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RURAL NON-FARM WORKFORCE IN HARYANA: A GEOGRAPHICAL ANALYSIS

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Abstract

In recent years a steady expansion of rural non-farm activities, practically, in all parts of rural India is a significant trend. The percentage of rural non-farm employment in the country has been constantly increasing with 15.2 per cent in 1971, 15.8 per cent in 1981, 19.76 per cent in 1991 and 29.37 per cent in 2001. It shows that rural workforce is gradually shifting out of agriculture at national level. The rural national economy therefore is moving towards diversification. Similarly the state of Haryana had 22.44 per cent workers engaged in rural non-farm employment in 1971 which grew to 24.52 per cent in 1981. This percentage further increased to 27.06 in 1991 and 39.23 in 2001 census respectively. This increase is mainly due to shift of workforce from agricultural to non-agricultural activities and partly due to new workers adopting non-farm occupations. However, these two components are generally treated together. The increase in non-farm employment in rural Haryana is the result of a combined role played by many growth led factors like commercialization of agriculture, development of infrastructure, industrialisation, urbanisation, literacy, transport development and distress factors such as unemployment. Based on tehsilwise Census data, the present paper is an attempt to study the rural non-farm workers in the state to understand the regional patterns of diversification and nature of rural economy.

Introduction

The Rural Non-farm Sector (RNFS) has gained importance in recent years not merely because of its steadily growing size, but more importantly because of analytical considerations. Its relationship with agriculture, industry and urban growth is of crucial importance for assessing its potential role for employment generation and poverty alleviation in rural areas. The RNFS has to be the mainstay of rural development, which in turn is the important pillar of national development. The development of RNFS in the developing economies, particularly in the

agrarian economies, has, in fact, come to stay as the central plank of rural development strategy (Ho, 1986). This is imperative to narrow down the gap between urban (India) and rural (Bharat) areas and maintain socio-political stability (Ghuman, 2005). Temporal as well as spatial investigation of rural non-farm workforce is therefore essential for analysis of levels of non-agriculturalisation or diversification of rural economy.

Many scholars from different disciplines and organisations have tried to define rural non-farm employment and related terms such as rural non-farm sector, rural non-

farm workforce, rural non-farm activities, rural non-agricultural activities, off-farm activities and non-farm employment.

Sadhukhan and Sadhukhan (1990) in their study described that the topical term 'non-agricultural activity' pertains to all broad groups of economic activity outside agriculture.

Leons and Feldman (1998) have distinguished between non-farm and off-farm income and activities. By non-farm income, they mean any source of income not generated through agricultural activities, and off-farm income refers to any source of agricultural income that is earned away from the family farm.

Mitra (2000) in his study of rural non-farm employment, poverty and women has defined rural non-farm sector and mentioned that it is essential to point out that by rural non-farm sector we do not mean simply the non-farm employment in the rural areas; it rather refers to employment of rural people in the non-farm sector irrespective of its locale.

Reddy (2000) described that RNFS is heterogeneous in character. He also found that very often, there is confusion between farm, non-farm, on-farm, and off-farm activities and employment. The off-farm activities include activities undertaken by workers as hired labour on farms owned by others. Non-farm activities include non-agricultural activities undertaken by workers either as main or subsidiary occupations. Precisely, the industrial sector, construction, service sector, home-based production activities, trading, etc. are called non-farm activities and the employment therein is called non-farm employment.

The present paper includes above mentioned non-farm activities such as livestock, forestry, fishing, hunting, plantations, orchards and allied activities,

mining and quarrying; household and non-household industry including processing, servicing and repairs in them; construction; trade and commerce; transport, storage and communication; and other services. In the present analysis, all these categories are clubbed together to know total non-farm workforce in the state.

Objective of the Study

The main objective of this study is to describe the regional patterns of rural non-farm workforce in Haryana according to 2001 census data.

