



SPATIAL PATTERNS OF NON-AGRICULTURAL WORKERS IN PUNJAB

Ram Sharn*

Abstract: *Agricultural activities are not quite enough to support the increasing population. Development of any state in India is based on non agricultural activities. Non agricultural activities provide more job opportunity to increasing population and have potential to support more population if we compare with agricultural activities. Spatial patterns of non agricultural workers in Punjab is a significantly co related with the development of districts in Punjab. More developed districts have more non agricultural workers or vise versa. If we take urbanization and literacy as a development indicators then both of these will significantly co relate with the non agricultural workers of Punjab. Central and north eastern Punjab has more urbanized and more literate than remaining Punjab and this region has also more non agricultural workers than south western Punjab.*

Key Words: *Spatial, Patterns, Non-Agricultural, Workers, Urbanization, Literacy.*

*Assistant Prof., Baba Farid College, Bathinda



INTRODUCTION

In the recent years, the non-farm sector employment acquired importance in the economic development. By providing gainful employment to the labor-force this sector is playing a positive role in the removal of poverty. It is a significant source of income to small and landless farmers during the slack season. It also facilitates structural transformation. There is a close relationship between employment generation in non-farm activities and the spread of prosperity from agricultural growth. It is in this context, that present chapter has been devoted to non-agricultural workers of Punjab.

The concept of non-farm employment (CNFE) is defined as employment in pursuits other than cultivation, livestock, forestry, fishing, hunting, plantations, orchards and allied activities. Broadly, it covers employment in mining and quarrying, manufacturing (manufacturing, processing, services and repairs in household industry and other than household industry), construction, trade and commerce, transport, storage and communications and other services. (M. Koteswara Rao).

The census of India 2001, divide the workers into four categories as cultivators, agricultural laborers, workers in household industry and other workers. In the present context, we will study the last two categories i.e. workers in household industry and other workers, which are jointly known as non-agricultural workers. Actually non-agricultural workers comprise many categories but detailed category wise data has not published, thus in the present context, proportion of non-agricultural workers is determined by adding:

- (i) Workers in Household Industry
- (ii) Other Workers

(I) WORKERS IN HOUSEHOLD INDUSTRY

Household industry is defined as an industry conducted by one or more members of the household at home or within the village in rural areas and only within the precincts of the house where the household lives in urban areas.

Household industry relates to production, processing, servicing, repairing or making and selling (but not merely selling) of goods. It does not include professions such a Pleader, Doctor, Musician, Dancer, Waterman, Astrologer, Dhobi, Barber, etc. or merely trade or business, even if such professions, trade or services are run at home by members of the household.



(II) OTHER WORKERS

All workers, i.e. those who have been engaged in some economic activity during the last one year, but are not cultivators or agricultural laborers or in household industry are 'other worker (OW)'. The type of workers that come under this category of 'OW' include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade,, commerce, business, transport, banking, mining, construction, political or social work, priests, entertainment artists etc. In effect, all those workers other than cultivators or agricultural laborers or household industry workers are 'Other Workers.'

STATEMENT OF THE PROBLEM

Working population is a most neglected portion in the population geography in particular and in geography in general. The attribute of working force and its distribution into various occupation, despite its immense significance to planning, has received less attention of the geographers in comparison to other attributes of population as growth literacy, urbanization etc. Developmental processes in a country, with their effects and with structural changes, both favorable and unfavorable are closely linked to working population and its characteristics and spatial placement.

The present work is concerned with analysis of non-agricultural workers in Punjab as per 2001 census, because a study of non agricultural workers is crucial to an understanding of the regional pattern of diversification of economy. The problems of development are increasingly of interest to regional planners. Development projects in the developed countries and often in the developing countries put more emphasis on industry, tourism, or services than on the modernization of agriculture. The magnitude and direction of shift from agriculture to non agricultural is worth investigation and equally essential is to probe in to the role of diverse factors in the process.

