Food crisis and population growth in Nigeria

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Abstract: *Global food shortage and poverty scourge are challenges requiring urgent attention across the globe.Food insecurity of the lower income groups is mainly due to poverty and most food unsecured people lives in the rural areas.The research focuses on the food crisis and population growth in Nigeria. The analysis provides information on food crops production and population growth. The result through multi-regression analysis shows a strong inverse relationship between the growth in population and each of the identified food crops. The correlation in each case with population growth indicated food output does not cope with population growth. Government must assist through necessary adequate assistance.*

Policies must be evolved leading to sustainable agricultural growth in the countries where agricultural sector accounts for large share of the economy.

Key words: Food Crisis, Food production, Population growth and Regression Model.

Introduction

Prior to the 1970's there was no clear food consumption crises in Nigeria (Aromolaran and Aromolaran 1999). The food crisis became obvious when the contribution of Agriculture to the economy begin to decline in the 1970's coupled with the outbreak of civil war. The situation was getting worse more and more after discovery of petroleum and outbreak of the Sahelian droughts in 1972 – 1973.

In the early 19th Century, Abraham Maslow, an industrial psychologygist, came up with the theory of Physiological Needs of Man and top on the list was the desire for

food as the first basic need. According to him, after a man has satisfied his need for food, he begins to crave for clothing, and then for shelter. Omoh Gabriel, Henry Umoru, Lukat Binniyat And Babatunde Jimoh(2008). Thus, in Maslow's theory, the three basic needs are food, clothing and shelter. This theory has been the motivation behind man's industry in his journey through life. But Thomas Malthus, in the same period, alerted the world of the danger of populating the world without check. In his classical economics thesis, he avowed that while population is growing at geometric rate, food supply was growing at arithmetic progression.

This, he said, would lead to hunger if mankind does not put measures in place to check population growth. This thought was, however, overtaken by technological progress which brought about commercial farming. But Malthus' theory, if not universally applicable, stare mankind in the face. Today, it is no longer just Maslow's theory of Physiological Needs or Malthus' theory of Population Explosion that is mankind's problem, but also the desire of man to protect the environment. The West in attempt to reduce its dependence on the continued rising price of products from hydrocarbon, has diverted lands originally used[for crops to feed mankind, to crops to feed automobiles - cars.

As a result, a new face of hunger is staring the world at large in the face. A perfect storm of food scarcity, global warming, rocketing oil prices and the world population explosion, is plunging humanity into the biggest crisis of the 21st Century by pushing up food prices and spreading hunger and poverty from rural areas into cities.

Rising populations, strong demand from developing countries, increased cultivation of crops for bio-fuels and increasing floods and droughts, have sent food prices soaring across the globe.

Literature review

Poverty issues and global food crises are twin brothers scourging the world like AIDS. Food crises increases poverty world wide (World Bank: May 2008).Draught adverse climatic variation food insecurity are well known and capable of fueling the fire of poverty and its associating adverse effects. The sharp increase in food and energy prices globally has hurt the poorest and most food unsecured regions of the world.

Stated further that Africa is one of the hardest hit regions of the world with some 150m people at risk. The higher the price of the food the more the people are being pushed into poverty trap. Thus, the rising price of food is sending shivers down the spines of many world leaders who are aware that the skyrocketed prices lower the potential effect of causing a real economic and humanitarian Tsunami in developing countries (UN 2008). It stated further food to prices have increased by 83% in the last three years capable of real risk saturation on the estimated 100 million poor people unable to afford food. A greater bulk of the 100m falls within the African zone thus has manifested in riots, tension leading to food crises in Egypt, Ivory Coast, Senegal, Ethiopia, Burkinafasso etc. This has the capability of trumping the countries growth, peace and stability and security. Food crises / shortage is not limited to African countries alone. It has occurred in Indonesia, Haiti and led to the resignation of the prime minister. It is a weight; and no trivial issue affecting the whole world. (Ban

Ki-Moon 2008). It is capable of halting and reserving decades of economic growth with the 100m people nose – diving into the absolute poverty level. It is able to cause increase in hunger, malnutrition, infant and child mortality (UN:2008)

Young children whose early nutritional needs are critical to ensure long-term health and women are at the greatest risk. The current exorbitant prices of food items will remain so far the next 10 years. (F.A.O 2008). This is an indication that food prices might become more volatile due to drought and growing derrand for bio – fuel. It is intended to beat down the rise in price of crude oil at the international market thus the conversion of grain into grain – based fuel. It went further, the current high food prices would hit the poor and hungry people hardest especially those in low income nations of which Nigeria is inclusive. A choice must be made between bio – fuel and food for human consumption to alleviate poverty in Africa. The bio-fuel issues is a conjure of the developed countries to bail them out incessant of price hike of petroleum product by OPEC. According to (F.A.O;2008) repot, world fuel ethanol production triple between 2000 and 2007. It is expected to double again between now and 2017 to reach 127 billion liter/ year pre ordered production for export from 11 billion liters in year 2007 to around 24 billion liters by 2011. The demand for gains erupted from upsurge in demand for bio-fuel thus contributing to higher crop prices. It is unlikely, peasant farmers might not benefit form the price increase because many farmers in developing countries were not linked to market because of poor infrastructure and other logistics.