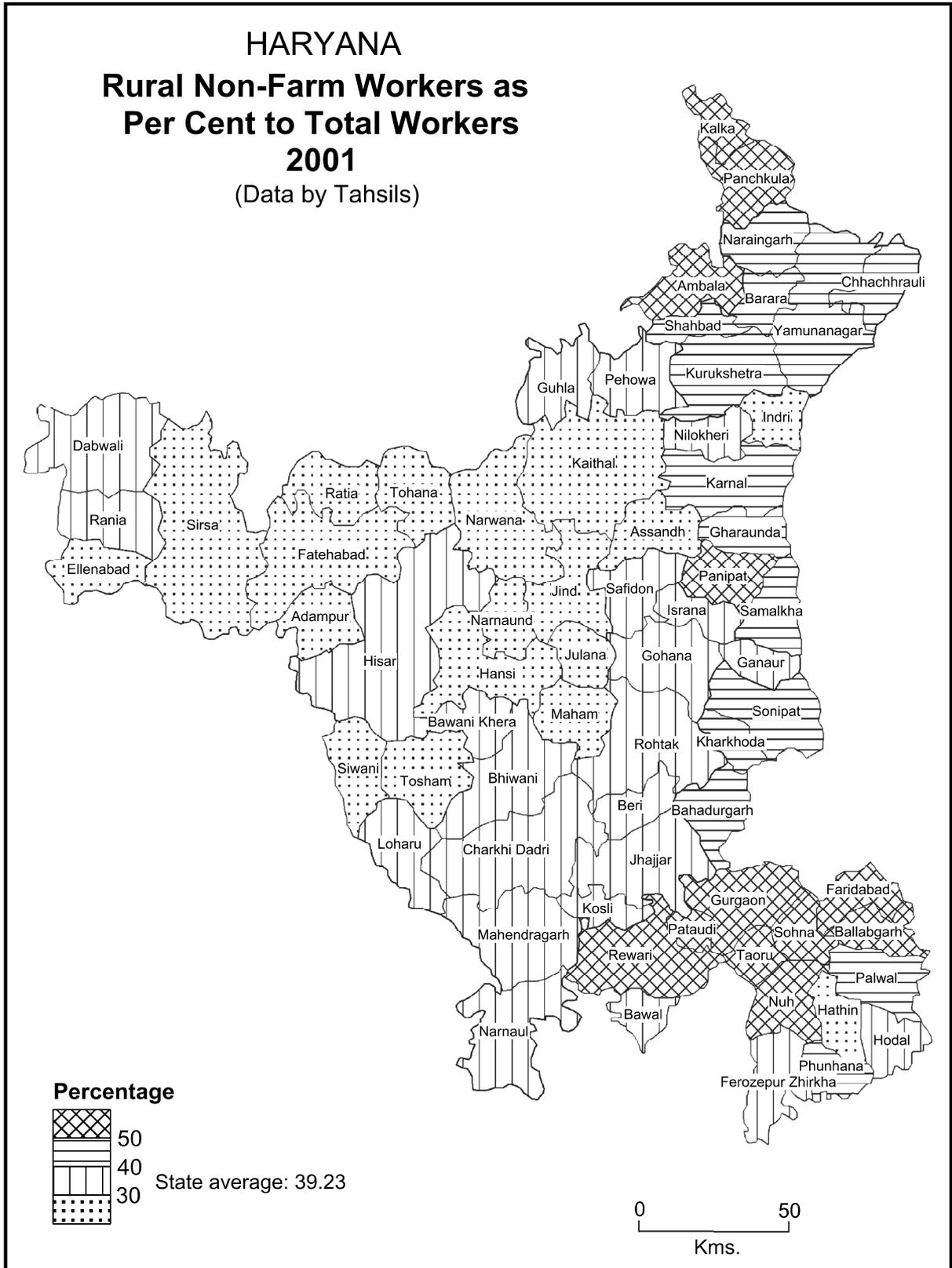
Database

Census publications were the main source of data for the present paper. To obtain the percentages for rural non-farm workers for each tehsil data were collected from the Primary Census Abstract 2001. Data for various variables such as distribution of population, density of population, literacy and urbanization to calculate Coefficient of Correlation were collected from the same sources. Except Census source, data regarding other variables such as cropped area, area under food grains and size of land holdings were collected from Statistical Abstracts of Haryana for relevant years.

Methodology

After processing, the data were presented cartographically. Since most of the data were in percentages, the choropleth method was used for the purpose of mapping. To know the total non-farm workforce, all non-agricultural industrial categories of workers were clubbed together and percentages were calculated.

