

UTILISING DEVELOPMENT CONTROL TOOLS FOR ACHIEVING ENVIRONMENTAL SUSTAINABILITY: CHALLENGES AND PROSPECTS (The Nasarawa State experience)

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ABSTRACT

Rapid urbanisation, population growth, infrastructure expansion and climate change have intensified environmental pressures in Nigerian cities. These pressures are evident in incompatible land uses, informal development, encroachment on floodplains and drainage channels, loss of green areas, traffic congestion, pollution and building failures. This paper examines how development control tools can be utilised to achieve environmental sustainability, the challenges limiting their effectiveness and the prospects for reform. A qualitative desk-review method was adopted, drawing on contemporary Nigerian and African research, planning and environmental legislation, international urban-policy reports and professional practice in Nasarawa State. The paper identifies development plans, zoning, development permits, planning standards, subdivision and change-of-use control, Environmental Impact Assessment, Site Analysis Reports, inspection, enforcement, Geographic Information Systems, remote sensing, drone technology and public participation as key tools. Properly applied, these instruments can protect environmentally sensitive land, promote efficient urban form, reduce disaster exposure, safeguard infrastructure and improve public health. Their effectiveness is nevertheless weakened by implementation gaps, political interference, inadequate staffing and funding, obsolete plans, fragmented institutional responsibilities, poor data and low public awareness. The paper proposes an Integrated Sustainable Development Control Framework that combines law, professional capacity, digital systems, inter-agency coordination, public accountability and climate-responsive standards. It concludes that development control must shift from reactive approval and demolition to preventive, evidence-based and environmentally accountable urban governance.

Keywords: *development control; environmental sustainability; urban planning; climate resilience; GIS; Nasarawa State.*

1.0 INTRODUCTION

Land is the spatial foundation of housing, commerce, industry, transportation, recreation, public services and ecological systems. Because it is finite while demand for it continues to increase, urban development generates competition among uses and creates external effects that extend beyond individual property boundaries. Physical planning is therefore required to coordinate private development decisions with public safety, infrastructure capacity, environmental quality and long-term community welfare.

Rapid urban growth has made this coordinating function increasingly important. Across African cities, urbanisation is occurring alongside informality, infrastructure deficits and growing exposure to floods, heat and other climate hazards. Cobbinah (2021) and Finn and Cobbinah (2023) show that African urbanisation and climate vulnerability are closely connected to land-use governance and the persistence of informality. Similarly UN-Habitat (2024) stresses that urban areas are on the frontline of climate risk and that land-use choices, infrastructure and building practices determine both exposure and resilience.

In Nigeria, weakly regulated expansion is reflected in development on floodplains and drainage channels, indiscriminate land-use conversion, encroachment on road and utility reservations, inadequate setbacks, excessive plot coverage, loss of vegetation, congestion and unauthorised settlements. Recent evidence from Urban Centers demonstrates how expansion can significantly reduce vegetation cover and alter land-use structure, with direct implications for the Sustainable

Development Goals (Iduseri et al., 2024). Bashua et al. (2025) also report environmental, infrastructural and aesthetic consequences arising from non-compliance with development control guidelines in peri-urban communities.

Recent World Bank analysis reinforces this concern. The World Bank (2025) identifies unplanned urban growth, service and infrastructure gaps, ineffective planning systems, fragmented land administration and climate vulnerability among the interrelated constraints reducing urban livability in Nigerian cities. These findings strengthen the case for development control systems that integrate spatial planning, infrastructure coordination, environmental protection and institutional accountability.

Development control provides the statutory and administrative mechanism through which planning authorities guide the location, design, density, intensity and environmental implications of development. Adeyemi et al. (2023) describe it as a central instrument for urban sustainability because it translates planning proposals into decisions on actual sites and projects. It is not intended to stop development; rather, it ensures that development occurs in appropriate locations, conforms to approved plans and standards, protects public interests and mitigates harmful externalities.

The contemporary relevance of development control extends beyond building-plan approval. It includes zoning, subdivision control, change-of-use assessment, Environmental Impact Assessment, Site Analysis Reports, infrastructure-corridor protection, compliance monitoring, environmental restoration and the use of digital and geospatial systems. It also supports Sustainable Development Goal 11 on inclusive, safe, resilient and sustainable cities, Goal 13 on climate action and Goal 15 on terrestrial ecosystems (United Nations, 2025).

This paper examines the use of development control tools for achieving environmental sustainability, the challenges affecting their application and the prospects for improvement. It draws particular attention to the Nigerian legal and institutional context and to practical lessons from Nasarawa State, where the Nasarawa State Urban and Regional Planning Law, 2021 and the Nasarawa State Urban Development Board Development Control Standards and Regulations provide a state-level basis for development control.

2.0 METHODOLOGY

The paper adopts a qualitative desk-review and practice-reflection approach. Materials reviewed include Nigerian planning and environmental laws, the Nasarawa State planning framework, recent peer-reviewed Nigerian and African research published mainly between 2021 and 2026, and current reports from UN-Habitat, the United Nations, the World Bank and other recognised institutions. The review focused on five themes: the meaning and purpose of development control; legal and institutional arrangements; the environmental functions of development control tools; implementation challenges; and emerging technological and climate-responsive opportunities. Professional experience from development control practice in Nasarawa State was used illustratively to relate the reviewed literature to operational issues such as land-use conversion, development permits, rights-of-way, site assessment, inspection and restoration. The paper is conceptual and policy-oriented.

3. CONCEPTUAL AND LEGAL CONTEXT

3.1 Development Control and Environmental Sustainability

Development control is the process through which a planning authority regulates the development and use of land in accordance with approved plans, laws, regulations and standards. It operates at the macro level through master plans, structure plans, zoning and subdivision control, and at the micro level through the assessment of individual plots, buildings, engineering works and changes of use. Its preventive function is exercised before development begins through permits and site assessment; its corrective function is exercised through inspection, enforcement, restoration and where unavoidable, demolition.

