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Functional pattern and specialization of markets: A study in rural markets of Purba Medinipur of West Bengal

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Abstract
The concept of market function and specialization reflects the economic status and levels of regional development. The integration of both the aspects provides a perspective on the spatial concentration of market pattern. The purpose of the present study is both methodological and analytical where rural market employment and pattern of market services are important. The market specialization and spatial functional concentration are to production structures. This has attracted attention of the decision makers to identify the level of concentration of services and facilities rendered by the markets of the region. The author tries to analyze the functional attribute and specialization pattern of identified 58 rural markets of Purba Medinipur district of West Bengal.

Keywords: Market function, specialization, spatial concentration, functional concentration, production structures.

Introduction
Markets may be classified on the basis of the types of economic activity carried on within the market. Some functional activities have acquired greater significance than others. The range of functions in a market covers the entire spectrum of primary, secondary and tertiary products. Most of the Indian rural markets are relativity dominated by agro-based economic activity, so in the markets agricultural, fishing or farming products will dominate the market functions. The nature of shops in the market indicates their relative importance of the region. The threshold demand is largely determined by the number and nature of functional service. The specialized shops are not available at smaller centers mainly due to scattered demand. In 1961 and 1971 censuses the working population data for all Indian Urban Centres has been categories. On the basis of this classification the market activities of the study region may be categorized into two aspects, i.e., (a) functional aspects, and (b) the specialization aspects. The empirical studies which focus on functional specialization and concentration of market economic activities is one of the new branch in geography. There are various models which are based on the traditional theory of trade, the new trade theory and the new economic geography. These models make different propositions according to the diverse hypotheses taken into account (von Schutz, Stierle, 2003) [1]. In many cases the functional specialization is based on the process of agglomeration and dispersions. The term specialization and concentration were identical and the specialization is always accompanied with the pattern of concentration.

2. The Study Area: The analysis of market functional pattern and specialization analysis have been studied in 58 identified rural markets of twenty five CD blocks of Purba Medinipur district. It is the southernmost district of West Bengal, is situated between the parallels of 21º36´35" N and 22º57´10"N latitudes and 86º33´50"E and 88º12´40"E longitudes with an area of 4,151.64 square kilometers in India. Balasore district of Odisha state lies on the south-western border; the Bay of Bengal in the south; the Hooghly River and South 24 Pargana district to the east and Howrah district to the north-east.

3. Objectives: The main objectives of the analysis are stated as below:
(i) To study the product based market pattern;
(ii) To analyze the spatial pattern markets on functional activities;

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(iii) To study the market specialization pattern;
(iv) To find out the relation between functional attributes and specialization aspects.

