

Transformation of Rural Workforce Structure in India since 1961.

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Abstract

This paper tries to examine the dynamics of the nature and degree of transformation of rural workforce structure in India since 1961. It finds a sharp fall in the workforce participation rates over the period such that the magnitude of fall is much more pronounced during the period of reform. Further there has been a tremendous switch over of rural workforce from farm to non-farm activities, which is also found to be remarkable since economic reform. However there is wide inter-state variation in this respect. Surprisingly, the fall in both the absolute number and the relative share of workers in agriculture, fishing, forestry, mining and quarrying is supplemented by the gain in the same in construction, transport, communication and storage. The growth of population, inequality in the distribution of land, high unemployment rate, incapability of the agriculture and urban manufacturing as well as service sectors to absorb the burgeoning labour force and the fall in the public expenditure on various employment generation and poverty alleviation programmes seem to be the possible explanatory factors in this respect.

Key-Words : Rural Workforce Structure; Workforce Participation; Transformation; Farm and non-farm activities; Informal sector; Economic Reform.

Introduction

It is well known that the structural transformation is a part and parcel of the process of economic development of any economy and it is reflected, inter alia in the transformation of the workforce structure. So it is likely that the development process experienced by the rural economy of India would also reveal a diversification of rural workforce structure. This paper is a basically modest attempt to capture the dynamics of the nature and extent of transformation of workforce structure in rural India. Further it is widely recognised that economic scenario both in rural and urban areas have revealed a radical change since the introduction of economic reform in 1991. By this time more than a decade of reform process has been elapsed. So it is high time to evaluate the impact of this reform policy on employment not only at the aggregate level but also at the disaggregate level. Thus, in this article we also intend to analyse the impact of the economic reform on the work-force structure in rural India. However it is worth mentioning that to judge the implications of economic reform on rural employment, one has to have a notion about the employment structure of the rural workforce in the pre-reform period. So in this article we have also made a comparative analysis of the employment situation in rural sector, both before and after liberalization. It seems that such type of analysis will give us some insight about the relative efficacy of reform policy on rural employment situation and also about the nature of transformation of the rural workforce structure both before and after the economic reform. Interestingly, the literature in this area emphasises the role of agricultural growth, development of infrastructure, demographic pressure, the fall in public expenditure on employment generation and poverty alleviation programmes etc on this process of this transformation (Basu and Kashyap, 1992;

Bhalla, 1997; Kundu and Basu, 1991; Sundaram, 2001; Sen, 1996; Ghosal 1998, 2000). However most of the studies excepting that of Sundaram are dated and fail to focuss on the post reform situation. Further, it is worth mentioning that this analysis is made exclusively on the basis of the secondary data available from the different quinquennial surveys conducted by National Sample Survey Organisation of Govt. of India since 1972-73 and also from various census reports. This article is organised as follows: Section II presents an analysis of the rural employment situation in India at the aggregative level and its trend; Section-III is devoted to the analysis of the changes in the non-farm employment situation at the inter-state level; and finally section-IV presents some concluding remarks which emerge from the analysis.

Employment Situation in Rural India and its Trend

We know that the rural economy of India like most of the developing economies is characterized by the persistence of huge volume of surplus labour in the form of disguised as well as open unemployment. It is obvious that the increasing pressure of population on land has not only led to the tremendous fall in the land-man ratio but also to the fall in the productivity of labour in agriculture. Interestingly rate of fall in the relative contribution of agricultural sector to GDP has been found to be substantially larger than the same in the proportion of rural workforce employed in agriculture. Along with it there has been an increased marginalisation of farm as an outcome of land reform measure and demographic pressure. This, along with the introduction of new agriculture technology since mid-sixties, which is basically capital intensive in nature, and also with the financial sector liberalization making rural institutional credit scarce to the small and marginal farmers have made cultivation almost non-viable on the part of the small and marginal farmers. All these may have led to selective withdrawal of labour force from agriculture and shifting of the same to nonagricultural activities either within the rural sector or to the urban and semi-urban areas through short-term migration. Further the development of infrastructure especially the transport and communication network, albeit not substantial in magnitude, seems to have sub-served the process of short-term migration of workforce from rural to urban as well as to semi-urban areas. All these factors are likely to produce some impact on rural workforce structure.