Environmental sustainability requires the use and management of natural and built resources in a manner that supports present development without undermining ecological systems, public health or the welfare of future generations. In urban areas, this entails efficient land use, protection of green and blue infrastructure, pollution control, safe buildings, sustainable mobility, adequate drainage, reduced disaster exposure and climate-responsive design. Development control connects these objectives to decisions on actual projects. It determines whether a use is suitable, whether development intensity matches infrastructure capacity, whether sensitive land is protected and whether mitigation measures are incorporated into project design.

3.2 Legal and Institutional Framework

Instrument	Relevance to development control and sustainability
Nigerian Urban and Regional Planning Act, Cap. N138 LFN 2004	Provides the national framework for plan preparation, development permits, development control departments and enforcement.
Environmental Impact Assessment Act, Cap. E12 LFN 2004	Requires environmental assessment of qualifying public and private projects before implementation and supports mitigation and monitoring.
Climate Change Act, 2021	Provides a framework for mainstreaming mitigation and adaptation into development priorities. Together with the National Climate Change Policy for Nigeria 2021–2030, it strengthens the case for climate-responsive local planning and development control.
Nasarawa State Urban and Regional Planning Law, 2021	Provides the state legal basis for physical planning, development permits, land-use regulation and enforcement.
NUDB Development Control Standards and Regulations, 4th ed., 2021	Provides technical standards for setbacks, plot coverage, access, parking, drainage, building height, subdivisions and other development-control requirements.

Table 1: Principal legal and regulatory instruments

The existence of legislation does not by itself guarantee sustainable outcomes. Sani (2022) identifies a substantial gap between the intentions of the national planning law and actual urban growth. Similarly, Amokaye (2023) argues that sustainable Nigerian cities require stronger legal implementation and institutional reform. At the state level, legislation must be supported by current development plans, technical regulations, trained staff, transparent procedures, logistics, reliable spatial data and political commitment.

Nigeria's climate-policy framework further reinforces the environmental role of development control. The National Climate Change Policy for Nigeria 2021–2030 calls for coordinated sectoral and cross-sectoral action on mitigation, adaptation and resilience (Federal Republic of Nigeria, 2021b). Olujobi and Odogbo (2024) identify institutional capacity, resource, technological and implementation constraints as important obstacles to realising the objectives of the Climate Change Act. For planning authorities, these national commitments need to be translated into practical local requirements such as hazard-sensitive zoning, sustainable drainage, green infrastructure, energy- and water-efficient design, environmental restoration and enforceable permit conditions.

4.0 DEVELOPMENT CONTROL TOOLS FOR ENVIRONMENTAL SUSTAINABILITY

Development control is most effective when its tools operate as an integrated system rather than as isolated administrative requirements. The table below summarises the principal instruments and the environmental outcomes they are expected to support.

Tool	Primary environmental and planning function
Development plans and zoning	Direct growth, separate incompatible uses, reserve

	infrastructure and protect sensitive land.
Development permits	Screen proposals before construction and impose conditions for drainage, access, parking, landscaping and mitigation.
Planning and building standards	Regulate setbacks, airspace, density, plot coverage, height, ventilation, sanitation and structural safety.
Subdivision control	Secure roads, drainage, utilities, open spaces and community facilities before plots are developed.
Change-of-use control	Manage conversion pressures and prevent traffic, noise, waste and infrastructure conflicts.
EIA and Site Analysis Reports	Identify site constraints and wider environmental impacts before irreversible commitments are made.
Inspection and enforcement	Detect deviations early and require compliance, restoration or removal.
GIS, remote sensing and drones	Improve spatial data, detect unauthorised change and support transparent, risk-based monitoring.
Public participation	Integrate local knowledge, improve legitimacy and strengthen accountability and voluntary compliance.

Table 2: Development control tools and environmental functions

4.1 Development Plans, Zoning and Subdivision Control

Master plans, structure plans, local plans and zoning schemes provide the spatial basis for development-control decisions. They allocate land for housing, commerce, industry, institutions, transport, utilities, recreation and conservation, and allow planning authorities to assess whether individual applications are compatible with the desired urban structure. Where plans are obsolete or absent, decisions become discretionary and enforcement becomes difficult. Bako and Balogun (2023) link unauthorised development, land-use conflict and flooding to weaknesses in urban land-management policy, while Adeyemi et al. (2023) show that the availability and implementation of development plans are central to urban sustainability. Subdivision regulation is particularly important because it secures roads, drainage, open space and public facilities before plots are sold and built upon.

4.2 Development Permits and Planning Standards

A development permit is the formal authorisation to carry out building, engineering or material land-use change. It enables the planning authority to examine land title and survey information, proposed use, access, setbacks, parking, drainage, building height, plot coverage and environmental effects before work begins. Conditions may require landscaping, traffic management, waste facilities, utility protection or restoration. Planning standards convert broad policy into measurable criteria and reduce arbitrary decision-making. Permit administration must, however, be timely, transparent and predictable; unnecessarily complex procedures can encourage informal construction and post-development regularisation.

4.3 Change-of-Use Control

Urban economies continuously create pressure for residential properties, open spaces and other land uses to be converted to commercial, institutional or mixed uses. Appropriate mixed use can improve accessibility and economic vitality, but uncontrolled conversion can produce traffic congestion, inadequate parking, noise, waste, privacy conflicts and infrastructure overload. Change-of-use control allows these impacts to be assessed against neighbourhood character, road capacity, service availability and environmental sensitivity. It is especially relevant along expanding commercial corridors in Lafia, Keffi, Akwanga and the Karu urban axis.

4.4 Environmental Impact Assessment and Site Analysis

Environmental Impact Assessment considers the likely ecological, social, health and infrastructural effects of major projects, alternatives and mitigation measures. Site Analysis Reports address the physical suitability of a particular location, including topography, drainage, soil, vegetation, access, surrounding uses and hazard exposure. Together, they enable environmental issues to influence project design and planning approval before irreversible investment occurs. Their value is lost where reports are treated merely as documentation rather than as enforceable decision and monitoring instruments.