4. Materials and Methods
The analysis of spatial market function and specialization pattern reflects the status of markets and level of economic development of Purba Medinipur district. The market function is related with the number of other factors like agricultural, industrial and other tertiary products. The market wise basic statistical information like pattern of shops, number of employee of various shops is available in the present structure of the markets. The measurements of the functional attributes of the markets are based on percentage share of the composition of shops and specialization index is on Asok Mitra (1973) [2] method.
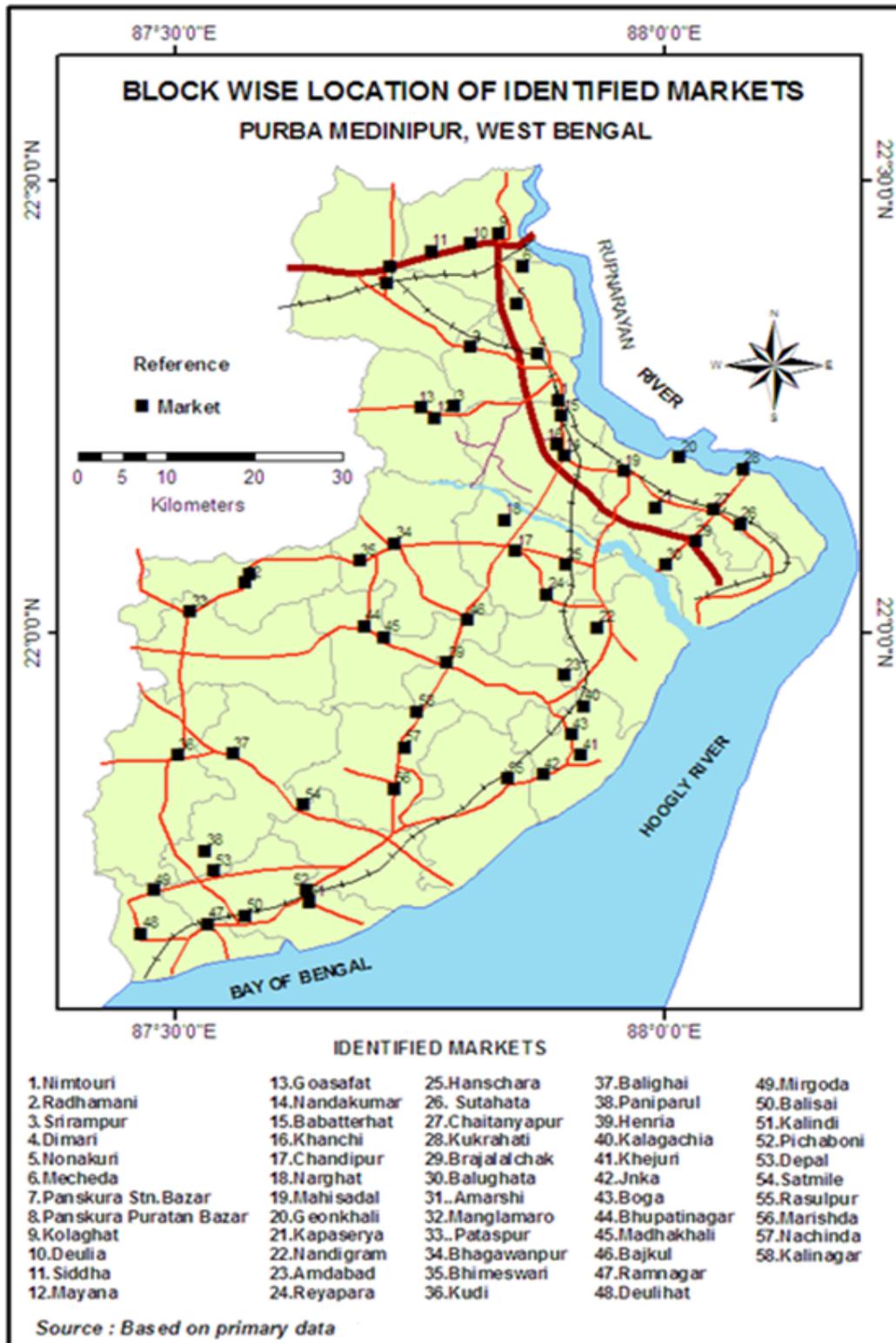

IDENTIFIED MARKETS

1. Nimtouri	13. Goasafat	25. Hanschara	37. Balighai	49. Mirgoda
2. Radhamani	14. Nandakumar	26. Sutahata	38. Paniparul	50. Balisai
3. Srirampur	15. Babatterhat	27. Chaitanyapur	39. Henria	51. Kalindi
4. Dimari	16. Khanchi	28. Kukrahati	40. Kalagachia	52. Pichaboni
5. Nonakuri	17. Chandipur	29. Brajalalchak	41. Khejuri	53. Depal
6. Mecheda	18. Narghat	30. Balughata	42. Jnka	54. Satmile
7. Panskura Stn. Bazar	19. Mahisadal	31. Amarshi	43. Boga	55. Rasulpur
8. Panskura Puratan Bazar	20. Geonkhali	32. Manglamaro	44. Bhupatinagar	56. Marishda
9. Kolaghat	21. Kapaserya	33. Pataspur	45. Madhakhali	57. Nachinda
10. Deulia	22. Nandigram	34. Bhagawanpur	46. Bajkul	58. Kalinagar
11. Siddha	23. Amdabad	35. Bhimeswari	47. Ramnagar	
12. Mayana	24. Reyapara	36. Kudi	48. Deulihat	