In fact although the farming activities are the major activities of most of the people living in rural India, there are relatively few households for which agriculture is the exclusive source of income. Very often, rural people have got to undertake a variety of other non-farm activities for supplementing their deficit or for further well being of household. Most of these non-farm activities may also be closely related to agriculture. Actually, economic activities undertaken by the rural people are so complex that any specific set of data collected on the basis of some special definitions fail to capture exact pattern of occupational structure. So one has to be dependent on two major sources of data on workforce structure available from both NSSO and various censuses.

Since it is recognised that there is predominance of self-employment nature of economic activities in rural India the best way of measuring the level of employment is likely to be in terms of the workforce participation ratio (WFPR). The Table-1 and Appendix Table-1 give the message on the rural WFPR. The census data reveal (Table-1) that for all the persons, WFPR has fallen from 45.1% in 1961 to 36.1 in 1971, which is followed by an increasing tendency to 40% in 1991 and again by a decline to 38% in 2001. The workforce participation ratio for male and female show almost same tendency albeit with a marginal exception in case of male. So far as the trend in WFPR is concerned the census data reveal a declining trend in the same for all the categories over the period.

Table 1 : Rural Workforce Participation Rates in India according to Sex During 1961-2001 as per census data.

Year	Male	Female	Persons
1961	58.2	31.4	45.1
1971	53.6	15.5	36.1
1981	53.8	23.2	38.9
1991	52.5	26.7	40.0
2001	52.2	23.1	38.0

Source : Various census reports, GOI

However, the rate of fall in the WFPR is lower during the period of reform i.e. between 1991 and 2001, the magnitude of fall being 0.57, 13.5, and 5.0 percentage points for male, female and all persons respectively than between 1961-71 and 1971-1981.

However, the NSSO data (Appendix Table 1) reveal a sharp fall in the WFPR for both male and female (i.e. by 3.97 and 8.54 Percentage points) during the period 1993-94 to 1999-2000, which was preceded by an increasing trend between 1987-88 and 1993-94. This contrast between behaviour of WFPR as is discernable from NSSO and census data seems to be due to undercount of economic activities in the censuses since 1961 (Visaria et al, 1991). So it is plausible to say that the behaviour of WFPR indicated by 'NSSO quinquennial data give us more clear insight about the rural employment. The Bar Diagram - 1 and 1A reveal the nature of changes in the WFPR in rural India more vividly.

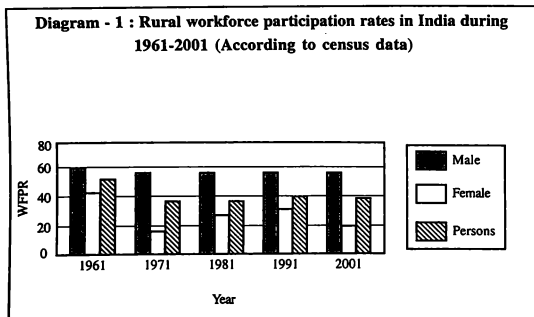
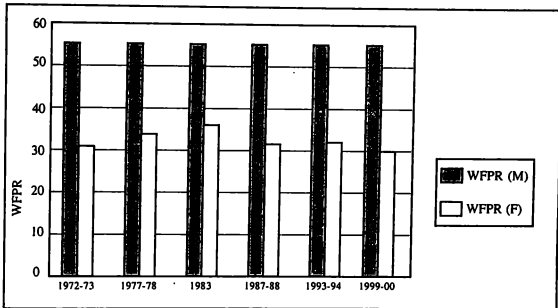


Diagram - 1.A : Rural workforce participation rates in India
(according to NSSO data) 1972-73 to 1999-00



The following explanations can be offered for the fall in the WFPR. First it is plausible to argue that the increase in rural population coupled with a fall in birth rate has led to a rapid increase in rural labour force. The data on population (Table - 2) give us the same message. Further the trend in growth of population is also shown in the line diagram - 1. Now the failure of agriculture and urban industrial vis-a-vis service sectors to absorb the burgeoning rural labour force seems to be one of the reasons for the fall in the WFPR.