4.5 Inspection, Enforcement and Environmental Restoration

Approval does not guarantee compliance. Developers may reduce setbacks, increase plot coverage, add floors, change uses or encroach on public corridors after approval. Inspection at foundation, structural and completion stages allows contraventions to be detected early. Enforcement measures may include stop-work, compliance and restoration notices, sealing, removal and demolition. Demolition should remain a last resort because it is costly and socially disruptive; preventive monitoring and early correction are more sustainable. Restoration is especially important for road excavation, telecommunications and utility projects, which should reinstate pavements, drainage, vegetation and public spaces after construction.

4.6 GIS, Remote Sensing and Drone-Assisted Monitoring

Geospatial technologies can transform development control from complaint-driven inspection to systematic monitoring. Ajala et al. (2024) demonstrate the value of geospatial analysis for understanding urban expansion and development-control problems in Ile-Ife. Abubakar et al. (2025) identify opportunities for GIS in permit management, illegal-development detection, field inspection, evidence-based decisions and transparency, while also noting challenges of data quality, infrastructure, skills, cost and interoperability. Integrated permit and cadastral databases, periodic satellite-image comparison, mobile GIS and drone imagery can support risk-based inspection and protect floodplains, road corridors, green areas and rapidly changing peri-urban zones.

4.7 Public Participation and Professional Accountability

Communities often possess detailed knowledge of drainage obstruction, flood history, traffic, nuisance and unauthorised development. Public participation can improve the quality and legitimacy of plans and major project decisions. Echendu (2023), however, found that although Nigerian planning regulations recognise participation, implementation remains weak, contributing to poor public support for plans. Participation must therefore extend beyond formal hearings to accessible information, complaint systems, neighbourhood consultation and feedback on decisions. It must be matched by professional ethics, transparent fees, published timelines and consistent enforcement.

5.0 CONTRIBUTION TO ENVIRONMENTAL SUSTAINABILITY

When properly coordinated, development control tools produce mutually reinforcing environmental benefits. Zoning and site assessment protect floodplains, wetlands, green spaces and utility corridors; setbacks and plot-coverage standards preserve ventilation, access and permeable surfaces; building standards improve safety, sanitation and energy performance; and subdivision control supports efficient infrastructure. The combined outcome is not simply visual order but reduced risk, improved public health, lower infrastructure costs and greater urban resilience.

Development control also has a direct climate function. UN-Habitat (2024) emphasises that climate action in cities requires land-use planning, resilient infrastructure and attention to vulnerable groups. Cobbinah and Finn (2023) argue that African climate planning must engage with informal urbanisation and questions of justice rather than rely solely on formal regulatory models. Climate-responsive development control should therefore combine firm protection of

high-risk land with affordable housing, serviced land, settlement upgrading and inclusive participation.

Nature-based solutions strengthen this approach. Urban trees, wetlands, green corridors, parks, riparian buffers, green roofs and permeable landscapes can reduce heat and storm-water runoff while supporting biodiversity and public well-being. Kiribou et al. (2024) find that nature-based solutions offer multi-functional benefits for African urban resilience, but their implementation is constrained by governance, finance and evidence gaps. Development plans and permit conditions can help mainstream such solutions by protecting ecological assets and requiring landscaping, tree replacement, sustainable drainage and environmental restoration.

6.0 CHALLENGES LIMITING EFFECTIVE DEVELOPMENT CONTROL

Challenge	Effect on sustainability	Priority response
Rapid urbanisation and informality	Growth outpaces plans, permits and infrastructure; vulnerable land is occupied.	Flexible current plans, serviced land and risk-based monitoring.
Weak enforcement and political interference	Selective compliance and advanced contraventions reduce institutional credibility.	Professional autonomy, due process and early enforcement.
Inadequate funding, staff and logistics	Slow permits and insufficient field coverage.	Dedicated operational funding, recruitment and equipment.
Obsolete plans and poor data	Discretionary decisions and inability to detect change.	Plan review, digital cadastre, GIS and shared databases.
Fragmented responsibilities	Duplicated or conflicting approvals and weak accountability.	Joint review protocols and inter-agency data exchange.
Corruption and low public trust	Standards become negotiable and compliance declines.	E-permitting, published fees/timelines and audit trails.
Climate risk not embedded in standards	Development increases flood, heat and ecological vulnerability.	Hazard mapping, sustainable drainage and green infrastructure.

Table 3: Challenges, sustainability effects and priority responses

The major weakness of development control in Nigeria is less the absence of tools than the failure to apply them consistently. Sani (2022) describes a wide gulf between the national planning law and urban reality. Adeyemi et al. (2023) identified problems relating to plan implementation, staffing, funding and political influence. Where contraventions are not detected at an early stage, completed buildings create legal, social and political pressures that make correction more difficult.

Institutional fragmentation compounds the problem. Land allocation, planning approval, environmental clearance, road management and utility permits are being handled by different agencies without a unified project file or spatial database. A developer may wrongly treat approval from one institution as permission to proceed with all aspects of development. Inter-agency protocols are therefore essential to establish the sequence of approvals, referral responsibilities, inspection roles and environmental conditions.

The affordability dimension must also be recognised. Strict standards without adequate serviced land and affordable housing may exclude low-income households from the formal system and reinforce informal settlement. Finn and Cobbinah (2023) emphasise that informality and climate risk are deeply interconnected in African cities. Sustainable development control must combine

regulation with proactive land supply, basic infrastructure, settlement upgrading and socially fair risk-reduction measures.

Technology also creates both opportunity and risk. Digital platforms and geospatial tools can improve transparency and monitoring, but their benefits depend on data governance, reliable electricity and internet, trained personnel, cybersecurity and institutional willingness to share information. Abubakar et al. (2025) caution that poor data quality, infrastructure limitations and resistance to change can constrain GIS adoption. Digitalisation should therefore be treated as institutional reform rather than merely the purchase of software.

