Chapter-IV

NCR-Rural Periodic Market: Network and Linkages, a
Case Study
CHAPTER 4

RURAL PERIODIC MARKET: NETWORK AND LINKAGES, A CASE STUDY

4.1 Introduction:
Present chapter deals with the network and linkages of the rural periodic market of Misra Garhi village in Ghaziabad district. The chapter gives details of buyers profile, sellers profile and the pattern of commodity flow based on the data collected from 100 buyers and 100 sellers in the markets. Bars and pie diagrams have been used to present data. Simple correlation coefficients have been worked out among variables like age, origin distance from the market, mode of transportations and carriers, and types of commodity; purchased and sold.

4.2 Introduction of Market:
The market is held every Wednesday of the week in evening. It has a good supply chain with the Ghaziabad city. The sellers generally procure their supply from the Ghaziabad, New Delhi, Hapur and Meerut. Readymade and handmade garments are generally procured from the New Delhi and Ghaziabad. Vegetables and fruits are procured from the Hapur and Meerut.

4.3 Commodity Structure of Market:
In market there are mainly three type of commodity are sold; durable, non-durable and services. Table 4.1 and 4.2 show the commodity structures of market. Table 4.1 shows the structure of durable goods. In market there are 11 shops are surveyed of durable goods. In the market 4 shops belong to metal made utensils which include utensils and crockery which is procure from Hapur and Bulandshahar. 3 shops belong to metal made hardware which is procured from Hapur. In the market only one shop belongs to artificial jewelry and 3 shops belong to miscellaneous goods which are procured from different places.
Table 4.1 Structure of Durable goods

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Remarks</th>
<th>Number of Shops</th>
<th>Procured from</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Utensils</td>
<td>Metal made utensils as Pans, Spoons, Crockery</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Hardware</td>
<td>Garden tools, Meson tools, Carpenter tools etc</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Jewelleries</td>
<td>Silver jewelleries, artificial jewelleries</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Miscellaneous</td>
<td>Plastic sheets, ropes, show items etc</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Surveyed by Author (2008)

Fig. 4.1 shows the structure of durable goods. In market there are 11 shops of durable goods; 4 shops belong to metal made utensils, 3 shops belong to metal made hardware, 1 shop belong to artificial jewelry and 3 shops belong to miscellaneous goods.

Table 4.2 shows the structure of Non-Durable goods, there are 85 shops of non-durable goods are surveyed in the market 5 shops belong to non-metallic utensils like plastic and fiber made utensils; procured from the New Delhi. 10 are grocery shops; are procured from Hapur and Ghaziabad. 23 shops belong to vegetables and fruits; are procured from
Hapur, Meerut and New Delhi. Garments and cloths (Seasonal garments, different type of readymade wears pieces of cloths, blankets) are procured from New Delhi, Ghaziabad, Sonepat. Foot-wears, belts, cosmetics, electronics and miscellaneous goods (tooth brush, handmade shops, wooden coal, cloth pieces, caps, spectacles.) are procured from New Delhi.

