Journal of Advances and Scholarly Researches in Allied Education
Vol. 13, Issue No. 1, April-2017, ISSN 2230-7540

Reviewed Study on Relationship between Agricultural Productivity, Rural Poverty and Food Security

Alok Kumar Singh*

Sunflower Public School, Nandganj, Ghazipur, UP

Abstract – Agriculture in the 21st century will keep on confronting various, between associated difficulties everywhere throughout the world. It must deliver more food to bolster a developing populace portrayed by changing utilization patterns, and dietary and nourishing inclinations. Food and Agriculture Organization (FAO) moderately anticipated that if the worldwide populace achieves 9.1 billion by 2050, world production should ascend by 70%, and food production particularly in the developing scene should twofold. In Africa, which will make up a more prominent offer of the worldwide populace, demand may get tripled by 2050. Agriculture faces uncommon formative difficulties all inclusive. In the meantime, fast advances in agricultural research and development at the worldwide, territorial and national dimensions, offer exceptional chances, enhancing performance over the whole agriculture product value chain. The examination uncovers the commitment of expanded agricultural productivity in food security in the developing countries. Food security is a need for each person, home, network and country. In developing countries, food security could be substantially enhanced by expanded investment and strategy changes. In this article, we studied about the concept of Food Security and the relation between Poverty, food security and Agricultural Productivity through a review study.

----------X----------

I. INTRODUCTION

Bodirsky et al (2016) [1] the expanding total populace has prompted expanded demand for food and decreased per capita accessibility of arable land and irrigation water. Aggravating this issue is the way that most farmers in the developing scene possess just little plots of land that can possibly feed one family and create pay. Low soil fruitfulness and crop misfortunes from pests and droughts have diminished harvests to underneath subsistence levels. This circumstance has, certainly, prompted genuine food insecurity. Accessibility of food, access to food, and risks identified with either accessibility or access are the basic determinants of food security. National food security infers that inside a nation the measure of food accessible, if uniformly appropriated, is sufficient to meet individuals' food needs. At the family unit level, "a family unit is food secure when it approaches the food required for a healthy life for every one of its individuals (satisfactory as far as quality, amount, wellbeing, and socially adequate), and when it isn't at undue danger of losing such access".

Mottaleb and Mohanty (2017) [2] Both rural and urban poor individuals experience the ill effects of food insecurity and poor sustenance, caused in expansive measure by poverty and absence of wholesome equalization in the diet they can manage. About 1.2 billion individuals, or one of each five people, live in a state of total poverty, on what might be compared to US$1/day or less. Around 800 million individuals are food unreliable, and 160 million preschool kids experience the ill effects of energy protein malnutrition, which results in the demise of more than 5 million kids younger than five every year). An a lot bigger number of individuals experience the ill effects of insufficiencies of micronutrients, for example, iron and vitamin A. For instance, 2 billion individuals (one of each three) are weak, essentially because of iron deficiency. Food insecurity and malnutrition result in genuine public health issues and loss of human potential in developing countries. Since land and water for agriculture are reducing resources, there is no choice however to create more food and other agricultural items from less arable land and irrigation water. In this way, the requirement for more food must be met through higher yields per units of land, water, energy and time. There is need, thusly, to look at how science can be prepared to raise further the biological productivity roof without related ecological mischief.

II. AGRICULTURAL PRODUCTIVITY AND THE LIVELIHOOD OF POOR PEOPLE

Alston et al (2018) [3] the livelihood of a noteworthy extent of populace in the developing scene is directly or indirectly associated with agriculture. World Bank reports that 2.5 billion individuals rely upon agriculture as their primary wellsprings of livelihood and among them 1.3 billion individuals are little farmers and landless laborers. About 75% of all world poor individuals live in rural areas and 86% of them work in agricultural sector for their livelihood. Expanded agricultural productivity is of extraordinary significance for every one of these individuals. Agricultural productivity development has buried in late period. The development of the yield of significant food grains all through the world is about 1% per year, while the ongoing total populace development rate is about 1.2%. Land is a rare asset; extension of the developed area is beyond the realm of imagination in many developing countries. As needs be, the main arrangement might be to increment agricultural productivity to fulfill the future need for food for the developing populace. Because of the confinement of cultivable fruitful land and related data sources, new way to deal with increment future productivity development in agriculture in many parts of the world might be serious agricultural development as opposed to broad development. In this manner, increase of production and redesigning the information sources or resources use productivity are noteworthy key procedures alongside broadening.

