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Emerging Trends and Patterns of India's Agricultural Workforce: Evidence from the Census

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EMERGING TRENDS AND PATTERNS OF INDIA'S AGRICULTURAL WORKFORCE: EVIDENCE FROM THE CENSUS

S Subramanian*

Abstract

The current study presents the various trends and patterns that are emerging from the Indian rural economy. The purpose is to study the change in workforce pattern of the agrarian sector. A study of change in the agrarian workforce can indicate the direction of change and trace the process of structural change in Indian agriculture. The paper has only depended on Census data to draw various conclusions using very simple statistical and graphical techniques. The study locates four important phenomena namely marginalisation of rural workers, feminisation of the agriculture, increasing importance of various subsidiary activities and finally the ongoing structural changes in the rural economy. The emergence of these phenomena has various linkages regarding the future trends of Indian agriculture.

Introduction

The India Rural Development Report 2012-13, states that India's rural economy is experiencing a 'sweeping transformation' due to various newly emerging forces of change impounding its fading sovereignty. This change is the outcome of the interaction between agriculture and other economic, social and cultural factors. It has paved the way for new opportunities and dimensions to the existing agrarian structure. Further, the evidences that capture the effects of the change caused by the dynamic interaction between agriculture and the other sectors are only countable. Therefore, this paper presents a study of *change* in the workforce pattern of the agrarian sector. The central aim of the paper is to understand the change from the precept of structural change. A study of change in the agrarian workforce can indicate the direction of change and trace the process of structural change in Indian agriculture, as its implication is not just confined to the rural landscapes but the economy and the globe as a whole. The paper currently assumes only employment as cause and effect of change in rural societies by critically dissecting some of the basic variables related to employment in rural India since the 1980's. Such examinations would therefore throw light on the variations and trends to present the various emerging patterns. Employment related data is mainly sourced from the *Population Census* published by Government of India from 1981 to 2011.

The following section starts with a brief overview of the trends and patterns in the composition of the workers in general and farm based workers in particular. After that, a disaggregated analysis based on the age and sectoral profile is used to validate the dynamics of the agricultural workforce in the context of structural change. The next section elaborates on the trends in the subsidiary activities and the paper ends with the findings for the way forward.

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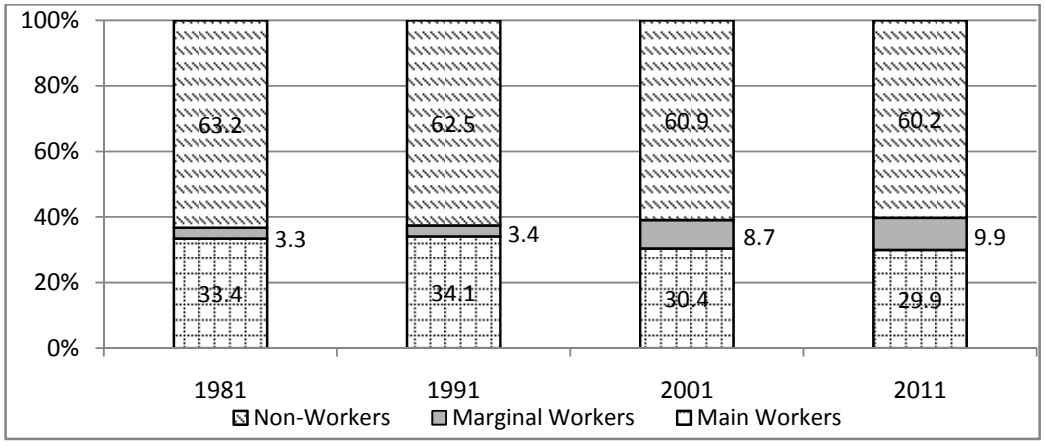
Total Workforce and Its Composition

Before venturing into the nuances of the agricultural workforce, it would be useful to study the total workforce and the changes therein. The Census of India, since its inception has tried to capture the economic status of the population for various policy purposes. There have been many changes in the concepts of work[1] but from 1981, the entire population was categorised into three main groups' viz., main workers[2], marginal workers[3] and non-workers[4]. The proportion of total workers in the economy has grown from mere 244 million to 481 million between 1981 to 2011 Census, with an average annual growth rate of 2.3 per cent. Of this, the Census witnessed a quantum jump of the total main workers from 222 million to 362 million and total marginal workers from 22 million to 119 million between 1981 and 2011, that is, from every 10th worker in 1981 to every 3rd worker in 2011 being marginal workers. Incidentally, the proportion of the non-workers in the total population remained at an average of 61.7 per cent from 1981 to 2011, which was a sizeable bulk of 420 million in 1981 to 728 million in 2011. Such a huge proportion of non-workers can be attributed to India's age transition, as roughly 40 per cent of the population is below 20 years of age and classified as students. However, it must be noted that the proportion of non-workers has come down marginally over the census periods as seen in Figure 1.