7.0 PROSPECTS AND EMERGING DIRECTIONS

7.1 Digital Permit Administration

A unified electronic platform can support application submission, payment, inter-agency referral, plan review, inspection scheduling, approval conditions and enforcement history. Transparent tracking reduces uncertainty and creates an audit trail. Mobile applications can enable field officers to access approved drawings and upload georeferenced inspection evidence.

7.2 Climate-Responsive and Risk-Based Control

Development standards should incorporate flood-risk maps, sustainable drainage, permeable surfaces, minimum landscape requirements, shade and tree preservation, water efficiency, renewable-energy readiness and emergency access. High-risk projects and sensitive sites should receive more intensive assessment, while simple low-risk applications may follow streamlined procedures.

7.3 Nature-Based Solutions and Green Infrastructure

Planning authorities can protect wetlands and riparian corridors, establish green networks and require project-level landscaping and tree replacement. Nature-based solutions should be treated as functional infrastructure for cooling, flood management, biodiversity and health rather than as decorative additions.

7.4 Institutional and Professional Capacity

Planning authorities require multidisciplinary teams, operational vehicles, field equipment, legal support and continuous training. Partnerships with universities, professional bodies and private geospatial firms can support capacity building, data production and independent technical review. Ethical standards and clear accountability are necessary to ensure that professional discretion serves the public interest.

7.5 Collaborative Governance

Sustainable development control requires structured cooperation among planning, land, environment, works, transport, emergency management, utilities and local government institutions. Joint technical committees, shared spatial databases and coordinated inspections can reduce duplication and ensure that environmental conditions are reflected across approvals.

Integrated Sustainable Development Control Framework (ISDCF)

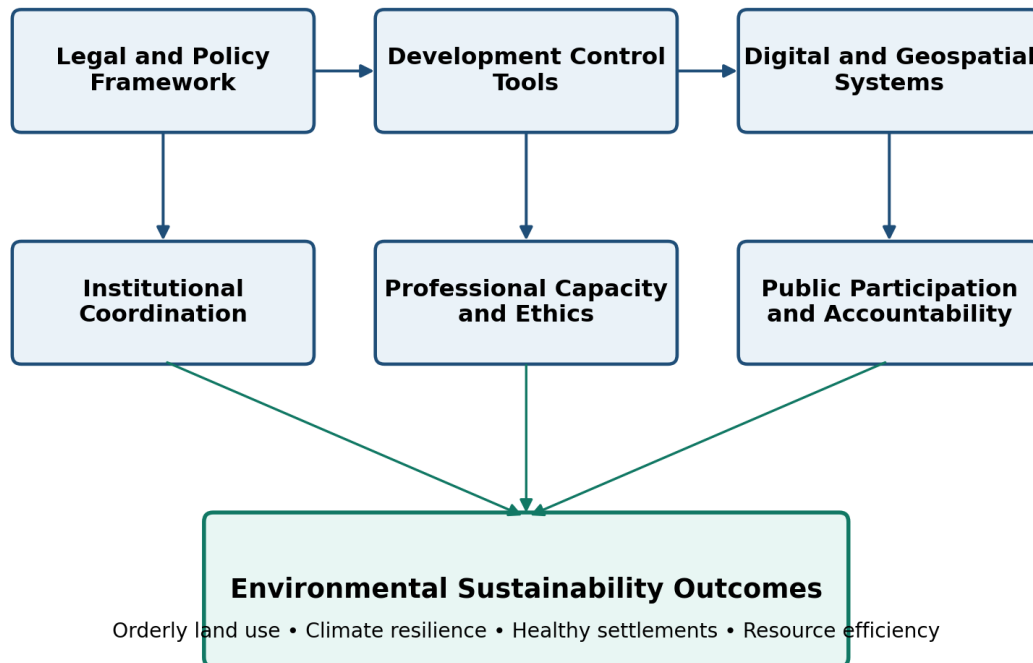


Figure 1: Integrated Sustainable Development Control Framework (ISDCF)

The framework proposes six interdependent pillars: a clear legal and policy basis; coordinated development-control tools; digital and geospatial systems; institutional collaboration; professional capacity and ethics; and public participation and accountability. Environmental sustainability outcomes arise where these pillars operate together. Strong legislation without data and enforcement is ineffective; technology without professional capacity and governance may merely digitise existing weaknesses; and enforcement without participation and social inclusion may deepen mistrust and informality.

8.0 PRACTICAL EXPERIENCE, CURRENT CHALLENGES AND LESSONS FROM DEVELOPMENT CONTROL IN NASARAWA STATE

Nasarawa State provides a useful practical context for examining the relationship between development control and environmental sustainability because its major urban centres are experiencing different forms and intensities of development pressure. Lafia continues to expand as the State capital and administrative centre; the Karu experiences intense development pressure associated with its proximity to the Federal Capital Territory; while Keffi, Akwanga and other urban centres are witnessing increasing residential, commercial, institutional, transportation and utility development. These processes have substantially increased the responsibilities of the physical planning authority in regulating development, protecting infrastructure corridors, managing changes of land use, monitoring construction activities and ensuring compliance with established planning and environmental standards. The Nasarawa State Urban and Regional Planning Law, 2021, together with the NUDB Development Control Standards and Regulations, 2021, provides the principal legal and technical basis for carrying out these responsibilities.

One major lesson from development-control practice in Nasarawa State is that development control extends beyond conventional building development to engineering, telecommunications

and utility infrastructure. The increasing deployment road-related projects and other utility services has required planning intervention in matters involving rights-of-way, road reservations, drainage systems, existing underground and surface utilities, public safety and environmental restoration. Practical experience has demonstrated that infrastructure development which is not adequately coordinated can damage roads and drainage facilities, interfere with existing utilities, create safety hazards and leave disturbed sites in environmentally unacceptable conditions. Consequently, physical planning intervention has increasingly had to consider route alignment, right-of-way requirements, site suitability, environmental assessment, health and safety considerations and restoration of affected land and infrastructure. The experience demonstrates that engineering and utility projects should be subjected to the same principles of orderly development, environmental responsibility and statutory planning control that apply to conventional building development.

