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Title: “Food Security and Sustainable Agriculture in Vaishali District, (Bihar): A Geographical Analysis”

ABSTRACT

One of the major developmental objectives of India has been providing food security. India achieved self-sufficiency in food grains in the 1970's and has sustained it since then but the achievement of food security has not percolated down to household level. According to food insecurity Atlas of rural India (Swaminathan 2001), Bihar is the extremely food insecure state of the country. Agriculture contributes about 16 per cent to State Gross Domestic Product and provides employment to about 70 per cent of working force in Bihar. Of the total farm households, 90 per cent are the marginal farmers possessing less than 1 ha land. Agriculture is one sector which influences the environment and in turn impacted by the environment. Hence, sustainability of the human beings and the society depends much on the environmental friendliness of agriculture. The study area Vaishali district is located between the latitudes of 25⁰29' N and 26⁰10' N and between 85⁰8' E and 85⁰33' E longitude with the area of around 2036 sq. Km. The data were collected both from secondary and primary sources. Data from secondary sources have been collected primarily from Census of India, Department of Agriculture, Hajipur, Directorate of Economics and Statistics, Patna, Department of Statistics, Hajipur, Bihar. Primary data for the study drawn from a comprehensive survey of 959 farmers' households with the help of questionnaire. The sample design adopted was stratified random sampling. The study aims to find out, block-wise spatio-temporal variation in the level of food security, block-wise spatio-temporal variation in agricultural sustainability, general characteristics of the sampled farmers, food security situation at farm level and the sustainability of agriculture at farm level in the study area. The study hypothesizes that wide variations in food security are due to variation in food availability, food accessibility and food utilization in various blocks of Vaishali district, status of agricultural sustainability in different blocks of the study

area will vary as a consequence of varying nature of ecological, economic and social components of agriculture, food accessibility and economic efficiency of farmers are the most influential factors in determining food security and agriculture sustainability respectively and low food security and agricultural sustainability prevail among the small and marginal farmers in the study area. For the calculation of food security composite index at block and farm level, division by mean method has been used. For the evaluation of spatio-temporal variation in the relative status of agricultural sustainability at block level and at farm level in the study area, range equalization method has been used. The study revealed that Mahua, Patepur, Desri, Bidupur, Rajapakar, Mahnar and Jandaha are the priority blocks of the district which require immediate attention for improvement in food security. Regression analysis between food security and its components revealed that food utilization was the dominant component affecting food security during the reference period. SLSI-based spatiotemporal analysis revealed that there has been wide variation in agricultural sustainability and its three aspects (ESI, EEI, and SEI) within blocks during the reference period. Belsar, Bidupur, Raghapur, Mahua, Patepur, Jandaha, and Sahdai Buzrug were found to have poor conditions for sustainable development of agriculture during the reference period. These blocks, thus, call for timely policy interventions in their respective thematic areas (ESI, EEI, and SEI). The study of farm level food security reveals that food availability has a major impact on food security among all the components. Regression analysis reveals that food availability has major influence on food security of large, medium and semi-medium farmers. Food security of small and marginal farmers is largely influenced by variation in food utilization. Farm level analysis of agricultural sustainability reveals that the extent of agricultural sustainability was found high among large farmers, moderate among medium farmers, low among semi-medium farmers and small farmers while marginal farmers experience very low status of agricultural sustainability. Regression analysis between sustainable livelihood security index and its components of all farmers revealed that economic efficiency was the most influential component affecting sustainability of agriculture.

Key Words: Food Security, Food Security Index, Agricultural Sustainability, Sustainable Livelihood Security Index, Farmers, Vaishali