Figure 1: Proportion of Total Workers Across Census

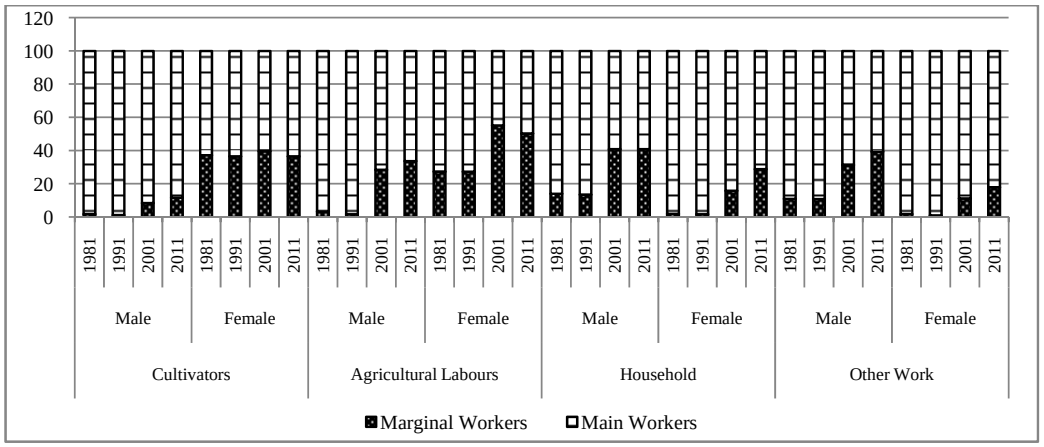


Source: Census documents by Registrar General, Govt. of India.

Although there is a reduction in the proportion of non-workers, the quantum of reduction is not reflected in the main workers but revealed in the marginal workers. In fact, it must be noted here that a small proportion of the main workers has joined the marginal category since 2001, as there is almost 5 per cent reduction in the main workers, i.e. from 34.1 to 29.9 per cent between 1991 and 2011. Thus, the proportion of the marginal workers has seen a big leap since 2001 Census and has maintained it in 2011 as well. Therefore, there seems to be an emergence of '*marginalisation in the workforce*' deepening into the economy. Here, marginalisation refers to the quantum of reduction either in the non-workers or main workers not reflected in main work but revealed in marginal work. Though Figure 1 provides evidence of marginalisation, but it fails to locate the phenomenon within the broad

categories industrial classifications and between the genders. Therefore, Figure 2 provides a disaggregated version of workers' proportions of main and marginal workers for the industrial categories and gender for Census periods 1981-2011.

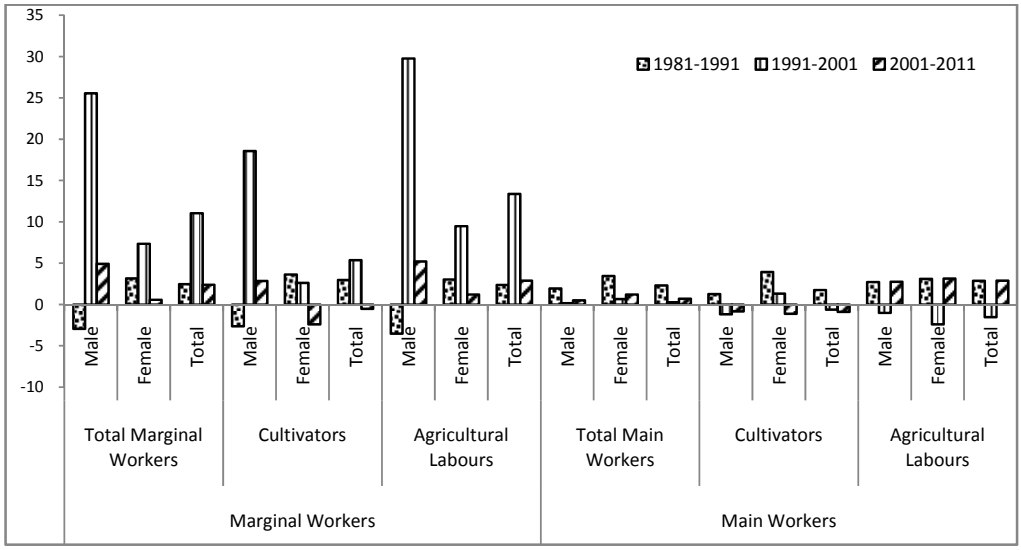
Figure 2: Proportion of Rural (Main + Marginal) Workers within Each Category of Main Industrial Categories and Gender (Across Census Periods)



Source: Census documents by Registrar General, Govt. of India.