Source : Based on primary data

Fig 1: Location of identified markets of Purba Medinipur

Table 1: Block wise identified rural markets with number of shops and employees Purba Medinipur district of West Bengal, 2012

Sl.no	Block	Markets	Shops	Employees
1	Tamluk	1.Nimtouri	271	631
		2.Radhamani	312	591
		3.Srirampur	122	185
		4.Dimari	123	248
2	SahidMatangini	5.Nonakuri	328	580
		6.Mecheda	588	1274
3	Panskura - I	7.Panskura Station Bazar	444	949
		8.Panskura Puratan Bazar	329	583
4	Panskura - II	9.Kolaghat	333	634
		10.Deulia	134	221
		11.Siddha	117	193
5	Moyna	12.Mayana	151	242
		13.Goasafat	186	292
6	Nandakumar	14.Nandakumar	376	872
		15.Babatterhat	106	169
		16.Khanchi	193	380
7	Chandipur	17.Chandipur	391	677
		18.Narghat	180	305
8	Mahishadal	19.Mahisadal	387	682
		20.Geonkhali	170	282
		21.Kapaserya	129	218
9	Nandigram-I	22.Nandigram	335	711
10	Nandigram-II	23.Amdabad	110	161
		24.Reyapara	139	232
		25.Hanschara	104	162
11	Sutahata	26. Sutahata	216	349
		27.Chaitanyapur	302	606
		28.Kukrahati	148	244
12	Haldia	29.Brajalalchak	295	627
		30.Balughata	104	142
13	Potashpur-I	31.Amarshi	173	312
		32.Manglamaro	162	274
14	Potashpur-II	33.Pataspur	209	347
15	Bhagawanpur-I	34.Bhagawanpur	191	320
		35.Bhimeswari	187	311
16	Egra-I	36.Kudi	112	183
17	Egra-II	37.Balighai	117	193
		38.Paniparul	348	491
18	Khejuri-I	39.Henria	298	647
		40.Kalagachia	124	206
19	Khejuri-II	41.Khejuri	209	375
		42.Jnka	154	238
		43.Boga	135	214
20	Bhagawanpur-II	44.Bhupatinagar	157	257
		45.Madhakhali	158	252
		46.Bajkul	253	441
21	Ramnagar-I	47.Ramnagar	652	1066
		48.Deulihat	329	473
		49.Mirgoda	129	206
22	Ramnagar-II	50.Balisai	323	469
		51.Kalindi	115	177
		52.Pichaboni	113	177
		53.Depal	138	232
23	Contai-I	54.Satmile	155	261
24	Contai-II	55.Rasulpur	148	245
25	Contai-III	56.Marishda	107	162
		57.Nachinda	163	266
		58.Kalinagar	137	213
		Total	12619	22450

Source: Data collected from field survey, 2012

5. Functional and Specialization Aspect of the Markets

5.1. Functional aspect of the markets: Functional aspects of any market can be determined or analyzed with the help of the number and types of functions present in the centre. The number and types of functions are influenced by the population and economic pattern of catchment area of the centre. The functional characteristics of a market can be easily identified by the percentage of establishment found in different categories. The market functions has been classified into major five categories and these are

(i) Food and raw materials,
(ii) Traditional services,
(iii) Handicrafts products,
(iv) Industrial products, and

(v) Modern services.

Among these five functions the first three important percentage functions are considered and on the basis of this percentage share the market has been identified accordingly.