The pressure of workforce on economy is, thus, higher than that of population. The economy of Punjab, according to the census of India 2001, seems to have experienced a major shift of workforce from agriculture to the non-agricultural sector during 1991-2001. Figures suggest that 61.05 per cent workers in Punjab are now engaged in non-agricultural activities. The male participation rate in non- agricultural activities is 73.45 as compare to female participation rate of 26.54 per cent.



In the light of all these data, therefore, it is imperative to critically analyses the spatial patterns of non-agricultural workers, male-female differentials etc. It is in this context, that I selected this topic to fill a gap in the research.

SOURCE OF DATA

The source of data for present work is secondary and data is available in census Publications, 2001 in order to represent the reality.

METHODOLOGY

The methodology used for this project has been collection of secondary data available in the census documents in order to have an overview of district and state legal composition of population and workforce in Punjab.

The present study is mainly based on secondary data and at the same time primary data and information has also being collected. As far as possible maps, bar graphs, pie diagrams, photographs and tables are shown to clearly depict each and every element in this work.

OBJECTIVES OF THE STUDY

In Punjab a quantum shift of workforce from farm to nonfarm sectors is in sharp contrast to the growth rate scenario of the employment and income during 1990s.

1. To identify spatial variations in number of non agricultural workers in different districts.
2. To discover the casual relationship between non agricultural workers and other socio economic variables of region.
3. To determine the status of non agricultural workers with reference to literacy rate and urbanization.

HYPOTHESES

1. There is positive relationship between the development of non farm economy and level of urbanization, rate of literacy, density of roads, index of agricultural productivity and degree of commercialization of agriculture.
2. There is negative relationship between the size of agricultural land holding and non agricultural workers.

