

Determining Technical Efficiency in the Context of Crop Diversification in West Bengal during the Post Liberalization Era

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I. Introduction

Diversification is an integral part of the process of structural transformation of an economy. A deviation from agriculture towards industries and services denotes diversification (across sectors) at the macro level. However, within agriculture, diversification occurs between crops and across activities (i.e., between crop cultivation, livestock raising, forestry and fishing). The cultivation of different kinds of crops, like, minor crops, vegetables and fruits along with conventional major crops at farm level is referred to as horizontal crop diversification. On the contrary, vertical diversification occurs when farmers adopt some other enterprises, i.e., livestock rearing, poultry farming and fish farming at the farm level along with growing crops (Haque.T, 1996)

West Bengal is an important state in the eastern part of India in terms of agricultural production. It is predominantly an agrarian state covering 2.7 percent of India's geographical area while supporting nearly 8 percent of the country's population (India Population, 2017). During 2014-2015, West Bengal had a gross cropped area of 9.6 million hectares and contributed nearly 19 percent to the gross state domestic product (GSDP). This led the state contributing 9.73 percent to national output while covering 4.88 percent of net agrarian area. Agriculture still remains the most important means of livelihood of the rural masses in West Bengal. There are 7.12 million agricultural families in the state, 96 percent of whom are small and marginal farmers. The average size of land holding is less than one hectare. However, the state has diverse natural resources and varied agro climatic conditions that support the cultivation of a wide variety of crops.

West Bengal agriculture is observed to be diversifying towards cultivation of high value crops especially after economic liberalization. The small and the marginal farmers who dominate the agricultural scenario of the state, find that they can generate higher farm income and employment and mitigate risk by adopting a diversified crop profile (Vyas, 1996). The small and marginal farmers, depending on a small piece of land and having no alternative sources of employment and income try to cultivate as many crops as possible and choose high value crops including Boro paddy, oilseeds, potato, jute, fruits and vegetables, which after meeting their consumption needs can meet the requirements of their day-to-day living. Even the medium and large farmers practice crop diversification for the improvement of their living standard. The diverse natural resources and varied agro climatic conditions of West Bengal support the cultivation of a wide variety of crops. In terms of producing paddy and vegetables West Bengal ranks first and is the second largest producer of potato in the country. It is also the leading producer of jute, pineapple, litchi, mango, and loose flowers (<https://wb.gov.in/portal/web/guest/agriculture>). The cultivation of pulses, oilseeds, and maize in the state are also growing very fast.

Though the structure of agriculture in West Bengal in the post-liberalization era has undergone a change (Mithiya, et.al., 2018), a huge gap still exists between the demand and the production of crops like pulses, oilseeds, maize, and other agricultural commodities. A study on district wise technical efficiency of agricultural production in West Bengal in the context of crop diversification is, therefore, quite necessary to analyze how the existing gap between production and demand can be bridged.

The present study attempts to measure the Technical Efficiency (TE) of agricultural production in various farms of West Bengal in the perspective of crop diversification during the post-liberalization period. Here, for the sake of analysis, each district of the state has been considered a unit of production or in other words is identified as a farm.

The objective of the present study is

a) to measure crop diversification of different farms (district as a unit) in West Bengal after economic liberalization.