Table 4.2 Structure of Non-Durable Goods

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Remarks</td>
<td></td>
<td>Number of Shops</td>
<td>Procured from</td>
</tr>
<tr>
<td>1</td>
<td>Utensils</td>
<td>Plastic made utensils, box, earthen pots etc</td>
<td>5</td>
<td>New Delhi</td>
</tr>
<tr>
<td>2</td>
<td>Grocery</td>
<td>Rice, flour, pulses, spices, pickles</td>
<td>10</td>
<td>Hapur, Meerut</td>
</tr>
<tr>
<td>3</td>
<td>Vegetables, Fruits</td>
<td>Potato, onion, garlic, chili, green and seasonal vegetables and fruits</td>
<td>23</td>
<td>Hapur, Meerut and New Delhi</td>
</tr>
<tr>
<td>4</td>
<td>Snacks</td>
<td>Tea, Chhole Bhature, somose, Chawmin</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Ice creams</td>
<td></td>
<td>5</td>
<td>Ghaziabad</td>
</tr>
<tr>
<td>6</td>
<td>Medicines</td>
<td>Handmade local medicines and oils</td>
<td>2</td>
<td>Local Area</td>
</tr>
<tr>
<td>7</td>
<td>Garments and cloths</td>
<td>Seasonal garments, different type of readymade wears pieces of cloths, old and second hand cloths, blankets etc.</td>
<td>24</td>
<td>New Delhi, Ghaziabad, Sonepat</td>
</tr>
<tr>
<td>8</td>
<td>Foot-wears and belts</td>
<td>Shoes, sleepers, Belts.</td>
<td>6</td>
<td>New Delhi</td>
</tr>
<tr>
<td>9</td>
<td>Cosmetics</td>
<td>Different type of cosmetics</td>
<td>3</td>
<td>New Delhi</td>
</tr>
<tr>
<td>10</td>
<td>Electronics</td>
<td>Pirated CDs</td>
<td>1</td>
<td>New Delhi</td>
</tr>
<tr>
<td>11</td>
<td>Miscellaneous</td>
<td>Tooth brush, handmade shops, wooden coal, cloth pieces, caps, spectacles.</td>
<td>3</td>
<td>New Delhi</td>
</tr>
</tbody>
</table>

*Source: Surveyed by Author (2008)*

Figure 1.2 shows the number of sops of particular goods in the market. In market maximum number of shops (24) belong to Garments and cloths (seasonal garments, different type of readymade wears pieces of cloths, blankets.) followed by shops of vegetables fruits (23) items of potato, onion, garlic, chili, green and seasonal vegetables and fruits. Grocery shops (10) with the items of Rice, flour, pulses, spices, pickles. 6 shops belong to foot-wears and belts followed by utensil shops (5) with the items of plastic made utensils, box, earthen pots etc, shops of ice Cream (5), cosmetics shop (3), snacks shops (3), shops of miscellaneous goods (3) and electronics (1) shops.
In the market there are 4 shops of services are surveyed, three shops of barbers and one shop of astrologer.

4.4 Buyers’ Profile:

4.4.1 Age Structure of the Buyers:
Age structure of buyers is shown in fig. no 4.3. The largest numbers of buyers (31) belong to the age group of 50-60 years. Second largest numbers of buyers (22) belong to the age group of 40-50 years. The third largest numbers of buyers (18) belong to the age group of 30-40. 17 buyers belong to the age group of 60 years and above. And 12 buyers belong to the age group of the 30 years and below.
4.4.2 Age and Sex Composition of Buyers:

Fig. 4.4 shows the age and sex composition of buyers. In the market there are largest numbers of male buyers (24) belong with the age group of 50-60 years whilst 7 female buyers belong to same age group. Second largest numbers of male buyers (20) belong with the age group of 30-40 years, whilst only one female buyer belongs with same age group.

Third largest numbers of male buyers (18) belong with the age group of 40-50 years, whilst 4 female buyers belong to same age group. The age group of 60 years and more than 60 years has 15 male buyers and same time 2 female buyers belong to same age group. The age group of 30 years and less than 30 years has 9 male buyers and this age group has no female buyers.
4.4.3 Origin Distance of Buyers from the Market centre:
In fig. 4.5 there are four distance groups are classified. Most of the buyers (32) come from the distance of more than 2 km. Second largest buyers (28) come from the distance between 1-1.5 km.
Third largest buyers (26) come to the market from the distance of below 1 km, those are 26. 14 buyers come from the distance group of 1.5-2 km.

4.4.4 Expenditure of Buyers in the Market:

Expenditure of buyers in market shows the importance of pull factors of market and purchasing power of the people neighbouring region of market.

Fig. 4.6 shows the expenditure of buyers in market. There are four expenditure group are classified where largest number of buyers spend their money between Rs.100-200 with 67 buyers.

