CONCLUSION

The present study analyses the geographical condition of study area as well as the distribution of periodic markets and their role in the transaction of agricultural commodities in Shahjahanpur district. It has been found that the study region is very much diversified in physio-socio-cultural and economic attributes, i.e., topography, climate, demography, agriculture, industries and transportation. The study reveals that periodic markets are unevenly distributed in time and space. It is due to physio-cultural diversity of the study area. The analysis of periodic markets highlights the evolution and hierarchy of the markets in the study area, depending on a cumulative effect of physical and cultural environments. The origin and development of periodic markets are based on the orthodox and alternative theories of market origin. The old markets generally situated in the interior area of the district, originated on account of local needs and specific importance of particular place or settlement while the other periodic markets at nodal points, emerged as a result of increasing length of metalled roads.

The distribution of periodic markets is not homogeneous. The Nearest Neighbour Analysis method has proved that the periodic markets in almost every block are randomly distributed on the space. The ratio of periodic markets with population, net sown area, inhabited villages, and served area per periodic market also vary in different blocks of the district.

Similarly, periodic markets are not uniform in temporal distribution. Their temporally uneven distribution reflects the economic status of the area, nature and size of demand as well as traditional, religious and cultural aspects.

The total number of market frequency is 301, which is spread all over the seven days of week. The frequency varies on different days in different blocks of the study area, where the majority of periodic markets are bi-weekly. Wednesday and Saturday are the
most preferred days because the duration between the two market days has sufficient time, and economic compulsion forces for meeting the markets on these days. However, in the study area the religious and cultural influenced days are Friday and Tuesday that have least effects on the meeting days of the periodic markets.

The different types of periodic markets have been classified on the basis of location, size, transacted commodities, estimated attendance and tributary area. On the basis of Doi's crop combination method, nine specialized categories of periodic markets, i.e., (1) livestock markets (2) livestock-vegetables markets (3) livestock-food grains markets (4) livestock-vegetables-food grains markets (5) vegetables markets (6) vegetables-food grains markets (7) vegetables-food grains-grocery markets (8) vegetables-food grains-other miscellaneous goods markets (9) vegetables-food grains-other miscellaneous goods-grocery markets, have been recognized.

The hierarchy of periodic markets is rather a grading of markets unlike the urban centres (service centres). The urban centres have vertical integration while the periodic markets have horizontal integration. The periodic markets have similar functions but vary in size and volume. Thus, four grades of hierarchy, i.e., regional, sub-regional, block-level and local periodic markets have been identified, on the basis of Composite Functional Index (CFI).

The behaviour of consumers and traders in periodic markets are controlled by various factors like topography, climate, purchasing power, demand and supply, centrality of markets, accessibility, culture, religion, and psychology. Moreover, nature of goods transacted in the periodic markets is also an important determinant of consumers and traders' behaviour.

The distance, travelled by consumers for the visiting periodic markets, varies for different markets in the district. Long distance journey is made for high order market centres with different objectives. A considerable variation in travelled distance
by traders is recognized. The full-time traders and producer-cum-traders travel longer distance in comparison to producer sellers and artisan because their trade is a fully fledge occupation. It is fact that, their travelling pattern and travelling distance are affected by economic factors. That is why full time traders travel maximum distance in a week to get maximum profit and visit different markets in a week, unless the cumulative sale exceeds their threshold level. Buying traders, in regard of low order goods, travel rather small distance and move to relatively lesser number of periodic markets for collecting commodities from the villages, urban centres, and regulated markets to sell in these markets. However, in case of high order goods such as livestock buying traders travel comparatively long distance, to collect livestock from villages and other periodic markets to trade them.

The study reveals that tributary area of the periodic markets is rather circular form than hexagonal in the study area because the tributary area of a periodic market is served by another periodic market on the other day. Thus, the concept of unserved area or overlapping area, which emerges from the circular trade area of market centres, does not apply in this regard.

The importance of periodic markets in transaction of agricultural surplus may be understood, keeping in the view the extent to which they are involved in direct marketing of different commodities. This system provides maximum profit for both consumers and producers, by reducing intermediaries share to consumer price at grass roots level.

It has been found through the analysis of the data that a wide range of commodities is transacted in the periodic markets. It includes agricultural and non-agricultural commodities such as vegetables, food grains, pulses, oilseeds, livestock, salt, spices, kerosene oil, soap, cosmetic, mill made cloth, readymade garments,
insecticides, pesticides, and fertilizers. It is quite obvious from the field survey that periodic markets in Shahjahanpur district are of agricultural nature.