Also, the management of land-use conversion, particularly along rapidly commercialising corridors. Urban growth in Lafia and other settlements has created increasing pressure for residential buildings and plots to be converted to commercial, institutional and mixed uses. While such changes may respond to legitimate economic and service demands, uncontrolled conversion can generate additional traffic, roadside parking, waste, noise, congestion and pressure on existing infrastructure. It can also progressively alter the character and functionality of planned residential neighbourhoods. Development-control practice therefore requires consideration of the suitability of the proposed activity, accessibility, parking provision, adjoining land uses, infrastructure capacity, environmental implications and the overall planning character of the area. The experience demonstrates that land-use conversion should not be treated as an automatic consequence of commercial expansion but should continue to be determined on its individual planning and environmental merits.

Another important experience relates to the growing relevance of Environmental Impact Assessment, Site Analysis Reports and environmental safeguards in development-control decisions. Major engineering, telecommunications, industrial and other potentially disruptive projects may have environmental consequences extending beyond their immediate project sites. Issues relating to drainage disruption, vegetation loss, excavation, soil disturbance, access, waste generation, public safety and compatibility with surrounding land uses have direct physical-planning implications. Experience has therefore reinforced the need for development-control authorities to participate actively in environmental assessment processes and ensure that relevant environmental mitigation measures are reflected in development approvals, implementation conditions, monitoring and restoration requirements.

The Nasarawa State experience has equally underscored the importance of early and continuous site inspection. Development contraventions are generally easier and less costly to correct at the commencement of development than after substantial construction has taken place. Site monitoring during clearance, setting-out, foundation construction and subsequent development stages provides opportunities to verify boundaries, setbacks, access, drainage, approved land use and conformity with approved plans. Where deviations are detected early, corrective measures can often be achieved without recourse to expensive and socially disruptive enforcement actions but where contraventions advance substantially before detection, enforcement becomes more difficult because of the level of financial investment already committed and the social, administrative and political pressures that may subsequently arise.

Closely related is the use of statutory enforcement mechanisms to secure compliance with planning standards and protect the public interest. Development-control activities in the State involve the service of appropriate notices, stop-work directives and other statutory measures where development proceeds without approval, deviates materially from approved plans or encroaches on protected spaces and infrastructure corridors. Enforcement is particularly important in relation to setbacks, road reservations, drainage channels, high-tension corridors and utility rights-of-way because inappropriate development within these areas may have long-term

consequences for environmental quality, infrastructure functionality and public safety. Experience demonstrates that enforcement is most effective when undertaken early, consistently, transparently and in accordance with due process.

The regulation of rights-of-way and restoration of disturbed sites has also provided an important environmental lesson. Infrastructure projects involving excavation, trenching, pole installation and similar activities can affect roads, walkways, drainage systems, landscaping and adjoining properties. Planning approval for such projects should therefore not terminate with permission to occupy or traverse a particular corridor. Experience indicates the importance of ensuring that developers reinstate affected surfaces, remove construction waste, restore drainage functionality and address environmental damage arising from project execution. This reinforces the principle that the environmental cost of private or public infrastructure development should not subsequently be transferred to government or affected communities.

8.1 Current Operational and Institutional Challenges Affecting Development Control in Nasarawa State

Despite the existence of a relatively comprehensive legal and regulatory framework, development-control operations in Nasarawa State presently face a number of institutional, financial, technical, administrative and operational constraints that limit the capacity of the responsible authority to fully discharge its statutory responsibilities. These challenges also affect the extent to which development control can contribute to environmental sustainability.

A major constraint is the **non-release, delayed release or inadequacy of funds required for development-control activities**. Effective development control is a continuous field-based activity requiring regular site inspection, monitoring, service of statutory notices, enforcement, documentation and follow-up. These functions require dependable operational funding. Where funds approved or required for development-control activities are not released when needed, routine monitoring becomes difficult, enforcement responses may be delayed and contraventions may progress substantially before intervention becomes possible. The situation demonstrates that development control cannot function effectively on legislation alone; adequate and timely operational funding is indispensable to implementation.

Closely associated with funding is the **inadequacy of logistics for field operations**. Development-control personnel require functional vehicles and motorcycles where appropriate, GPS devices, computers, field safety equipment and other operational facilities to cover rapidly expanding urban areas. The spatial extent of development in Lafia, Karu, Keffi, Akwanga and other settlements makes reliance on limited logistics increasingly inadequate. Lack of dependable transportation can restrict the frequency of site inspections, delay responses to reported contraventions and reduce monitoring coverage, particularly in peri-urban areas where development is expanding rapidly.

Another important constraint is the **shortage of qualified professional and technical personnel** relative to the growing volume and complexity of development activities. Effective development control requires adequately staffed teams of professional Town Planners supported by architects, engineers, surveyors, environmental specialists, legal personnel and relevant technical officers. Rapid urban growth, new infrastructure technologies, increasing development applications and expanding enforcement responsibilities have increased workload without always being matched by corresponding growth in professional staffing. This results in increased caseloads, slower application processing, inadequate field coverage and difficulty in maintaining continuous monitoring across all development areas. Continuous recruitment, training and professional capacity development are therefore essential.

Obsolete or inadequate coverage of existing physical development plans and master plans presents another significant challenge in development control. Urban areas change continuously in response to population growth, new institutions, transportation improvements, economic restructuring and land-market pressures. Where existing master plans no longer adequately reflect

current spatial realities, development-control officers are required to make decisions within environments that have changed considerably from those anticipated when the plans were prepared. This creates difficulties in determining appropriate land uses, development intensities, infrastructure requirements and future growth directions. Updating existing plans and preparing structure plans, district plans and local plans for rapidly growing areas are therefore essential to providing a contemporary spatial basis for development-control decisions.