Antle, and Capalbo, (2018) [4] the deviation between precisely conceivable and real yields for most crops shows a gigantic potential for expanding food just as agricultural production by enhancing productivity. FAO expects that in the developing scene about 80% expansion in food production should originate from the expansion in yields just as cropping force and just 20% will be acquired from the augmentation of arable land. Henceforth, Intensification is essential not exclusively to get together the regularly expanding demand for food grains yet additionally to consolidate deforestation, ecological annihilation, and an Earth-wide temperature boost. Agricultural productivity can assume a crucial job in economic development by connecting the supply and demand side. For instance, the agricultural sector supplies crude materials for mechanical or other non-agricultural sectors and demands contributions from the modern sectors like science and data innovation. In the demand side, expanded agricultural productivity can raise the income of the rural populace and in this manner it might make more demand for local modern products. Along these lines, a connection can be made among agriculture and modern sectors and that may make new work openings and in this manner it might enhance rural pay and livelihood.

III. FOOD INSECURITY

Braun et al (2017) [5] Food is our energy source and restricted access to food impacts health in various ways. Roughly one billion people on the planet need satisfactory measures of food to meet their healthful needs and are malnourished. Malnourished people can't expend sufficient measures of macronutrients and micronutrients. Macronutrients incorporate protein, fat and caloric substance, and micronutrients are the fundamental minerals and vitamins. The results to macronutrient malnutrition are poor immune reaction, hindered physical and mental development, torpidity and thinness. Malnutrition of micronutrients, for example, iron, vitamin A and iodine result in sickliness, diminished immune system work, cretinism, blindness and psychological impedance.

Capalbo and Vo, (2018) [6] The 1996 World Food Summit characterized food security as "a circumstance that exists when all people, consistently, have physical, social and economic access to adequate, sheltered and nutritious foods that meets their dietary needs and food inclinations for a healthy life." This definition consolidates a few needs: accessibility of food, access to food, and for the food to be socially proper. There are numerous variables in the present worldwide environment that fuel food security. It is valid, we live during a time where we are developing and delivering more food than any time in recent memory. We have enough food to feed the total populace, yet it isn't circulated properly nor is all food socially suitable over the globe. Local food get to contrasts significantly and the best distinction exists among created and developing countries. The essential purpose behind this disparity is a salary related distinction between these populaces. It must be stated however, that in each nation of the world there is yearning, and this regularly falls along economic and social lines. The underprivileged – be it people or countries – regularly have less.

IV. CAUSES OF FOOD INSECURITY

Food is the most essential of human needs. Regardless of the "green revolution" somewhere in the range of 1970 and 1990 practically 50% of the world's less created countries endure a decrease in total food supply, and in excess of a quarter endure an expansion in yearning. Malnutrition is a noteworthy obstruction to economic and social advancement, leaving populaces powerless to keep up typical lives and to be economically and socially less productive.

4.1 Population growth and urbanization

Inside the following 20 years, increasingly poor and under-sustained people in developing countries will live in the urban areas than in rural areas. High rates

of urbanization imply that urban food insecurity and malnutrition are concerns notwithstanding for locales like Africa and Asia, where current dimensions of urbanization are moderately low. Constantly 2030, the rural populace would have developed by in excess of 235 million, however the urban populace would have developed by 2.4 billion. The quantity of people living in urban communities in Africa will be more than triple, from 251 million to 864 million.

4.2 Poverty

Food accessibility implies that the general supply ought to conceivably cover by and large healthful needs regarding amount (energy) and quality (giving every basic supplement); besides, it ought to be protected (free of dangerous components and contaminants) and of good food quality (taste, surface, and so on). Additionally, the sorts of foodstuffs regularly accessible (nationally, in local markets, and in the end at the family unit level) ought to be socially adequate. Food expenditures can make up as much as 60 to 80 percent of absolute salary among low-pay urban family units. The significance of having the capacity to gain money pay additionally implies that the capacity to remain healthy, to find a decent line of work (and in this manner the capacity to procure great instruction and preparing), and to approach credit to smooth utilization, or expand, or new companies, are for the most part basic to urban food and nourishment security. With enough salary, prices can rise and families can even now purchase enough to eat. A large number of urban poor, nonetheless, are defenseless against price rises or sharp decreases in salary, state because of ailment or loss of occupation by the foremost pay worker. Most of the urban work constrain works in sectors like trivial exchange and administrations where compensation are low and employment residency unsure. In urban Nigeria and a large portion of sub-Saharan Africa, work in sectors that compensation ordinary wages, for example, assembling and industry, represents under 10 percent of all out business. Urban poverty in this way isn't essentially the aftereffect of absence of work yet the absence of well-paying, stable employments.