Table 2: Functional Patterns of Markets, Purba Medinipur (Based on percentage of shops of individual market)

Block	Markets	Food, Rawmaterials (F)	Traditional Services (T)	Handicraft Products (H)	Industrial Products (I)	Modern Services (M)
1. Tamluk	1.Nimtouri	42.80	14.02	6.64	27.31	9.23
	2.Radhamani	32.05	16.67	8.97	33.01	9.29
	3.Srirampur	48.00	11.20	4.80	23.20	12.80
	4.Dimari	49.59	17.07	6.50	18.70	8.13
2. SahidMatangini	5.Nonakuri	45.12	16.77	9.76	18.29	10.06
	6.Mecheda	46.09	13.78	4.76	21.60	13.78
3. Panskura - I	7. Panskura Station Bazar	37.18	15.71	8.97	25.64	12.50
	8.Panskura Puratan Bazar	37.18	14.59	8.94	26.12	13.18
4. Panskura - II	9.Kolaghat	38.08	15.17	6.81	25.08	7.76
	10.Deulia Bazar	41.67	12.88	5.30	25.76	14.39
	11.Siddha	46.49	14.04	3.51	23.68	12.28
5. Moyna	12.Mayana	46.31	14.09	5.37	21.48	12.75
	13.Goasafat	45.86	14.92	5.52	23.20	10.50
6. Nandakumar	14.Nandakumar	34.84	9.27	9.04	32.71	10.11
	15.Babatterhat	44.44	11.11	6.48	25.93	12.04
	16.Khanchi	42.49	17.10	4.15	23.83	12.44
7. Chandipur	17.Chandipur	28.96	14.36	5.45	34.16	17.08
	18.Narghat	32.22	16.11	6.11	35.00	10.56
8. Mahisadal	19.Mahisadal	40.61	14.36	5.52	25.69	13.81
	20.Geonkhali	42.33	14.72	6.13	22.70	14.11
	21.Kapaserya	37.98	15.50	7.75	27.13	11.63
9. Nandigram-I	22.Nandigram	40.63	13.64	6.25	28.98	10.51
10. Nandigram-II	23.Amdabad	46.36	13.64	5.45	21.82	12.73
	24.Reyapara	50.00	13.75	6.25	22.50	7.50
	25.Hanschara	40.00	15.24	7.62	21.90	15.24
11. Sutahata	26. Sutahata	42.47	13.70	6.39	23.74	13.70
	27.Chaitanyapur	40.07	13.68	7.17	26.38	12.70
	28.Kukrahati	41.29	12.26	8.39	27.74	10.32
12. Haldia	29.Brajalalchak	36.95	13.56	7.80	29.15	12.54
	30.Balughata	50.00	11.61	6.25	19.64	17.54
13. Potashpur-I	31..Amarshi	47.16	13.07	5.68	23.86	10.23
	32.Manglamaro	50.00	11.59	4.27	23.17	10.98
14. Potashpur-II	33..Pataspur	38.35	13.11	5.34	29.13	14.08
15. Bhagawanpur-I	34.Bhagawanpur	40.84	15.71	4.71	25.65	13.09
	35.Bhimeswari	43.72	15.30	5.46	24.04	11.48
16. Egra-I	36.Kudi	43.70	12.61	5.04	29.41	9.24
17. Egra-II	37.Balighai	45.00	10.83	5.83	24.17	14.17
	38.Paniparul	37.93	10.90	12.93	25.00	13.51
18. Khejuri-I	39.Henria	40.43	15.88	5.42	24.91	13.36
	40.Kalagachia	41.13	14.52	5.65	25.81	12.90
19. Khejuri-II	41.Khejuri	44.93	14.01	5.80	24.15	11.11
	42.Jnka	44.83	13.79	6.90	21.38	13.10
	43.Boga	51.61	12.26	4.52	21.94	9.68
20. Bhagawanpur-II	44.Bhupatinagar	45.00	14.38	5.00	22.50	13.13
	45.Madhakhali	49.06	15.72	6.92	18.24	10.06
	46.Bajkul	43.15	13.71	5.65	22.98	14.52
21. Ramnagar-I	47.Ramnagar	33.44	14.72	7.67	32.21	11.96
	48.Deulihat	33.43	15.81	9.42	26.75	14.59
	49.Mirgoda	41.54	13.85	6.92	26.92	10.77
22. Ramnagar-II	50.Balisai	35.91	9.91	3.07	31.58	16.10
	51.Kalindi	43.10	12.93	6.03	25.00	12.93
	52.Pichaboni	43.86	13.16	5.26	24.56	13.16
	53.Depal	42.22	14.07	5.93	23.70	14.07
23. Contai-I	54.Satmile	38.99	14.47	6.92	25.79	13.84
24. Contai-II	55.Rasulpur	47.40	12.34	5.84	21.43	12.99
25. Contai-III	56.Marishda	44.04	13.76	7.34	21.10	13.76
	57.Nachinda	41.18	15.03	5.88	24.18	13.73
	58.Kalinagar	54.55	9.79	4.20	21.68	9.79