Since the largest expenditure group has the lion share therefore the buyers of other expenditure groups are negligible. Second largest group of buyers are found in the expenditure group of Rs. 200-300 with the 18 buyers. 13 people are spending money below 100 rupees and only 2 buyers spend between Rs. 300-400.
4.5 Correlations among Variables of Buyers:

Present table shows the correlation between variables related to buyers and other variables. The correlation has been done on the data which is enclosed in appendices (Appendix-4.1).

Table 4.3 Correlations among Variables of Buyers

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Sex</th>
<th>Age</th>
<th>Origin Distance</th>
<th>Mode of Transportation</th>
<th>Expenditure</th>
<th>Number of Markets Visited by Buyers</th>
<th>Type of Commodity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sex</td>
<td>.583**</td>
<td>-.008</td>
<td>.085</td>
<td>.143</td>
<td>.133</td>
<td>-.065</td>
</tr>
<tr>
<td>2</td>
<td>Age</td>
<td>.583**</td>
<td>1</td>
<td>-.130</td>
<td>.225*</td>
<td>.399**</td>
<td>-.099</td>
</tr>
<tr>
<td>3</td>
<td>Origin Distance</td>
<td>-.008</td>
<td>-.130</td>
<td>1</td>
<td>-.442**</td>
<td>-.492**</td>
<td>-.166</td>
</tr>
<tr>
<td>4</td>
<td>Mode of Transportation</td>
<td>.085</td>
<td>.225*</td>
<td>-.442**</td>
<td>1</td>
<td>.757**</td>
<td>.253*</td>
</tr>
<tr>
<td>5</td>
<td>Expenditure</td>
<td>.143</td>
<td>.399**</td>
<td>-.492**</td>
<td>.757**</td>
<td>1</td>
<td>.183</td>
</tr>
<tr>
<td>6</td>
<td>Number of Markets Visited by Buyers</td>
<td>.133</td>
<td>-.099</td>
<td>-.166</td>
<td>.253*</td>
<td>.183</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Type of Commodity</td>
<td>-.065</td>
<td>-.128</td>
<td>-.140</td>
<td>.121</td>
<td>.078</td>
<td>.513**</td>
</tr>
</tbody>
</table>

* Significant on .01 level, ** Significant on .05 level

Table 4.3 shows the correlation results of the variables of buyers, the correlation values show that there are significant correlations between Sex of buyers and Age. Age of Buyers with Mode of transportation and with Expenditure of buyers in market have considerable correlations. Origin distance of buyers form the market with Mode of transportation and with Expenditure of buyers in the shop has moderate correlation. Mode of transportation of buyers with Expenditure of buyers in the shop and with numbers of market visited by buyers has good correlations. Number of market visited by buyers has significant correlation with the type of commodity purchased by buyers.
Detail explanations of correlations among different variables of buyers are in following paragraphs.

4.5.1 Correlation of Sex of buyers with other Variables of Buyers:
Table 4.3 shows the correlation among the different variables of buyers. Sex of buyers has positive correlation with Age of Buyers. Value of correlation between these variables comes as 0.583, which is significant at the 0.01 level of significance. In our study out of total buyers surveyed only 13 female buyers. This small number of female buyers may have resulted in positive correlation between sex and age of buyer’s i.e. in the higher age of female buyers are small in numbers. Among higher aged buyers are female buyers, a many higher aged buyers male are decreased in numbers.
The sex of buyer has very low and statistically insignificant correlations with other variables.