However, the volume of agricultural marketable surplus transacted is not much important in these markets. It is lesser when compared to other marketing agencies, i.e., regulated markets, private agencies. The field data reveals that estimated annual transaction of vegetables in the periodic markets is 41640 tonnes. It is followed by wheat 9655 tonnes, paddy 6915 tonnes, pulses 1460 tonnes, oilseeds 3510 tonnes and fruits 3370 tonnes. The transaction of food grains in these markets is lower in comparison to perishable commodities such as vegetables. It is due to fact that small food grain marketable surplus is carried by the marginal and small farmers to dispose off, when they are in immediate need of money. Indebtedness of these farmers generally compels them to sell their surplus to the traders who loaned money during pre-harvest period. However, the big surplus is carried by big and medium farmers to sell in regulated markets and other agencies. On average, the proportion of marketed surplus as food grains is 14.51 per cent for wheat, 10.27 per cent for paddy, and 2.01 per cent for pulses to the total crop transaction.

The transaction of vegetables is on the top rank with 62.19 per cent to total crop transaction in the selected periodic markets. It proves that periodic markets are the main trading centres for vegetables. It is because of the perishable nature of the commodities and the backward nature of study area, in context of storing, freezing, and transportation facilities at grass roots level. Hence, the periodic markets are the only options for marginal and small holders to dispose off their vegetables at remunerative prices. That is why, in more than 50 per cent of the selected markets, the transaction of vegetables is above the average (62.57 per cent). However, lack of truck farming in rural areas, vegetables are supplied for periodic markets from the city side.
Wheat is on second position in total crop transaction of selected periodic markets with average 14.51 per cent. During glut season, small share of wheat marketable surplus is transacted in periodic markets for getting immediate cash while the big surplus of same crop is carried to sell in regulated markets. However, the proportion of transacted wheat, owing to market location, physical, social, and agro-economic factors, varies from 0.47 per cent to 27.67 per cent in the different periodic markets.

Paddy occupies third place to total crop transaction (10.57 per cent) in the selected periodic markets. It is transacted higher than that of average in sub-regional, block level and small periodic markets. It is because, rice is the main diet of population and raw material for cottage industries in the study region. However, due to small net sown area and low production, the average share of transacted pulses is 2.01 per cent, which varies from 0.6 per cent to 4.95 per cent in different periodic markets. The transaction of oilseeds accounts average 5.27 per cent. It is higher than average, among the 15 markets. It is because of that they are produced by mainly marginal and small farmers. These markets are easily accessible for disposing off their oilseeds.

The sellers involved in transaction of different crops, are vegetable sellers (29.94 per cent), followed by wheat sellers (21.72 per cent), paddy sellers (16.12 per cent), oilseed sellers (15.75 per cent), pulses sellers (6.32 per cent) and fruit sellers (9.64 per cent). Lucrative price and quick payment, accessibility, hospitality, satisfaction for the sellers, as well as availability of other commodities of general and agricultural uses, pull a bulk of sellers in these markets.

Periodic markets serve at local level, where the average highest share of vegetable sellers is 29.94 per cent. These periodic markets are held mainly for the marketing of fresh vegetables. The proportion of different kinds of vegetable sellers such as producer sellers, village sellers and urban sellers is 26.78 per cent, 32.99 per cent, and 40.99 per cent respectively.
The vegetable sellers belonging to urban area are in majority (40.99 per cent) in the periodic markets. It is because that mostly vegetables are cultivated in the nearest concentric zone of town/city; sellers carry vegetables from there as well as different parts of the district and adjacent regions to sell in these markets. Unemployment and underemployment are main push factors in the urban areas that force the urban residents to trade vegetables for earning the livelihood as well as supplement for their meagre income.

The average share of wheat sellers is 21.72 per cent to total crop sellers in periodic markets. It is the second higher frequency among the crop sellers is largely. It is due to the presence of considerable number of producers, who fulfil their immediate need by selling their products. Their share is 50.43 per cent for producer sellers, 34.96 per cent for village sellers, and 14.61 per cent for urban sellers of the total wheat sellers exists in the periodic markets. The highest share of producer sellers reflects the higher participation of small, marginal, and landless farmers who are dominance in the study area.

The paddy sellers are accounted for 16.12 per cent in the periodic markets. Due to uneven production and demand in their hinterland, the share of paddy sellers varies between 4.65 per cent and 26.19 per cent in different markets. The proportion of different type of paddy sellers is 55.27 per cent for producer sellers, 42.55 per cent for village traders, and 1.59 per cent for urban traders.

