Name: Gourav Nain

Supervisor: Prof. Rocket Ibrahim

Department: Geography

Faculty: Natural Sciences

Title: "Spatio-temporal Analysis of Agricultural Infrastructure and its Impact on Agricultural Development: A Case Study of Mewat Region."

Key Words- Agricultural Productivity, Agricultural Infrastructure, Development of agriculture, Residuals, Relationship.

Abstract

The study examine of Agricultural Infrastructure and its Impact on Agricultural Development with a Case Study of Mewat Region. Mewat is a backward region. It is a small region covering southern Haryana and north-eastern Rajasthan with the backward agricultural base. The main thrust of the study was to understand the existing disparities in the agricultural infrastructure particularly in irrigation, power, transport, banking, agricultural mechanisation extension services, veterinary, and health infrastructure. The important aspect of the study was to find out spatio-temporal variation to understand which of the pockets of region lagging behind and which area is growing faster and sees the impact of agricultural infrastructure on agricultural productivity.

The study observed that during 2010-11, the highest food crop productivity was recorded in the south-western part of the region. Alwar tehsil recorded highest food crop productivity in the region whereas the highest cash crop productivity was recorded in Pahari tehsil. The highest total agricultural productivity was found in Ferozpur Jhirka tehsil. During 2010-2011, Taoru tehsil recorded highest agricultural infrastructure development and Pahari tehsil recorded low level of agricultural infrastructure development in the region. The highest agricultural

productivity per cultivator was observed in Nuh with 4819.83kg/cultivator while lowest was recorded with 1359.67 kg/ cultivator in Pahari tehsil in 2010-11.

The analysis reveals that there is a positive relationship between agricultural productivity and agricultural infrastructure. The positive relationship between agricultural productivity and agricultural infrastructure exist as it is denoted by r 0.503 explaining 25 per cent variation in agricultural productivity. Areas located in the extreme north recorded highest level of infrastructure as well as very high level of agricultural productivity. Generally the areas of very low agricultural productivity having continuous belt in the south east also have very low to moderately low agricultural infrastructure. The similarity in spatial pattern of agricultural infrastructure and agricultural productivity is the clear reflection of the positive relationship between the two. High to moderately high of residuals in the eastern belt of the regions expanding from north to south in the eastern side of in between Aravalli range and Yamuna. In this part of the region have higher positive residuals showing more than prediction based on agricultural infrastructure as this region is characterised by plain topography in the adjoining region of khaddar.

The study found that the agricultural productivity is dependent on the agricultural infrastructures and its variation is explained by the degree of associations of the infrastructures like irrigation intensity, number of electric transformers, length of LT Lines, number of 11 KV Lines, agricultural cooperative societies and consumption of fertilizer, number of tube wells, and number of tractors. Residuals from the regression of agricultural productivity on several agricultural infrastructures show large regional disparities.