Line diagram - 1 : The trend in population in India according to sex during 1961-2001

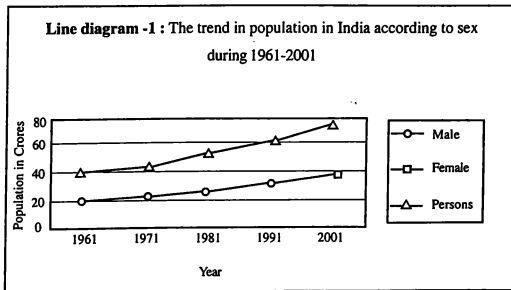


Table 2 : Rural population in India during 1961-2001 (in Crore)

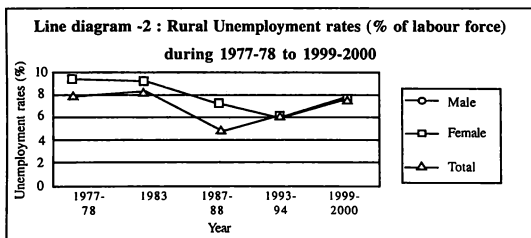
Year	Male	Female	Persons
1961	18.35	17.68	36.03
1971	22.53	21.37	43.91
1981	26.01	24.76	50.76
1991	32.13	30.15	62.28
2001	38.11	36.05	74.20

Source : Various Census reports, GOI

Secondly, the increasing rate of Joining of the adolescents boys and girls in education and the increasing interest of the rural people to get their children educated are likely to act as one of the explanatory factors behind the fall in WFPR.

Year	Male	Female	Total
1977-78	7.1	9.2	7.7
1983	7.5	9.0	7.9
1987-88	4.6	6.7	5.3
1993-94	5.6	5.6	5.6
1999-2000	7.2	7.3	7.2

Source : NSSO, various reports of equinquennial survey's on
Employment and Unemployment



Finally, the fall in the expenditure on various public interventions programme due to fiscal stringency caused by economic reform for generation of employment and also for poverty alleviation might have resulted into a fall in rural employment opportunities thereby leading to increase in involuntary unemployment. It is also evident from Table - 3 that the rural unemployment rates for both male, female and also for all persons have increased substantially from 5.6%, for each category in 1993-94 to 7.2%, 7.3 and 7.2 for the three categories respectively in 1999-2000. The trend in the rural unemployment rate for both of the sexes is discernable from the line-diagram - 2.

So far as the employment of rural workforce by sectors in India, both before and after the structural adjustment programme is concerned, it is found that in general there is a falling tendency of the proportion of workforce engaged in primary sector. This is accompanied by an increase in the same in tertiary non-farm activities and sometimes in the secondary sector albeit with some variation according to sex (see table 4 and 5) Interestingly, the rate of decline in the shifting of workforce from primary to non-farm tertiary activities is significantly smaller than the rate of fall in the relative share of the primary sectors in its contributions to our GDP.

Table - 4 presents the sectoral distribution of rural workforce both under Usual Principal Status (UPS) and Usual Principal and Subsidiary Status (UPSS). In the table the comparison of quinquennial large sample data reveals that during the pre-liberalization period the proportions of rural workforce engaged in agriculture under UPS and UPSS have declined by 4.25, 3.69 percentage points between 1983 and 1987-88 followed by almost a stagnant situation between 1987-88 and 1993-94. This pattern of almost stagnancy of relative share of rural workforce engaged in agriculture seems to be the result of introduction of economic reform which in turn seems to have produced a jolt to the economy. Interestingly, the declining tendency of relative share of agriculture in total rural workforce continued to remain unabated since 1993-94.

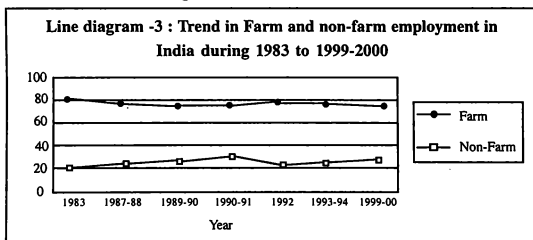
Table - 4 : Sectoral Distribution of the Rural Workforce : India

Sector	Status	1983	1987-88	1989-90	1990-91	1992	1993-94	1999-00
Agriculture	UPS	80.0	76.6	74.2	74.5	78.5	76.9	75.1
	UPSS	81.2	78.2	75.1	75.5	79.4	78.4	76.3
Non- Agr.	UPS	20.0	23.4	25.8	25.5	21.5	23.1	24.9
	UPSS	18.8	21.8	24.9	24.5	24.6	21.6	23.7
Secondary	UPS	9.4	12.0	12.3	11.0	9.7	10.6	11.6
	UPSS	9.0	11.3	12.2	10.9	9.5	9.6	11.4
Tertiary	UPS	10.3	11.4	13.5	14.4	11.6	11.9	17.3
	UPSS	9.5	10.4	12.7	13.6	11.1	11.4	12.4

Source : Different reports on Employment and Unemployment of NSSO GOI.