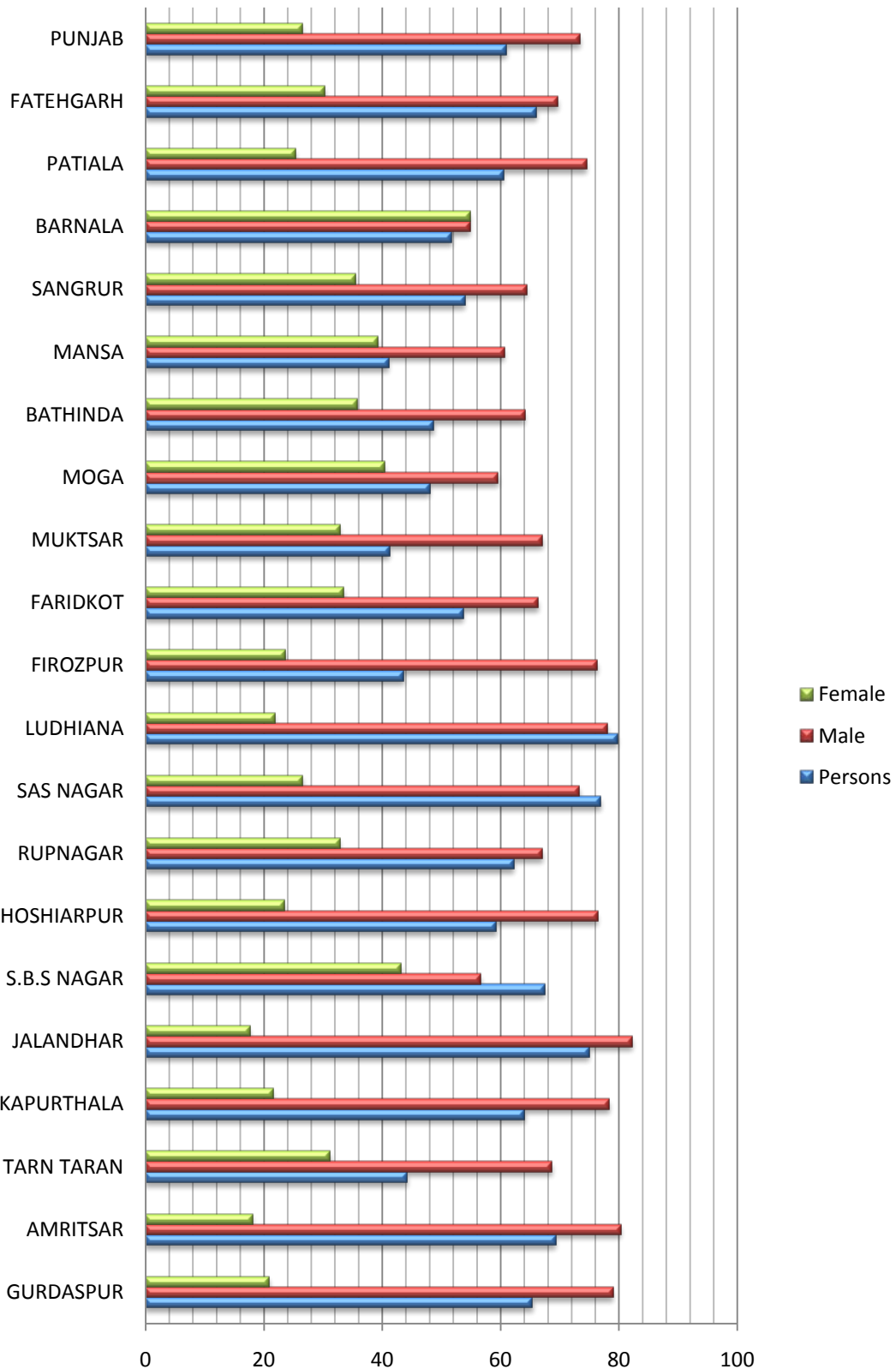


PERCENTAGE OF NON AGRICULTURAL WORKERS AMONG MALES AND FEMALES IN PUNJAB-2001			
State/Districts	Percentage of non agricultural workers to main and marginal workers	Percentage of male non agricultural workers to total non agriculture workers	Percentage of female non agricultural workers to total non agriculture workers
PUNJAB	61.05	73.45	26.54
GURDASPUR	65.46	79.02	20.97
AMRITSAR	69.45	80.39	18.14
TARN TARAN	44.30	68.76	31.23
KAPURTHALA	64.16	78.39	21.60
JALANDHAR	75.02	82.31	17.68
S.B.S NAGAR	67.48	56.73	43.26
HOSHIARPUR	59.31	76.49	23.50
RUPNAGAR	62.29	67.068	32.93
SAS NAGAR	77.00	73.41	26.58
LUDHIANA	79.77	78.08	21.91
FIROZPUR	43.65	76.34	23.65
FARIDKOT	53.72	66.42	33.57
MUKTSAR	41.36	67.08	32.91
MOGA	48.06	59.58	40.41
BATHINDA	48.76	64.25	35.74
MANSA	41.14	60.70	39.29
SANGRUR	54.02	64.46	35.53
BARNALA	51.79	54.99	54.99
PATIALA	60.48	74.60	25.39
FATEHGARH	66.05	69.69	30.30

PERCENTAGE OF NON AGRICULTURAL WORKERS TO MAIN & MARGINAL WORKERS IN PUNJAB		
State/District	Percentage of non-agricultural workers to main & marginal workers	Rank
PUNJAB	61.05	
LUDHIANA	79.77	1
SAS NAGAR	77.00	2
JALANDHAR	75.02	3
AMRITSAR	69.45	4
S.B.S NAGAR	67.48	5
FATEHGARH SAHIB	66.05	6
GURDASPUR	65.46	7
KAPURTHALA	64.16	8
RUPNAGAR	62.29	9
PATIALA	60.48	10
HOSHIARPUR	59.31	11
SANGRUR	54.02	12
FARIDKOT	53.72	13
BARNALA	51.79	14
BATHINDA	48.76	15
MOGA	48.06	16
TARN TARAN	44.30	17
FIROZPUR	43.65	18
MUKTSAR	41.36	19
MANSA	41.14	20

