

Indications of EIA Failures of Major Development Projects near Lokoja, Nigeria and Some of its Negative Impacts on the Lokoja Section of the River Niger.

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Abstract

The dredging of sections of the River Niger and the dualization of the Lokoja - Abuja highway are two major projects embarked upon by the Federal Government of Nigeria within the last decade. These projects are within the watershed of the Lokoja section of the River Niger. Major development projects require Environmental Impact Assessment (EIA). Observations and assessment of both prevailing environmental characteristics of the project sites and implementation phase characteristics was made between April 2013 and March 2016. Contract documents and other materials relating to the two projects were also consulted. Several indications of failed EIA was observed on both projects including undue extension and inconclusiveness of the commissioning dates of the project, dumping of excavated soil from road construction into the River Niger, damage to oil pipelines at Kotonkarfe leading to spillage, inadequate safety measure for other road user and road construction staff, complaints of lack of consultation by communities, contrary to federal EIA laws, during preparation of the federal EIA reports for the dredging projects, and lack of consideration to the fisheries of the River Niger. The need for implementation of EIA regulations was highlighted this study

Keywords: EIA, Dredging, River Niger.

Introduction

Within the last decade, the Federal Government of Nigeria initiated two major development projects within the watershed of the Lokoja section of the River Niger. These are the dredging of a section of the River Niger and the dualization of the Lokoja - Abuja highway. The River Niger is one of the most important rivers in Africa and is home to diverse aquatic fauna and flora and also provides water to millions of people in West Africa for domestic and industrial use, irrigation and hydro-electricity generation. It is also a major inland water transportation route. Major development projects require Environmental Impact Assessment (EIA). EIA aims at, not just the identification of project impacts, but also the implementation of ameliorative measures to

substantially reduce the negative impacts of a development programme; the absence of amelioration measures on project impacts at pre project commissioning time (project construction) could be a flag and a quick indicator of nonexistence of EIA or improperly conducted EIA on projects. Impact identification is important to identify all the important impact that would occur once the project is executed. Most projects have their environmental impacts initiated by the commencement of project construction activities.

The concept of environmental impact assessment is not new. It has been practiced for decades. It describes the whole process by which information about the environmental effects of a major development is collected, assessed and taken into account by public authorities in reaching a decision on whether the proposed activity should continue or not (Engine, 2005). It is a management tool.

In Nigeria, the shocking discovery of 3,800 tons of toxic and hazardous waste in Koko, Delta State in 1988 became the catalyst to spur government into action and changed attitude towards environmental issues among the populace (Nkwocha, 2004). The incidence led to the promulgation of the Federal Environmental Protection Agency (FEPA) Decree 58 of 1988 and subsequently the Environmental Impact Assessment Decree of 86 of 1992 which later became an Act defining procedures for the conduct of EIA in Nigeria.

Projects in developing countries are mostly implemented without proper EIAs and others with improperly conducted EIAs. Corruption has been identified as a key driver of non-implementation of EIA regulations in Nigeria. It therefore follows that where EIA of projects is not carried out or is improperly done, unidentified or ignored project impacts devastate the environment leaving a trail of undue damage to the environment.

Although project implementation assessment commences at the early stages of EIA such as screening, scoping and consideration of alternatives (Margenstern, 1997), it is almost an endless process as changes and impacts may, themselves introduce variables which may exhibit unanticipated impacts. Fairly accurate models are available for predicting impacts on physical components of the environment, predictions on biological, socio-economic and cultural impacts are very often subject to uncertainty (Bhatia, 2009).

The dualization of Lokoja - Abuja highway was initiated with two major justifications: To provide access to increasing road traffic; and Reduce travel time between Lokoja and Abuja FCT and improve the safety of road users. The dredging of the River Niger was majorly to promote the economic development of the country, especially Northern Nigeria. The contract for the dredging project was awarded in five lots in 2009, covering a length of about 572 kilometers, between Baro in Niger State and Warri in Delta State, Nigeria. The project aimed to provide navigable access to medium sized shipping vessel and improve the potential for an inland sea port at Lokoja.

This work looks at the visible and perceived impacts of these two projects at their

implementation stage with flags indicative of no EIAs, improperly conducted EIAs or overlooked EIA.