Our future might be jeopardized by current food crises, if we are not prepare to change our export ignorant approach towards population growth, things might even get worse Adejobi A.O (2004). The solution to causes of poverty and food crises could be laid at the door of the British Economist Malthusian. He made a strong case in this regard. The non – congruency between the rate of growth of population and that of the food production is the main root cause of disparity between food production leaving behind varying poverty dimensions. Food production grows at arithmetic rate and population grows at the geometric rate. At a certain stage, the rate at which population is increasing are more than the rate at which food are produced into the economy. The current situation reverse well with this stage of Malthusian theory. Population growth increases demand for food agricultural and production sector cannot cope with the increase demand of the population we live and breed like rabbit Adejobi A.O (2004).). Shortage of food nutrient to keep the soul and body together is an antidote against poverty lack of adequate food nutrient opens doors for malnutrition and ill-health. Which is an index of poverty measurement there is direct linkage between poverty and food crises. A healthy population is an asset to any nation in terms of maintenance and up keep of the population of any nation. A country ability to feed itself very much depends on many factors accessible making availability of arable land, population pressure, adequate health facility in rural and urban areas etc. The problem in poor countries attempt to increase food production and consumption are countered by rapid population growth coupled with the rural and urban migration. Rural poverty, land degradation e.t.c. Today, the world population land at 5300 million. It

increase approximately 250,000 people daily. It is envisage that 1000 million people will be born during this decade according to United Nation Population Division (UNPAD1989) over the next 10 years the population of the industrialized world will grow by 5 million while the developing countries will export to over 900 million UNPOP. DIV 1989. It is a pity the biggest increase will occur in the poorest countries, least equipped to meet the needs of the new arrivals.

As a result of food difficulties, nearly 1,000 million people will not get enough to eat and over 400 million are chronically malnourished. Yearly, 11 million children under the age of five die from hunger and hunger related diseases F.O.A (2008). Climatic change has its own role to play in the food production and poverty reduction. Countries are struggling for fertile land to grow crops and rear animals.

Competition over sparse resources may lead to conflict and environmental restrictions. The combination of poor farming practices and deforestation will trigger off poverty and poor nutritional habit. Thus is implemented by climatic change and soil degradation and soil infertility leaving large areas unsuitable for farming.

The rate of at which population is increasing could trigger food crises globally, more so, countries are struggling for fertile land to grow crops, rear animal etc. Higher food prices are here to stay (Lester Brown 2008) as the world need for growing soars. America's mis - guided attempt to wean itself off soil is exacerbating the food crisis America intention as to bail itself out of the oil crises every now and then but now caught enmeshed in the network of the soil crises. Whereas rice, soya beans prices have soared to historic height, doubling or tripling itself every now and then. (Lester Brown 2008). It went further, world grain consumption has exceeded production forcing a dawdling in stock leading to world grain consumption dropped down to 54 days of consumption, the lowest on record. The rise in grain prices is not due to temporary usage driven. The geometric growth of the world population is adding 70 million more consumers every year. This is an undue pressure on meager supply of food thus fueling the fire of poverty. This later leads to 860 million people in the world who are chronically hungry. (UNFP 2008). It went further, it breeds social unrest soaring food prices and life threaten.

Already 50 – 70% of their increment is spent on food. This is a clear situation of unmanageable burden of soaring food prices and spreading hunger.

Theory of population growth and food production

In order to appreciate the inevitable relationship among food production, population growth and poverty level there is the need to study the linkage existing among them by viewing population theories to poverty and global crises. The relationship between food crises and poverty level had been intense in terms of integrating the poverty level and making food available to the populace in Nigeria. Population theories gave magnitude and direction to proffer solutions or means of mitigating poverty problems. The moment population grows more than food production, it is a clear indication of poverty in existence in that community. In a simple terms it means the food available cannot cope with the population.

The early writers on population growth were concerned with the need to balance population with resources. The Chinese writer too were of the opinion that excessive population growth will depress the living standard of the people. The ancient Greek writers laid emphasis on optimum size of the city. The early Roman Christian writer favoured population growth to provide readily available bodied men to fight war for the Roman empire and aid military workers.

(Lucas 1980), arguing population were good to be growth of nations by then, more so, food was not a threat to the nations. The trends changed in 18th century when poverty was on the increase this was referred to as physiocratic doctrine. It was based on the premises that population depends on subsistence and agriculture.

Rev. Malthus and his famous theory of principle published in 1798 had positive contributions to make on poverty and food crises. The consequences of uncontrollable population growth is poverty emanating from food shortage it has four reacting effect on unemployment in a situation whereby population grow more than available/existing job vacancies. It gives room for crimes occurrences emanating from youth joblessness and late marriage. Land degradation and infertility due to uncontrollable population growth.