Figure 2 provides clear evidence of the rise in the marginal phenomenon mainly since 2001 across all the industrial categories and gender in the rural areas of India. In terms of the ranking, the process of marginalisation has gone down among agricultural laborers category followed by the cultivators, household workers and other workers. More so, the effect of marginalisation has been more prominent among the females across all industrial categories since 2001. In fact, the proportion of females in the marginal category was 40 per cent and above in both the agriculture related workforce. Therefore, Figure 2 provides clear indication of the patterns of marginalisation in the rural economy with the women being in the forefront, which is in a way commendable and a matter of concern[5]. Yet the clarity on the marginalisation of agricultural workforce can be placed not just from proportions but also needs to be derived from growth over a period of time. The temporal growth provides the time variance that can help the policy makers to determine the speed and impact of such phenomena on the economy.

Figure 3: Growth Rates of Marginal Workers *Vis-à-Vis* Main Workers Across Gender and Industrial Categories for Rural Areas



Source: Census documents from 1981 to 2011; Registrar General, Government of India.

Note: Growth rates are computed from 1981 to 1991; 1991 to 2001 and 2001 to 2011.

Figure 3 gives the comparative growth rates of both main and marginal workers for two important industrial categories, which are mainly cultivators and agricultural labourers. During the Census decade 1981-1991, the growth of the marginal workforce kept pace with that of the main workforce. Only marginal male cultivators and agricultural labourers experienced a dip. This negative growth was well covered and nullified by the female workers. However, the situation changed the dynamics, with a spectacular rise in the marginal workforce in the following decade of 1991-2001. The male marginal workforce grew more than 25 per cent per annum during 1991-2001 in rural areas. On the other hand, the female workforce also grew rapidly but only one-fourth of the rates of male marginal workforce. The rise in the growth rates of the marginal workforce is consistent with the decline in the main workforce during 1991-2001. Nevertheless, the decade of 2001-2011 witnessed a peculiar trend with a sudden dip even in the marginal workforce and female marginal cultivators registering negative growth but higher growth in the main category. Still, the growth of marginal labour is higher as the interpretations are based on the previous year's numbers as the base. However, there was growth of main workers in the agricultural laborers category in 2001-2011.

The reasons for such emerging trends of marginalisation cannot be easily understood. Nevertheless, there are a few arguments in some studies, such as, 1) that farmers adopt such practices to cope up with risk [Dethier and Effenberger, (2011), Barrett *et al*., (2001)] 2) increased participation in skill development and education [Chandrashekar *et al*, (2006); Thomas (2014)] 3) there is lower labour absorption rate in weak manufacturing sector 4) according to Singh (2013), four factors are responsible for marginalisation of agriculture viz., 'the spatial organisation of agricultural land at the micro-level in the rain-fed area, whereas only a fourth arable land of a village has certainty of agricultural production; breaking off traditional social and technological arrangements in agriculture,

which has led to cash-induced agricultural activities; the differentiation of farmers as rich and poor, making it difficult for small farmers to compete with big farmers for limited natural and human resources required in agriculture; and lastly, non-agricultural activities becoming more and more profitable and risk free'. Further, according to Vepa (2005), women's higher participation and proportion is due to the marginalisation of workforce when men are forced to take up casual jobs leaving women with a higher stake in agricultural activity but in marginal way. This conclusion is even supported by Cornhiel (2008).

In addition, there is a possibility of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) providing the masses in the rural areas with opportunities to take up work as a part of the right to work programme for at least 100 days of work. The allocation of 100 days is far below the specified limit for the main workers. The argument that MGNREGA may create marginalisation of workforce may be partially true because 100 days of employment is for the entire household not for individuals alone. Besides, a large number of women do enter the scheme. In July 2014, Schedule I of the MGNREGA added a new amendment to allow districts to use 60 per cent of the total works for agriculture and allied activities[6]. Thus, such moves by the government cause the marginalisation of the workforce and deepen the phenomena even further.

Further, with only limited variables on the population in the Census, it is difficult to determine specific reasons. A further in-depth analysis is required using other existing data sets (NSSO surveys) to fill these gaps. The next section deals with the shifts in the economically active population as it is imperative to know how and where these populations are concentrated.

Occupational/Sectoral Profile of the Workers – Structural Change

The size and the structure of the workforce is a demographic investment leading to economic growth (Census Report, 2001). Further, the relationship between the workforce and economic growth is two-way because the workforce contributes to growth while growth provides a better platform for the workforce to climb the ladder. Therefore, it is essential to look in to the dynamics of the sectoral profile of the workforce with further segregation based on gender, age and geographical location.

Figure 4: Distribution of Workforce (total+rural) from 1981- 2011.