Materials and Method

A study of major development projects in Lokoja, Nigeria which may affect the River Niger was carried out between April 2013 and March 2016. Section IV of the Abuja – Lokoja highway dualization project which span between Lokoja and Kotonkarfe is within the watershed of the river. Lokoja sits west of the Confluence of River Niger and River Benue and is between longitude 7⁰ 48'O North and latitude 6⁰ 44'O East. Regular visits to the sites were made monthly during the period of study. During the field visits, observations were made of both prevailing environmental characteristics of the project sites (road construction sites and the River Niger) and implementation phase characteristics and note taken of the conditions of settlements; vegetation; soil characteristics, and visible surface water parameters.

The contract documents and other materials relating to the two projects were also consulted including journals and print media documents. Identification and evaluation of environmental impacts was performed on vegetation and soils that were affected by clearing for right of way and excavations; location of dumping sites for excess soils not used in construction; dredge dumps; bridge construction; vehicular activity and machines used in construction and river dredging. There was regular interaction with residents of the area and local fishermen on the study section of the river. Photographs were taken where necessary for easy identification and comparison of observations.

Results and Discursions

Several pointers to failed EIA in the section IV of the Lokoja – Abuja highway project were identified. Some of these include:

- i. The undue extension and inconclusiveness of the commissioning date of the project. The road construction project should ideally been completed and commissioned by April 2009 had only attained about 38% physical progress by 2011, five years after contract award. This is a key indicator of failed EIA. At the time of this study, work was still going on at the site and it may be said that only about 75% of the work had been done 9 year after. Several reasons were given but all point to improper or no EIA.
- ii. The need to rehabilitate the existing carriageway in the contracts was not accommodated in the contract terms. These points to inadequate scope of works for the new carriageway.
- iii. Unsuitable underlying soil over a long stretch led to collapse of some sections of the

- road after asphaltting as reported by the contractor leading to fresh excavations and massive earthworks to replace same before reconstruction. This should have been flagged up at EIA if it was properly done and would have saved the Nigerian government massive costs.
- iv. Massive earth works and wrong dumping of soil into the River Niger, which at that time, was undergoing dredging. The river was exposed to increased sediment while the hill side's earth-cuts are exposed to soil erosion.
 - v. Excavation works caused damage to oil pipelines at Kotonkarfe leading to spillage and environmental damage. An EIA report would have identified the pipeline and outlined safety procedures for work around the pipeline to prevent likely damage. Unintentional discharge of untreated waste or spillage of petroleum products is generating much concern today (Alum-Udensi et. al 2016) because of the damage they cause to the environment.
 - vi. Non provision of adequate safety measure for other road user and road construction staff by the construction company. Regular users of the road were faced with inconveniences and accident risks due to improper alternative arrangements, safety signs and the interference of heavy duty vehicles on the road. EIA makes provision for this if properly carried out.
 - i. Other observations include visual impact due to changes in the landscape of mountain sides of the road due to the earth cuts and the extraction of construction material leading to changes in the original topography and stability of the terrain. Also soil pollution from accidental spills of fuel, grease and oil in machinery and construction equipment.



Plate 1: Massive earthwork at the road construction site on the Lokoja-Abuja highway.



Plate 2: Deposition of tons of earthworks into the River Niger



Plate 3: Bridge construction for the 2nd lane of the Lokoja-Abuja highway near Kotonkarfe.



Plate 4: Increased water turbidity caused by run-off from earth work during bridge construction

The scope of the dredging contract of the River Niger, which was awarded in advance of draft EIA report preparation, stated (EIA report) that the Federal Government of Nigeria is planning to: Dredge about 573 km of the Lower River Niger Waterway, from Warri to Baro; Develop and/or complete inland ports at Idah, Lokoja, Baro and Onitsha; Develop river training works; and Plan and initiate recurrent (maintenance) dredging, on completion of the capital dredging.