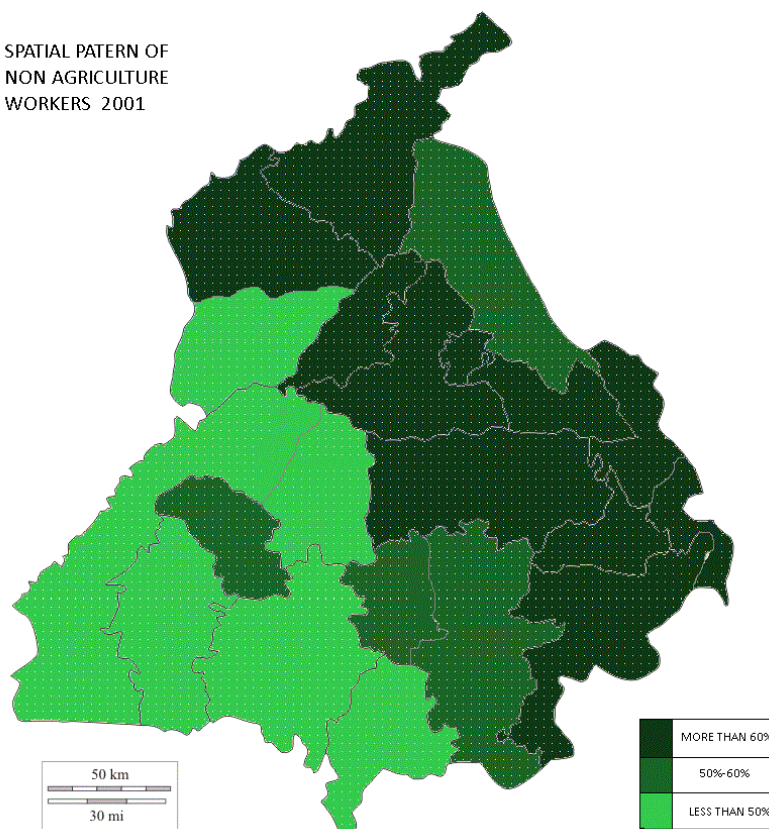


PERCENTAGE OF NON AGRICULTURAL WORKERS AMONG MALES AND FEMALES IN PUNJAB-2001





SPATIAL PATTERN OF
NON AGRICULTURE
WORKERS 2001



The figures share of non-agricultural workers is also different in different districts. Ludhiana district has highest non-agricultural workers with percentage of 79.7%, while the Mansa has lowest non-agricultural workers with the percentage of 41.14% of main & marginal workers. To understand the variations in the non-agricultural workers from district to district, we have to study the spatial patterns for nonagricultural workers. 9 out of 20 districts have non-agricultural workers more than state average and 11 districts have proportion of non-agricultural workers less than state average (Table 2.3).

SPATIAL PATTERNS OF NON-AGRICULTURAL WORKERS

On the basis of Map we can divide the Punjab into three types of regions or areas on the basis of non-agricultural workers, as following:

- (i) Areas of High Proportion of Non-Agricultural Workers
- (ii) Areas of Moderate Proportion of Non-Agricultural Workers
- (iii) Areas of Low Proportion of Non-Agricultural Workers

AREAS OF HIGH PROPORTION OF NON-AGRICULTURAL WORKERS (MORE THAN 65%)

The category includes 7 districts of Punjab namely Ludhiana (79.7) S.A.S Nagar(77%) Jalandhar(75%) Amritsar(69.45%) S.B.S nagar(67.68%) Fatehgarh Sahib(66.05%)