4.5.2 Correlation of Age of buyers with other Variables of Buyers:
Age of buyers has positive correlation with Mode of Transportation. Value of correlation between these variables comes as 0.225, which is significant at the 0.01 level of significance. The value of correlation shows that if the value of age of buyer increases then the value of mode of transportation increases. The aged buyers might be using more efficient mode of transportation for traveling.
Age of buyers has negative correlation with Expenditure of buyers. Value of correlation between these variables comes as -0.399, which is significant at the 0.05 level of significance. The value of correlation shows that if the value of age of buyer increases then the value of expenditure decreases. Aged buyers might be spending more than their counterparts of younger buyers.
Age of buyer has very low and statistically insignificant correlations with other variables.

4.5.3 Correlation of Origin distance of Buyers with other Variables of Buyers:
Origin distance of buyers from the market has negative correlation with Mode of Transportation. Value of correlation between these variables comes as -0.442, which is significant at the 0.05 level of significance. The value of correlation shows that if the value of origin distances increases then the value of mode of transportation decreases.
The aged buyers might be using more efficient mode of transportations. If the distance is less buyers might be visiting the market on foot and bicycles.

Origin distance of buyers from the market has negative correlation with Expenditure of buyers in market. Value of correlation between these variables comes as -0.492, which is significant at the 0.05 level of significance. The value of correlation shows that if the value of origin distances increases then the expenditure of buyers decreases. Local buyers have more depended and spend more money than farther buyers. Local buyers buy more articles when they are more proximity to nearer market. Correlation value suggests that who have close proximity, tent to spend more than the buyers who are coming from far away.

Origin distance has very low and statistically insignificant correlations with other variables.

4.5.4 Correlation of Mode of Transportation of Buyers with other Variables of Buyers:

Mode of Transportation has positive correlation with Expenditure of buyers in market. Value of correlation between these variables comes as 0.757, which is significant at the 0.05 level of significance. The value of correlation shows that if the value of transportation increases then expenditure of buyers increases. Buyer use more efficient mode of transportation also likes to spend more money to purchase different articles.

Mode of Transportation has positive correlation with Number of markets visited. Value of correlation between these variables comes as 0.253, which is significant at the 0.01 level of significance. The value shows that if value of mode of transportation increases then the number of markets visited by buyer increases. The buyers who are visiting more number of markets; prefer to have better mode of transportation.

Mode of Transportation has very low and statistically insignificant correlations with other variables.
4.5.6 Correlations of Number of Markets visited by Buyers with other Variable of Buyers:
Number of markets visited by buyers has positive correlation with type of commodity. Value of correlation between these variables comes as 0.513, which is significant at the 0.05 level of significance. The correlation value shows that if value of number of markets visited increases then the type of commodity increases. Correlation value suggests that the buyers who have need of purchasing more number of articles, like to visit different number of markets.
Number of markets visited by buyers has very low and statistically insignificant correlations with other variables.

4.6 Sellers Profile:
4.6.1 Age Structure of Sellers:
Age structure of sellers is shown in the fig. 4.7, in market most of the sellers (32) belong to the age group of 50-60 years. The second largest number of (28) sellers belong to the age group of 30-40 years. 21 sellers belong to the age group of 40-50 years, 14 sellers belong to the age group of 60 year and above. And only 5 sellers belong to the age of 30 years and below.
4.6.2 Age and Sex Composition of Sellers:
The fig. 4.8 shows age and sex composition of sellers. The age group of 30 years below has 4 male sellers and the age group has no any female seller. 27 male sellers belong to the age group 30-40 years and only one female seller belongs to the same age group. The age group of 40-50 years has 21 male sellers and no female seller. The age group of 50-60 years has 23 male sellers and 10 female sellers and age group of 60 years and above has 11 male sellers and 3 female sellers.