Note : UPSS = Usual Principal and Subsidiary Status, UPS = Usual Principal Status.

In fact the proportions of rural workforce employed in agriculture under the status of UPS and UPSS have declined by 2.34 and 2.67 percentage points respectively. Interestingly, a reverse tendency is found to persist for secondary and tertiary sectors excepting for the period between 1987-88 and 1993-94. It is discernable from the table that the proportions of rural workforce employed in secondary and tertiary activities have increased by 27.6% and 10.62 percentage points under (UPS) and 25.55 and 9.47 percentage points under UPSS between 1983 and 1987-88 and also by 9.43 and 11.8 percentage points under UPS and 18.75 and 8.77 percentage points respectively under UPSS between 1993-94 and 1999-2000. However, the secondary sector is found to have experienced a decline in the relative shares in employment of rural workforce by 11.6 and 15.4 percentage points respectively under UPS and UPSS category between 1987-88 and 1993-94. The trend in the behaviour of the farm and non-farm rural employment is also easily discernable from the line diagram - 3.



Thus what follows from the analysis of the quinquennial data on Sectoral distribution of employment is that the pre-reform trend in the process of diversification of rural workforce structure from farm to non-farm activities continues to remain unabated in the post reform period also. However, the speed of diversification of rural workforce structure has been slackened in the post reform period as compared with the same in the pre-reform period i.e. in the 80's. It is interesting to note that if we consider the small samples data for the intervening period between the quinquennial surveys, then it is reflected that at the early stage of inception of economic reform, the workforce structure in rural India continued to move on a reverse gear such that the rural workforce hitherto employed in secondary and tertiary activities actually got dislodged and reverted back to agriculture for gainful employment. This type reverse process of shifting of workforce has been termed as 'structural retrogression'. This resembles the traditional perception about the role of agricultural sector as residual sector in providing employment opportunity for the growing population in India. The nature of the diversification of rural workforce

structure is not wholly consistent with the theoretical wisdom that we have from the literature of development economics. Conventional wisdom on the process of economic development reveals that as development proceeds, the contribution of primary sector to GDP will gradually fall and this will be accompanied by a rise in the relative share of secondary and tertiary sectors in GDP. This process will be complemented by a shift of resources from primary to secondary and then from secondary to tertiary. But the dynamics of the transformation of rural workforce structure does not reveal so. In fact between the period 1987-88 and 1993-94 the proportion of workforce employed in secondary sector has fallen by 11.6-percentage points in UPS category and by 15.4-percentage point in UPSS category. This is however followed by a marginal rise in proportion of workforce employed in agriculture i.e. by 0.39-percentage point in UPS and 0.25-percentage point in UPSS category. Alongside, the proportion of workforce employed in tertiary sector has increased by 4.38-percentage point in UPS and 9.61-percentage point in UPSS category.

The data on sex-wise classification of workforce structure are given in (table-5) which reveals an almost same pattern of diversification of the workforce structure in rural India excepting for a few years.

In fact what follows from the table-5 is that while there has been a continuous declining trend in the relative share of primary sector in the employment of male workforce from 83.2% to 71.4% during 1972-73 to 1999-2000, the same for secondary sector however reveals an increasing tendency during the period of reform albeit it was preceded by a declining tendency. Conversely the falling trend in the relative share of male workforce in primary sector has been found to be compensated by the gain in the tertiary sector. The table-5 reveals that while there has been a continuous decline in the proportion of male workforce employed in agricultural sector, both before and after the reform period, it is accompanied by a continuous rise in the same in tertiary sector. But in case of female workers the pre-reform period experienced a reverse trend between 1987-99 and 1993-94 such that there has been a rise in proportion of female workforce employed in primary sector from 84.7% to 86.9%. However, it is followed by a declining trend in the post-reform period.

