

Critical Review Of Past Literature Of Different Factors Role In Rice Productivity In Different Countries Of The World

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ABSTRACTS: Agriculture is the most important sector in the world economy and without this sector the survival of life is impossible. It consist of many branches while cropping sector is important sector of agriculture and provide staple food to half population of the world. Among crops rice play key role as staple food world widely. Seeing to its importance, scope and demand, the mentioned topic study was selected, to analyze the factors which affect production of rice in different region of the world. The universe of the study was different countries of the world, namely Pakistan, China, Malaysia, Nepal, Cambodia, Uganda, Nigeria, Vietnam and Mexico. On the basis of more rice production the mentioned countries were selected. On the availability of data, total 14 reviews of past literature were chosen for the study, such as Pakistan literature review number was 3, China 3, Nepal 1 Malaysia 1, Uganda 1, Nigeria 2, Vietnam 1, Cambodia 1 and Mexico 1 respectively. Thoroughly the literature were reviewed 20 times, analyzed the data and reached to conclusion which factors affect rice productivity in the mentioned countries where the researcher have done the research on this crop. These all fourteen study show that modern technology, Credit, Soil condition, Climate, Plough, Water availability, Genetically improved seeds, Planting methods, Chemical and organic fertilizer application, Water availability, knowledge, plough by tractor, labor wages, better management of farm, land reforms and price etc are the factors which positively and negatively affect the production of the rice productivity in different angle in different countries. On the basis of finding the study recommend that without development of the farmer the development of the country is impossible, so it is requested to every government to provide credit according to their requirement to purchase inputs in time for enhancing rice productivity; Support and subsidized price is required for development of the farmers and encouragement by government; Free facilities are requested for their children for uplifting their education; Training workshop should be arranged for agriculture knowledge transformation to farmers for enhancement of rice production in the mentioned countries; Tight security and peace is required to farmers for high production of rice in the study area; Proper water system is required for rice production in mentioned countries of the world; Best research team in the world for rice production enhancement is necessary; Better University in rice sector and transporting system also play key role in the development of rice production etc

Key Words: Critical Review, Different factor, Rice Production, Past Literature, Different Countries of the World

1. INTRODUCTION

Agriculture is the most ancient and important profession in human history. Cultivation in the earliest age was found about 10,000 years ago. Its origins have been found in south and north China, Africa, New Guinea and some American regions. Agriculture is the main source of food and is therefore playing its vital role in human survival. Agriculture basically comprises of farming or land cultivation, livestock like dairy farming, poultry farming, fisheries, bee keeping and limited forestry. Initially agriculture was practiced in a traditional way where some old ways were used while practicing agriculture. Latterly several agricultural practices like system of irrigation, use of fertilizers, use of pesticides and crop rotation were developed but these practices have made tremendous contribution to the overall agriculture production in the twentieth century Chauhan et al. (2012) studied that modern form of agriculture is a result of the green revolution of the twentieth century. It is the transformation of traditional agriculture to the modern one and the green revolution that took place in Mexico provided base for more production in the world. The process of green revolution started in 1943 in Mexico with the basic objective of land reforms, better management of farms, increase in food production, agriculture to give support to national industrial sector and ultimately to contribute to national growth and development. After getting successful results, Mexico became the wheat and maize improvement center Chauhan et al. (2012). In 1961 India launched this

program by improving irrigation system, financing agrochemicals and plant breeding. Similarly, Pakistan also introduced green revolution in 1960s Hussain, A. (1989). In 1972 organic movement was started where pesticides and nitrogen fertilizers were introduced and in 1996 commercial agriculture got started where genetically improved seeds and plants were cultivated on commercial basis Chauhan et al. (2012). In today's modern agriculture basic focus is on food supply on commercial basis which ultimately on one side leads to food self-sufficiency and on the other side contributing to national growth and development in the form of exports. Rice is the staple food of over half the world's population. It is the predominant dietary energy source for 17 countries in Asia and the Pacific, 9 countries in North and South America and 8 countries in Africa. Rice provides 20% of the world's dietary energy supply, while wheat supplies 19% and maize (corn) 5%. The basic theme of our study is to study rice crop and its factor inputs so here we present the major rice producing countries in the critical review, Seeing to its importance the present study was arranged to critically analyze the role of different factors in different studies in rice production in different region and countries of the world.