Plate 5: Map showing section of the River Niger proposed for dredging (source: The independent Newspapers – 10/12/2013)

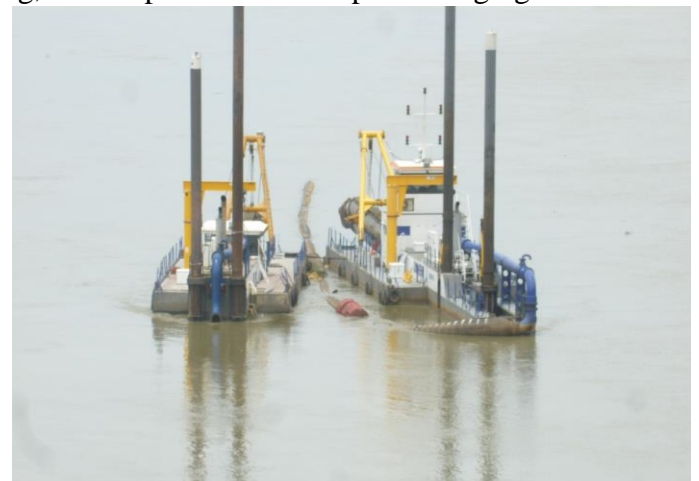


Plate 7: *Dasyatis garouaensis* – a benthic fish species endemic to River Niger. (*Synoglossus senegalensis*).



Plate 6: Dredging equipment on the Lokoja section of the River Niger.



Plate 8 : *Cynoglossus senegalensis* – a fish species endemic to River Niger.

Some of the indicators of failed EIA on the lower river Niger dredging project include the following:

- i. Most of the communities complain that, contrary to federal EIA laws, they were not consulted or even contacted during preparation of the federal EIA report. They believe their communities were misrepresented in the report which, moreover, has not been made available for public review and comment. This is contrary to provision
- ii. The project contracts were awarded without EIA as indicated by subsequent EIA carried out in the course of the work and massive agitations being mounted by interest groups.
- iii. Massive earth works observed on the road construction along the river and the deposition of thousands of tons of soil into the River Niger. The dumping of earth beside and into the river is counter productive and environmentally unacceptable particularly at a time sections of the river is undergoing dredging and dredging maintenance activities. It is worthy of note that the Lower Niger has been dredged twice before this time, first in 1958 by NEDECO (Netherlands Engineering Company) and secondly by a consortium of LCHF/Westminster Dredging Company, in 1978 from Baro through Lokoja to Onitsha, Onya to Warri/Port Harcourt (Salu, 2000). Due to lack of maintenance, the entire dredged channel silted up. The direct dumping of earth works from the road construction into the river and on the bank of the river poses danger to the health of the River Niger. It silts up the river and affects water turbidity as observed in the months of rainy season.
- iv. Consideration was not given to the fisheries of the River Niger. The Lokoja section of the River Niger is home to some rare fish species such as *Cynoglossus senegalensis*

(sole), and *Dasyatis garouaensis* (smooth freshwater stingray). Reed *et.al* (1967) noted the presence of *D. garouaensis* in the area. Dredging disrupts river benthic ecology with negative effects on fish food organisms and the food chain. Populations of benthic fish species of this section of the River Niger such as *Cynoglossus senegalensis* and *Dasyatis garouaensis* may be affected by dredging disturbances. Changes in river ecology may affect fish reproduction and migration. These disturbances affect the entire fisheries and may manifest in lowered productivity and fish catch by artisanal fishermen. Reduction of riverine fisheries will influence the livelihood of many artisanal fishermen and their families.

Runoff from roads and impervious surfaces is a major source of water pollution as they pick up gasoline, motor oil, heavy metals, trash and other pollutants which are washed directly into streams and rivers. Road runoff is a major source of nickel, copper, zinc, cadmium, lead and Polycyclic Aromatic Hydrocarbons (PAHs), which are created as combustion byproducts of gasoline and other fossil fuels (Burton and Pitt, 2001). The section IV of the Abuja – Lokoja highway lacks runoff ponds to act as runoff water sedimentation pond preventing the direct discharge of contaminated water from the highway into the River Niger.

Conclusion

The catalogue of environmental problems experienced in Nigeria calls for appropriate policies and programmes to mitigate them if the country aspires for sustainable development (Nkwocha, 2014). The problems exposed by the two projects exemplified above could have been avoided or at least minimized if standard procedures of EIA were followed. The potential impacts and mitigation measures should have been discussed with stakeholders before project implementation. Some of the observed impacts which include exposure of soils and increase in proneness to soil erosion; an increase in suspended particles in the river, and the silting up of the River Niger could have been avoided or, at least, minimized.

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