In the present analysis, a number of factors with which the rural non-farm employment is correlated, were recognized.



Map 1

Therefore, it was necessary to apply such a statistical method, which gives the idea about relationship of various factors with rural non-farm workforce. For this purpose Karl Pearson's Coefficient of Correlation method was used.

Spatial Patterns

Geographically, the distribution of rural non-farm employment in the state is very uneven. There are areas where proportion of rural non-farm workers is considerably very high while there are some other areas where the rural economy has experienced structural retrogression. For understanding the regional patterns of distribution of rural non-farm workforce, various parts of the state have been grouped into following four categories (Map 1):

- A. Areas with very high proportion of rural non-farm workers (more than 50 per cent)
- B. Areas with high proportion of rural non-farm workers (40 to 50 per cent)
- C. Areas with moderate proportion of rural non-farm workers (30 to 40 per cent).
- D. Areas with low proportion of rural non-farm workers (less than 30 per cent)

Areas with very high proportion of rural non-farm workers (more than 50 per cent)

There are 12 tehsils of the state, which have more than 50 per cent rural non-farm workers in 2001. These comprise two separate zones, one in the northern and the other in southern part of Haryana.

The northern tehsils include Kalka, Panchkula, Ambala and Panipat. All except Panipat adjoin the Union Territory of Chandigarh. High proportion of rural non-farm workers in these areas is associated with (i) the development of Panchkula as a satellite town of Chandigarh and district headquarter having multifarious administrative functions, (ii) location of various offices of corporations and

government, semi-government departments of the Punjab, Haryana and Central governments at Chandigarh and Panchkula; (iii) development of Kalka as a trading and contact point between plains of Haryana and hills of Himachal Pradesh; (iv) the establishment of cantonment (v) installation of Hindustan Machine Tools Factory at Pinjore and whole sale trading centre of Ambala. Similarly, Panipat emerged as weaver city of India with diversified spinning and weaving activities. Also the establishment of thermal plant and National Fertilizers Limited; oil refinery at village Bahol (Panipat); pickle, sugar, and country liquor units of the area provide non-farm employment. The rural non-farm workers in these areas are mainly associated with miscellaneous services such as transport and marketing services. The high literacy rate and higher degree of urbanization, well-developed network of transport and communication have played a vital role in the process of diversification of rural economy, hence high percentage of non-farm workers.

The southern zone includes the tehsils of Rewari, Pataudi, Gurgaon, Taoru, Nuh, Sohna, Faridabad, and Ballabgarh. All these tehsils are located in the peripheral areas of the National Capital Region of Delhi. In this case, Faridabad-Bahadurgarh-Gurgaon belt has emerged as the state's largest urban-industrial concentration with its positive impact on occupational structure of rural workers of surrounding areas in favour of non-farm occupations. So presence of big industrial centres has increased the employment opportunities for many rural workers who commute daily to these industrial centres and reside in the countryside because of overcrowdedness and high cost of living in these urban centres. The strong positive role played by a number of these factors has been proved by the values of correlation coefficient (Karl

Table 1
Haryana: Coefficient of Correlation of Rural Non-Farm Workers
With Selected Variables

Sr. No.	Variable	Co-efficient of correlation with percentage of Rural non-farm workers
1	Density of population	+0.78*
2	Density of road length	+0.77*
3	Literacy	+0.67*
4	Urban population	+0.52*
5	Female workers	-0.16***
6	Cropped area under food grains	-0.55**
7	Size of landholding	-0.61**

Source: Calculated from Census of India (1991), Primary Census Abstract of Haryana. Government of Haryana, Planning Department, Statistical Abstract of Haryana, 1990-91.

* Significant at 1 per cent level
 ** Significant at 5 per cent level
 *** Significant at 20 per cent level

Pearson's) computed for the purpose (Table 1).

These areas therefore, have experienced shift of rural workers in favour of manufacturing activities. Thus, location of heavy industries like tractor manufacturing, Maruti Udhyog, Motor Cycle (like Hero Honda and Rajdoot, etc.), chemicals and paper industries and their ancillary units (which manufacture spare parts and the like) at Faridabad, Ballabgarh, Gurgaon; expansion of National Capital Region towards tehsils of Haryana around Delhi; proximity of National Capital of Delhi; high literacy rate and high urbanization; sufficiently well developed transport network which resulted in high degree of interaction between rural and urban areas are some of the important factors which have contributed towards process of diversification mainly in favour of manufacturing and miscellaneous services in these areas.