Nigeria is the most populous country in Africa but exactly how populous is a subject of speculation. The United Nations estimates that the population in 2009 was at 154,729,000, distributed as 51.7% rural and 48.3% urban, and with a population density of 167.5 people per square kilometer. National census results in the past few decades have been disputed. The results of the most recent census were released in December 2006 and gave a population of 140,003,542. The only breakdown available was by gender: males numbered 71,709,859, females numbered 68,293,08.

According to the United Nations, Nigeria has been undergoing explosive population growth and one of the highest growth and fertility rates in the world. By their projections, Nigeria will be one of the countries in the world that will account for most of the world's total population increase by 2050 www.un.org/News/Press/docs (2005) pop 918.. Presently, Nigeria is the eighth most populous country in the world, and even conservative estimates conclude that more than 20% of the world's black population lives in Nigeria. 2006 estimates claim 42.3% of the population is between 0–14 years of age, while 54.6% is between 15–65; the birth rate is significantly higher than the death rate, at 40.4 and 16.9 per 1000 people respectively. U .S.L. C – F R. Division. C.P.(2006).

Methodology

The regression analysis was used to test the relationship between the two variables Food crops and Population growth.

Regression table x: Analyses showing the effect of population growth on production of selected agricultural food crops in rural area of the part of the country.

The regression model can be estimated as below:

$Y = a + bx$

Where:

Y-Dependent Variable (i.e the output of each crop)

X-Independent variable (i.e population)

a-Intercept of the regression line

b-Slope of the regression line

Dependent variable	Model	B	Std.error	T	Sig.T	R	R^2	F
Maize	Constant population	-19169.0 0.00014	227.954 .000	-84.092 125.888	.008 .005	1.00	1.000	15847.745
Rice	Constant population	-3246.951	156.328	-20.770	.031			
	Population	0.00004891	.000	44.587	.014	1.000	.999	1987.971
Beans	Constant population	49.728 0.0003007	.000	34.558	.018	1.000	.999	1194.256
Plantain	Constant population	-1399.757 0.00001802	171.985 0.000	-8139 14.935	.078 .043	.998	.996	223.049
Yam	Constant population	-31973.6 0.0004123	1417.035 .000	-22.564 41.414	.028 .015	1.000	.999	1719.242
Cassava	Constant population	-40603.1 0.0005217	8903.095 .000	-4.561 8.350	.137 .076	.993	.986	69.723
Groundnut	Constant population	-6546.785 0.0000694	.000	33.064	.019	1.000	.999	1093.223

Source: Researcher surveys 2010.

Emperical analysis and interpretation of regression model results

The ordinary least square (regression) method was used to determine the effect between population growth and food production in Nigeria. The results are presented in Table X. The results showed on the production of each of the identified food crops is statistically significant at 0.05 level. This is represented by high t-value and low probability level for each of the major crops (Maize: t = 125.88, p = 0.05, Rice t = 44.587; P = 0.14, Beans: t = 34.558; p = 0.18, plantain t = 14.935; p = 0.43, Yam: t = 41.464; p = 105, cassava: t = 8.350, t = 0.76, groundnut: t = 33.064, t = 19) except cassava.

There is strong positive relationship between the growth in population and each of the identified food crops as indicated by the values of the correlation co-efficient; R tendency towards 1. The proportion of total variation in food production explained by variation in population is relatively high

as indicated by the co-efficient of determination, R2 tending towards 1 in each case. This implies that over 99% variation in food output is explained by variation in population.

Testing the overall explanation power of the regression equation, the F – statistics in each reveals that the variation in population growth explains e.g. significant proportion of the variation in the crop production. This contains the overall significance of the regression equation in terms of goodness of fat.

Conclusion

From the finding, it is revealed that the population growth shows a significant proportion of this variation in the crop production. The analysis indicated that to every increase change in population growth equivalently or even more should be reflected in rate of crop production which of course it is not so. There is a tremendous amount of sensitivity of information on how crop production should be improved through government encouragement and neighboring countries.

Recommendation

The rate by which population is rapidly growing today, there is need for rapid government intervention more than ever before through production incentive such as the recent farmer's micro credit aid, fertilizer and improved seeds at subsidized rate should be provided starting from the grass root level especially in rural area where such provision will be more useful.

Farmers should be assisted to embark on dry season farming. This is to guarantee that the necessary food items are made available for the rural households at reasonable prices all year round. Government should encourage the real farmer in aspect of adequate provision of resources to be used to ensure that more food production are provided.

Rural households should be educated and trained on the need and importance to diversify their source of income from agriculture. This will ensure regular incomes for the households. Participation of poor rural households' in cooperative societies may be necessary for them to be able to acquire the necessary funds required. Besides, agencies of government such as the National Directorate of Employment should be made to go and give training to rural households on small scale enterprises.

Also, students in higher institution should be thought and mandatory to them the important of agricultural system in our present day country and not to always see it as poor man business.

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