SOCIO-ECONOMIC EFFECTS OF THE AGAIE-LAPAI DAM CONSTRUCTION IN NIGER STATE,NIGERIA

[1]Yakubu, U.P; [1] Hammed, M; [1]Ndakatu, A.M; [2]Yusuf, M.K
1. Department of Water Resources, Aquaculture and Fisheries Technology, Federal University of Technology,P.M.B. 65, Minna.
2. Ibrahim Badamasi Babangida University, Lapai, Niger State
Email address: umar.paiko@yahoo.com

ABSTRACT

Study investigated the changes that occurred in the social and economic life of the surrounding communities during the construction of Agaie-Lapai dam. Descriptive opinion survey was used. The population comprised of two hundred and eighty (280) people from seven different communities surrounding the dam. Structured questionnaires comprising of twenty seven (27) items were used in the collection of data. The data were analyzed using by means of T- Test .The findings of the study were basically that the impoundment of Agaie-Lapai dam has direct influence on the socio-economic activities of the surrounding communities study revealed that there was a significant difference in annual income of the respondents. There were changes in the job pattern of members of the communities. The prevalent flood was also controlled while the level of fishing activities increased after damming.
Keywords: Effects, dam, construction, socio-economic, activities, Agaie-Lapai, communities.

INTRODUCTION

Dam is a barrier to obstruct the flow of water, especially on the earth surface, and as a barrier that impound water or underground strains (Chorley and Kennedy, 2003).Dam serves the primary purpose of retaining water while other structure such as floodgates or levees are used to manage or prevent water flow into specific land regions.A dam can also be used to collect water or for storage of water which can be evenly distributed between location. The economic conditions and institutional incapacities existing in countries that needed large dams did not enable them to construct. The large dam construction became possible during the 20th century mainly because of advances made in Science and Technology, which enabled mechanization of construction processes and speedier construction (Beamont, 2003).Larger water storages were also found to be necessary by the society in response to the needs of the growing urban and industrial areas, generation of hydropower or agricultural support (Aina, 1999).Today nearly 500,000 square kilometers of land worldwide are inundated by reservoirs capable of storing 6,000 cubic kilometers of water (Shiklomanov, 1993, 1996; Collier et al., 1996). This redistribution of fresh water is so large that scientists reported that it is responsible for a small but measurable change in the orbital characteristics of the Earth (Chao, 1995). Today's dams produce roughly 20% the world's total supply of electricity. Much of the hydropower generation is concentrated in a few countries, including Canada, the United States, Brazil, and China. (Alabaster, 2003). While water supplies may be adequate for a particular group at a specific point in time, growth orientations of the society encourage the development of new sources to meet expected increase in demand for water (Schnaiberg, 2001).Many of these dams may never be built; serious opposition to large dams is growing throughout the world because of their environmental, social, and cultural consequences. Among the many impacts are land inundations, loss of riparian (river-related) habitat, adverse effects on aquatic species, and reservoir-induced seismicity, as well as social impacts on localpopulations and people who must be uprooted and resettled from reservoir areas (Goldsmith and Hildyard, 1986; White, 1988; Covich, 1993; McCully, 1996). According to Biswas (1975) small fraction of valuable, fertile farmland, riparian woodland or wildlife habitat has been lost to reservoir worldwide. These lands are often of great economic important to human. Riparian River floodplains are among the world's most diverse ecological systems, balancing aquatic and terrestrial habitat, species, and dynamics.

METHODOLOGY OF DATA COLLECTION AND ANALYSIS

The Study Area

Agaie-Lapai dams is located between latitude 9^0 14'N and longitude 8^0 24'E of the prime meridian. The dam project is located at the boundary between Lapai and Paiko Local Government Area in Niger state. Access road to the dam site is 3km off Paiko - Lapai roadThe methodology involved in collecting data in this research were questionnaires, interviews, observations and secondary data were used.

The stratified random sampling technique was employed and the study area was divided into two parts, namely: Upstream and downstream.

The villages visited at the upstream and the numbers of questionnaires administered in each village were as follows:Nakopita30,Bakajeba 45,TungaGana 45,Jankwa 30,Dagban 40

While the villages visited at the downstream and the corresponding number of the questionnaires administered were:
Angwar Umar 40, Sabo gariShugaba 30
These was to allow larger part of the populace and to ensure an evenly distribution of questionnaires in the areas .The total number of questionnaires administered were two hundred and sixty (260).The questionnaires were designed in other to find the effects of Agaie-Lapai dam construction on the surrounding communities. Such effects as on their annual income,job patterns, prevalence of flood, trend of losses incurred and how it affects fishing activities. Oral interview were also conducted within the study area.
The presentation and data collected were analyzed by the use of figures with frequency layouts to show the relationship between the various responses from different respondents.
RESULTS
The following figures shows the result of the research carried around the communities surrounding Agaie-Lapai Dam.

