

ASSESSING THE DETERMINANTS OF CROP DIVERSIFICATION: EMPIRICAL EVIDENCE WITH TOBIT REGRESSION ANALYSIS

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Abstract

Crop diversity has an important role in sustainable agriculture. We calculated the diversification index based on the Simpson

Diversity Index method while Tobit regression analysis was employed to assess the main determinants of crop diversification.

The study revealed the mean computed Simpson Index values indicate that diversity index was found 0.76, 0.75, and 0.72 for

Samarkand, Fergana and Tashkent regions, respectively. This implies that Samarkand region farmers shifted towards more

diversification cropping patterns than other counterparts of the country. The overall result in the four states combined in

this study reveals a mean Simpson Index within the sample of farmers was 0.66. This suggests that the farmers in the study

areas were not too diversified in their cropping pattern. Moreover, the result of Tobit regression model indicated that various

farm specific factors such as age, access to extension service, number of members in off-farm, availability of water pump and

availability of machinery are found as significant determinants of crop diversity. We therefore conclude that crop diversification

enhances availability of foods for the households and income of farmers. While cultivating several crop species also helps the

farmers to manage both price and production risks which attains more food options for the household and income through

marketing the produce from the surpluses. Therefore, the government needs to intensify the promotion of crop diversification

in order to increase farm income and food security in the country.

Key words: Crop diversification, Cropping Patterns, Simpson Index, Limited dependent variable (Tobit), Uzbekistan

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