Figure 4.1: Distribution of Total Workforce

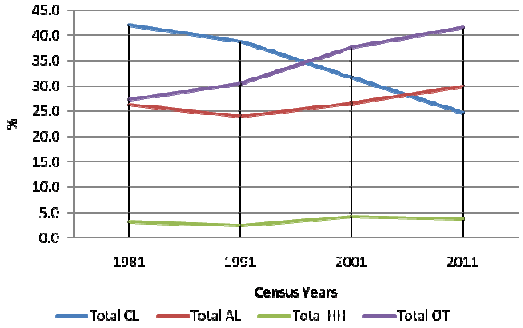
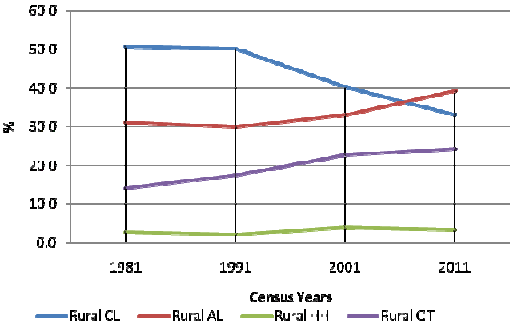


Figure 4.2: Distribution of Rural Workforce



Note: CL: Cultivators; AL: Agricultural Labourers; HH: Household Workers; OT: Other Workers; as defined in 2011 census.

Source: Census documents from 1981 to 2011; Registrar General, Government of India.

Figure 4.1 clearly brings out the structural change in employment that the Indian economy is undergoing. In simple terms in the current context based on the availability of the data, structural change is the shift of workforce from the primary sectors to secondary and tertiary sectors[7]. The distribution of the total workforce (Figure 4.1) evidently shows the proportion of the cultivators has fallen below other workers and more importantly the decline in cultivators is much faster post 1991. Figure 4.2 gives an overview of the composition of the workforce in rural India. A startling outcome is that the proportion of rural agricultural labourers has outnumbered the cultivators after 2001 and the number of other workers is increasing slowly. Thus, one can conclude that the movement of people is toward fixed wage labour rather than being entrepreneurs. A few studies, like those by Thomas (2012), Himanshu *et al* (2011) and the World Bank (2010), showed that post 2004, cultivators found avenues in the non-farm sector more attractive and there was a big shift from the farm to non-farm sector. In short, one can say that cultivators are moving out of agriculture to other rural non-farm sectors where wages are competitive in rural areas. In fact, such differentials are due to increased productivity and differentials between two segments in turn have increased the disparity in the income earned by the workers (Binswanger 2013). Further, Figure 4.1 gives a clue that in the country as a whole, the category of other work is gaining momentum, which indicates the applicability of structural change, i.e., mobility from the agrarian dominance to industrial or service economy[8].

However, the important question is why increasing number of people are opting to be part of the agricultural labour force in rural areas? Probable reasons could be that *firstly* the rural population may choose the remunerative fixed wage by working as labourers in farms over the risks and uncertainties in owning and tilling a shrinking[9] farm. Fragmentation of land holdings has reduced profitability (Foster and Rosenzweig, 2010) and made smaller farms less competitive due to the issue of the economies of scale post harvest (Binswanger *et al.* 1995 as quoted in Dethier and Effenberger, 2011). Thus, the shrinking farms and risk factors of tilling their own land have pressed the poor small farmers to look for alternative income sources by becoming agricultural workers. *Secondly*, this could be a transitional arrangement. By working as agricultural labourers they are equipping themselves with

required skill sets for entering into the remunerative non-farm activities. *Thirdly*, being labourers can be a strategy to earn extra income with their main activity, i.e., pluri-activity.

On the other hand, the number of cultivators is decreasing rapidly. The cultivators are migrating to cities or towns and lease their land to labourers, or start a non-farm activity on their land or even sell their land. However, according to Vijay (2012), the decline in cultivators in the workforce has led to a new group of non-cultivating peasants who own land but do not cultivate. These new intermediaries support tenancy either by leasing their uncultivated land in a fragmentized fashion or leave it fallow and move to the non-farm sector. Thus, the challenge is to go deeper and dig out the relevant evidence to solve the mystery of changing patterns of the agricultural workforce. It is essential to empirically test and then arrive at conclusions, which unfortunately cannot be done using the Census data. This will be, in a way, a limitation of this paper. Nevertheless, this paper provides the direction of the change that can set the tone for further research.

Age-wise Distribution and Sectoral Transition

India enjoys the demographic dividend advantage where more than 50 per cent of its population is in the working age group of 15 to 59 and 34.8 per cent in age group of 15-34 as per 2011 Census. India's population growth has slowed down to 1.6 per cent. However, the growth rate of the labour force has increased to 2.8 per cent with a favorable 'demographic dividend' (Binswanger 2013). The demographic trends suggest that both the size and age structure of the population tend to change over time because of the nature of the demographic transition. Thus, a deeper analysis to into age and gender would reveal a greater message.