4.3 Health

Health is dictated by a progression of components that demonstration at three dimensions. At the network level, factors, for example, the quality of the general environment (biological pathogens and compound poisons in air, food, and water), and the accessibility, cost, and quality of administrations, for example, water, power, sewage, reject transfer, and health administrations are vital health determinants. At the household level, the most critical elements incorporate the general states of the household, including the kind of lodging, the accessibility and cost of water and hygienic facilities, and the quantity of rooms per household part (a pointer of swarming); the accessibility of food; and household minding practices' identified with the utilization of preventive and corrective health benefits, the utilization of water and hygienic facilities to give a healthy, hygienic and safe environment, and food-related practices', for example, the procurement of food, the intra-household allocation of resources, feeding works on (counting bosom feeding), and food planning techniques. At the individual dimension, the determinants of health identify with the intuitive components among a person's food and nutrient admission, nourishing status, and health status.

4.4 Politics

Eight hundred million people on earth are poor and malnourished. They live on not exactly a dollar daily and can't make certain that their fields will yield enough food or that they will procure enough cash to purchase food. Forty thousand people bite the dust every day of malnutrition, one-portion of them youngsters. The expansion in food production empowered by the Green Revolution tragically did not take care of the issues of malnutrition and hunger. There were around a billion hungry people exactly 40 years prior, and populace projections demonstrate that there may at present be 600 million poor people by 2025, when the world's populace would have developed to 8 billion. The Green Revolution did numerous things, yet it didn't clear out poverty. Insufficient employments were made in either the rural areas or the urban communities to produce the buying power that furnishes farmers with the impetus to develop more food. Ironically hunger persists while the prices for agricultural wares are at an unsurpassed low. A few countries that have a huge number of hungry people are trading food and other agricultural products to countries where people are as of now all around encouraged. However, the majority of these countries that are poor, with such a significant number of hungry people, appear to almost certainly develop food copiously.

V. PRODUCTIVITY MEASURES IN AGRICULTURE

Wiebe, (2016) [7] Agricultural productivity is the estimation of the amount of agricultural output delivered for a given amount of information or a lot of inputs. There are diverse methods for characterizing and estimating productivity. For examples, the measure of output per unit of information, (for example, huge amounts of wheat per section of land of land), or a list of various outputs isolated by a list of various inputs. The amounts of output in respect to the amount of inputs are the customary proportions of productivity. Whenever output increments at indistinguishable rate from inputs, at that point productivity is

unaltered. Then again if the output development rate surpasses the development rate in the utilization of inputs, at that point productivity is certain. Two measures are regularly utilized. To start with, halfway factor productivity measure, state the measure of output per unit of a specific information like land or work, and the second absolute factor productivity measure. Most usually utilized incomplete measures are land productivity, i.e., yield or output per unit of land, and work productivity i.e., output per economically dynamic person (EAP) or per agricultural person-hour. Some of the time the sign from fractional proportions of productivity isn't clear enough to demonstrate why production is evolving. This is on the grounds that distinctive variables are in charge of changing the productivity, for instance, land or work productivity can increment because of better and more utilization of compost, control tillers, the utilization of high yielding assortment (HYV) and so forth. To maintain a strategic distance from such sorts of issues it is smarter to gauge all out factor productivity (TFP) to represent the precise agricultural productivity. Subsequently, the proportion of multifaceted or complete factor productivity shows all out output in respect to a progressively far reaching metric of every single quantifiable info including land, work, capital, livestock, chemical fertilizers, pesticides and other obtained inputs.

VI. RELATIONSHIP BETWEEN AGRICULTURAL PRODUCTIVITY, RURAL POVERTY AND FOOD SECURITY

Dethier and Effenberger, (2016) [8] Agricultural productivity development can be a noteworthy instrument for diminishing poverty in developing countries. For this situation the truth of the matter is that the linkage between conventional (agricultural) and modern (mechanical) sectors is progressively imperative for tumbling poverty in developing countries. It is additionally basic to organize little and medium estimated farmers, who want to utilize domestically delivered goods and administrations as opposed to expansive scale farmers. In addition, the improvement methodology of developing countries ought to be agriculture driven as opposed to trade situated and that expanded productivity in agriculture might be the initiator of industrialization. Be that as it may, the degree of these effects in diminishing poverty relies upon the particular circumstance of an economy. There is a positive relationship between agricultural GDP development and nonagricultural GDP development in developing countries.

Bravo-Ortega and Lederman (2015) [9] likewise concur about the positive connection between them however they contend that this connection is turn around for created and industrialized countries and there are additionally provincial contrasts. Different factors, for example, receptiveness of the economy may change the connection among agriculture and non-agricultural development. This is on the grounds that worldwide markets meddle in agricultural development by giving international capital streams and through food imports. Thus, plainly the noteworthiness of linkages between the agricultural sector and whatever remains of the economy varies over the countries. Agricultural productivity development is decidedly corresponded with lower food prices, better nourishing admission and expanded capital streams from agriculture.