![AGE AND SEX COMPOSITION OF SELLERS](image)

*Fig. 4.8*

4.6.3 Origin Distance of Sellers from the Market:
The fig. 4.9 shows the origin distance of sellers from the market. Most of the sellers (42) come to the markets from a distance range of 3-6 km. Second largest numbers of sellers (41) come from the distance less than 3 km. 13 sellers come to the market from a distance range of 6-9 km and least numbers of sellers (4) come to the market from more than 9 km. distance.
4.6.4 Mode of Carrier of Sellers:

Fig. 4.10 deals the mode of carriers which are used by sellers to carry their goods to the markets. Most of the sellers use bicycle to carry their goods, 46 sellers use bicycles. 30 sellers use cycle rickshaws to carry their goods. 21 sellers use auto-rickshaws to carry their goods to the market and only 3 sellers carry their goods on their own foot.
4.6.5 Buyers at the Shop:
The fig. 4.11 shows the sex composition of buyer on the shops. In the market 56 sellers pull male buyers with the number group of 15-20 and same time 45 sellers pull female buyers with the number group of 15-20. 25 sellers pull male buyers with the number group of 20-25 whilst 26 sellers pull female buyers with the number group of 20-25. 11 sellers pull male buyers with the number group of 10-15 and same time 17 sellers pull female buyers with the number group of 10-15. 8 sellers pull male buyers with the number group of above 25 whilst 11 sellers pull female buyers with the number group of above 25. Only one seller pulls female buyers with the number group of less than 10.

![Sex Composition of Buyers at the Shops](image)

Fig. 4.11

4.6.6 Number of Markets Visited by Sellers:
Fig. 4.12 shows the number of markets visited by the seller, 23 sellers visit 7 markets, 37 sellers visit 6 markets and 41 sellers also visits 5 markets in a week.
4.6.7 Type of Commodity Sold by Sellers:
Fig 4.13 shows the type of commodities sold by the sellers. 85 sellers engaged to sale the Non-durable goods, 11 sellers engage to sale Durable goods, and only 5 sellers are engaged to sell services.
4.7 Correlations among Variables of sellers:

In the study present table shows the correlations of different variables among sellers. The correlation has been done on the data which is enclosed in appendices (Appendix-4.2).

Table 4.4 Correlations among Variables of Sellers

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sex</td>
<td>Age</td>
<td>Origin</td>
<td>Mode of</td>
<td>Number of</td>
<td>Number of</td>
<td>Type of</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Distance</td>
<td>Carriers</td>
<td>Buyers</td>
<td>Visiting</td>
<td>Commodity</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>-.352**</td>
<td>.269**</td>
<td>-.158</td>
<td>-.053</td>
<td>.354**</td>
<td>.044</td>
</tr>
<tr>
<td>2</td>
<td>Age</td>
<td>1</td>
<td>-.013</td>
<td>-.057</td>
<td>.047</td>
<td>-.559**</td>
<td>.150</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Origin Distance</td>
<td>.269**</td>
<td>1</td>
<td>.406**</td>
<td>-.114</td>
<td>.179</td>
<td>.017</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Mode of Carriers</td>
<td>-.158</td>
<td>-.057</td>
<td>.406**</td>
<td>1</td>
<td>.047</td>
<td>.094</td>
<td>-.011</td>
</tr>
<tr>
<td>5</td>
<td>Number of Buyers</td>
<td>-.053</td>
<td>.047</td>
<td>-.114</td>
<td>.047</td>
<td>1</td>
<td>.031</td>
<td>.015</td>
</tr>
<tr>
<td>6</td>
<td>Number of Visiting Markets</td>
<td>.354**</td>
<td>-.559**</td>
<td>.179</td>
<td>.094</td>
<td>.031</td>
<td>1</td>
<td>-.015</td>
</tr>
<tr>
<td>7</td>
<td>Type of Commodity</td>
<td>.044</td>
<td>.150</td>
<td>.017</td>
<td>-.011</td>
<td>.015</td>
<td>-.015</td>
<td>1</td>
</tr>
</tbody>
</table>

* Significant on .01 level, ** Significant on .05 level

Table 4.4 shows the correlation among the different variables related to sellers. The correlation values show that there are significant correlations between sex of sellers with age of sellers, origin distance of seller from the market, number of male buyers, number of female buyers and with the number of visiting market by sellers. Age of sellers has moderate correlation with number of visiting markets by sellers. Origin distance of sellers has also significant correlations with mode of carriers.