Source: Based on primary data

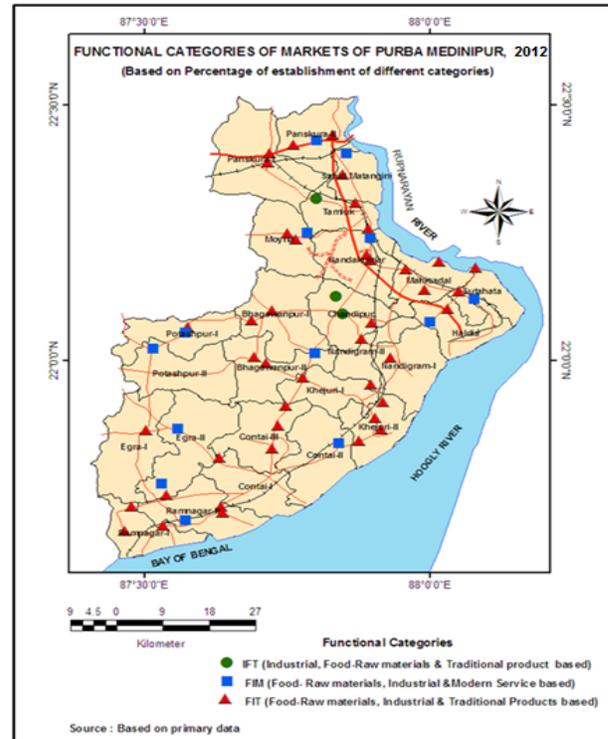**Table 3:** Functional Categories of Markets of Purba Medinipur

Functional categories	Index name	Markets	No of markets
Food-Raw materials, Industrial & Traditional Products based	FIT	Nimtouri, Khanchi, Kapaserya, Nandakumar, Nonakuri, Dimari, Ramnagar, Deulihat, Brajalalchak, Chaitanyapur,Kukrahati, PanskuraPuratan Bazar, Nandigram, Boga, Panskura Station Bazar, Reyapara, Hanschara, Henria, Janka, Khejuri, Kalagachia, Bhimeswari, Bhagawanpur, Madhakhali, Bhupatinagar, Amarshi, Satmaile, Nachinda, Kalinagar, Marishda, Depal, Kalindi, Pichaboni, Mirgoda, Geonkhali, Kudi, Siddha, Moyna, Gosafat, Kolaghat, Mahisadal, Amdabad.	42
Food- Raw materials, Industrial &Modern Service based	FIM	Mechada, Paniparul, Balisai, Bajkul, Manglamaro, Potashpur, Balighai, Babattarhat, Deulia Bazar, Srirampur, Rasulpur, Sutahata, Balughata.	13
Industrial, Food-Raw materials & Traditional product based	IFT	Radhamoni, Narghat, Chandipur,	03