Table 1 gives age and gender wise distribution and growth rate of agricultural workers based on density. This is an important exercise as it compares the patterns and the inheritance of agricultural activity by the youth. The cultivators and agricultural labour population have been divided by the net sown area as captured in the corresponding census period (also triennium average is considered to cut off the volatility) to bring in the effect of land into the picture. From this, both the growth rates and the density of agricultural workers (per 1000 hectares of net sown area) are arrived at.

Table 1 categorises the participation of the agriculture workforce into cultivators and agricultural labourers based on gender across the four census periods from 1971 to 2001[10]. The age wise distribution of agriculture-dependent population provides an insight into how the age groups have shifted from agriculture between 1971 and 2001. It is surprising to note that the age group of 15-34 years, comprising mainly males, has seen a huge downward surge in the number of cultivators and an upward push in the case of agriculture laborers in both absolute terms and in growth rates. It is quite encouraging to note the increasing presence of the young women in both the groups. The older group exhibits an increasing trend in all segments in both the parameters (geographical and gender). A closer look into the male cultivator's density provides the subtle message that only in 2001 the older age group outnumbered the younger one. In short, one can say that labourers, particularly the male youth segments of the workers are moving out of agriculture and more women are involved in agricultural activities. This is leading to the 'feminisation of agriculture'. Such trend is even found in the work participation rate (Annex Table 1)[11]

Table 1: Density of Cultivators and Agricultural Laborers by Age and Gender (No. of persons/1000 ha of Net Sown Area)

		15-34				35-59				60+				Total			
		1971	1981	1991	2001	1971	1981	1991	2001	1971	1981	1991	2001	1971	1981	1991	2001
Total	Cultivators	297	325	395	379	174	297	348	388	60	72	85	103	560	732	858	903
			(0.90)	(1.94)	(-0.41)		(5.39)	(1.56)	(1.11)		(1.78)	(1.65)	(1.89)		(2.68)	(1.59)	(0.51)
	Agricultural Workers	200	232	271	381	87	160	195	288	20	25	33	53	340	459	529	757
			(1.48)	(1.58)	(3.39)		(6.12)	(1.97)	(3.88)		(2.21)	(2.61)	(4.86)		(3.00)	(1.42)	(3.59)
Male	Cultivators	260	244	278	243	155	233	259	265	56	63	73	81	493	563	628	606
			(-0.6)	(1.33)	(-1.37)		(4.05)	(1.07)	(0.22)		(1.21)	(1.42)	(1.00)		(1.32)	(1.09)	(-0.4)
	Agricultural Workers	133	131	167	206	58	87	119	151	15	16	23	31	227	256	325	406
			(-0.2)	(2.47)	(2.11)		(4.14)	(3.08)	(2.43)		(0.98)	(3.49)	(3.02)		(1.20)	(2.40)	(2.23)
Female	Cultivators	38	82	116	136	18	65	89	124	4	9	12	22	67	169	230	297
			(7.69)	(3.57)	(1.57)		(12.6)	(3.12)	(3.32)		(7.13)	(3.15)	(5.99)		(9.34)	(3.07)	(2.55)
	Agricultural Workers	67	101	104	175	29	73	76	136	5	9	10	22	113	203	203	351
			(4.12)	(0.30)	(5.16)		(9.15)	(0.46)	(5.78)		(4.91)	(0.76)	(8.22)		(5.85)	(0.02)	(5.45)

Source: From various census periods

Note: Figures in the parenthesis represent compound annual growth rates in percent. The age-wise data for 2011 is not yet released by Government of India.

At this juncture, it is very important to note that there are two sets of thoughts; one emerging from census and the other from NSSO surveys. The census projects that feminisation is taking place in agriculture whereas the NSSO surveys (66th and 68th rounds[12]) conclude otherwise (Choudhry, 2011), extending the debate to the missing labour force (Raveendran and Kannan, 2012; Hirway, 2012). Thus, the reliability of data collected is questionable (Kasturi, 2015).

Comparative outlook

While it is clear from the above analysis that there is no doubt about drastic changes in the structure of the rural economy especially the agricultural workforce, but it is crucial here to know the relative changes in the workforce population to the overall growth in population. Understanding such relative changes would enable the stakeholders to know the gravity of the problem. Table 2 provides the annual growth rates of population with various categories of the workforce. India's population has grown at an average of 2 per cent from 1981 to 2011. The trend since then shows a decreasing growth rate, from 2.3 per cent between 1981 and 1991 to 1.6 per cent between 2001and 2011. The question here is about the dynamics of the contribution by various sectors behind the growth of the population. The first segregation is between main, marginal and non-workers that constitute the total population. In regular circumstances, the main workers population is expected to grow but Indian figures shows a dip of 1.5 per cent in the growth rate in the latest census. Whereas, the marginal workers' population has increased substantially since 1991 despite their small numbers in the absolute terms (Annex Table 2). The economy is witnessing a steady decrease with respect to the non-workers' population. This is a good sign as the dependency ratio reduces.