Detail explanations of correlations among different variables of sellers are discussed below.
4.7.1 Correlations of Sex of Sellers with other Variables of Sellers:

Sex of sellers has negative correlation with Age of Sellers. Value of correlation between these variables comes as -0.352, which is significant at 0.05 level of significance. Since numbers of female sellers (14) is too small in front of male sellers (86), the sex composition of sellers is as like the sex compositions of buyers which are studied previously. The correlation value shows that if the number of male seller increases then the value of seller’s age decreases. Value shows that age of male seller is lesser than female sellers. In our study only 14 female sellers are surveyed out of total seller survey. This small number of female sellers may have resulted in negative correlation between sex and age of sellers i.e. higher aged female sellers are in small numbers.

Sex of sellers has positive correlation with Origin Distance of sellers from the market. Value of correlation between these variables comes as 0.269, which is significant at the 0.05 level of significance. The correlation value shows that if the number of male increases then the value of origin distance is increased. Male sellers come from longer distance than female sellers.

Sex of Sellers has positive correlation with Number of Market visited by sellers. Value of correlation between these variables comes as 0.354, which is significant at the 0.05 level of significance. The correlation female sellers might be visit smaller number of markets in comparison of male sellers.

Sex of Sellers has very low and statistically insignificant correlations with other variables.

4.7.2 Correlations of Age of Sellers with other Variables of Sellers:

Age of Sellers has negative correlation with Number of Market visited by sellers. Value of correlation between these variables comes as -0.559, which is significant at 0.05 level of significance. The correlation value shows that if the age of sellers increases then the numbers of markets visited by sellers are decreased. Aged sellers do not want to visit more markets in comparison of younger sellers.

Age of sellers has very low and statistically insignificant correlations with other variables.
4.7.3 Correlations of Origin Distance of sellers from the market with other Variables of Sellers:
Origin distance of sellers from the market has positive correlation with Mode of Carriers. Value of correlation between these variables comes as 0.406, which is significant at the 0.05 level of significance. The value of correlation shows that if the value of origin distances increases then the value of mode of carriers increases. The sellers who come to the market from longer distance they might use more efficient mode of carriers. Origin distance has low and statistically insignificant correlations with other variables.

4.7.4 Correlations of Number of Buyer at the shop with other Variables of Sellers:
Number of Buyers at the shop has positive correlation with number of male buyers at the shop. Value of correlation between these variables comes as 0.536, which is significant at 0.05 the level of significance. The value of correlation shows that if the number of buyers at the shop increases then most of them will be male buyers, male buyers are larger in the number in comparison to female buyers.

There are low and statistically insignificant correlations among other variables related to sellers.

4.8 Conclusion:
Present chapter studied in three sections, section one is the commodity profile of market. It has the explanations of commodity structure and its linkages and networks of markets. Most of the goods in rural periodic market are procured from Ghaziabad, Meerut, Hapur and New Delhi. Section two studied the Buyer profile, in the study the correlation values support the positive correlation between sex of buyers and age of buyers. Age of buyer is positively correlated with mode of transportation and expenditure of buyer is negatively correlated with age of buyers. Origin distance of buyers has moderate and negative correlations with mode of transportation and expenditure of buyers in the shop. Mode of transportation has positive correlations with expenditure of buyers in the shops and number of market
visited by buyers. Number of market visited by buyers has positive and moderate correlations with the type of commodity.

Section three studied the Seller profile, in the study the correlation values support the negative correlation between sex of sellers and age of sellers. Sex of sellers has positive correlations with origin distance of sellers, number of male buyers at the shops and number of markets visited by sellers. Age of sellers has moderate and negative correlation with number of visited markets. Origin distance of sellers has positive and moderate correlation with mode of carriers.