Conclusion and Suggestions
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The present study reveals the recent phenomenon of urbanization and its ripple effects on development of dairy farming in the peri-urban area of Aligarh city. The Aligarh city has witnessed a significant level of urban sprawl in the last two decades. The city has witnessed a population growth of 89.29 percent during 1991-2011. It is experiencing heavy population pressure due to migration from rural areas, especially living on the margins of the city, perhaps outside the municipal limits. Though, the municipal limits of the city have been revised from time to time, but non-planning and underdevelopment has made the peri-urban areas to have several socio-economic and environmental problems. These problems include slum development, undeveloped colonies and encroachments, unhealthy living conditions, land degradation etc.

Moreover, the rapidly increasing population has generated demand of nutritious food especially milk, meat and milk products at the household, domestic and commercial level. The growth in the demand of milk in Aligarh city is 63.50 percent during 2001-2015. There are some pockets of livestock husbandry in different parts of the Aligarh city. These pockets are generally on the outskirts of the city. Similarly, the growth in the demand of meat in Aligarh city is estimated at 39.79 percent. The increasing demand has led to growth in milk and meat processing units, shops at 22.99 percent and 47.54 percent levels in Aligarh city during 2001-2015. Huge demand of milk and milk products has resulted in increase of prices by three times during 2001-2015. The significant increase in meat processing units has resulted in increasing the price of livestock in the areas adjoining Aligarh city on account of higher proportion of Muslim population as well as linkage with capital city New Delhi.

Livestock husbandry is under process of upgradation and scaling up both economically and technologically due to increasing demand of livestock products especially in urban areas. Size of stock of livestock per household have also expanded and processing units of livestock products have been established during
the last two decades in the study area. The intensive animal farming system played a pivotal role in development of livelihoods and employment especially in rearing areas which are mainly concentrated to urban fringe area. Employment is generated through involvement of people in various forms of operation i.e. rearing, collection, marketing and distribution. The total number of persons, out of 270 sampled household, employed in various operations of livestock farming system, is 1665 person in peri-urban area of Aligarh city, in selected villages. The share of general, OBC and SC/ST among the total employed persons is 33.21 percent, 39.21 percent and 27.56 percent respectively in Aligarh, which share of females in the total persons was found to be 41.15 percent.

The intensification of livestock husbandry showed fair reaching effects upon the farming system, livelihood security, rural to urban migration and other associated activities of the rural areas. The major farming systems found in peri-urban areas of Aligarh is exclusive cropping farming system; cropping and livestock integrated farming system and exclusive livestock farming system. The urban sprawl has resulted in decline in agriculture and increasing in the non-agricultural activities in the adjoining areas. In general there is a decline in exclusive cropping farming system; cropping and livestock integrated farming system. The other farming system are exclusive livestock farming system and cropping integrated farming system have shown a positive growth over the same period.

The comparative analysis of productivity, income level, employment potential, and environmental impacts between urbanization and development of dairy farming in peri-urban area revealed that, the farmers witnessed a high degree of intensification of livestock, employment generation and positive environmental impact ever than before. The rural livestock units located in the peri-urban areas of the Aligarh city perform in commercial manner. Dairy farming in peri-urban areas needs to undertake measures for sustainable development of livestock husbandry, farming system and optimum socio-economic up-gradation of farmers involved in both primary and economic activities.

Socio-economic profile of people and area has affected the dairy farming system to a considerable extent. 65.55 percent of total households in sampled villages, are
directly or indirectly involved in dairy farming sector. On an average, the people involved in dairy farming belonging to other backward groups shared 39.21 percent of all dairy farmers, whereas high castes and scheduled castes are participating with 33.21 percent and 27.56 percent share to total dairy farmers. Females contribute a lot in various operations of dairy farming. They are accounted for 33.33 percent of total dairy workers in the district as a whole. Almost all indoor activities like feeding, cleaning, milking etc. are performed by females. Their participation differs with social profile of households, inversely proportion to social status. The dairy farmers and workers are generally literate showing 74.77 percent with different level of education. Out of literates, 33.93 percent are primary passed and 24.32 percent secondary and remaining 16.51 percent are having more than secondary education. And only 25.83 percent of dairy farmers were found illiterate.