There is also the challenge of **inadequate monitoring of ongoing development**. The combination of extensive urban growth, limited manpower, funding constraints and inadequate logistics makes it difficult to maintain the frequency and geographic coverage of inspections required for effective preventive development control. Consequently, some contraventions may not be identified until construction has reached an advanced stage. This weakens the preventive character of development control and places greater pressure on enforcement mechanisms. Strengthening routine monitoring is particularly important because early detection is generally more effective, less expensive and less controversial than attempting to correct completed or substantially completed development.

Rapid peri-urban expansion and informal development further complicate development control. Development increasingly occurs at the fringes of established urban areas ahead of infrastructure provision and formal planning. Agricultural land gets subdivided informally, layouts emerge incrementally and buildings commence before development permits are obtained. Such patterns most times create narrow access roads, inadequate drainage, insufficient public open space, incompatible land uses and difficulties in providing infrastructure retrospectively. Development control therefore requires a stronger linkage with forward planning, land administration and the timely preparation of development schemes for emerging growth areas.

Another challenge is **public non-compliance and inadequate awareness of planning requirements**. Some developers commence development without obtaining approval, deviate from approved plans or undertake changes of use without the required authorisation. Others may perceive development-control requirements principally as revenue-generating measures rather than mechanisms for protecting public safety, environmental quality, infrastructure and property values. This perception reinforces the need to complement enforcement with sustained public enlightenment on the purposes of setbacks, drainage reservations, plot-coverage limits, parking requirements, zoning and other planning standards.

Institutional fragmentation and inadequate coordination among agencies also affect development-control effectiveness. Physical development involve different institutions responsible for land allocation, title documentation, geospatial information, environmental regulation, road infrastructure, electricity, telecommunications, water and physical planning. Difficulties arise where approvals and clearances are processed independently without sufficient coordination or where an approval issued by one agency is treated by a developer as authority to proceed without satisfying the statutory requirements of another. This experience reinforces the need for structured inter-agency referral mechanisms, joint technical reviews and inspections where necessary, and clearer information sharing among relevant institutions.

Another emerging challenge is the **increasing need to integrate climate resilience and environmental risk considerations into routine development control**. Flooding, obstruction of natural drainage, development on environmentally sensitive land, vegetation loss and increasing surface sealing require development standards and approval processes to give greater attention to drainage, storm-water management, green infrastructure, tree protection, permeable surfaces and hazard-sensitive land use. Development control must therefore continue to evolve beyond conventional building regulation towards broader environmental risk management and climate-responsive planning.

A particularly important consequence of the foregoing institutional and operational weaknesses is the **increased vulnerability of the development-control system to unethical and corrupt**

practices. Inadequate funding, poor logistics, shortage of personnel, weak monitoring, obsolete plans, procedural delays and fragmented responsibilities has created circumstances in which statutory procedures become more difficult to implement consistently and transparently. Where this is occurring, opportunities keep rising for **informal arrangements, preferential treatment, unauthorised payments, manipulation of records, undue influence and attempts to circumvent established planning procedures.** This, most times may involve different actors within the development process. Some developers seek informal means of commencing development without approval, securing favourable treatment, avoiding sanctions or regularising substantial contraventions after construction has advanced, intermediaries and other stakeholders exploit delays or uncertainty in administrative procedures, while individual officials become vulnerable to inducement or unethical conduct. It is therefore important to recognise that corruption within development control is not solely an issue of personal morality; it is also facilitated by weaknesses in the institutional system.

The relationship between inadequate monitoring and corruption risk is particularly significant. Where unauthorised development is detected at an early stage, the cost of correction is generally relatively low and the applicable planning requirements are easier to enforce. Where weak monitoring allows a contravention to reach an advanced or substantially completed stage, however, the financial interests at stake become considerably greater. Developers may have committed substantial resources and may consequently exert greater pressure to avoid enforcement, obtain retrospective approval or secure exemptions from applicable standards. This may create opportunities for inducement, political interference, preferential treatment or compromise of professional judgement.

Similarly, obsolete plans and excessive administrative discretion can generate integrity risks. Where current plans and clearly applicable standards are unavailable, decisions may depend excessively on individual interpretation. While professional discretion is an essential part of planning practice, discretion that is not guided by current plans, documented criteria and transparent procedures can create opportunities for inconsistent decisions and perceptions of favouritism. Updated physical development plans, clearly published standards and well-documented decision processes are therefore important not only for planning efficiency but also for strengthening institutional integrity.

Addressing corruption and ethical risks therefore requires more than sanctions against individual officers. It requires improvement of the institutional environment within which development control operates. Adequate and timely operational funding, improved logistics, sufficient professional staffing, clearly published application requirements, statutory fees and processing timelines, electronic payment systems, digital application tracking, systematic documentation of site inspections and enforcement actions, supervisory oversight and accessible complaint mechanisms can substantially reduce opportunities for manipulation. Planning and enforcement decisions should also be supported by written professional reasons and applicable standards so that discretionary decisions can be reviewed and defended.

Professional ethics must equally remain central to development-control practice. Town Planners and allied professionals have a responsibility to exercise their statutory and professional duties in the public interest, while developers, landowners, consultants and other stakeholders also have a responsibility to follow established procedures rather than seek informal shortcuts. Strengthening integrity in development control is therefore a shared responsibility involving government, planning authorities, professionals, developers and the wider public.

8.2 Lessons Arising from the Nasarawa State Experience

The foregoing practical experiences and challenges demonstrate that the effectiveness of development control depends not merely on the existence of planning legislation but on the institutional capacity and integrity required to implement it. A strong planning law cannot achieve its intended objectives where field operations lack timely funding, monitoring teams lack

adequate logistics, professional staffing is insufficient, spatial plans have become obsolete or enforcement systems cannot respond promptly to contraventions.

The Nasarawa State experience further demonstrates that preventive development control is more effective, less costly and less contentious than corrective enforcement. Adequate funding for routine monitoring, sufficient professional staff and dependable field logistics should therefore be regarded as essential investments in environmental management rather than optional administrative expenditures. Early identification of contraventions prevents the greater financial, political and social costs associated with enforcement against substantially completed developments.