The average participation of oilseed sellers is 15.75 per cent in the periodic markets. It varies from 3.59 per cent to 34.35 per cent in different periodic markets. Out of 34 periodic markets, 14 markets have been recorded proportionally above the average (15.75 per cent). Moreover, the share of fruits and pulses sellers is 9.64 per cent and 6.82 per cent respectively. Proportion of different fruit sellers is 15.93 per cent for producer sellers, 46.38 per cent for village traders, and 37.69 per cent for urban traders.
The average participation of non-producer sellers is found 80.53 per cent in selected periodic markets. It is higher due to prevailing unemployment and underemployment in the study area. They trade crops in the periodic markets for their livelihood or supplementary income for sustaining their lives.

Size of holding and participation of producer sellers in the periodic markets has inverse relationship. Higher share of producer sellers refer to lower the size of landholdings. More than 95 per cent producers belong to marginal, small and semi-medium categories of farmers, who have holding less than 4 hectares, while only less than 5 per cent belong to medium and high categories, who have above the 4 hectares landholding.

The average prices of agro-crops in periodic markets are comparatively lower than that of the town markets. The prices vary with location of the market, characteristics of the hinterland, nature of demand and supply, durability of the commodities, accessibility and transportation.

Different market channels have been identified for different commodities in the district. The length of channels decides the complexities and price at consuming stage. Reduction in length of marketing channels is a strategy of effective marketing and it assures remunerative price for different commodities to the farmers.

The livestock marketing is in rudimentary and unorganized form in the study area. The animal transaction appears to be spatio-temporal and socio-economic oriented. Moreover, seasonal variation and festival (such as *Eid-ul-Azha*) are also responsible for spatial as well as temporal variation in transaction of livestock in the periodic markets.

The study reveals that total annual average number of livestock 336908 heads (buffalo, cattle, and goat) is transacted in the periodic markets. It has variation from 8164 heads to 38428 heads in different markets. It is due to their location, size, nature of catchment area, connectivity, fair prices, protection of traders inside of markets from bogus intermediaries as well as outside from robbers.
Buffalo, scores the largest number (144820 heads) of livestock transaction is followed by goats (139958 heads) and cattle (52130). The large number of buffalo and goats is transacted livestock in these markets due to the increasing demand of meat both mutton and beef, within as well as outside of the study area. Therefore, the animals for meat have top ranking place, with 76.20 per cent of total transaction of goats and 48.46 per cent of total buffalo. However, transaction of milch livestock takes second position in which the share of cattle, buffalo, and goats is 45.14 per cent, 28.04 per cent and 23.80 per cent. The milch livestock are demanded for milk and milk products (khoa, ghee) and for nutritional security particularly in rural masses. Proportion of livestock transaction for draught purposes, occupies third place (18.59 per cent). It is due to increasing of mechanization in agriculture, in which the demand of draught animals has been sharply reduced. Cattle have been recorded comparatively higher proportion (54.86 per cent) than buffalo (23.5 per cent) in use wise transaction of livestock.

The share of sellers, who deal with transaction of livestock, is 62.57 per cent for buffalo, 21.23 per cent for cattle, and 16.20 per cent for goats. The higher proportion of buffalo sellers reflects immense rearing pattern and uses of buffalo as well as cattle in the catchment areas of markets. Different buffalo sellers, i.e., producer sellers, village traders and urban traders have their share 93.31 per cent, 4.10 per cent and 1.99 per cent that varies market to market. Similarly, in cattle transaction, the share of producer sellers is 96.63 per cent. However, the share of village traders and urban traders is 2.79 per cent and 0.59 per cent respectively. The lion’s share of producer sellers is because of generally buffalo are reared and transacted for milk, and he buffalo for ploughing and sowing the field as well as pulling carts by marginal and small farmers, whose concentration is high in the study area.
Among the goat sellers the proportion of producer sellers is 86.26 per cent, which is followed by village traders (8.17 per cent), and urban traders (5.57 per cent). It is due to the dominance of small size landholders and agricultural labourers in study area. Goats are quick cash for these workers, so they prefer to rear and sell them.

Landholder and landless livestock sellers have their share 46.94 per cent and 53.06 per cent respectively. The landless traders consist of agricultural labourers, leaseholders, and casual workers, who are usually under employed in the study area. The livestock rearing and trading is the lucrative business among them to supplement their income and livelihood in rural as well as urban masses.