2. MATERIAL AND METHODS

Rice is a staple food of the half world and due to their demand, everyone try to grow in their country for fulfilling their food while different factors affect the productivity of this crop such as fertilizer, water and improved seed etc positively and negatively. For this study the universe of the study is different countries of the world namely Pakistan, China, Malaysia, Nepal, Cambodia, Uganda, Nigeria, Vietnam and Mexico. On the basis of more rice production the mentioned countries were selected. On the availability of data, total 14 reviews of past literature were selected, such as Pakistan literature review number was 3, China 3, Nepal 1 Malaysia 1, Uganda 1, Nigeria 2, Vietnam 1, Cambodia 1 and Mexico 1 respectively. Thoroughly the literature were reviewed 20 times, analyzed the data and reached to this conclusion which factors affect rice productivity in the mentioned countries where the researcher have done the research on this rice crop.

3. CRITICAL REVIEW OF PAST LITERATURE

Ali, & Flinn, (1989) investigated the profit efficiency analysis among Basmati rice producers in Punjab province of Pakistan. A wide range from 5%-87% and mean 28% inefficiency was found between prices level and farm resources. It means that farmers were not producing in an efficient way to avail all the profits in the form of high prices. On average, every farmer was producing at 28% in inefficient way and if the inefficiency is removed their profits would become higher in future. Several factors were found responsible for such inefficiency like low level of farmer's education and lack of credit facilities. It was suggested that if institutional reforms are undertaken about 25% of farmer's profit loss can be resumed. Xu, & Jeffrey, (1998) study results demonstrated that there is lack of efficiency in allocation of areas for rice production as well as there is also technically inefficient use of factors like labor and machinery in China. A considerable difference was found in rice productivity while using hybrid and traditional seeds of rice. It was suggested that better regional allocation and efficient use of factor inputs including seeds can enhance rice productivity. Qiao, et al. (2000) studied the role of pesticides in rice production and how it affects human health in China. China was ranked at second for using pesticides in 1980s and became first in 1990s. Use of pesticides is one of the major factor inputs of rice production in China. On one side use of pesticides has increased the production of rice in China and it will help in meeting the increasing demand for rice. On the other side use of pesticides has negative impact on environment because mostly labor has been substituted by these pesticides. It was suggested that this intensive use of pesticides is to be monitored by the government as with increasing production, it also affects environment and adversely affects human health. Farooq, et al. (2001) explored the relationship between rice supply response and different price and non-price factor determinants for basmati growers in Punjab Pakistan. Study results revealed that support price policy is necessary for production targets achievements. It was suggested that some non-price determinants of rice production are also important and to be addressed properly like high fertilizers

prices and farmers need to be supported by the government, plough expenses are high and needs to be settled, rice is labor intensive crop and wages are low in these practices so appropriate wages are to be settled by the government. Undertaking all these price and non-price factors of rice production need to be properly addressed by the government in order to enhance the production of rice and in this way farmers will positively response to it. Dhungana, et al. (2004) studied the efficiency of rice producers in Nepal. Main theme of the research was to empirically analyze that how much inefficient the rice producers are regarding economic, allocative, technical and scale. Results revealed that rice producers were 34% economic, 13% allocative, 24% technical and 7% scale inefficient in Nepal. These inefficiencies were mainly attributed to the use of seed, labor, fertilizers and mechanical power. Some farm-specific attributes were also studied like risk attitude level of farmers, farmer's gender and age, farmer's education and labor endowment. It was suggested that if level of inefficiency in all or at least in major inputs is tackled and removed it will lead to an appreciable increase in the rice production in Nepal. Bockari-Gevao, et al. (2005) explored the relationship between energy consumption in different forms and rice productivity in rice cropping system of Malaysia. Cropping time, planting methods, fertilizers, pesticides and harvesting operations were claimed to be main reasons behind rice productivity. If these factors are managed properly and carried out in a better way it will absolutely enhance rice productivity in lowland rice cropping. Hyuha, et al. (2007) also investigated the profit inefficiency of rice producing farmers in northern and eastern Uganda. It was empirically analyzed that how much inefficiency prevails in the technical and allocative process of rice production which leads to inefficiency in profit or a loss to the farmers by not attaining the deserving profit from rice. Results findings are that farmers mostly do not operate or produce rice on profit basis but for their own consumption. Further it was found that rice producers are mostly having low level of education and do not have access to the credit facilities and these two factors were put responsible for inefficiency in rice production. Researchers suggested that if these hurdles were removed and farmers are given education and awareness about profit response, so they produce to earn more profit will lead to the high production of rice as well as lead further to the higher profits of farmers in northern and eastern Uganda. Akinbile, (2007) conducted a research study in Ogun state of Nigeria to examine the effect of different factor inputs like farm size, farmer's knowledge about modern agricultural practices, farmer's education level and labor used in farming on rice productivity. He concluded that farm size, better knowledge of modern rice production techniques and also education level have positive effect on rice productivity. With large farms and using advanced rice production techniques and acquiring high level of education, rice production can be enhanced. He also found that with better management in using fertilizers and pesticides can also lead to produce more rice. Peng, et al. (2009) conducted a study regarding current rice production and future challenges in China where it has been noticed that in 2030 China will have to produce 20% more rice to meet domestic demand. It was seen that demand is rising for