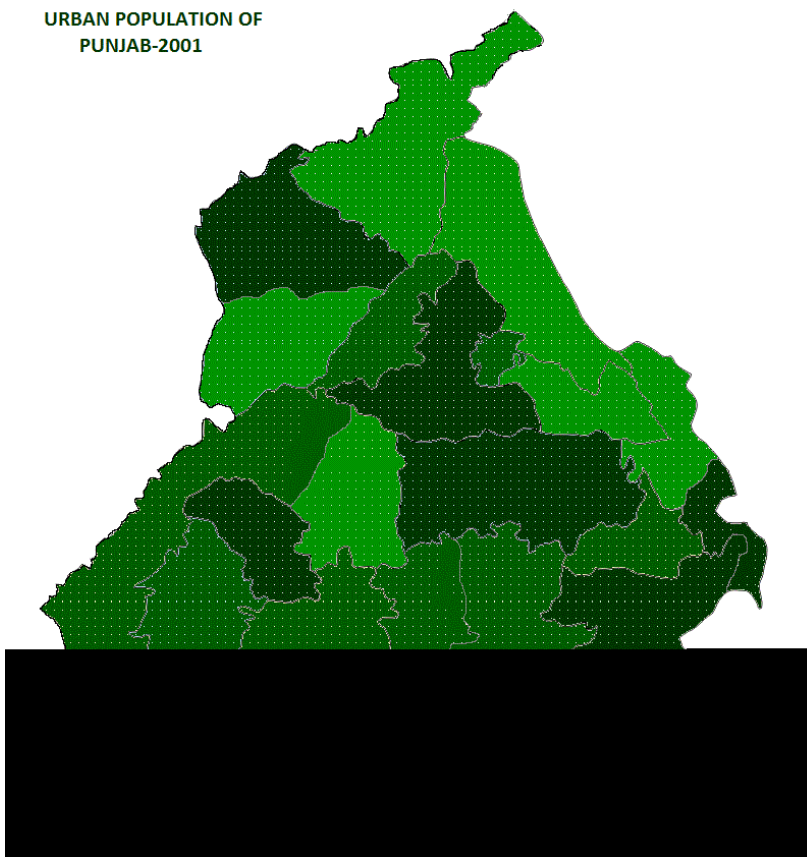
Gurdaspur(65.46%). Mainly these districts are located in central, eastern and northern parts of Punjab. Out of these 7 districts 2 is from Doaba region, 3 from Malwa region and only two from Majha region. Ludhiana district ranks first in this category in whole Punjab with 79.7% non-agricultural workers. Out of which 4.91% are engaged in household industries and 74.86% are engaged in other workers. In Ludhiana district there are also differentiation in the proportion of male-female engaged in non-agricultural activities i.e. males' proportion is 78.08% as compare to females' proportion of 21.91%. Among the males 4.04% are engaged the household industries and 73.48% are as other workers, while in females 8.43% are in household industry and 80.48% are work other workers. Ludhiana district is situated in the center of Punjab.

RANK	DISTRICTS	PERCENTAGE
1	LUDHIANA	55.84
2	AMRITSAR	51.40
3	JALANDHAR	47.48
4	SAS NAGAR	38.33
5	PATIALA	36.57
6	FARIDKOT	35.14
7	KAPURTHALA	32.67
8	BARNALA	30.47
9	BATHINDA	29.73
10	SANGRUR	28.80
11	FATEHGARH SAHIB	28.06
12	FIROZPUR	25.84
13	MUKTSAR	25.54
14	GURDASPUR	24.44
15	RUPNAGAR	22.46
16	MANSA	20.68
17	MOGA	19.96
18	HOSHIARPUR	19.72
19	S.B.S NAGAR	13.80
20	TARNTARAN	11.98

It has developed both agriculture sector and non-agriculture sector. There is development of small scale industries in Ludhiana district, which gave employment to workers, and also tertiary sector is developed. Ludhiana is known as Manchester of Punjab, is very famous for its hosiery products. The level of literacy is also high i.e. 63.6% and Ludhiana is most populist district in Punjab i.e. 55.84%. Due to all these reasons proportion of non-agricultural workers is high.



URBAN POPULATION OF
PUNJAB-2001



The second district in this category is S.A.S Nagar with percentage of 77%. out of which 2.42% are engaged in household industry and 74.58% are other workers. The male and female proportion is also different i.e. males' proportion is 73.41% as compared to females proportion of 26.58%. S.A.S nagar is near the Chandigarh and due to attraction of this urban area more people are in non agricultural activities. The density of roads is high and literacy rate is also high 78.4% Due to all these reasons the proportion of non agricultural workers is high.

