Non-GPON Fiber Deployment in Zamfara State: Baseline vs 2025

1. Introduction

Fiber-optic infrastructure is a foundational component of modern digital economies, enabling reliable broadband connectivity, efficient communication networks, and digital service delivery. In Zamfara State, the development of fiber infrastructure has historically been constrained by geographic, security, and investment challenges. This report presents a comparative assessment of Non-GPON fiber deployment in Zamfara State, comparing the baseline situation with the status in 2025.

The report highlights progress achieved, identifies existing gaps, and provides insights to guide future infrastructure development, policy formulation, and investment planning within the state.

2. Purpose of the Report

The objectives of this report are to:

- Assess the baseline status of Non-GPON fiber infrastructure in Zamfara State
- Evaluate progress in fiber deployment as of 2025
- Identify infrastructure gaps and deployment challenges
- Support evidence-based decision-making for broadband and digital infrastructure development
- Provide reference material for public-private partnership initiatives

3. Scope and Definition

3.1 Definition of Non-GPON Fiber

For the purpose of this report, Non-GPON fiber refers to fiber-optic infrastructure deployed using technologies other than Gigabit Passive Optical Network (GPON). This includes:

- Point-to-Point (P2P) fiber networks
- Active Ethernet fiber deployments
- Metro and long-haul backbone fiber
- Mobile network backhaul fiber
- Enterprise-dedicated and institutional fiber networks

GPON-based residential last-mile fiber-to-the-home (FTTH) networks are excluded from this assessment.

3.2 Geographic Scope

This report covers Zamfara State, including major towns such as Gusau, Kaura Namoda, Talata Mafara, Anka, and surrounding local government areas.

4. Baseline Status of Non-GPON Fiber Deployment

At the baseline period, Non-GPON fiber deployment in Zamfara State was extremely limited. Existing fiber infrastructure was largely restricted to isolated backbone segments and select institutional connections.

Key Characteristics of the Baseline Period:

- Very limited fiber presence within the state
- Concentration of fiber infrastructure around Gusau and selected government institutions
- Minimal inter-city fiber connectivity
- Heavy reliance on microwave and wireless links for mobile backhaul
- Little to no fiber penetration into rural and semi-urban areas

Overall, the baseline scenario reflected a low-density fiber environment with significant infrastructure deficits.

5. Non-GPON Fiber Deployment Status in 2025

By 2025, Zamfara State has recorded gradual improvements in Non-GPON fiber deployment, driven primarily by mobile network expansion, government connectivity needs, and integration with regional backbone networks.

Key Developments by 2025:

- Extension of fiber backhaul to support mobile network operations
- Improved connectivity for government institutions and critical infrastructure
- Limited expansion of inter-city fiber routes
- Increased private sector interest in backbone and enterprise connectivity
- Improved linkage to national and regional fiber corridors

Despite these gains, overall fiber coverage remains low compared to national averages.

6. Comparative Analysis: Baseline vs 2025

The table below summarizes the comparative status of Non-GPON fiber deployment in Zamfara State.

Indicator	Baseline	2025
Geographic coverage	Extremely limited	Modest expansion in key corridors
Fiber route length	Very low	Increased but still limited
Inter-city connectivity	Minimal	Partial inter-city links
Primary usage	Institutional and backbone	Backbone, mobile backhaul, enterprise
Rural penetration	Negligible	Very limited
Network resilience	Low	Slight improvement

7. Key Observations

- Non-GPON fiber deployment in Zamfara State has improved since the baseline period
- Expansion has been concentrated around major towns and strategic corridors
- Mobile network quality has benefited from improved fiber backhaul availability
- Security and investment challenges continue to constrain rapid deployment
- Rural connectivity remains largely dependent on wireless solutions

8. Implications for Zamfara State

The gradual expansion of Non-GPON fiber infrastructure provides a stronger foundation for digital development in Zamfara State, supporting:

- Improved mobile broadband performance
- Enhanced delivery of e-government services
- Better connectivity for education, healthcare, and financial services
- Increased potential for private sector investment

However, achieving inclusive and resilient digital infrastructure will require targeted interventions and sustained investment.

9. Recommendations

To accelerate Non-GPON fiber deployment in Zamfara State, the following actions are recommended:

1. Promote public-private partnerships for backbone and metro fiber expansion
2. Encourage infrastructure sharing among network operators
3. Prioritize fiber deployment along secure and economically strategic routes
4. Complement fiber investment with wireless last-mile solutions in rural areas
5. Strengthen coordination between state authorities, regulators, and service providers

10. Conclusion

The comparison between the baseline period and 2025 demonstrates gradual progress in Non-GPON fiber deployment in Zamfara State. While improvements have been recorded in backbone and institutional connectivity, overall fiber penetration remains limited. Sustained policy support, coordinated planning, and strategic investment are essential to expand coverage and unlock the full digital and economic potential of the state.