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POULTRY FARMING IN HARYANA: AN ENQUIRY INTO ITS SPATIAL ORGANIZATION AND SOCIO-ECONOMIC ATTRIBUTES

Doctoral Dissertation Abstract (2021)

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Poultry farming in India has undergone a major shift in terms of structure and operation during post liberalization period. From a mere backyard economic activity, it has been transformed into a major agri-business with presence of a large number of integrated players. India has emerged as third largest producer of eggs and fifth largest producer of chicken meat in the world. The state of Haryana has become one of the leading producer of poultry products in the country. The poultry farming has also been transformed into a large scale agri-business in the state during the last three decades. It has witnessed an impressive growth in all three types of poultry farming; viz. hatchery (chick production), broiler (chicken production) and layer farming (egg production) since early 1990s.

There has been upward swing in the production of poultry meat in the state which peaked during the second decade of twenty first century. There has been a quantum jump in egg production during last three decades and Panchkula district alone has accounted for about 30 per cent of the egg production of the state. The diffusion and growth of poultry farming in Haryana during the post economic liberalization period has significant socio-spatial implications for the rural society. The growth of modern poultry farms coincides with

the growing agricultural crisis in the state. It has led to diversification of agricultural economy and has contributed to rural income both directly as well as indirectly.

The present study assesses the production pattern of poultry products and spatial organization of poultry. Using primary data, it examines the social, economic and organizational attributes of hatchery, broiler and layer farmers in relation to their social, economic and educational status. It also reveals the cost of production and profits of all three types of poultries with respect to the socio-economic attributes of poultry farmers.

Objectives

Major objectives of the study are:

- to assess the production pattern of poultry products and spatial organization of poultry farms and
- to examine the social and economic attributes of hatchery farmers, broiler farmers and layer farming in relation to their social, economic and educational status in Haryana.

Database and Methodology

The present study is based on both primary and secondary data. Primary data have been collected through field survey for which

473 poultry farms have been randomly selected for the study (123 hatchery farms, 175 broiler farms and 175 layer farms). Secondary data have been collected from the Department of Animal Husbandry and Dairying, Panchkula, Skylark Hatchery Pvt Ltd, Jind, Kissan Hatchery Farms, Gangoli and North Zone Broiler Association Safidon, Jind.

Compound annual growth rate (CGAR) of meat and egg production has been computed. Based on the primary data the attributes of three types of poultry farmers have been computed in terms of physical capacity, size, number of workers, year of starting, generation of farmers, nature of ownership, production, input, output and income of farmers. These attributes of poultry farmers have been cross-classified and analysed with respect to the social status (caste group), economic status (size of landholding) and educational status (level of education attained) of poultry farmers. The trends and patterns of different poultry products have been plotted using pie charts, graphs and choropleth technique. Arc GIS 9.3 software has been used for preparing maps.

Major Findings

Haryana ranks seventh in terms of population of poultry birds in India. There has been 2.5 times increase in poultry birds in the state over the period 2003 to 2019. The hatchery farming in the state started from Jind district which gradually spread to the surrounding districts of Panipat, Karnal, Sonapat, and Hisar. At present Jind-Panipat-Sonapat area forms the core region of hatchery farming in the state. However, Yamunanagar, Kaithal, Rohtak and Rewari have also witnessed an impressive growth in hatcheries during last decade. Broiler farming is most spread-out poultry farming in the state. Broiler farms are

located in large clusters in Karnal, Yamunanagar, Jind, Hisar, Kurukshetra and Bhiwani districts. Overall, the density of broiler farms is found to be high in the north-eastern region and pockets of south-western and central parts of the state. The number of layer farms has increased by 112 per cent in the state from 2007 to 2017. The highest density of layer farms has been found in Panchkula district followed by Kurukshetra and Karnal. This agri-business has expanded towards central and south Haryana as Jind and Rohtak districts have recorded high growth over the decade.

Social profile of hatchery farmers reveals that this agri-business is dominated by landowning castes. Four out of five hatchery farmers in Haryana belong to landowning castes. In terms of class-size it is dominated by medium and small landowners. The majority of hatchery owners are well educated. In terms of their annual physical capacity, the hatcheries are dominated by medium size of landowners. There is a positive relationship between capacity of farms and landholding size of hatchery farmers. But there is no relationship between the size of hatchery and educational level of their owners. In terms of employment of workers, about 70 per cent hatcheries are of medium and small size which employ less than 25 workers. Modern hatcheries in the state are about three decades old but majority of them have been established during first two decades of 21st century. It is the less educated medium and large farmers who took lead in establishing hatchery farms in Haryana.