From the table 3, the market pattern may be analyzed as below:

(i) Food – raw materials Industrial and Traditional Product based: Out of identified of 58 market of the area, 42 markets belongs to this category. Most of the markets of this group are located in the remote part of the district where agriculture is the main economic activity of the people. The favourable physical condition like plain land, fertile soil and rainfall helps the people to produce more agricultural products. The producer sold their surplus products to the nearest markets. Most of the local farmers sold the items in the market as retailer. Food items like vegetables, grains, fishes and rice are the main marketable products. Another characteristic of the commercial function is that the grocery shop, which sells both convenience and durable goods, is common to all the market centers. The industrial products like electrical goods, machineries or machinery parts, cloth store are also important items selled in the markets which occupied the second position in this category of markets. The demand of fertilizer and machineries are high for the agricultural activities of the surrounding areas of the markets. The traditional services like tea stall, tailoring, barber and black smith occupied the third position.

(ii) Food – Raw material, Industrial & Modern Service Based: There are 14 markets belongs to this group where first two products same as earlier category but their important is modern services. Hostel & Lodge, filling station, Call Centre, Doctor's clinic, Telecom service, etc. are identified as modern service. The markets like Mechada, Deulia Bazar are located near National Highway whereas Bajkul, Balisai, Sutahata are located near State Highway. So, transport factor plays a vital role in sharing modern products with food – raw materials.

(iii) Industrial, Food-Raw Materials & Traditional Product Based: There are only three markets, i.e., Radhamoni, Narghat and Chandipur belongs to this group cloth and bedding store are the two important shops of Radhamoni market and it is located near NH41. These two shops share about 15% of the markets total establishment. Narghat and Chandipur are located near the State Highway from Nandakumar to Digha. For fishing activity machinery parts and repairing shops are important shops in Narghat market where as in Chandipur fertilizer, car repairing and building construction materials shops are more. In these three markets food – raw material products occupied second and traditional products on third position.

Fig 2: Functional categories of rural markets of Purba Medinipur

5.2specialization aspects of the markets: In every market workers are engaged in each of the functional categories where the proportion or percentage of employee in one function may be greater than others. This category represents the 'dominant function' or the 'functional specialization' of a market. This approach is very simple and was considered in early 1950s to classify urban places on the basis of their dominant function. India cities were first classified following the approach of functional categories by Amrit Lal (1959) [3] using 1951 census data. After that Asok Mitra (1973) [2] has classified the towns and cities of India on the basis of 1961 and 1971 census data. Keeping view of both the above mentioned method, the researcher used a very simple process for measuring the market specialization index and that can be representing as:

$$SI = \frac{p}{n}$$

Where,

SI = Specialization Index of a Market,

p = Percentage of employee engaged in different function,

n = Number of functional categories.

The p value of individual market can be determined by the following way:

$$p = \frac{Ei}{Te} \times 100$$

Ei = employee of individual function of a market,
Te = total employee of individual function of the region.

On the basis of above method is very much easy to calculate the specialization of identified markets of Purba Medinipur district. The calculated index may be categorized into different classes. If the calculate value is 50 and above, it indicates the specialized market and below 50 represent the market diversification. In case of the markets of Purba Medinipur district the specialization index has been calculated and categorized in the following tables.

