

**EVALUATION OF TREND IN FLOOD EVENTS ON RIPARIAN COMMUNITIES OF SHIRORO DAM, NIGERIA**

**GARBA I. K; NSOFOR, G. N; ABUBAKAR, A. S. & ABDULKADIR, A.**

**ABSTRACT**

With reference to global climate change which possibly causes heavy downpour, river erosion have led to upstream dam sedimentation, overflowing and large volume of water into Shiroro dam from the main river and its tributaries which may have been causing upstream spill over (back flow) water and also force the dam managers to release large volume of water to downstream sector in order to save the dam from collapse. In the course of doing that, the downstream communities are exposed to river bank over flow into their houses, farmlands and displacement. Therefore, the aim of this study was to evaluate the trend in flood events on riparian communities of Shiroro dam, Nigeria. The technique used for data analysis were different statistical techniques such as Analysis of Variation (ANOVA), Regression analysis, percentage, frequency tables and graphs. The result shows monthly rainfall of August for 26 years (1990-2015) and the monthly rainfall tends to be increasing from 174.1mm in 2005 to 443.8mm in 1995. This has translated to more flooding activities in the study area due rise in inflow and outflow data. Recently, August for the year 2012, 2014 and 2015 has high monthly rainfall and the people in the study area confirmed that it resulted in more flooding activities with resultant effects on infrastructure, farm produce and lives of the inhabitants living in the area. The findings also shows that  $R^2$  was 0.52 for annual rainfall, thus, rainfall account for 52.0% of the explained variance between annual rainfall and annual Inflow in the study area. This shows that other climatic variable like temperature and relative humidity also play important role in Inflow data since there is remaining 48%. It's therefore recommended that town planners as well as NSEMA specify habitable and non-habitable area in riparian communities of Shiroro dam so as to avoid the flood hazard from affecting the lives and properties of the people.