Holding wise, the marginal farmers are leading traders (63.63 per cent) in periodic markets followed by small farmers (22.65 per cent), semi-medium farmers (9.48 per cent), medium and large farmers (4.24 per cent). Higher proportion of low size of landholders in the livestock trading is due to the absence of alternative employment opportunity, under employment, fragmentation in the size of the fields, in the study area.

The average price of various livestock is from Rs.632 per head to Rs.9525 per head for different type of buffalo, from Rs.3886 per head to Rs.5607 per head for different kinds of cattle, and from Rs.1818 per head to Rs.2414 per head for different goats in the periodic markets. The price of livestock fluctuates in these markets with the quality and size of livestock, nature of demand and supply pattern, season of agricultural operations, weather conditions, and distance of markets from the cities/towns as well as arrival of outside traders.

Like other commodities, the livestock follow a number of flow systems from producers (rearers) to ultimate consumers (rearers/butchers). Channels may be short or long, depending upon the length of distribution of concerned livestock. The various kinds of livestock have their distinct flow channels.
Moreover, it has been found that agricultural marketing, especially in periodic markets, faces a number of difficulties. Organizational as well as infrastructural deficiencies are not uncommon. Some of the major deficiencies are lack of space for auction, lack of standards weight and measures, lack of grading facilities, lack of management, lack of communication and accessibility and lack of storage facilities. There is an urgent need to reduce these problems, which will help the farmers, thereby helping in agricultural development of the district.

Taking into consideration the prevailing marketing system in the district, a number of steps should be taken for betterment of the periodic markets, in order to make effect marketing. They are as follows:

1) An elected Periodic Market Committee (PMC) should be constituted for each periodic market to supervise the transaction taking place in the market. The committee should be responsible for control the price and providing facilities needed in the markets. A price list should be released every week for different commodities, in different periodic markets and also in town markets in the study area.

2) The market should be held out of settlement on open space, and it should be connected to main road by link road that would provide an environment in which transaction costs are lower for trading the commodities. It would also promote the future trading in periodic markets.

3) Regulation of all periodic markets is needed, on the basis of order of importance. The participants, i.e., traders, arahatias, brokers, weighmen, middlemen and dalal should be registered. All malpractices like dharamshala, goshala charges, bathakai charges should be defined and should also be under control of PMC.
4) All periodic markets, especially first and second order, should be facilitated with creation of storage facilities and warehouses including multi-channel and multi-purpose cold stores in the market yards. So that, the producers can stock their commodities for next market day or next season, when they are more in demand and costly.

5) Agricultural inputs like fertilizers, pesticides, insecticides, seeds, and implement should be distributed through periodic markets. This system will save the farmers’ time from visiting other service centres.

6) The agro-based industries should be established near the periodic market centres. It will increase the price of commodities, and the available raw material can be fully utilized.

7) Private entrepreneurs should be allowed to establish market yards and other-related facilities in the periodic markets, by which producer and other sellers will get better infrastructural facilities, to accelerate marketing of agricultural commodities.

8) Horizontal and vertical coordination of periodic markets is needed. These markets should be linked with wholesale trade for goods. Agricultural marketing system plays an important role in determining the prices received by the farmers and those paid by the consumers.

9) A scientific approach for the structural analysis of agricultural commodities should be made, that must be considered as standard approach to balance in the seasonal pattern prices received by farmers and prices paid by the consumers.

10) A major section of producer sellers, village traders and urban traders (non producer sellers) belong to marginal, small farmers and labourers of unorganized sectors. So, micro credit facilities should be provided for these participants of the periodic markets.
11) Introduction of micro credit should be on the basis of philosophy for the micro credit, flourished by Novel Price laureate Prof. Muhammad Yunus of Bangladesh. That may enhance the income level of the traders and sellers of unorganised sectors.

12) Government and private purchase centres (formal agencies) should be set up in the periodic markets. Cooperative marketing system should also be started in these markets.

13) Majority of the farmers in the study area operate small farm units and produce only small marketed surpluses that require marketing facilities at nearby places. Hence, periodic markets should have linkages among the each level in the hierarchy of market yards with telephone, fax and internet facilities, and allowing electronic trade.

Moreover, the above mentioned facilities, if provided and developed at grass roots level, would enable to the producer, trader as well as consumers to get maximum benefit. An efficient periodic marketing system, well equipped with adequate modern facilities with good socio-economic security is urgently needed for getting the benefit of crops and livestock, taking place at global level after increasing influence of WTO in agricultural sector.

The study will be helpful rather high development of agriculture and allied processing activities at grass roots level linking to the regional, national, and international markets that would increase the income of marginal, small farmers, non-producer sellers, to add new dimensions in development of the district as well as Indian agriculture.