high quality rice that mostly comes from low yielding varieties. Several factors like land cultivated with rice, water scarcity, climatic change, shortage of labor, mismanagement in use of chemical fertilizers and pesticides, lack of proper irrigation system were found responsible for the stagnation of rice production. It was suggested that in future if these challenges are not met there may be shortage of rice supply in the domestic market so some proper steps are to be taken by the concerned authorities in order to tackle these challenges in future. Khai, & Yabe, (2011) investigated that how efficient use of different factor inputs can increase level of rice production in Vietnam. They used Vietnam household living standard survey (VHLSS 2005-06) for empirical analysis. In this research they concluded that there is a need of efficient use of factor inputs. Further it was suggested that efficiently use of labor, better management in irrigation and good education level can enhance the productivity of rice production Yu, & Fan, (2011) studied major reasons of high prices of rice in Cambodia. Using Cambodian socio-economic surveys of 2004 and 2007 it was concluded that main reason of high prices in Cambodian rice market is basically low production but how rice producers can respond to it was the theme of study. It was suggested in the study that farmers should response in a positive way to these high rice prices by exploiting the huge potential existing in rice farming. Farmers should increase their production by using factor inputs like fertilizers and better irrigation. Government should also take steps towards investment strategies regarding availability of infrastructure in rice producing areas Khan, et al. (2009) conducted a research study in district Dera Ismail Khan of Khyber Pakhtunkhwa Pakistan to analyze the relationship between different inputs and rice production. Results revealed that production of rice of the farms is appreciably higher which are prepared and ploughed with tractor than that of bullock operated farms. It was suggested that if inputs are efficiently utilized in rice production will enhance productivity and farms operated with tractors are more productive as compared to farms operated in traditional way. Saka, & Lawal, (2009) examined the relationship between use of improved varieties of seeds and rice productivity in Nigeria. Result findings showed that with the program where farmers were asked to adopt modern varieties of rice seeds, farmers responded positively and about 69% farmers adopted these varieties. With the adoption of modern varieties of seeds production was recorded 19% more per hectare than traditional seeds. Mean yield of rice using improved varieties was recorded 38% more than traditional seeds. But this enhance in rice output was made conditional to some inputs like land size and credit facilities. It was suggested that if these conditions get fulfilled the use of improved seeds can appreciably increase rice production in Nigeria. Chauhan et al. (2012) studied that modern form of agriculture is a result of the green revolution of the twentieth century. It is the transformation of traditional agriculture to the modern one and the green revolution that took place in Mexico provided base for this. The process of green revolution started in 1943 in Mexico with the basic objective of land reforms, better management of farms, increase in food production, agriculture to give support to national industrial sector and ultimately to contribute to national

growth and development. After getting successful results, Mexico became the wheat and maize improvement center.

4. CONCLUSIONS AND RECOMMENDATIONS

The study finally concluded that rice production is the staple food of the mentioned countries and they try best how to enhance rice production in their countries. These all fourteen studies show that modern technology, Credit, Soil condition, Climate, Plough, Water availability, Genetically improved seeds, Planting methods, Chemical and organic fertilizer application, Water availability, knowledge, plough by tractor, labor wages, better management of farm, land reforms and price etc are the factors which positively and negatively affect the production of the rice productivity in different angle in different countries. On the basis of finding the study recommend that without development of the farmer the development of the country is impossible, so it is requested to every government to provide credit according to their requirement to purchase inputs in time for enhancing rice productivity; Support and subsidized price is required for development of the farmers and encouragement by government; Free facilities are requested for their children for uplifting their education; Training workshop should be arranged for agriculture knowledge transformation to farmers for enhancement of rice production in the mentioned countries; Tight security and peace is required to farmers for high production of rice in the study area; Proper water system is required for rice production in mentioned countries of the world; Best research team in the world for rice production enhancement is necessary; Better University in rice sector and transporting system also play key role in the development of rice production and rice crop grown is required for commercial basis in the world etc

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