Table 2: Annual Growth Rate of Various Categories of Workers (%)

AGR	1981-1991	1991-2001	2001-2011	Avg AGR (1981-2011)
Total Population	2.3	2.0	1.6	**2.0**
Main Workers	2.5	0.9	1.5	**1.6**
Marginal Workers	2.4	11.5	2.9	**5.6**
Non-Workers	2.2	1.8	1.5	**1.8**
Total CL	1.7	0.4	-0.7	**0.5**
Total AL	1.5	3.5	3.0	**2.7**
Total HH	-0.2	8.1	0.8	**2.9**
Total OT	3.6	4.6	2.8	**3.7**

Source: Census documents from 1981 to 2011; Registrar General, Government of India.

Note: CL: Cultivators; AL: Agricultural Labourers; HH: Household Workers; OT: Other Workers; as defined in 2011 census.

However, the significant issue is in the sectoral growth of the workforce. The cultivators' population has been drastically decreasing both in absolute and in percentage terms since 1991. On the contrary, there has been an upward surge with respect to the agricultural labourers in absolute terms and from growth perspective. Further, the household sector and other sectors have grown well since

1991 with other workers gaining the maximum. A shift of workforce from farm to non-farm is a common aspect while a shift to marginal and agricultural labour requires deeper investigation. Therefore, from 2001 to 2011 the change in population was to the tune of 1.6 per cent contributed by a negative growth in cultivators' population and growth among the rest. Thus, the applicability of structural change is evident in the economy as a whole. Nevertheless, the shift of labourers is not from rural to urban areas but from rural to rural[13], i.e., due to the existence of a vibrant non-farm sector in rural areas which can reduce travel cost and other associated costs of moving to urban centers (Sharma and Bhaduri, 2009). It can also be said that the rural attachment and sentiments play a major role in intra/inter rural mobility (Pretty *et al.*, 1996).

Emergence of Part-Time Activity or Pluri-Activity

Shrinking farms, uncertainty, risks and non-availability of support within the farm have forced farmers to look for alternative income sources. This has led to the growth of non-farm employment. Further, due to the farmer's personal connection and affection for the land and agriculture *per se* has led to the growth of part-time activity. A farmer works for a while in farms and also engages in the non-farm activity basically to reduce the risk and stay grounded. Such diversification is known as part-time activity or pluri-activity. Multiple activities are not just a phenomena found in the agrarian sector alone. There is evidence of such activities in other economic sectors. According to Nadkarni and Johnson (1984) who conducted a similar exercise for the forest workforce mentioned that 'employment in forestry and related activities is underestimated because the classification of workforce is on the basis of main economic activity, whereas forest related activity is mainly subsidiary'. Therefore, to reduce the risk of uncertainty even the agricultural workforce engages in various subsidiary activities[14] that can provide external support for their livelihood.

The census has tried to capture a part of it by developing a matrix to analyse the cross classification of the workforce with their subsidiary work. Information on the subsidiary activity is available only till 1991 for the main workers. The Government of India, unfortunately, stopped publishing such vital data from 2001 onwards. Therefore, due to the unavailability of data and inconsistent data from the census, the analysis had to be restricted to two census periods, viz., 1981 and 1991. Further, the purpose of the analysis is to understand how society works and to learn the intricacies pluri-activity. Tables 5 and Table 6 provide a cross-categorisation of the industrial classification for the census periods 1981 and 1991. Here, the data analysed are not consistent for comparison. The organisation of the table is such that the column of the table is the main activity and the top row represents other or subsidiary activities.

Table 5: Main Workers Classified by Industrial Category of Other Work for Rural in for 1981 (%)

Industrial Category	Total		I		II		III		IV		V(a)		V(b)		VI		VII		VIII		IX	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Main Workers	13.7	11.9	3.3	2.6	8.0	7.8	0.5	0.3	0.0	0.0	0.5	0.4	0.3	0.2	0.2	0.2	0.4	0.1	0.1	0.0	0.3	0.1
I	16.6	20.4	0.0	0.0	13.4	18.8	0.7	0.4	0.0	0.0	0.7	0.5	0.5	0.2	0.3	0.3	0.5	0.1	0.1	0.0	0.4	0.1
II	7.2	5.8	5.3	4.3	0.0	0.0	0.4	0.3	0.0	0.0	0.4	0.4	0.3	0.3	0.2	0.3	0.2	0.2	0.1	0.0	0.2	0.1
III	14.2	10.3	9.0	4.6	4.4	5.1	0.2	0.2	0.0	0.0	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1
IV	12.1	12.7	9.2	5.3	2.6	6.7	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
V(a)	17.8	13.0	11.7	4.6	7.4	7.8	0.1	0.1	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.2	0.1
V(b)	11.1	8.8	8.1	2.9	2.5	5.5	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1
VI	14.1	20.2	9.6	6.1	4.0	13.6	0.1	0.1	0.0	0.0	0.2	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1
VII	11.3	10.9	8.9	4.0	1.7	6.4	0.1	0.1	0.0	0.0	0.1	0.2	0.1	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.1
VIII	10.8	10.3	8.5	3.1	1.7	6.0	0.1	0.2	0.0	0.0	0.1	0.5	0.1	0.3	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1
IX	13.6	7.3	42.4	72.3	6.4	94.4	0.4	2.3	0.0	0.2	0.6	6.0	0.4	3.0	0.1	0.6	0.5	2.0	0.2	0.3	0.8	3.9

