, safe disposal of laboratory and sanitation waste, and, as schools acquire devices and solar batteries, end-of-life e-waste.
- Safeguarding. Layouts with clear sight lines, lit and separate toilet blocks, supervised access and a reporting route for abuse and gender-based violence.
- Inclusion. Ramps, accessible toilets and furniture suited to learners with disabilities. Disability inclusion is also a stated target of the National EdTech Strategy 2025–2030 (FME, 2025).

**Standards and Frameworks to Build On**

Nigeria does not lack a policy base. The National Policy on Safety, Security and Violence-Free Schools, with its implementing guidelines, takes an all-hazard approach that covers natural, man-made, structural and non-structural hazards affecting learners, teachers and the school community (FME, 2021b). Two international frameworks give that policy a risk-reduction backbone. Target D of the Sendai Framework for Disaster Risk Reduction 2015–2030 calls for a substantial reduction in disaster damage to critical infrastructure and disruption of basic services, among them educational facilities, and its monitoring indicators include the number of destroyed or damaged educational facilities attributed to disasters (United Nations Office for Disaster Risk Reduction [UNDRR], n.d., 2015).

The Comprehensive School Safety Framework 2022–2030 organises school safety around three pillars: safer learning facilities, school safety and educational continuity management, and risk reduction and resilience education (Global Alliance for Disaster Risk Reduction and Resilience in the Education Sector [GADRRRES], 2022).

Read together, these set out the minimum a Nigerian school plant should carry: a building that is safe by siting and design, a school-level plan that keeps learning going when a hazard strikes, and a school community trained to act. The gap lies in implementation and in data.

In the sources reviewed, no routine national count of schools damaged by floods or attacks appears, yet such a count is the starting point for reporting against the Sendai indicator on damaged educational facilities. This observation is an inference from the sources reviewed and should be tested with the agencies concerned.

**The Future of Education in Nigeria and What It Asks of the School Plant**

The plant being planned today will serve learners into the 2060s. Five trends shape what it must be able to do (Table 4).

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**Trends and Implications**

**Table 4**

Trends Shaping the Future School Plant

| Trend | Evidence | Implication for the plant |
|---|---|---|
| Large, young population | About 40% under 15; UN projections put the population near 359 million in 2050, with a median age of 24.9 (populationpyramids.org, n.d.; PopulationPyramid.net, 2024) | Plan from cohort projections, with ranges; build modular, expandable schools |
| Wider compulsory schooling and access targets | Governments are partnering to enforce 12 years of compulsory basic education (BusinessDay, 2025); HOPE-EDU targets 13,000 new primary classrooms by 2029 (Fiyinfunoluwa, 2026) | Transition-point capacity, especially junior and senior secondary |
| Digital and hybrid learning | National Digital Learning Policy (FME, 2023); EdTech Strategy 2025–2030 (FME, 2025); computer-based WAEC and NECO tests from November 2025 and all national exams by 2027 (Adeyemi, 2025) | Reliable power, connectivity, secure ICT rooms, device storage, e-waste handling |
| Skills and TVET reform | 38 technical colleges upgraded (Adeyemi, 2025) | Workshops, laboratories and safe machinery spaces; flexible rooms |
| Climate and conflict risk | Floods and attacks (Section 5) | Elevated, ventilated, solar-powered, hazard-screened and defensible schools |

Note. WAEC = West African Examinations Council; NECO = National Examinations Council; TVET = technical and vocational education and training; ICT = information and communication technology.

The UN's own projections move between revisions: about 375 million by 2050 in the 2022 revision ("Experts Warn," 2022) and about 359 million in the 2024 revision. Planners should therefore design for ranges and for change over time.

**Digital Learning is a Plant Question**

Digital education is often framed as software and content. It is first of all a question of electricity, connectivity and secure rooms. Only about 36% of Nigerians use the internet (UNICEF Nigeria, 2025). The EdTech Hub's rapid scan of Nigeria reported that about 65% of primary and junior secondary schools lacked electricity (Dele-Ajayi & Taddese, 2020); the figure is dated, and its original source is not reviewed here, but the direction is not in doubt. UNICEF's work to geo-map 109,000 public schools and connect 1,027 of them to the internet shows both a promising data approach and how far coverage has to go (UNICEF Nigeria, 2025). UBEC's new standards already include solar power, and it is adding ICT laboratories and smart boards (Acheme, 2026).

