

**FLOOD RISK ANALYSIS AND HAZARD ASSESSMENT IN GUSORO COMMUNITY DOWNSTREAM OF SHIRORO DAM USING GEOSPATIAL APPROACH**

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**ABSTRACT**

*The study undertakes flood risk analysis and hazard assessment in Gusoro downstream of shiroro dam using remote sensing technique. The study is anchored on three objectives; to create land use land cover map, to map flood prone areas within the study area and to proffer options for flood hazard mitigation and adaptation in the study area. Data were sourced from satellite imageries landsat ETM of 2006, topographic map of the study of the study area Niger state Geographic information system (NIGIS) and hydrological data for 10 years (2003-2013) from Shiroro Hydro Electric Power Dam Niger state. The image analyzed with the aid of flood frequency, geo-referencing, image enhancement, image classification, buffering, Boolean Analysis and proximity Analysis. The results revealed that in year 2012, the total rainfall was 1659.7mm and the heavy downpour affected the surrounding environment of the river. The result indicated that most rivers flooding in the study area is seasonal (rainy season only) and it is aggravated by two main factors i.e. when the spill ways of the dam are open and secondly human and anthropogenic activities. The study further revealed that human activities by the river side contribute to the flooding in the area. The study recommended that the buffer zone should be created by riverside, to restrict people from erecting structures or agricultural activities along the river banks.*

**Keywords:** *Flood risk, Hazard, Downstream, Environmental, and Urban Development.*