**ASSESSMENT OF THE EFFECTS OF CLIMATE CHANGES ON KEBBI STATE FISHING COMMUNITIES BY MUSTAPHA SAIDU DOLE, DIRECTOR FISHERIES MINISTRY OF ANIMAL HEALTH, HUSBANDRY AND FISHERIES**

Kebbi State lies in the extreme north western corner of Nigeria on latitudes 10 to 13014’N and longitudes 3030’’ to 6002 East. It share border with Niger Republic to the North, Benin Republic to the West, Sokoto, Zamfara States to the East and Niger State to the South.

1. The State has 21 Local Government Areas.
2. The total population was 3,238,628 as per 2006 census).
3. Total land area 36,800km2.
4. There are (Two Ecological Zones) Northern part of the state fall, in the Sudan Savanah with (400-600mm) Rain fall and the south part is in guinea Savanah with (800-1100mm) Rainfall.
5. Rainy season is between (April/May to October) and the remaining part of the year is dry season.

2. Available water resource:

1. River Niger traverses for about 150 kilometers from Dolekaina to Yauri with surface area of 87,500hacters in addition to 50,000hacters of Kaiji Lakel, 1/3 of which falls in Kebbi State territories.
2. River Rima traverses in the state for about 120kilometer. Forming flood plain of about 525,000hacters between Argungu and Suru Local Government Areas.
3. Others are River Ka at Jega and Kalgo, Yarmama Lake in Birnin Kebbi Local Government Area Lake Uwa Mange at Bayawa in Argungu Local Government Area Lake Lakyangu in Dandi Local Government Area The rest are the international Argungu Fishing Festival ground at Matan Fada in Argungu, Zuru Dam, Dogon Ruwa at Illo in Bagudo Local Government Area and others in different parts of the State.

3. FISHERIES PROTENTIALS

1. 500 fishing settlements are found in the State
2. 300 registered fishermen and fish farmers cooperative societies
3. There are 2,000 fish farmers
4. There are 500,000 full time and part time fishermen in the State
5. The population of full time fishermen in the State was 100,000
6. Five Zonal Fisheries Offices at Birnin Kebbi, Argungu, Yauri, Bagudo and Zuru
7. Modern fish market of Yauri (Federal) with cool room of 10,000 ton capacity.
8. Fish production was 90,000mt as at 2010.

4. COMMON FISHING GEARS USED BY FISHERMEN IN KEBBI

1. Gillnet (Mesh size – 2 – 3inches)
2. Drift net (Mesh size (2 – 3inches)
3. Cast net mesh size (2-3-4inches)
4. Beach seine net mesh size (0.2mm)
5. Fishing traps, mesh size (1/2 inches)
6. Long line Hooks No. 1,2,3,4,6 and 7)
7. Grass cutting (is illegal method)
8. Fish fencing (is illegal method).

5. INTERVENTION BY STATE, FEDERAL AND N.G.O

1. Restocking of 10 water bodies by Kebbi State Government in 2017.
2. Ongoing research at Yamama Lake in Birnin Kebbi Local government Area by (NIFFR) Kainji (2009)
3. Provision of fishing gears by FDF (2009)
4. FAO Provide fingerlings and feeds to fish farmers in 2010.

6. Effect of climate changes on the Kebbi State Fishing communities.

Climate – means the usual condition of temperature, humidity, rainfall atmospheric pressure and other meteorological elements on the earth surface for a long period of time which can be up to thirty years and above.

1. EFFECT OF TEMPERATURE ON FISH

Fishes of every species are said to have no constant body temperature, thus per each 100C rise in temperature the rate of Biological and chemical processes doubles, and this can affect the production and distributions of fish.

When the surface waters become hot, the fish move down below the thermo cline for cool waters and thereby make it difficult for the fishermen to catch, especially those fishermen using the active gears like cast nets and driftnets.

1. There is need for a favorable temperature for spawning, when the temperature becomes higher, spawning is affect, and this affects fish production, even in the aquaculture.
2. Higher temperature also bring about high rate of evaporation and these will directly affect the quantity of water in the small water bodies like Fadama pools which are the shallower breeding grounds for many fish species
3. HUMIDITY: is the concentration of water vapour present in the air, it has higher impact on the health of Animal, it affects the fresh water fisheries through increase water temperature and nutrients level.
4. RAIN FALL: Increase in the flooding of fresh water bodies affects feeding and breeding habitat, decrease primary production and brings about the erosion of water sheds by (JK Ipinjolu 2014). This flooding also lead to silting of some water bodies with time and if the shallower part of the water body is silted, that means the fish breeding ground is silted and these can affect fish production, it is common along the River Niger and Rima.
5. WIND MOVEMENT: Wind movement when it is higher, it lead to erosion which can silt some small water bodies e.g. Yakurutu Lake in Sokoto State in Bodinga LGA Area of Sokoto is occupied by sand due to wind erosion.

Lake Wamange at Bayawa Argungu LGA, the size is reducing due to silting and scarcity of water due to climatic changes.

1. CONCLUSION: Climatic changes leads to global warming, which affects fish production and distribution. It also leads to water scarcity which affects sustainability and the income of fisher folks in the State.