There is a sequencing risk. The Federal Government allocated ₦10 billion for digital education in early 2025, yet concerns persist about funding priorities given the deteriorating state of basic school infrastructure (Fatai, 2026). Devices placed in schools without power, security, ventilation and maintenance will fail. Plant readiness should therefore be a precondition in digital roll-outs, and a school's score on a minimum plant checklist should determine what it receives.

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Teacher and learner readiness matter as much as hardware. UNICEF reports that fewer than half of Nigerian teachers (47%) have basic ICT skills and that 78% of youth lack digital literacy skills (UNICEF Nigeria, 2025). Plant planning for digital learning must therefore include training rooms, teacher support and maintenance arrangements, not only devices.

**Schools as Flexible, Resilient Community Assets**

Three design principles follow.

- Flexible and expandable. Standard modular designs that can add classrooms as cohorts grow, and rooms that switch between classroom, ICT, workshop and community use.
- Climate-smart. Raised plinths, drainage, natural ventilation and shade, solar power and, where suitable, rainwater harvesting. School buildings are already used as emergency shelters in floods (Tsavhemba & Tyondo, n.d.), so planning can make that role safe.
- Defensible and connected. Controlled access, early-warning links with the community and clear evacuation routes (Section 5).

**Financing the Future Plant**

The Federal Government has set up a committee to draft public–private partnership (PPP) guidelines for education infrastructure, citing decades of decay and the limits of budget and Tertiary Education Trust Fund support (Anyanwu, 2025). PPPs can bring capital, but contracts must carry maintenance obligations and equity safeguards, or they will build new plant that decays in the same way.

The committee, which includes the Infrastructure Concession Regulatory Commission, was asked to develop minimum benchmarks for PPP projects, performance indicators, oversight structures and penalties for non-compliance, and it was given three months to report (Anyanwu, 2025). That mandate is where maintenance obligations, post-handover inspection rights and equity rules for rural and poorer schools should be written in.

**Challenges and Constraints**

**Funding Level and Distribution**

The federal 2026 proposal earmarked ₦3.52 trillion for education, 6.1% of a ₦58.18 trillion budget, against the UNESCO benchmark of 15–20% (Usman, 2026). Within the Education Ministry's 2024 allocation, personnel took 65.2% and capital 30.3% (Usman, 2026). A national analysis estimates that the education funding gap widened from ₦1.89 trillion in 2023 to ₦5.18 trillion in 2026 (Okpale, 2026), and another puts consolidated public spending at 2.14% of gross domestic product (GDP) against a 4–6% benchmark (Athena Centre, as cited in The Art Hub, 2026). The Minister has acknowledged capital implementation challenges in 2025 (Anyanwu, 2026).

State effort varies sharply (Table 5), so a child's plant depends heavily on where the school sits.

**Table 5**

Share of 2026 Budget Allocated to Education, Selected Governments

| Government | Share of 2026 budget to education |
|---|---|
| Anambra | 46.90% |

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| | |
|---|---|
| Kano | 30% |
| Niger | 8.24% |
| Gombe | 8.01% |
| Federal (proposal) | 6.10% |
| Lagos | 5.6–5.9% |

Note. Sources: Ogwo (2026) for Anambra, Kano, Niger and Gombe; Usman (2026) for the federal figure; Athena Centre, as cited in The Art Hub (2026), and Ogwo (2026) for Lagos, which give 5.6% and 5.87% respectively. The Lagos and federal figures refer to budget proposals.

The Nigeria Governors' Forum reported that states raised their 2025 education budgets to ₦3.6 trillion, up 53% on 2024, with capital allocations up 69% (BusinessDay, 2025). If those capital sums are spent, and spent with maintenance in mind, the picture could change quickly.