Table - 5 : Sectoral Composition of Rural workforce structure (% of Workers)

Period	Male			Female		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
1972-73	83.2	7.8	10.6	89.7	6.0	4.3
1977-78 (July-Jun)	80.6	8.8	10.5	88.1	6.7	5.1
1983 (Jan-Dec)	77.5	10.0	12.2	87.5	7.4	4.8
1987-88 (July-Jun)	74.5	12.1	13.4	84.7	10.0	5.3
1989-90 (July-Jun)	71.7	12.1	16.2	81.4	12.4	6.1
1990-91 (July-Jun)	71.0	12.1	16.9	84.9	8.1	7.0
1991 (July-Dec)	74.9	11.2	13.9	86.9	7.9	5.8
1992 (Jan-Dec)	75.7	10.4	13.9	86.2	7.8	6.0
1993 (Jan-Jun)	75.0	10.9	14.1	87.2	7.4	5.4
1993-94	74.1	11.2	14.7	86.2	8.3	5.5
1994-95 (July-Jun)	75.6	10.3	14.1	87.1	8.3	4.6
1995-96 (July-Jun)	74.8	11.4	13.7	86.8	8.0	5.2
1997 (Jan-Dec)	75.8	10.6	13.6	88.5	7.2	4.2
1998 (Jan-Jun)	75.7	10.2	14.1	88.5	6.6	4.9
1999-2000	71.4	12.6	16.0	85.4	8.9	5.7

Source : Different reports on Employment & Unemployment of NSSO, GOI.

Note : WFPR = Work Force Participation Ratio.

A broad industry wise classification of rural workforce since 1961 may give us a more clear insight about pattern of transformation of rural workforce structure (see table - 6).

Since the estimate of workforce of the 1961 population census are based on full count and correspond to the two digit classification of National Industrial Classification 1987 and further since the workforce estimate of 1961 census are broadly comparable to estimates of usual status workforce data available from quinquennial surveys of NSSO we have used the data from census 1961 and NSSO reports for 1993-94 and 1999-2000 for this purpose (Sundaram, 2001).

Table 6 : Distribution of rural workforce (by industrial category) in India for the period 1961, 1993-94 and 1999-2000

	1961		1993-94		1999-2000	
	No. of Workers	Share	No. of Workers	Share	No. of Workers	Share
Industrial Category	('000)	(%)	('000)	(%)	('000)	(%)
Agriculture, forestry And fishing	139622	86.1	228551	78.4	229440	76.2
Mining and quarrying	708	0.4	1727	0.6	1494	0.5
Mfrg+repair services	10379	6.4	21711	7.4	24062	8
Electricity, gas and water	79	0.05	562	0.2	394	0.1
Construction	1309	0.8	6930	2.4	10005	3.3
Trade, hotels and restaurants	3572	2.2	12486	4.3	13700	4.6
Transport Storage+communication	914	0.6	4224	1.4	6404	2.1
Finance, Insurance real estate and business services	96	0.06	853	0.3	984	0.3
Community, social and personal services	5567	3.4	14487	5	14475	4.8
Total workers	162246	100	291531	100	300957	100

Source : Census report 1961 and NSSO quinquennial reports

Table-6 clearly brings out the message that although there has been a sharp increase in the absolute number of workers in agriculture, forestry and fishing during 1961 to 1999-2000, the relative share of this sector in total rural workforce has declined sharply from 86.1% in 1961 to 78.4 in 1993-94 and further to 76.2% in 1999-2000. However in case of mining and quarrying both the absolute number of workers and its relative share have increased between 1961 and 1999-2000 which is followed by a fall in the same in 1999-2000. Interestingly the fall the shares of workforce in agriculture, fishing, forestry and mining and quarrying have been supplemented by the substantial gain in both the absolute number of workers and relative share of workforce in manufacturing and repair services. It is surprising enough to note that there has been a remarkable increase in both the absolute number of workers and relative shares of workforce in construction, trade, hotels and restaurants and transport, storage and communication sectors during 1961 to 1999-2000. Transport, storage and communication sectors have experienced a sharp increase in their share in workforce during the reform period.