Rewari, Pataudi, Taoru, Sohna and Nuh tehsils also form the part of this category. Among these five tehsils, Rewari has attained the highest rural literacy in the entire state and it has emerged as an important brassware and utensil

manufacturing centre of Haryana with important industrial centre of Daruhera. These industrial centres have generated employment opportunities in manufacturing activities for rural workers of nearby villages. Besides, Pataudi and Taoru tehsils are very close to the industrial centres of Rewari, which is the source of employment for rural workers of these tehsils. Similarly Sohna and Nuh tehsils are adjoined to Gurgaon and Faridabad industrial centres, which are the source of employment for rural workers of these tehsils. Thus, in these areas rural workers are engaged in manufacturing and miscellaneous services along with some trade and commerce related activities. In addition to socio-economic factors, political factors have also been responsible for the growth of non-farm occupations in these areas.

Areas with high proportion of rural non-farm workers (40 to 50 per cent)

There are only 14 tehsils out of a total of 67 tehsils of the state which have high proportion of rural non-farm workers. The 9 tehsils of this category, which include

Naraingarh, Brara, Jagadhri, Chhachhrauli, Shahbad, Thenesar, Karnal, Gharaunda, Samalkha are located in the north and along the eastern border of the state.

Many factors are responsible for appreciable growth of non-farm occupations in case of northern tehsils. Firstly, the national highway number one which leads to the National Capital of Delhi passes through most of northern tehsils. Along this national highway, many urban and administrative centres, postal service centres have been developed. Secondly, expansion of industrial base in these tehsils with emergence of Karnal on industrial map of the country as a Liberty footwear manufacturing centre. Thirdly, mechanization and commercialization of farming with effect of Green Revolution have boosted non-farm occupations such as marketing, transport, trade and commerce within these areas and along the major roads radiating from urban centres. In these areas diversification of rural economy mainly towards manufacturing activities has taken place due to the development of agro-based industries and growth of rural service and market centers.

Besides the above mentioned tehsils, there are five other tehsils located in the southeastern part of the state that also have recorded high proportion of non-farm workers. Out of these, three tehsils namely Sonipat, Kharkhoda and Bahadurgarh are located in the peripheral zone of the National Capital of Delhi while other two tehsils Palwal and Punhana are located in the extreme southeastern part of the state. In these areas some favourable factors responsible for high proportion of rural non-farm workers are manufacturing of bicycles and spare parts etc. at Sonipat and Bahadurgarh respectively. Areas of this category of high proportion of non-farm workers are well connected with rail and road

transport, which is helpful for commuting from residence to the place of work. Besides, the presence of urban-industrial centres such as Sonipat, Bahadurgarh and Palwal and National Capital of Delhi itself explain the high concentration of rural non-farm workers.

Areas with moderate proportion of rural non-farm workers (30 to 40 per cent)

A large part of rural Haryana has recorded moderate proportion of rural non-farm workers in 2001. Adjoining the areas of high proportion of non-farm workers a vast tract of this category is extended in the central Haryana. The tehsils in the northern part are Guhla, Pehowa and Nilokheri, which display appreciable agricultural development. This is the heart of Green Revolution with successful farming of wheat and rice in the state. The contributory factors included fertile soils, dependable irrigation system and progressive farmers. Successful farming on commercial lines with manifold agricultural centres and considerable magnitude of rural-urban commuting explained these phenomena.

In the northwestern part of the state, tehsils of Mandi Dabwali, Rania and Hisar also have moderate proportion of non-farm workers. In these areas, factors like expansion of marketing activities related with cotton; relatively bigger agricultural land holdings; establishment of Guru Jhambheshwar University and Haryana Agricultural University at Hisar explained the moderate level of non-farm workers.