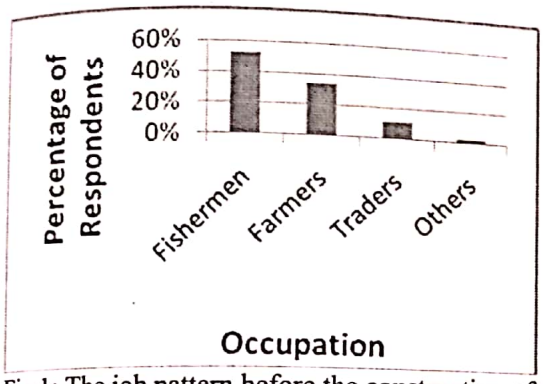

Fig 1: The job pattern before the construction of the dam

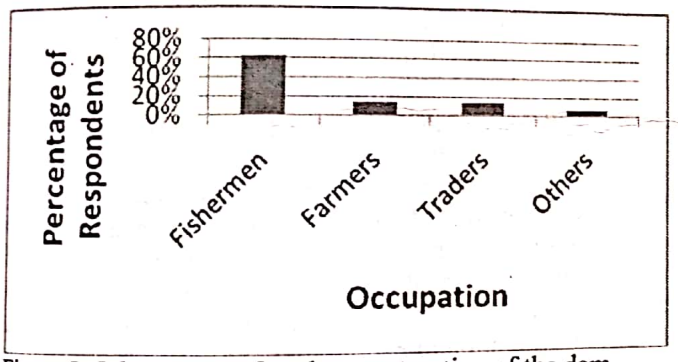

Figure 2: Job patterns after the construction of the dam

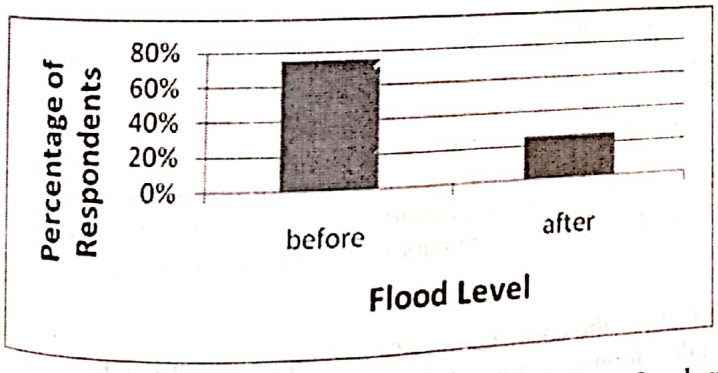

Fig 3: Responses on prevalence of floods before and after damming

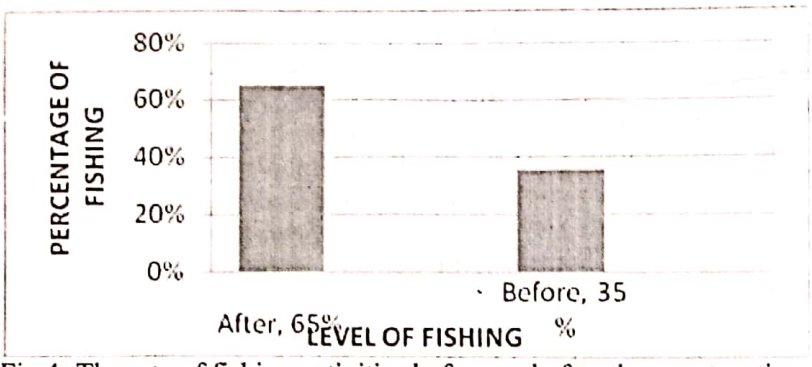

Fig 4: The rate of fishing activities before and after the construction of the dam

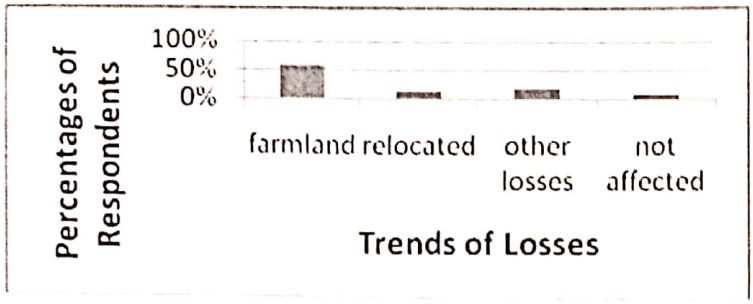

Fig. 5: The trends of losses incurred during damming activities

DISCUSSION

It is an established fact that any dam construction will have some benefits within its immediate environments just as it is shown in figure 2,where Agaie-Lapai dam has contributed certain socio-economic benefits within Lapai and its environments. The main function of Agaie-Lapai dam is its provision of good quality water supply for both domestic and industrial use. It is an essential attribute to urban development and even more important to further development schemes.Good health condition which cannot be guaranteed without good water supply in any society is instrumental to development. Many respondents in the villages downstream like,Nagopita, Bakajeba, Tungan Gana, Jyankpam, Dagban(Shugaba),and Anguwan Umar agreed that it has been the main source of hygienic water supply. And more importantly, there were reduction in the cases of endemic and epidemic diseases such as cholera, typhoid fever and other water borne diseases respectively. Figure 1 shows the jobs pattern before the construction of the dam. It shows that 52% were Fisher men, 35% farmers, 11% traders and others 2%. However, after the construction of the dam, 63% were established to be fishermen, 15% farmers, 15% traders and others 7%. The job pattern has changed due to the existence of the dam.This is evident in the migration of people from other activities to fishing. Other job opportunities such as trading on fish, fishing gear, food, clothing materials, and transports operations opened.

Agaie-Lapai dam has also contributed to the uplifting of living conditions and providing proteineous food from fishes that are caught from the dam.The fishing activities increased after the construction dam as shown in figure 2.

Frequent flooding of the area has reduced drastically due to the construction of the dam as shown in figure 3. Incidentally, the loss of farm lands and relocation of surrounding settlements has come to a halt. There was significant difference in the annual income of community, because many people were engaged in different activities which were not in existence before the construction of the dam. The trend of losses incurred during the construction of the dam is shown in figure 5, where 58% of farm lands were lost, 14% settlements relocated, 19% other losses and 9% unaffected.

CONCLUSION

The study had attempted to identify and determine various effects of the construction of the dam on its surrounding communities. The findings have been restricted to Lapai as a developing center which radiates into the surrounding villages.Impact assessments have shown that the construction of the dam has brought about many benefits on the surrounding communities.

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