

Alternatives to the cross river superhighway balances sustainable infrastructure development with biodiversity conservation

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Abstract

Statement of the Problem: Roads infrastructure development is necessary but can be problematic when badly planned. Spatial scientists can provide evidenced-based reasoning in realizing viable and smart road substructure provisioning to optimize nature conservation, minimize environmental damages and increases socioeconomic benefits.

Methodology & Theoretical Orientation: Based on integrated spatially explicit impacts assessment and cost-benefit examination, the African case study presented in this study show how re-routing poorly planned highways can lessen negative environmental impacts, conserve biodiversity provide innovative and flexible ecosystem management solutions. Examining the proposed 260 km superhighway in Cross River State, south-eastern Nigeria demonstrate how human actions threaten frontiers of biodiversity and wildlife conservation in equatorial Africa

Findings: The examined proposed highway by the Cross River State Government in Nigeria would have divided ~115 km of intact tropical rainforest or protected areas and would cost ~US\$2.5 billion to construct. The two different routes 1 and 2 we offered and evaluated would be little damaging to the Cross River National Park, unguarded forests and biodiversity habitats. Although, the alternative routes are slightly longer (~290 and ~353 km), yet costing less (~US\$0.9 billion) to construct, compared to the state government proposed superhighway. The first alternative suggested, entirely avoids intact forest while focusing to provide maximum benefits to farmers and settlers.

Conclusion & Significance: In the context of achieving target #9 of the global sustainable development goals, smart substructure provisioning and sustainable land-use management suggestions from research outcomes should be incorporated as strategic tools for developing an informed conservation economy policy and decision-making in Africa.

If biodiversity conservation and ecosystem management are to be achieved Africa wide, road infrastructure developments must be optimized to reduce environmental impacts and maximize socioeconomic benefits which can be perceived by promoting lessons, trade-offs and synergies learn from the cross river superhighway case study

Strategies that beautify the mitigation and variation of weather trade have emerge as a topic of worldwide concern. Selecting Cross River State, Nigeria as a case have a look at, I analyzed woodland associated weather trade mitigation and variation regulations the usage of the 2016 ITTO standards and signs for Sustainable Forest Management. I taken into consideration the ITTO framework a applicable device to attain the goal of this have a look at as it promotes the sustainable management, conservation, use and exchange of tropical woodland sources. The capacity of ITTO to provide a right illustration of Nigeria's development with weather trade mitigation and variation the usage of woodland sources made it a appropriate device for this have a look at. I done a evaluate and historic evaluation of international, countrywide and sub-countrywide weather trade regulations, their roles, development and limitation. This have a look at famous the development which have been made thru harnessing woodland sources to mitigate and adapt to weather trade in Cross River State (CRS), Nigeria. Our findings monitor that a few development had been made with addressing weather trade the usage of international, countrywide and sub-countrywide woodland-associated weather trade regulations inside Nigeria. Internationally, Nigeria has produced 3 countrywide communications below UNFCCC indicating its commitments and development toward addressing international weather trade.

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