Economic stratification is also reflected in the study of dairy farming in the study area. Poor and small farmers are contributing a lion share in this sector of agriculture economy. Marginal and small farmers, combined, are accented for 69.99 percent of total dairy farmers, while medium and big farmers with higher size of holding share with 14.44 and 5.55 percent in the Aligarh district. Most of the dairy farmers’ households practice dairy farming as part time work or occupation. Majority of them are following crop cultivation with livestock i.e. integrated farming system. However, 19.25 percent adopted crop farming as a primary occupation, while 65.55 percent of dairy farmers follow dairy as first occupation. Besides, 7.03 percent work as agricultural labour and 4.81 percent as business as their primary occupation along with work in dairy farming.

Dairy farming provides livelihoods and employments to a large number of people in rural areas through their involvement in various operations like rearing, collection, and marketing. Rearing is performed by highest proportion i.e. 50.65 percent of the total persons employed, while other operations such as collection, marketing and other works are done by 27.4, 21.95 and 4.81 percent of dairy workers, respectively. Gender and caste-wise variation has also been observed among dairy workers. Females’ participation was highest i.e. 33.76 in scheduled castes, followed by other backward class 32.15 percent and high castes 21.51 percent. Similarly, different dairy farming operations also showed variation in female’s participation. Rearing is
mainly performed by females securing 63.69 percent while collection and marketing share of females is found to be only 15.78 and 4.66 percent, respectively.

As far as the occupational profile is concerned, the study revealed that, 65.55 percent households in the selected villages of the peri-urban area of Aligarh city are involved in dairy farming activities. Agricultural activities, on the other hand, show an average share of 19.25 percent, agricultural labourers’ shows 7.03 percent; and business and other activities shared 4.81 percent each. Hence, dairy farming has been emerged as an important source of income for farmers in the peri-urban area of Aligarh city. However, the share of crop farming is not same in all areas but differs from village to village. Majority of dairy farmers keep dairy farming as primary occupation and cropping as complementary or supplementary to agriculture. Other sources of income and agricultural labourers, collectively shared 11.84 percent due to non-availability of farmland, though some are involved in tertiary activities in nearby town areas. The proportion of income generated from dairy farming varies within socio-economic profile of the dairy farmers. Marginal and small farmers derive largest share of their income from dairy farming as compared to medium and big farmers. Similarly, other backward castes earned largest share of their income from same occupation.

The dairy farmers are utilizing their income for different purposes like crop farming, dairy farming, housing/infrastructural development, social obligations and education. House construction, maintenance and other infrastructural development are the most important expenditures of dairy farming income in the study area. Priority of utilization of the income differs with socio- economic status of farmers. Poor and land- less marginal farmers spend their income maximum on house/infrastructure and dairy farming whereas, big and medium ones prefer cropping, infrastructural development and dairy farming. Education is the last preference of expenditure for every group of dairy farmers. Similarly, high castes dairy farmers have their preference of expenditure on crop farming, dairy farming and infrastructural development in descending sequential order. Other backward castes follow dairy –infrastructure and cropping sequence whereas scheduled castes show their sequence spending order as infrastructure-dairy farming and social obligation. Education remained as last preference for all social groups except
scheduled castes which have rather higher percentage of their expenditure, as compared to other groups.

Moreover, the survey of perception views of dairy farmers/workers indicates that dairy farming is the key to generate extra income and employment especially for periods when there is no work in crop farming. Second important view is to sustain crop farming with the help of draft animals as well as manures for fields and dung for fuels. Social obligations are also satisfactorily performed with the help of income generated from this sector. Besides the correlation analysis between the indicator of urbanization and dairy farming in peri-urban areas indicate a positively thus, above discussed important socio-economic features and their performance with dairy farming is testimony to the present research work that, urbanization has positively affected the dairy farming and dairy farmers’ socio-economic conditions and finds perspectives for improved economic viability of small and marginal farmers in the peri-urban area of Aligarh city.
Suggestions

As the basis of above discussion and finding related to urbanization and its effect in dairy development in the peri-urban areas. Some suggestion are recommendation for sustainable development of dairy farming in the study area.

- Planning for improved infrastructure in peri-urban area of Aligarh city is the foremost need to ensure sustainable resource development.

- Improved veterinary services for development of livestock husbandry and dairy farming.

- Development of efficient transport network and facility of refrigerated carriers is needed in the areas of milk production for easy and quick transportation, and marketing of dairy products.

- There is need for establishing micro credit system at very low interest rate and sanctioning loan should be easy process.

- Livestock insurance system and dairy credit cards should be available in the area to reduce risk caused by death of animals.

- Dairy farming extension programs and motivation for adoption of new innovation and technology should be launched.

- Co-operative societies both at producers’ and marketing level should be developed.