The analysis by the Development Research and Project Centre (dRPC), as reported by BusinessDay, offers a harder reading of why the money does not reach classrooms. It links the widening gap partly to debt service, which rises from ₦6.56 trillion in 2023 to ₦15.91 trillion in the 2026 proposal; it reports that capital releases to the Federal Ministry of Education fell sharply; and it reports that UBEC's funding fell by more than 31% between 2025 and 2026 (Okpale, 2026), a figure that awaits confirmation from the budget documents. Governors separately reported ₦800 billion in unspent state capital funds in 2024 (BusinessDay, 2025). The constraint is therefore partly appropriation and partly release and execution. State performance against the benchmark is mixed: in 2025, 17 states met or exceeded the UNESCO benchmark, while 19 allocated less than 15%, with Lagos, Akwa Ibom and Edo spending below 7% despite their fiscal capacity (Usman, 2026).

**Execution and Governance**

Money appropriated is not money delivered. Counterpart funds go unclaimed (Lawal, 2022), and none of the HOPE-EDU credit was reported to have been disbursed when it was restructured (Enome, 2026; Fiyinfunoluwa, 2026). Three further governance problems recur in the evidence: weak and irregular data (Section 3), fragmented responsibility across federal, state and local tiers, and limited post-handover inspection (Section 4).

**Insecurity and Climate Exposure**

Insecurity delays construction, destroys finished projects and keeps children at home (Lawal, 2022; Save the Children, 2025). Floods add repeat damage in the same communities (Section 5). Both fall hardest on the northern and rural areas where plant provision is already weakest, and where out-of-school numbers are highest. UNICEF reports that Kano, Katsina and Jigawa together account for 16% of the 10.2 million out-of-school children (Dunamis, 2025).

**Capacity and Culture**

School heads are rarely trained as facility managers, and maintenance is treated as a cost rather than a duty, as the rural principals' attitudes in Anambra suggest (Asiegbu & Amojo, 2021). Without capacity at school and LGEA level, any new standard will be applied unevenly.

**Limits of the Evidence**

The empirical literature on school plant in Nigeria is dominated by small, state-level, questionnaire-based studies. National figures are dated or arrive as press accounts of official statements. The central claim of this

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paper is therefore an argument, supported by consistent signals and by the logic of the system, and not a demonstrated causal effect. Section 8 includes a recommendation to strengthen data.

Moving from correlation to causation in Nigeria would need designs that the current literature lacks. Three are feasible. First, school-level plant and condition records from the national education management information system could be linked to learning and attendance data in a panel, so that changes in provision (a new toilet block, a borehole, solar power) can be followed within the same schools over time, with controls for location, school size and household wealth. Second, phased roll-outs such as the Whole School Approach or HOPE-EDU, if their sequencing is recorded, allow comparison of schools that receive upgrades earlier with similar schools that receive them later (a staggered difference-in-differences design), or randomised ordering where programme managers agree to it. Third, flood events offer a natural experiment: schools damaged by floods can be compared with otherwise similar undamaged schools in the same local government area to estimate effects on attendance and learning. Each design should record cost as well as effect, so that results can inform the maintenance and equity rules proposed in Section 8.

## POLICY AND PRACTICE RECOMMENDATIONS

### A Whole-Life School Plant Framework

The framework below follows the life of a school and wraps risk and equity around every stage. It is the author's synthesis of the evidence above.

1. Assess and project. An annual, school-level condition and asset survey feeding a national database, with cohort projections for each catchment area.

2. Screen and prioritise. Every new project is screened for flood, erosion, fire and conflict risk and ranked by need, so the weakest-served schools and states come first.

3. Design to standard. Whole-school designs (classrooms, toilets with water and handwashing, power, fencing, administrative space, accessible features) with modular expansion and climate-smart features.

4. Build and assure. Independent supervision and post-handover inspection, building on the UBEC–COREN arrangement (Lawal, 2022).

5. Operate and maintain. A ring-fenced maintenance line, school-level routines, trained heads and active SBMCs.

6. Protect and learn. Safety committees, early warning, drills and incident reporting that feed back into design.

7. Renew or retire. Planned refurbishment or replacement before failure, informed by condition data.

### Recommendations

For the Federal Ministry of Education and UBEC

- Complete and publish the National Personnel Audit on a fixed three-year cycle, with school-level asset and condition data (Section 3).