The next district comes in this category is Jalandhar with the percentage of 75.02%. Out of which 4.45% are involved in household industries and 70.57 are worked as other workers. The man-woman ratio is also different and 82.31 males are involved in rural non-agricultural activities as compare to female's proportion of 17.68%. In Jalandhar mainly small scale industries are developed which give employment to workers as compare to agricultural sector. Jalandhar is world famous for its playing equipments. The level of urbanization and level of literacy is also well in this district.



The next district comes in this category is Amritsar with percentage of 69.45%. Out of which 4.25 are involved in household industries and 65.19 are enumerated as other workers. The percentage of male to non-agricultural activities is 80.39% as compare to female proportion of 18.14%. The proportion of non-agricultural workers is high in this district due to some reasons such as its location on national high way number one and due to urbanized area. The industrial development is moderate and large entrepreneurs avoid investing in this district but this district provide some services tertiary

S.B.S nagar district with 67.48% of non agricultural workers. Out of which 2.59% are engaged in household industries and 64.88% are engaged in other workers. Male proportion is 56.73% as compare to females' proportion of 43.26%. Among the males 2.06% are engaged in household industries and 57.6% are other workers, while in female 3.56% are in household industry and 62.25% are worked as other workers. S.B.S nagar is a semihill district and due to hill and undulating topography, deep water table, hard rocks and thin water bearing sub-surface strata the development of agriculture is low and that is why most of the people are engaged in non-agricultural activity. Though the level of urbanization (Table and Map) is low but the literacy level is higher i.e. 76.4%. All the villages of S.B.S nagar are linked with villages. The female's proportion is higher in non-agricultural activities because mostly male workers are migrated to other countries. Due to all these reasons the proportion of non-agricultural workers is high.

The next district which emerges as another center of high non agricultural activities Fatehgarh Sahib with percentage of 66.05% and out of which 2.20 is involved in household industries and 63.85 are worked as other workers. The male's proportion in non-agricultural activities is 69.69%, while female proportion is 30.30% Fatehgarh Sahib districts which is emerging as an important centre of small scale industries. Mostly villages of this district are linked with G.T. Road that is an advantageous factor and literacy level is also high i.e. 64.7%. The 7th district which comes in this category is Gurdaspur with a percentage of 65.46% out of which 4.77 are involved household industries and 60.62% worked as other workers. The proportion of male non- agricultural workers is 79.02%, while the proportion of females is 20.97%. The Gurdaspur district is semi-hilly area and due to uneven topography and deep water table the agriculture is not so much developed. The main feature of this district is that



it has large number of household industries which give more employment to female workers. The rate of urbanization and level of literacy is also high.73.8%.

AREAS OF MODERATE PROPORTION OF NON-AGRICULTURAL WORKERS (BETWEEN 50%-65%)

This category comprises 7 district of Punjab namely Kapurthala (64.16%) Rupnagar (62.2%) Patiala (60.48%), Hoshiarpur (59.31%) Sangrur (54.02%) faridkot (53.72%) and Barnala (51.79%) This category comprises north-west, south and south-east part of the state.