The possible explanation behind such a pattern of diversification can be given as follows. In fact, there are some push and pull factors behind such a process of transformation. Among the push factors, the most important are likely to be (i) the increasing demographic pressure on land; (ii) increased marginalisation leading the formation of non-viable unit of cultivation such that there has been a problem of sustainability of family-farm without having any support from non-farm employment; (iii) increased government expenditure on short-term employment generating project for alleviation of rural poverty and finally the increased literacy and education in the rural areas. The factor (i) and (ii) might have led to a desperate shifting of workforce from farm to non-farm activities. On the other hand amongst the pull factors the most important may be (i) the growth of agriculture due to spread of modern-seed fertilizer technology leading to increased demand for farm and non-farm activities both within and outside the rural areas; (ii) the development of rural infrastructure like road, transport and communication facilities etc.; (iii) the development of agro-based small and cottage industries; (iv) the differentials in wage rate between the farm and non-farm activities and finally rapid expansion of real estate like housing.

Changes in the Inter-State Pattern of Non-Farm Employment Situation

Table-7 presents the information in the proportion of male and female rural workers employed in non-farm activities. It is discernable that there has been a remarkable inter-state variation in the proportion of workforce employed in non-farm sector.

Table-7 : Sex distribution of non-farm employment in rural India (percentage) during 1972-73 to 1999-2000.

State	Male workers						Female Workers		
	72-73	77-88	83	87-88	93-94	99-00	87-88	93-94	99-00
Andhra Pradesh	21.4	19.7	24.5	25.9	24.4	25.6	17.9	16.3	15.7
Assam	18.5	14.5	20.3	23.5	21.8	35.3	17.7	16.8	15.7
Bihar	17.8	17.0	19.5	20.0	18.0	21.0	9.8	8.1	14.3
Gujarat	16.1	15.7	20.1	31.4	28.9	28.6	24.2	9.4	8.0
Haryana	19.9	22.9	27.5	29.1	39.1	40.4	7.5	6.8	7.9
Himachal Pradesh	18.9	22.6	24.1	31.3	34.2	46.2	3.6	4.5	4.9
Jammu-Kashmit	-	25.0	32.5	36.9	38.7	32.1	6.1	4.6	6.5
Karnataka	14.8	16.9	17.6	20.4	21.2	21.5	14.5	15.4	12.2
Kerala	44.3	41.0	42.6	45.8	46.8	57.2	34.3	37.0	40.2
Madhya Pradesh	9.6	10.8	12.8	14.7	12.8	15.8	8.9	6.1	8.4
Maharashtra	17.6	19.6	22.4	24.2	24.7	26.2	8.6	8.8	6.1
Orissa	18.4	15.5	22.5	25.1	21.3	33.0	22.0	15.0	19.6
Punjab	20.6	22.1	25.4	31.2	31.8	36.3	8.4	7.3	9.4
Rajasthan	15.6	18.0	21.7	34.7	30.4	32.7	16.7	7.3	8.1
Tamil Nadu	24.6	26.0	33.7	34.8	36.0	31.8	22.9	21.5	24.1
Uttar Pradesh	18.1	19.7	22.1	21.1	23.7	28.2	8.7	10.0	12.5
West Bengal	22.1	22.2	27.5	27.8	35.3	33.6	29.2	41.0	45.9
All India	16.7	19.5	23.2	25.5	26.0	28.6	15.3	13.8	14.6

Source : Different quinquennial reports on Employment & Unemployment of NSSO, GOI.

The time profile of quinquennial inter-state data given in the table reveals that the proportion of rural male and female workers employed in non-agricultural activities differ between the states in varying degrees over the period. While in some states like Andhra Pradesh (AP), Haryana, Punjab, Jammu & Kashmir, Tamil Nadu, West Bengal and Kerala the proportions of rural male workforce engaged in non-farm activities remain above the same at national level, in others states the same remain below the national level throughout period from 1972-73 to 1999-2000. However, the proportion of the male workers employed in non-farm activities in the states like AP, Haryana, Himachal Pradesh, J & K Karnataka, Maharashtra, Punjab, Rajasthan, Tamil Nadu and West Bengal revealed a continuous increasing trend in varying degrees up to 1987-88, followed by a break in trend through a fall in the ratios of the same in 1993-94 which is again