Source: Census documents from 1981 to 2011; Registrar General, Government of India.

Note: I: Cultivators; II: Agricultural Labourers; III: Livestock, Fishery and Forestry; IV: Mining &Quarrying; V (a): Household Industry; V(b): Non Household Industry; VI: Construction; VII: Trade and Commerce; VIII: Transport; IX: Other services.

Table 6: Main Workers Classified by Industrial Category of Other Work for Rural in for 1991 (%)

Industrial Category	Main Worker with Other Work			Cultivators			Agricultural Laborers			Household Industry			Other Workers		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Main Workers	11.5	11.5	11.5	8.4	7.9	8.3	1.6	2.8	1.9	0.2	0.3	0.2	1.3	0.6	1.2
I	4.6	6.7	5.0	0.0	0.0	0.0	2.5	5.9	3.2	0.3	0.2	0.3	1.8	0.6	1.6
II	29.6	16.1	24.4	28.2	15.2	23.1	0.0	0.0	0.0	0.3	0.3	0.3	1.2	0.6	0.9
III	16.2	18.3	16.7	12.1	10.1	11.6	3.2	6.9	4.1	0.1	0.2	0.1	0.8	1.1	0.9
IV	5.7	5.7	5.7	3.8	2.4	3.6	1.3	2.7	1.5	0.0	0.1	0.0	0.6	0.5	0.6
V (a)	15.5	10.7	13.9	11.1	5.2	9.1	3.3	4.9	3.9	0.2	0.1	0.2	0.9	0.4	0.8
V (b)	5.5	6.7	5.7	3.8	2.7	3.7	1.3	3.6	1.7	0.1	0.1	0.1	0.3	0.3	0.3
VI	5.2	8.4	5.4	3.7	3.4	3.7	1.2	4.7	1.4	0.0	0.0	0.0	0.2	0.3	0.2
VII	5.5	5.8	5.6	4.3	2.6	4.2	0.8	2.8	0.9	0.1	0.1	0.1	0.4	0.3	0.4
VIII	2.6	4.7	2.7	1.8	1.4	1.8	0.6	2.8	0.6	0.0	0.3	0.0	0.2	0.3	0.2
IX	3.5	3.4	3.5	2.3	1.5	2.2	0.6	1.4	0.7	0.1	0.1	0.1	0.5	0.4	0.5

Source: Census documents from 1981 to 2011; Registrar General, Government of India.

Note: I: Cultivators; II: Agricultural Labourers; III: Livestock, Fishery and Forestry; IV: Mining &Quarrying; V (a): Household Industry; V(b): Non Household Industry; VI: Construction; VII: Trade and Commerce; VIII: Transport; IX: Other services.

The aim of table is to understand the direction of change in rural areas, i.e., how the rural population is taking up subsidiary activities apart from the routine main activity. Tables 5 and 6 provide the percentage of industry wise main workers with other work to industry wise total main workers' population for rural areas. Thus in 1981 and 1991 the proportion of main workers with other work to that of the main workers reduced from 13.25 per cent to 11.5 per cent respectively. In 1981, about 16.6 per cent of the main cultivators took up subsidiary activities, most of them as agricultural labourers and followed by livestock, fisheries, transport, construction and household workers. Women cultivators outnumbered the men with a share of 20.4 per cent taking active participation in agricultural labour as well as other activities. In 1991, the share of both men and women with other work came down drastically but the 'other works' got a big boost as a subsidiary activity. Thus, the cultivators seem to prefer nonfarm activities to farm activities.

In the case of the agricultural labour, the share of main agricultural labourers with other work increased between the census periods 1981-1991. In 1981, the main subsidiary activities were cultivation, livestock and household duties for both men and women in equal proportion but in 1991, the major subsidiary activity of agricultural labour was cultivation and followed by non-farm work. Then the important issue is to take a deeper look into the definition of the word cultivator by the Census. It reveals the presence of large number of tenants. Agricultural labourers lease the land from cultivators either for crop sharing or for fixed payments. These lands are tilled and maintained by the agricultural labourers for extra income from a subsidiary or marginal activity. There are many arguments highlighting the problems of tenancy cultivation on productivity and investment in agriculture. The quantum of tenancy and the number of the non-cultivating peasants is increasing, which are matters of concern (Vijay, 2012).