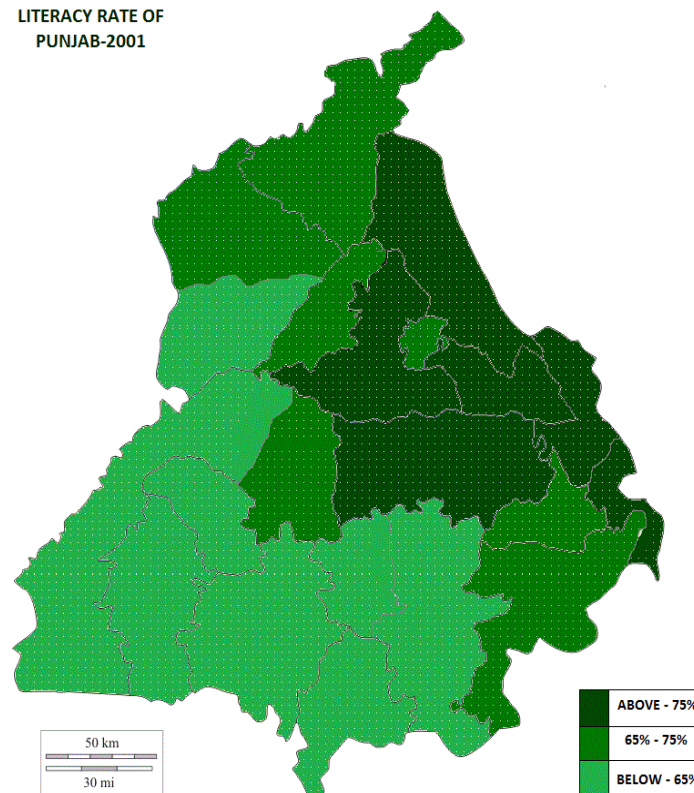
LITERACY RATE OF PUNJAB-2001

DISTRICTS	LITERACY RATE	RANK
PUNJAB	69.7	
HOSHIARPUR	81.0	1
JALANDHAR	78.0	2
SAS NAGAR	77.9	3
LUDHIANA	76.5	4
SBS NAGAR	76.4	5
RUPNAGAR	76.1	6
KAPURTHALA	73.9	7
GURDASPUR	73.8	8
FATEHGARH SAHIB	73.6	9
AMRITSAR	70.4	10
PATIALA	69.3	11
MOGA	63.5	12
FARIDKOT	62.0	13
BATHINDA	61.2	14
FIROZPUR	60.7	15
BARNALA	60.3	16
TARNTARAN	59.9	17
SANGRUR	59.9	18
MUKTSAR	58.2	19
MANSA	52.4	20

The first district in this category is Kapurthala with percentage of 64.16% and out of which 3.19% are engaged in household industries and 60.96% worked as other workers. The male's proportion in nonagricultural activities is 78.39%, while female proportion is 21.60%. Main reason for the high proportion of non-agricultural workers is its Phagwara town, which is emerging as a center of cotton textile industry and sugar industry which provide employment to non-agricultural workers of villages. It also gives employment in tertiary sector. The rate of urbanization is also increasing and literacy is also high i.e. 64.1%, so due to all these reasons the proportion of non-agricultural workers is high in this district.



LITERACY RATE OF
PUNJAB-2001



The second district in this category is Rupnagar with percentage of 62.2%. Out of which 1.8 are engaged in household industry and 60.50% are other workers. The male and female proportion is also of different i.e. males' proportion is 67.068% as compared to females proportion of 32.93%. Rupnagar is also a semi-hill area where due to uneven topography, deep water table and hard rock's the agriculture is less developed. Rupnagar is also near the Chandigarh and due to attraction of this urban area more people are interested in non-agricultural activities. The density of roads is also high and literacy rate is also high i.e. 76.1%. Due to all these reasons the proportion of non-agricultural workers is high.

Third district in this category is Patiala with a percentage of 60.48%. Out of which 3.11% are involved in household industries and 57.37% are involved in other services. The percentage of male population in non-agricultural activities is 74.60%, while the percentage of female is 25.39%. The proportion of non-agricultural workers is moderate in Patiala because Patiala is in transitional stage. Small and medium industries are developing in district which attracts non-agricultural workers from village. The level of urbanization in Patiala district is also high i.e. 36.57% and which is above the state average. The literacy rate is also well in this district i.e. 69.3%.



The next district in this category is Hoshiarpur with percentage of 59.31%, Out of which 2.79 worked in household industries, while 56.52 worked as other workers. The proportion of male non-agricultural workers is 76.49%, while the females proportion is 23.50% Agriculture is not so much developed in this district due to uneven topography by the existence of choes and unfertile land. Industries and tertiary sector is increasing in this distinct. It has highest rural literacy rate in the state i.e. 81.0%, while the urbanization rate is very low i.e. 19.72% that is below the state average.

The next district comprises this category is Sangrur with percentage of 54.02% out of which 3.18% are in household industry and 50.83% are enumerated as other workers. 64.46% and 35.53% male and female workers are engaged in the non-agricultural activities of the population respectively. This district is mainly agricultural dominant district and so more part of the workers is involved in agricultural activities. Sangrur is famous for its rice and wheat yield in the state. The level of urbanization and literacy rate is also below the state average. Due to all these reasons the proportion of non-agricultural workers is moderate in this district.