The experience equally demonstrates that development control must increasingly operate as a multidisciplinary and inter-agency function. Buildings, roads, land-use conversions and other major developments cannot be effectively regulated where planning, environmental, engineering, land administration and utility considerations are treated independently. Improved institutional coordination is therefore central to sustainable development management.

Another important lesson is that current physical development plans are fundamental to effective and transparent development control. Development control implements planning intentions; where those intentions are contained in obsolete or inadequate plans, implementation becomes more difficult and professional decisions may be exposed to excessive discretion. Regular review of master plans and preparation of more detailed structure, district and local plans should therefore accompany development-control activities.

The Nasarawa State experience also demonstrates that institutional weakness has governance and ethical consequences. Inadequate funding, poor logistics, weak monitoring, procedural delays, fragmented responsibilities and excessive discretionary processes can create opportunities for unethical conduct and corrupt practices among actors within the development process. Strengthening development control must therefore go hand-in-hand with transparency, accountability, professional ethics, digitalisation, proper documentation and effective supervisory mechanisms. A well-resourced and transparent development-control system not only improves planning outcomes but also reduces opportunities and incentives for corrupt practices and strengthens public confidence in the planning authority.

The experiences further show that public communication is an integral component of compliance and enforcement. Developers and communities are more likely to comply voluntarily where planning requirements, statutory procedures, applicable fees and the environmental rationale for standards are clearly communicated. Enforcement should therefore be accompanied by sustained public enlightenment, consultation and stakeholder engagement.

Overall, the Nasarawa State experience demonstrates that effective development control is much broader than the processing of building applications or the demolition of illegal structures. It involves development permitting, land-use management, environmental assessment, infrastructure regulation, monitoring, enforcement, environmental restoration, inter-agency coordination, professional capacity, adequate financing, institutional integrity and public engagement. The central lesson is that development control can make a substantial contribution to environmental sustainability only where the statutory authority responsible for its implementation is adequately funded, professionally staffed, logistically supported, guided by current physical development plans and equipped with transparent and accountable administrative systems. Strengthening these institutional foundations is therefore essential not only for achieving orderly physical development but also for protecting environmental quality, improving governance and enhancing public confidence in the development-control system.

9.0 RECOMMENDATIONS

Based on the practical experiences, current operational challenges and lessons arising from development-control practice in Nasarawa State, the following measures are recommended to

strengthen the utilisation of development control as an instrument for achieving environmental sustainability in the State.

1 Strengthen Funding, Logistics and Professional Capacity for Development Control

The Nasarawa State Government and the responsible planning authority should ensure the adequate and timely release of funds for development-control activities. Development control is fundamentally a field-based function involving routine monitoring, site inspections, service of statutory notices, enforcement, documentation and follow-up. Where operational funds are unavailable or released late, monitoring becomes irregular and contraventions may advance substantially before intervention becomes possible.

Development-control departments and zonal offices should consequently be provided with adequate operational logistics, including functional vehicles, field equipment, computers and GPS devices. Particular attention should be given to rapidly expanding urban areas such as Lafia, Karu–Mararaba, Keffi, Nasarawa and Akwanga, where the geographical extent and intensity of development increasingly demand regular field coverage.

The shortage of qualified personnel should also be addressed through the recruitment and appropriate deployment of professional Town Planners and relevant allied professionals. Existing personnel should receive continuous training in contemporary development-control practice, GIS and remote sensing, environmental assessment, climate-responsive planning, infrastructure regulation, digital permit administration and statutory enforcement procedures. Funding, logistics and professional manpower should therefore be treated as complementary components of the basic institutional capacity required for effective development control.

2 Review Physical Development Plans and Strengthen Management of Emerging Growth Areas

Existing master plans and other physical development plans that have become obsolete or have been overtaken by urban expansion should be reviewed and updated. Where necessary, structure plans, district plans, local plans, neighbourhood plans and development schemes should be prepared for rapidly expanding settlements and peri-urban areas.

Such plans should clearly identify land-use zones, transportation corridors, drainage systems, flood-prone areas, public open spaces, green infrastructure, utility reservations and environmentally sensitive locations. This will provide a contemporary spatial basis for development-control decisions and reduce excessive reliance on discretionary judgement.

Particular attention should be directed towards peri-urban areas where informal subdivision and development frequently occur ahead of formal planning and infrastructure provision. Forward planning, land administration and development control should therefore be better coordinated so that emerging growth areas are guided before uncoordinated development patterns become firmly established.

3 Institutionalise Preventive Monitoring, Early Enforcement and Performance Review

Development control in the State should place greater emphasis on continuous and preventive monitoring rather than predominantly reactive enforcement. Site inspection should commence at the stages of site clearance, setting-out and foundation construction and continue at appropriate stages until completion. Early monitoring provides opportunities to confirm boundaries, setbacks, access, drainage, approved land use and general conformity with development permits before contraventions become difficult and expensive to correct.

Where violations are identified, appropriate statutory notices and corrective measures should be initiated promptly and consistently in accordance with the Nasarawa State Urban and Regional

Planning Law, 2021 and relevant development-control regulations. Enforcement should particularly protect road reservations, drainage corridors, utility rights-of-way, high-tension corridors and environmentally sensitive locations. Due process should nevertheless be observed, while demolition should remain a measure of last resort where lawful compliance measures have failed or where development presents serious planning, environmental or public-safety consequences.

The planning authority should also institute periodic development-control performance reviews across its headquarters and zonal offices. Such reviews should assess applications processed, inspections undertaken, contraventions identified, notices served, compliance achieved, enforcement actions completed and major operational constraints encountered. This would provide objective information for staff deployment, resource allocation and future development-control priorities.

4 Strengthen Regulation of Change of Use and Land-Use Conversion

Increasing commercialisation of residential and other corridors in Lafia and other urban centres requires stronger and more systematic management of change-of-use applications. Approval should not be granted merely because adjoining properties have already been converted to commercial or other uses.

Each proposal should be assessed on its planning and environmental merits, taking into consideration accessibility, traffic generation, parking provision, waste management, noise, neighbouring land uses, infrastructure capacity, drainage implications and the character of the affected neighbourhood. The cumulative effect of repeated conversions along a corridor should also be considered.