- Make the Whole School Approach and minimum standards mandatory for all federally supported projects, and add hazard screening and maintenance plans to the standards (Acheme, 2026).

- Make a school's plant readiness a condition for digital roll-outs, and publish state scorecards on classrooms, WASH, power and safety.

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For State Governments and SUBEBs

- Pay counterpart funds promptly so UBEC money is not left unclaimed (Lawal, 2022).
- Adopt a maintenance rule, for instance a fixed share of each year's capital education budget, and ring-fence it.
- Allocate new plant by an equity formula that favours rural, northern and flood-prone areas with the weakest provision.

For LGEAs and Schools

- Hold an annual condition survey and keep a live asset register.
- Train head teachers and SBMCs in basic facilities management and school safety, and replicate the Nyanya-Hausawa model of community security for new facilities (Acheme, 2026).

For Development Partners and PPP Sponsors

- Finance maintenance and operations, not only construction, and write maintenance obligations and inspection rights into PPP contracts.
- Align with national standards and data systems rather than creating parallel ones.

For Researchers

- Move beyond small questionnaire studies to national, longitudinal and cost-based work, including the cost of deferred maintenance and the learning effect of WASH, power and safety.

**Indicators to Track**

A short set of indicators would show whether the framework is working: the learner–classroom ratio; the share of classrooms in good condition; the share of schools with basic water, sanitation, hygiene and power; the share with a functioning early-warning and safety plan; the share of schools inspected in the past year; and the share of education capital spending set aside for maintenance.

**Sequencing: What to Do First**

The framework is long-term, but several steps can start within a year at modest cost. The sequence below is the author's proposal.

- First 12 months. Publish a one-page minimum plant standard (water, toilets, power, fence, and classrooms sized to learner numbers) and a school-level condition checklist; complete the asset fields in the national EMIS for every public school; ring-fence a maintenance line in each education budget; and adopt hazard screening for all new projects.
- Years 2–3. Run the annual condition survey in every state; publish state scorecards; train head teachers and SBMCs in facilities management and school safety; pilot independent post-handover inspection; and link digital roll-outs to plant readiness.
- Years 4–10. Move to cohort-based capacity planning; retrofit the highest-risk schools; write lifetime-cost and maintenance rules into PPP contracts; and report each year on the number of schools damaged by floods, fire or attack, in line with the Sendai Framework indicator for educational facilities (UNDRR, n.d.).

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**Priorities for Further Research**

Three questions would most improve the evidence base. First, what does deferred maintenance cost the public purse over a school's life, compared with routine upkeep? Second, what is the effect of power, water and sanitation, and of safety measures, on attendance and learning in Nigerian schools, measured with national or longitudinal data instead of small questionnaire samples? Third, how many schools are exposed to flood, fire and conflict hazards, and what would hazard-informed siting have changed? The designs outlined in Section 7.5 show how the second and third questions could be answered with causal rather than correlational evidence. A national school hazard map, built on the EMIS records, would serve all three.

## CONCLUSION

Nigeria's education future will be built, literally, out of its school plant. The evidence reviewed, which is largely descriptive and correlational, points to a system that has begun to plan schools as wholes, but that still counts buildings more than it sustains them, that leaves its poorest and most exposed schools furthest behind, and that is about to add digital, climate and skills demands on a plant that is already stretched. The most important shift is from building to stewarding: planning for risk and lifetime cost, managing and maintaining what exists, and protecting learners and staff as a design requirement. The whole-life framework in Section 8 offers a practical route. The next step is better data, so that progress can be seen school by school. The claim that the school plant is a binding constraint remains an argument, not a proven finding; testing it with causal designs (Section 7.5) is the natural next step for research.

For disaster risk management practitioners, the lesson is that the school is among the most widely distributed public buildings in the country. Treating it as critical infrastructure, in the sense of Target D of the Sendai Framework, links education planning to national risk reduction: a school that is safe by siting and design, with a trained community and a plan for continuity, protects children on ordinary days and can shelter a community in an emergency (Tsavhemba & Tyondo, n.d.; UNDRR, 2015).

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