The next district comes in this category with percentage of 53.72% is Faridkot and out of which 3.81 are engaged in household industries and 49.90 are enumerated as other workers. The male-female proportion is 66.42% and 33.57% respectively. Faridkot is an underdeveloped district of Punjab, in which agriculture is dominant activity and there is less development of industries and tertiary sector. The level of urbanization is though well i.e.35.14%, but literacy level is low i.e. 62.0% i.e. below state average.

This last district in this category is Baranala with 51.79% . out of which 3.36% are engaged in household industry and 48.43% are other workers. The male female proportion is 54.99% and 45% respectively.

AREAS OF LOW PROPORTION OF NON-AGRICULTURAL WORKERS (LESS THAN 50%)

This category comprises 6 districts of Punjab namely Bathinda (48.76%), Moga (48.06%), Tarntaran (44.3%), Firozpur (43.65%) and Muktsar (41.36%) Mansa(41.14%). 5 districts are located in southwestern part of Punjab and all coming under Malwa region, one distrct is in maza region. All these districts are agriculturally dominant and more people are engaged in agricultural activities. Urbanization and industrialization is not still taking place.



Bathinda with percentage of 48.76% out of which 3.07% non-agricultural workers are enumerated in household industries and 45.69% are other workers respectively. The rural male percentage to non-agricultural activities is 64.25% and female percentage is 35.74%. The main reason for low proportion of non-agricultural workers is that this district is agriculturally dominant district and more workers are engaged in agricultural activities and industries development has not taken place. This district is also less urbanized and literacy level is also low.

Another district in this category is Moga with percentage of 48.06% out of which 5.79% are engaged in household industries and 42.26% are worked as other workers. The percentage of male to non- agricultural activities is 59.58%, while the proportion of females is 40.41%. The proportion of non-agricultural laborers is small in areas because this area is mainly agricultural dominant region and mostly workers are as agricultural laborers. Low urbanization and low proportion of literacy are the other factors which affect the proportion of non-agricultural workers in this district.

Tarn Taran is next district in this category with percentage of 44.3%. Male proportion in this category is 68.76% and female proportion is 31.23%.

The next district in this category is Firozpur with percentage of 43.65% out of which 2.56% are involved in household industry and 41.08 are worked as other workers. The male percentage is 76.34% and female percentage is 23.65% Firozpur is one of the developing district of Punjab, with dominance of agriculture, less industrialization low urbanization and low level of literacy, which lead to low proportion of non-agricultural workers in this district. In this district there is less mechanization of agriculture which required more labour in agriculture.

Another district in this category is Muktsar, with percentage of 41.36% out of which 2.10% are involved in household industries and 39.26% i.e. enumerated as other workers. The males which are engaged in non-agricultural activities are 67.08% as compare to females proportion of 32.91 %. The proportion of non-agricultural workers in Muktsar is lowest in state due to some reasons such as low development of secondary and tertiary sector, low literacy and low level of urbanization. This area is though agricultural dominant but agriculture is not highly mechanized which need high laborers in field that led to decline of non-agricultural laborers.



Mansa in this category with percentage of 41.14% and out of which 3.64% and 37.50% are engaged in household industry and other workers respectively. The female proportion that is involved in non-agricultural activities i.e. 39.29 less than males proportion i.e. 60.70%. The main reason for its lowest proportion is less industrialization and urbanization. The economy is mainly based on agriculture which is not mechanized and required more proportion of the workers. The level of urbanization and literacy is very low.

CONCLUSION

So from all this discussion it is evident that central and eastern districts have high proportion of other workers. In Northern, North-East, South and South-East the proportion of other workers is moderate. The proportion of other workers is low in the South-West and North-West district of Punjab the majority of the expanding population, continue to live in the countryside, part of any long-term solution must involve the transformation, of rural economic space. The scope for increasing jobs in agriculture, however, is limited, especially in the more advanced Green Revolution states such as Punjab. So there is need for the development of non-farm sector,

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