followed up by a rapid recovery in 1999-2000 excepting for the states like Tamil Nadu, Gujrat, West Bengal etc. where there have been a precipitous fall in the rate of absorption of the same in the non-farm activities. The other states experience a fluctuating pattern in this respect. It is certainly surprising that in West Bengal and Tamil Nadu, there has been a noticeable fall in the ratios of male work force absorbed in non-farm activities from 35.3% and 36.0% in 1993-94 to 33.6% and 31.8% respectively in 1999-2000. This is accompanied by rise in share of non-farm activities in female workers while in other states even at all India level there has been a substantial increase in the same between these two periods. It seems that the inter-state disparity in the development expenditure of the Government (State & Central), the development of infrastructure; the literacy rate; land distribution pattern; industrial development etc. are responsible for such regional diversity of non-farm employment. In fact it is likely that the higher is the degree of inequality in the distribution of operational holding (measured in terms of Gini Coefficient) in the states the higher will be the inequality in the distribution of income and so more and more rural people will switch over to non-farm activities as a supplementary source of income. The Gini-coefficients of operational holdings across the states are given in **Appendix Table - 2** which reflects a wide cross state variation in the degree of inequality in operation holding. Further for all states, excepting Kerala the inequality has increased in varying degrees over the period 1970-71 to 1991-92. Thus the inequality in the distribution of land might be one of the explanations for the inter-state variation in expansion of non-farm employment.

Concluding Observations

The main conclusions, which emerge from the above analysis, can be outlined as follows :

First, we find a sharp fall in the workforce participation rates both for male and females and also for the rural population as whole over the period. The magnitude of fall is much more pronounced during the period of reform.

Secondly, there has been a tremendous switch over of rural workforce from farm to non-farm activities, which is again remarkable during the period of reform. However, if we take into account the NSSO data available for the intervening years between the quinquennial surveys (i.e. between 1987-88 and 1993-94 and between 1993-94 and 1999-2000 then it is found that the process of workforce diversification was halted and it continued to move on a reverse gear during initial phase of economic reform. However if we compare the data available from the quinquennial surveys then the rural economy of India is found to experience a continuous spill over of workforce from farm to non-farm activities.

Surprisingly, the fall in both the absolute number and relative share of workers in agriculture, fishing, forestry, mining and quarrying are, however supplemented by the gain in the same in construction, transport, communication and storage. Growth of population, incapability of agriculture and urban manufacturing as well as the service sectors to absorb the burgeoning

rural labour force, high unemployment rate, inequality in the distribution of land and finally, the fall in the public expenditure on employment generation and poverty alleviation due to fiscal stringency caused by economic reform seem to be the possible explanations behind such transformation of rural workforce.

Thirdly, the sex wise analysis of the process of change in the employment structure reveals a somewhat different picture.

Finally, a wide regional variation in the diversification process of rural non-farm employment structure has been found to persist both before and after the inception of the policy of economic reform.

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Appendix Table - 1 : Rural Workforce Participation rates in India according to Sex during 1972-73 to 1999-2000

Year	WFPR (M)	WFPR(F)
1972-73	54.5	31.8
1977-78	55.2	33.1
1983	54.7	34
1987-88	53.9	32.3
1989-90	54.8	31.9
1990-91	55.3	29.2
1991	54.6	29.4
1992	55.6	31.3
1993	54.5	31.1
1993-94	55.3	32.8
1994-95	57	30.4
1995-96	54.9	29.5
1997	55	29
1998	53.9	26.3
1999-2000	23.1	30

Source : Various reports on NSSO on employment & unemployment

Notes : WFPR (M) indicates Workforce Participation rates for male and WFPR (F) same for female

Appendix Table -2 : Changes in Gini's Coefficient of Operational Holdings in India during 1970-71 to 1991-92

State	70-71	81-82	91-92	Avg. area (ha.) 91-92
Andhra Pradesh	0.63	0.599	0576	1.29
Assam	0.422	0.519	0.494	0.88
Bihar	0556	0.606	0.637	0.75
Gujarat	0.54	0.558	0.604	1.99
Haryana	0.464	0.598	0.675	2.19
Karnataka	0.527	0.581	0.609	1.85
Kerala	0.647	0.649	0.636	0.35
Madhya Pr.	0.533	0.535	0.558	2.24
Maharashtra	0.526	0.571	0.598	2.25
Orissa	0.5.1	0.526	0.514	1.13
Punjab	0.418	0.702	0.73	1.46
Rajasthan	0.564	0.604	0.613	3.08
Tamil Nadu	0.516	0.64	0.64+	0.71
Uttar Pr.	0.495	0.564	0.572	1.01
West Bengal	0.49	0.597	0.585	0.6
India	0.586	0.629	0.641	1.34

Source : Various Reports of NSSO