The partially centrally located tehsils near to the eastern border of the state in southern part have also recorded moderate proportion of non-farm workers. These tehsils include Saffidon, Israna, Gohana, Ganaur, Rohtak, Beri, Jhajjar and Kosli. These tehsils are closely attached to the areas of high and very high non-farm workers, which have also provided employment opportunity to the

workers of nearby areas. The development of agro-based and related industrial units has resulted in to absorption of some rural workers in non-farm occupations such as agricultural implements manufacturing, sewing machine and parts, rubber goods, cotton ginning, oil seeds etc. Some units were also established for extraction of oil from rice-bran and sunflower seeds. However, in parts such as Gohana tehsil, agriculture has suffered from waterlogging and soil salinity on an extensive scale due to which the affected rural workers adopted non-farm occupations. Besides, sugar and spare parts manufacturing in Rohtak and existence of M.D. University in the same town also have absorbed rural workers.

Besides above areas, some tehsils located in the southwestern parts of the state are also included in the areas of moderate proportion of rural non-farm workers. These tehsils are Bawani Khera, Bhiwani, Loharu, Dadri, Mahendragarh, Narnaul and Bawal. The location of textile units, technological institute of textiles and the Haryana Dairy Corporation at Bhiwani have boosted the non-farm occupations. Moreover, Bhiwani and surrounding areas have attained special government favour towards socio-economic development because these tehsils were part of the home constituency of Chief Minister late Shri Bansi Lal. So this political factor besides other things has also helped many rural workers to get jobs in miscellaneous services. This has helped to diversify overall rural economy of this area. In addition, expansion of some industrial activities at Bawal also generated some employment for rural unskilled workers of the nearby areas.

Besides, Mahendragarh and Narnaul tehsils having industrial estates developed under a rural industrial project, a centrally sponsored scheme was implemented in 1973-74 for intensive development of village and

small industries and to accelerate the pace of industrialization in backward areas. This also attracted some of the rural workers in industrial activities. Among other things, the tradition of this area for serving in the Indian Army and other defence services has been a vital factor contributing to non-farm workforce. Also, backwardness of these areas due to poor soils and chronic water shortages, small size of agricultural land holdings have compelled the people to adopt non-farm occupations, which have enhanced the overall diversification of non-farm sector in favour of miscellaneous services.

Ferozpur Jhirka and Hodal tehsils in the southeast also have witnessed moderate proportion of rural non-farm workers. These tehsils are mainly inhabited by Muslim population. In case of literacy these tehsils have remained at the bottom. Due to very low socio-economic development, rural workers could not enter much in non-farm sector.

Thus, in these areas of moderate non-farm workforce, the diversification of rural economy has been towards miscellaneous services and agro-processing along with some trade and commerce related activities. In addition to socio-economic factors, political factors have also been responsible for the growth of non-farm occupations in these areas, particularly in the southwestern parts of this category.

Areas with low proportion of rural non-farm workers (less than 30 per cent)

Low proportion of rural non-farm workers is a feature of only 18 tehsils, most of which are confined to western Haryana except Indri in the north and Hathin in the extreme southeast. These tehsils are Ellenabad, Sirsa, Ratia, Fatehabad, Tohana, Adampur, Jind, Narnaund, Julana, Narwana, Kaithal, Assandh, Hansi and Maham, Siwani and Tosham.

Most of these tehsils are prominently

agricultural due to occurrence of fertile soil with plain of river Ghaggar and subsistence type of farming in drier land, adjoining Rajasthan in the west. Comparatively bigger but less fertile agricultural landholdings, social backwardness due to low level of literacy especially among females, weak rural-urban interaction because of lack of well developed means of transport and communication and absence of big urban-industrial centres in these areas are some of the factors which explain the low level of non-farm occupations in these areas. The rural non-farm workers in these areas are mainly associated with serving the local peasantry.

Conclusion

In spatial terms, present analysis reveals that areas surrounding the state capital at Chandigarh in the northeast and national capital at Delhi in the southeast have high concentration of rural non-farm workers. These are also characterized with high degree of urbanization, high literacy rate, industrial development and well developed network of transport and communication. Besides, areas with fertile flood plains, subsistence farming, limited commercialisation, absence of major urban-industrial centres and low literacy especially located in the western Haryana adjoining the Rajasthan and Punjab borders are characterized with low proportion of non-farm workers. All other areas have moderate proportion of rural non-farm workforce. Except in northern and southern parts, rural non-farm workers largely are based in their own areas.

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