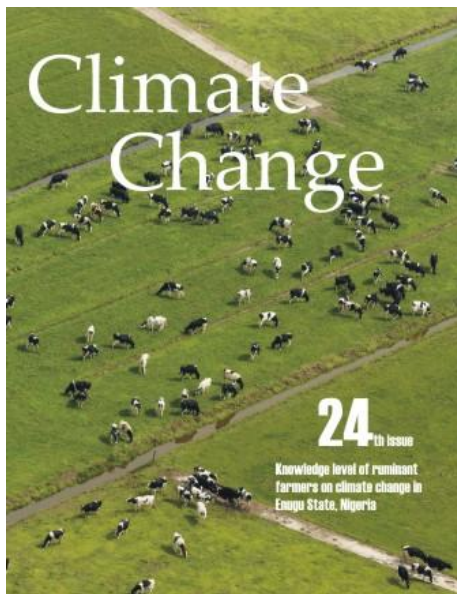


Climate Change

About the Cover



The study was designed to assess the knowledge level of ruminant farmers on climate change in Enugu State, Nigeria. The objectives of the study include; describe the socio-economic characteristics of ruminant farmers in the area, to assess the knowledge level of ruminant farmers on climate change, to ascertain the perceived effects of climate change on ruminant production and to determine the socio-economic factors influencing ruminant farmers' knowledge level on climate change. Multistage sampling procedure was used to select ninety six (96) respondents from two out of the six agricultural zones in the state. Semi-structured interview schedule was used in data collection. Data was analyzed using descriptive statistics. The results showed that ruminant farming is mostly done by the aged and that goats were the most common ruminants kept. Majority of the farmers had moderate knowledge on climate change. All the farmers perceived the effect of climate change in their production process. Educational level ($t = 3.238$; $p = 0.002$) was the factor that significantly influences the climate change knowledge level of ruminant farmers. The knowledge level of ruminant farmers should be improved through public extension services, dissemination of appropriate and relevant information on climate change. (Ref: Ebere NC, Blessing N. Knowledge level of ruminant farmers on climate change in Enugu State, Nigeria. *Climate Change*, 2021, 7(24), 52-58).

ANALYSIS

Knowledge level of ruminant farmers on climate change in Enugu State, Nigeria

Nwobodo Cynthia Ebere, Nwokolo Blessing

The study was designed to assess the knowledge level of ruminant farmers on climate change in Enugu State, Nigeria. The objectives of the study include; describe the socio-economic characteristics of ruminant farmers in the area, to assess the knowledge level of ruminant farmers on climate change, to ascertain the perceived effects of climate change on ruminant production and to determine the socio-economic factors influencing ruminant farmers' knowledge level on climate change. Multistage sampling procedure was used to select ninety six (96) respondents from two out of the six agricultural zones in the state. Semi-structured interview schedule was used in data collection. Data was analyzed using descriptive statistics. The results showed that ruminant farming is mostly done by the aged and that goats were the most common ruminants kept. Majority of the farmers had moderate knowledge on climate change. All the farmers perceived the effect of climate change in their production process. Educational level ($t = 3.238$; $p = 0.002$) was the factor that significantly influences the climate change knowledge level of ruminant farmers. The knowledge level of ruminant farmers should be improved through public extension services, dissemination of appropriate and relevant information on climate change.

Climate Change, 2021, 7(24), 52-58

Effect of date of transplanting and row orientation on dry matter partitioning and flower size in chrysanthemum

Munisha Sharma, Mohan Singh

In order to study the effects of date of transplanting, row spacing and their orientation on the dry matter partitioning and flower size in *Chrysanthemum* an experiment was conducted during 2019-2020 on *Solan Shringar* cultivar of *Chrysanthemum* at experimental farm of Department of Environmental Science, Dr. Yashwant Singh Parmar University of Horticulture & Forestry Nauni (30°86'N, 77°16'E and 1275 m amsl). Days required attaining different phenophases decreased with delayed transplanting and for maturity from 185 to 155 days. The effect of row spacing and orientation on number of these days was observed significant in earlier (D₁ and D₂) transplanted crop compared to late (D₃). The phasic rate of dry matter accumulation was highest 148.2g per successive phase ($R^2=0.991$) under D₁ followed by 109.7g ($R^2=0.987$) under D₂ and a drastic reduced rate of 54.4 g ($R^2=0.991$) per successive phase under late transplanting (D₃). A close relationship ($R^2>0.98$) was observed between dry matter accumulation and successive phenophases. The dry matter partitioning trend among different parts was observed as flower > stem > leaves > roots. The plant density and row orientation significantly affected crop growth rate and dry matter accumulation under different environments. A close linear relationship ($R^2> 0.96$) was observed between flower dry mass (FDM) leaf area index (LAI) per plant of the chrysanthemum crop.

Climate Change, 2021, 7(24), 59-66

REPORT

Impact of climate change on sustainable livelihood of the rural population of delta state, Nigeria

Jomata Lucky Igben

This study examines the impact of climate change on the physical environment and its indirect impact on the livelihood of the rural population of Delta State, Nigeria. It aims to ascertain the perceived effects of climate change on the physical environment and on the occupations of the population. Data for the study were obtained from questionnaire administered to a sample of the population selected through multi-stage sampling. The first stage involves the selection of one LGA from the 25 LGAs in the state. Second, random selection of four settlements from twenty-two (22) identified rural settlements. Third, is the systematic of 240 household heads. Descriptive statistical methods and the Student t-test were used to analyse the data collected for the study. The study revealed that perceived effects of climate change on the physical environment: namely, off- season rainfall, highly sensitive temperature, sporadic and heavy rainfall, flooding, extinction and scarcity of certain species of plants have indirect impact on the population manifested in decrease in output from primary activities, reduction in size of primary sector labour force, rural poverty, scarcity of primary products and high costs of primary products. There was a significant ($t=-2.21$, $df=9$, $p<0.05$) difference in the main and second occupations of the population. The study recommends sustainability of human activities and environmental education of the population to enhance sustainable use of land related resources such as water, land and vegetation.

Climate Change, 2021, 7(24), 67-75

Growth rate and direction of climate change in Nigeria: 1990-2019

Adaji DU, Aye GC, Ogebe OF

The study considered the growth rate and direction of climate in Nigeria from 1990-2019. The study used time series data spanning from 1990-2019. Secondary data on rainfall and temperature were collected from FAO. Humidity data were collected from Nigeria Meteorology, NiMeT. The various analytical tools used were KPSS to test for unit root, exponential growth rate model and graphical trend analysis was used to examine the growth of rainfall, temperature and humidity. The quadratic trend model was used to examine the direction of growth of climate change. The result of growth model further showed that the compound growth rate of rainfall was 0.40 percent, temperature 0.1 percent and humidity -0.2 percent. Further, the results showed that of temperature was decelerating, humidity was stagnant and rainfall was accelerating over the 1990-2019 period. Based on the findings of this study, it is recommended that the government should encourage eco-friendly industrial activities such as the use of solar powered machineries and hydro-power to help reduce the volume of greenhouse gases emission and balance the climate change parameters. The government should also monitor existing policies on environmental control and protection to ensure they are actually fulfilling their essence. The monitoring could be in form of appraisal; finding out if there is compliance with environmental control rule and prosecute defaulters where and when necessary.

Climate Change, 2021, 7(24), 76-82