Where the existing pattern of development has changed substantially, the appropriate response should be a planned review of the affected area rather than uncontrolled property-by-property conversion. This will enable commercial growth to be accommodated without progressively undermining neighbourhood functionality and environmental quality.

5 Integrate Environmental Assessment and Climate Resilience into Development Control

Environmental Impact Assessment, Site Analysis Reports and other environmental safeguards should be more fully integrated into development-control decisions, particularly for engineering, telecommunications, industrial, road, utility and other projects capable of producing significant environmental consequences.

The physical planning authority should participate as a relevant institutional stakeholder in environmental assessment processes where proposed developments have implications for land use, drainage, transportation, infrastructure, surrounding settlements or public safety. Environmental mitigation requirements should subsequently be incorporated into development-permit conditions and verified through monitoring rather than allowing environmental assessment to terminate with submission of a report.

Development-control standards should equally respond more deliberately to emerging climate risks. Planning applications should increasingly address flooding, natural drainage, storm-water management, permeable surfaces, vegetation protection, tree planting and replacement, green infrastructure, energy efficiency and development restrictions within environmentally vulnerable areas. Climate resilience should therefore become an integral consideration in both physical development plans and individual development-control decisions.

6 Strengthen Regulation of Engineering Works, Rights-of-Way and Environmental Restoration

Development control should continue to apply not only to buildings but also to fibre-optic infrastructure, electricity installations, roads, telecommunications facilities, pipelines and other engineering and utility projects.

Such developments should be subjected to appropriate route assessment, right-of-way approval, development permission, utility coordination, environmental safeguards and health and safety requirements before commencement. This is particularly important where infrastructure projects affect roads, drainage systems, existing utilities, vegetation, pedestrian facilities and public spaces.

Developers and infrastructure providers should also be required to restore disturbed areas upon completion of works. Roads, walkways, drainage facilities, landscaping, vegetation and other affected public assets should be reinstated to acceptable standards. Restoration obligations should form enforceable conditions of approval and should be verified before final clearance is granted.

7 Strengthen Inter-Agency Coordination and Clarify Institutional Responsibilities

A more structured system of coordination should be established among institutions responsible for physical planning, land administration, geospatial information, environment, works, transportation, emergency management, electricity, telecommunications, water and other utilities.

Approval issued by one institution should not be construed as automatically substituting for statutory approval required from another authority. Joint technical review, referral procedures, information sharing and joint inspection should therefore be institutionalised where development proposals cut across multiple regulatory responsibilities.

For major projects, a common project-reference and information-sharing system would enable relevant agencies to confirm the status, conditions and sequence of approvals. Improved coordination would reduce conflicting decisions, close institutional gaps and strengthen accountability throughout the development process.

8 Digitise Development-Permit Administration and Geospatial Monitoring

The State should progressively establish an integrated digital development-control system linking development applications, survey plans, approved land uses, land information, environmental conditions, inspection records and enforcement history.

Electronic application submission, digital payment, application tracking and automated record management would improve efficiency, transparency and accountability while reducing unnecessary physical interaction and opportunities for manipulation. Development-control information should, as far as practicable, be linked with relevant land and geospatial information systems.

GIS, satellite imagery and, where lawful and appropriate, drone technology can further strengthen monitoring of urban expansion, environmentally sensitive locations, major development corridors and suspected contraventions. Technology should, however, complement rather than replace professional judgement and physical site inspection.

9 Strengthen Transparency, Accountability and Professional Ethics

The institutional constraints identified in development-control practice, including inadequate funding, weak monitoring, procedural delays, fragmented responsibilities and excessive discretion, most times create opportunities for undue influence, informal arrangements, preferential treatment and corrupt or unethical practices involving actors within the development process.

Supervisory and internal accountability mechanisms should be strengthened, while allegations of misconduct should be addressed through established administrative and professional procedures. Town Planners and allied professionals should uphold their respective codes of professional conduct, while developers, consultants, landowners and other stakeholders should be discouraged from seeking informal means of circumventing statutory requirements.

Reducing opportunities for corruption therefore requires both ethical conduct by individuals and institutional reforms that minimise unnecessary discretion, improve transparency and provide adequate operational support for officers performing statutory responsibilities.

10 Strengthen Public Enlightenment, Stakeholder Engagement and Institutional Recognition of Development Control

The planning authority should undertake sustained public education on the purpose, procedures and environmental benefits of development control. Developers, traditional institutions, community organisations, professional consultants and members of the public should be regularly sensitised on development permits, setbacks, plot coverage, parking requirements, drainage reservations, zoning, change of use, rights-of-way and environmental safeguards.

Public communication should emphasise that development-control standards are intended to protect public safety, environmental quality, infrastructure, accessibility and long-term property values rather than merely to generate government revenue. Accessible channels should also be provided for enquiries, complaints, reporting of suspected contraventions and feedback on planning decisions.

More fundamentally, development control should be recognised institutionally as a core environmental governance and public-safety function, rather than principally as a process for approving building plans, generating revenue or undertaking demolition exercises. This recognition should be reflected in government funding, staffing, logistics, administrative support and inter-agency relationships.

IMPLEMENTATION PRIORITY

The immediate priority for Nasarawa State should be to strengthen the basic operational foundations of development control via timely funding, adequate logistics, sufficient qualified personnel, current physical development plans and continuous monitoring. These should be pursued alongside digitalisation, stronger inter-agency coordination, environmental integration, professional ethics, transparency and public enlightenment.

The practical experience of the State demonstrates that sophisticated legislation and technology cannot substitute for the basic institutional capacity required to implement development control on the ground. Conversely, a planning authority that is adequately funded, professionally staffed, properly equipped, guided by current development plans and supported by transparent administrative systems is better positioned to detect contraventions early, reduce opportunities for corrupt practices, resist undue influence, protect environmentally sensitive areas and promote orderly and environmentally sustainable development.

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