Hatchery farming is becoming the family business for the early owners. Distribution of hatchery farmers by generation reveals that about two-third farmers belong to third generation. The hatcheries in the state

have been mostly started by less educated persons and their coming generations have expanded this agri-business. Almost all hatchery farmers pursue it with other occupations. Hatchery owners of landowning castes mostly have agriculture as another occupation, while upper castes mostly combine hatchery with business and service. Hatcheries owned by upper castes are mostly large and very large in scale, whereas a big majority of landholding castes own medium and small-scale hatcheries. There is a positive relationship between the size of land holding and the scale of chick production. The annual income per chick is found to be higher in upper caste farmers and it is lowest in other castes. The input cost and output from hatcheries increase with landholding size of owners. The income from this agri-business is comparatively high among upper castes, large and more educated farmers.

Broiler farming is most widespread poultry business in Haryana. It is overwhelmingly dominated by landowning castes, medium size landholdings and less educated farmers. But the physical capacity of broiler farm increases with increase in the landholding size of their owners. A large majority of the broiler farms in Haryana have been established during present century. It's the upper castes who took lead in starting broiler farming in the state. But soon landowning castes took over this agri-business and presently they dominate it. Contrary to the ownership pattern in hatchery farming, a big majority of broiler farmers belong to first generation. The dominance of illiterate and below primary educated broiler farmers of third and second generation reveals that foundation of broiler farming in the state was laid by less educated entrepreneurs.

This agri-business has an overwhelming dominance of single owners. The higher

proportion of multiple ownership among small and medium size farmers indicate that they have a tendency to pool their resources for poultry sheds and inputs. Broiler farming is mostly carried out in combination with agriculture. The agriculture-poultry occupational combination is most prevalent among landowning castes, whereas upper castes mostly have poultry-business combination. The majority of less educated broiler farmers pursue agriculture-poultry combination. In terms of the scale of production, it is directly proportional to the size of landholding. The input-output analysis reveals that on an average, a broiler farmer earns Rs. 27 per bird. The broiler farms owned by landowning castes are found to be economically most efficient. The farms owned by the large landholders and more educated persons also do have higher economic efficiency.

Layer farming refers to raising egg laying hens for the purpose of commercial egg production. The social-economic profile reveals that layer farming in the state is dominated by landowning castes with higher presence of upper castes. The medium size landholders have dominance among layer farmers. Overall, layer farmers are more educated than broiler and hatchery farmers. There is a domination of small and medium capacity layer farms in the state. Landowning castes mostly own small and medium capacity layer farms, while upper and other castes mostly own large and very large capacity layer farms. The landholding size is positively associated with the physical capacity of farms. Contrary to hatcheries and broiler farms, the majority of layer farms have been established in 1990s. It is the well-educated upper castes that took the lead in establishment of these farms. But in due course of time the small and

medium size landholders have also come forward to take up this agri-business.

A large proportion of layer farmers is of first generation, particularly belonging to the landowning castes. An overwhelming majority of layer entrepreneurs are single owners. In terms of nature of ownership, about 80 per cent layer farmers are self-owners, while remaining layer farms are operated on contract basis by tenants. There are only 15 per cent owners, who are solely dependent on layer farming. The owners belonging to landowning castes mostly combine layer-farming with agriculture while upper and other castes combine it with business and service. The layer farmers sell old hens for meat. However, their main income comes from

the selling of eggs. The average annual input, output and income per hen comes out to be Rs. 1050/-, Rs. 1219/- and Rs. 169/- respectively. There is no relationship between the size of land holding of layer farmers and their per unit income. In general, more educated layer farmers are economically more efficient than lesser educated layer farmers.

Overall, there are greater prospects of broiler farming in the state as it is less capital intensive among all poultry agri-businesses. Hence, providing education, training, credit, financial incentives, infrastructure, veterinary services and institutional supports are key factors in making it a viable economic pursuit for farmers in the state.

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