Self and Grabowksi (2017) [10] affirm the Timmer's discoveries and locate a positive connection between various agricultural productivity measures and normal genuine GDP development. Subsequently, it might build the businesses' productivity just as may enhance the rural household's food security. Outright and relative poverty have diminished with higher farm productivity in India. The direct and indirect effects of agricultural productivity development decrease poverty in developing countries. A while later, gauge that 1% per capita agricultural development may lessen the poverty 1.6 occasions more than the comparable development in industry and multiple times in the administration sector. In this way, it very well may be believed that agricultural development in developing countries is an indispensable instrument for helping the poor. From that sense, expanded agricultural productivity may contribute in poverty lightening as well as may enhance the nation's economy.

VII. CONCLUSION

Deficient nourishment, trashy quality foods and restricted food handling abilities have prompted bargained, below average health status and a commonness of diet-related illnesses in many developing countries, most particularly among youngsters, pre-birth and baby blues ladies. There is clear potential for the application of biotechnology and hereditary adjustment as devices to battle these difficulties and enhance the circumstance of in danger populaces. While there is coordinated and committed spotlight on battling increasingly obvious difficulties, for example, irresistible sickness and delivering enough food to feed the developing populaces, the quality of the foods created should be an essential thought. Food security is a noteworthy worry in worldwide agriculture that needs a critical increment so as to most likely feed the normal developing total populace. One approach to feed a consistently expanding total populace is to build the local and local food supply of every single nation through enhancing agricultural productivity and that may affirm the main component of food security in particular the accessibility of food in accomplishing sustainable food security. Additionally, expanding productivity among little and minor farmers can be a critical instrument to ensure food security in low salary developing countries over the long haul. At long last, it very well may be inferred that expanded agricultural productivity development may contribute in generally speaking economic development by

enhancing the accessibility of food which is the most importantly venture of food security. Thus, the administration of food shortfall developing countries should change the customary agricultural policies and detail new proper policies stressing the non-traditional production factors that can elevate them to expand the production limit of agriculture through productivity development and in this manner enhancing the food security. This is on the grounds that agriculture gives a livelihood to a noteworthy part of populace in developing countries all the more particularly in the rural and agrarian areas where poverty is progressively noticeable.

REFERENCES

1. Bodirsky BL, Rolinski S, Biewald A, Weindl I, Popp A, Lotze-Campen H. (2016). Global food demand scenarios for the 21st century. PLoS One 2016; 10(11): e0139201. [http://dx.doi.org/10.1371/journal.pone.0139201] [PMID: 26536124]

2. Mottaleb KA, Mohanty S. (2017). Farm size and profitability of rice farming under rising input costs. J Land Use Sci 2017; 10(3): pp. 243-55. [http://dx.doi.org/10.1080/1747423X.2014.919618]

3. Alston, J. M., J. M. Beddow and P.G. Pardey, (2018). "Agricultural Research, Productivity, and Food Prices in the Long Run". A recent summary of the evidence. Science 325 (4): pp. 1209–1210.

4. Antle, J. and S. Capalbo (2018). "An introduction to recent developments in production theory and productivity measurement". In S. Capalbo and J. Antle, eds. "Agricultural productivity measurement and explanation". Johns Hopkins University press, Washington, DC.

5. Braun JV, Bouis H, Kumar S, Pandya-Lorch R (2017). Improving food security of the poor: Concept, policy, and programs. Washington, D.C.: International Food Policy Research Institute.

6. Capalbo, S. and T. Vo, (2018). "A review of Evidence on Agricultural Productivity and Aggregate Technology". In S. Capalbo & J. Antle, eds. Agricultural Productivity Measurement and Explanation. Washington, DC, Resources for the Future, pp. 96-137.

7. Wiebe, K. (2016). "Natural Resources, Agricultural Productivity, and Food Security". Agriculture Information Bulletin Number 765-3, Economic Research Service, United States Department of Agriculture (USDA).

8. Dethier, J. J. and A. Effenberger, (2018). "Agriculture and Development". Policy Research Working Paper 5553. Research Support Unit, Development Economics, World Bank.

9. Bravo-Ortega, Claudio and D. Lederman, (2015). "Agriculture and National Welfare around the World: Causality and International Heterogeneity since 1960". Policy Research Working Paper No. 3499, World Bank, Washington D.C.

10. Self, S. and R. Grabowski, (2017). "Economic Development and the Role of Agricultural Technology". Agricultural Economics 36 (3): pp. 395 – 404.

Corresponding Author

Alok Kumar Singh*

Sunflower Public School, Nandganj, Ghazipur, UP