Table 4: Specialization Index of rural markets of Purba Medinipur, 2012 (Based on number of employee)

Sl.no	Block	Markets	Specialization Index
1	Tamluk	1.Nimtouri	32.74409
		2.Radhamani	31.53394
		3.Srirampur	7.958892
		4.Dimari	7.874007
2	SahidMatangini	5.Nonakuri	29.5245
		6.Mecheda	59.78919
3	Panskura - I	7.PanskuraStn.Bazar	49.6272
		8.PanskuraPuratan Bazar	29.75284
4	Panskura - II	9.Kolaghat	29.23876
		10.Deulia	9.676263
		11.Siddha	8.069789
5	Moyna	12.Mayana	10.49087
		13.Goasafat	12.23377
6	Nandakumar	14.Nandakumar	46.39546
		15.Babatterhat	7.437973
		16.Khanchi	17.82755
7	Chandipur	17.Chandipur	33.18905
8	Mahishadal	18.Narghat	14.41354
		19.Mahisadal	32.62137
		20.Geonkhali	13.39275
		21.Kapaserya	11.89504
9	Nandigram-I	22.Nandigram	32.07643
10	Nandigram-II	23.Amdabad	7.222966
		24.Reyapara	10.20209
		25.Hanschara	7.70301
11	Sutahata	26.Sutahata	17.34585
		27.Chaitanyapur	31.80177
		28.Kukrahati	11.19502
12	Haldia	29.Brajalalchak	35.86904
		30.Balughata	6.678814
13	Potashpur-I	31. Amarshi	12.66112
		32.Manglamaro	12.28741
14	Potashpur-II	33. Pataspur	16.6291
15	Bhagawanpur-I	34.Bhagawanpur	14.4032
16	Egra-I	35.Bhimeswari	13.30113
		36.Kudi	7.600546
17	Egra-II	37.Balighai	8.127034
		38.Paniparul	24.32972
18	Khejuri-I	39.Henria	31.03236
		40.Kalagachia	8.860133
19	Khejuri-II	41.Khejuri	16.04125
		42.Jnka	9.891441
		43.Boga	8.85129
20	Bhagawanpur-II	44.Bhupatinagar	10.97332
		45.Madhakhali	10.50253
		46.Bajkul	21.31957
21	Ramnagar-I	47.Ramnagar	53.07843
		48.Deulihat	24.0876
		49.Mirgoda	9.051888
22	Ramnagar-II	50.Balisai	22.36226
		51.Kalindi	8.107867
		52.Pichaboni	7.835749
		53.Depal	10.00241
23	Contai-I	54.Satmile	12.29419
24	Contai-II	55.Rasulpur	11.09401
25	Contai-III	56.Marishda	7.325465
		57.Nachinda	11.95435
		58.Kalinagar	9.451565

Table 5: Market Specialization pattern of Purba Medinipur (Based on number of market employees)

Sl. No	Index of specialization/ diversification	Nature	Name of the markets	No of markets
1	50 & Above	Specialized	Mechada, Ramnagar	02
2	49 – 40	Nearly specialized	Panskura Station Bazar, Nandakumar.	02
3	39 – 30	Diversified	Brajalalchak, Chandipur, Nimtouri, Mahisadal, Nandigram, Chaitanyapur, Radhamoni, Henria	08
4	29 – 20	Diversified with less importance	PanskuraPuratan Bazar, Nonakuri, Kolaghat, Paniparul, Deulihat, Balisai, Bajkul.	07
5	Below 20	Diversified with insignificant importance	Khanchi, Sutahata, .Potashpur, Khejuri, Narghat, Bhagawanpur, Geonkhali, Satmaile, Bhimeswari, Amarshi, Kalinagar, Manglamaro, Gosafat, Nachinda, Kapaserya, Kukrahati, Rasulpur, Bhupatinagar, Janka, Madhakhali, Moyna, Depal, Boga,Reyapara, , Deulia Bazar, Mirgoda,Kalagachia, Balighai, Kalindi, Siddha, Srirampur,Dimari, Pichaboni, Hanschara, Kudi, Babattarhat, Marishda, Amdabad, Balughata.	39

