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Analysis of Factors Determining the Productivity of Rice in Terai Belt of Nepal

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Abstract

Rice is the main staple crop to contribute to ensure food security in Nepal. Rice contributes about one-fifth of the total agriculture GDP and occupies the largest share in terms of area and production in Nepal. However, rice production and productivity are not satisfactory, and the country has to import rice in a large quantity every year. Terai, the southern belt of Nepal is known as the food-belt of the country, where more than eighty percent of farm households are actively engaged in rice production. The study aimed to assess the factors determining rice productivity among rice growers in the Terai belt of Nepal. The study also examined the existing constraints faced by rice growers during rice production and marketing. Farmers having a land size less than two hectares were selected randomly by three-stage sampling procedure from the registered farmer groups in Prime Minister Agriculture Modernisation Project (PMAMP) Rice Zone, Siraha district in 2018/2019. In addition to the secondary information, a pre-tested semi-structured survey schedule was used to collect the primary information from rice growers. The data were analysed with the aid of descriptive and multiple regression statistics. The results of the multiple linear regression model revealed that access to irrigation facility ($p = 0.000$), educational status of farmers ($p = 0.005$), and farmers' participation in the training programs related to rice production ($p = 0.034$) have a significant positive effect on rice productivity. Furthermore, an indexing technique used to rank the constraints faced by the farmers showed that lack of irrigation facility (0.77), incidence of diseases and pest (0.64), unavailability of labour (0.58), low market price of the produce (0.51) and lack of quality seeds (0.44) were the major hindrances faced by farmers during rice production and marketing. Therefore, the findings of the study underscore the need for strengthening training programs and the proper arrangement of irrigation facilities for increasing the productivity of rice. Similarly, provision of quality inputs, technical support for disease and pest management, farm mechanisation, and proper pricing of the produce could convert the constraints into opportunities and encourage rice growers to increase the rice productivity.

Keywords: Farm mechanisation, food security, food-belt, irrigation, multiple linear regression