In table 5, the percentage of employees of individual functional units of a market has been summed up and by dividing the number of functional categories the specialization index value can be prepared. From the index value of table 4 has been made to show the actual nature of the market. The index value can be categories into five classes which reflect the market specialization and diversification pattern. Only two markets are specialized in nature and they are Mechada and Ramnagar market. Mechada is specialized in vegetable and fish distribution whereas Ramnagar is specialized in bettle leaf and vegetables. The sandy soil of coastal region of the district is suitable for bettle leaf production. The bettle leaf is supplied to the different part of the country from Ramnagar Market. Panskura Station Bazar and Nandakumar scored just below 50 which are belongs to nearly specialized group. Panskura Station Bazar is the largest vegetable market in the district as well as in the State also. Without it, the market is located just near the Panskura Station of South-Eastern Railway line of Howrah – Kharagpur Section and 1.5 Km apart from NH6. Another important market of this group is Nandakumar which is located near the junction of SH4 and NH41 and in the largest rice market of the district. The diversifies markets are of three types -- diversified with less importance and diversified with insignificant importance. Out of 58 identified market of district there are 54 markets which are diversified in nature. The majority of the market of the district has no clear specialization in any one function and have diversified economic basis. The diversified market with multiple functions and service constitutes the most common to the whole system. The physical, social and economic conditions determine the total market system of the district.
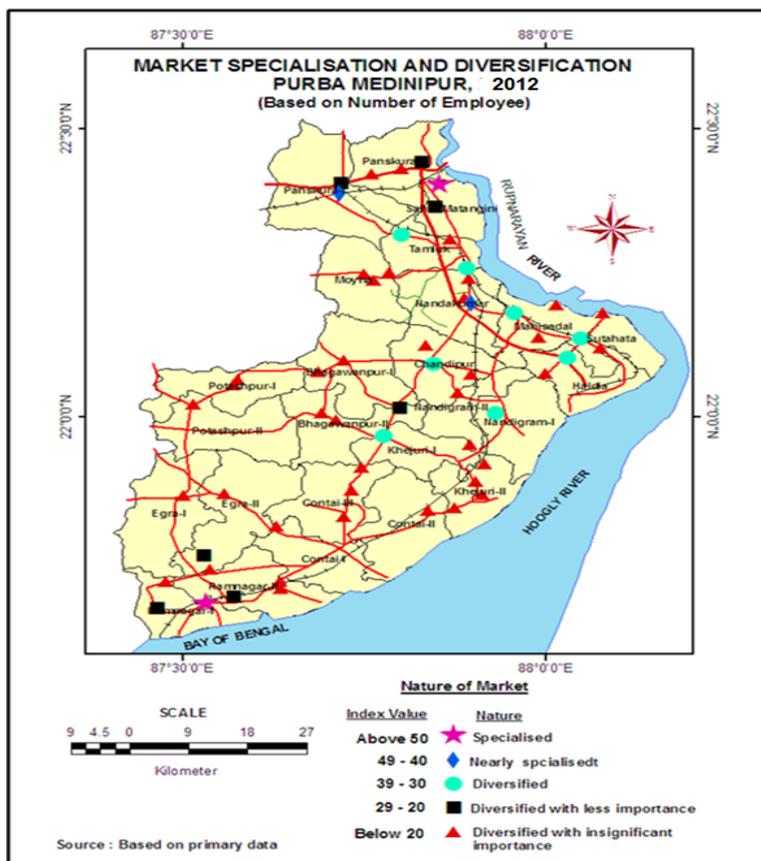
Fig 3: Market Specialization and Diversification of Purba Medinipur, 2012

6. Major findings

i. Most of the identified rural markets of Purba Medinipur district are food-raw material and traditional product based which indicate that the markets are given traditional agricultural product services.

ii. Industrial products occupy the second place among the services of the markets and these are mainly house appliances.

iii. Specialization index of the markets shows that about 90 percent of markets are diversified in nature.

iv. Maximum diversification means lower scale of economies in terms market investment and output.

v. Lower scale of market economies indicates the low level of economic as well as regional development pattern.

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