Other categories of workers also took up work in various other sectors to earn an extra rupee. The major subsidiary activity for other category of main workers was cultivation or agricultural labour in both the census periods. Thus, this shows that there exists a *two-way exchange of labour hours* that is not well studied and understood, which need time-use survey data for the analysis[15]. The contribution of such activities to economic growth is not well documented either. There is a possibility that due to the opening up of the economy since 1991, the share of subsidiary activities has gone up. Nevertheless, the data to capture such rich information are, unfortunately missing from the government data plan but an idea of the direction of the shift in workers towards subsidiary activity is available for further research.

Conclusion

Over the years, India has witnessed transformation and the impact is especially seen in the rural economy, particularly on labour transition. However, in India, the labour force transition is at a snail's pace where labourers mostly move to marginal jobs and self-employment in the non-farm sector in the vicinity of rural areas. Taking a cue from such shifts in labour, the present study tries to indicate the direction of change and traces the process of structural change with employment data available from the census. Despite limitations and inconsistency with the census data, some important conclusions

have been drawn with regard to the trend and patterns of the rural employment in India. The important points that emerge from this study are:

1. Marginalisation of workers is taking place in the rural sector
2. Feminisation of the agriculture is emerging
3. The subsidiary activity is gaining importance in the rural economy though the recent trends are not available due to lack of relevant data.
4. The rural economy is undergoing a structural change

The conclusions drawn indicate the preference and the ground level reality of the rural workforce. Each of the mentioned conclusions is, in a way interconnected and gives a clue of the dynamism of the shift and willingness for the change or simply indicates 'upward mobility'. The analysis presented gives only a bird's eye view and there is need for an in-depth analysis with further decomposition of the sub-sectors of the rural economy to follow the direction of the change in detail. Such an analysis would provide greater opportunities for appropriate policy recommendations.

Notes

[1] Work: Participation in any economically productive activity with or without compensation, wage or profit. It can be either physical or mental.

[2] Main-worker: Participation in any economically productive activity for more than 183 days in the preceding year.

[3] Marginal-worker: Participation in any economically productive activity for less than 183 days in the preceding year.

[4] Non-worker: A person who had not done any work at any time.

[5] The marginalisation of women is commendable as their inclusion would stabilise the cost of production, maximise the returns, provide substitutes for the male workers and better women participation in the economy. Though it is true that women's productive is low, the data supplied to calculate the productivity is partial and does not consider the major contribution of women in household chores. Further, women are paid less in comparison to men due to the incidence of discrimination in the labour market. Despite all these problems, women's presence is encouraging because they replace the men in agriculture so that men can take up better jobs in non-farm sectors to support the family. Further if the joint effect is considered then the household with women working acts as a complimentary income. However, it is also a matter of concern as the women in the labour force is in a marginal way and not as a core activity, such marginal activities further burdens the women because such activities need to be undertaken apart from their regular household chores.

[6] See http://nrega.nic.in/netnrega/writereaddata/Circulars/878Advisory_works_related_agriculture_allied.pdf

[7] The definition of the structural change needs to be broader considering the various interaction of the agriculture with other socio-economic-cultural factors, but a simpler form is adopted so as to reconcile with the available variables in the census data.

[8] As a caveat, it must be noted that structural change need not be always based on the inter-spatial mobility, even intra mobility within the categories of work can be an important aspect of change.

[9] Average size of the farm holding has declined from 2.3 ha in 1970-71 to 1.2 ha in 2010-11 (Agricultural Census, 2010-11)

[10] Data for the 2011 census under the category of economic classification has not been released.

[11] Of the reported economically productive age group, the work participation rate of the 35-59 in 2001 is 71.7 per cent which increased from 66.9 in 1981, whereas the youth segment (15-34) especially male youth has declined from about 77.7 per cent to 70.3 where as the participation of the female youth has increased as may be seen in the annex table 1. Surprisingly, about 40.3 per cent of the elderly population aged 60+ years are also economically active. Further, males outnumber the females in the gender differentials while the rural areas contribute higher work participation rates than their urban counterparts. Form this table two important conclusions are drawn, viz., the work participation of the male youth is slowly declining whereas the female youth participation is increasing; the rate in the older group is marginally increasing both in the geographical areas and gender groups.

[12] 61st round showcased a higher involvement of women (Choudhry, 2011).

[13] Migration data, Census 2001.

[14] Subsidiary work is extra work usually done while the worker is working at his/her regular/casual full time job.

[15] Time use survey was conducted in 1998-99 by MOSPI, Government of India. This survey was never updated in the later years.

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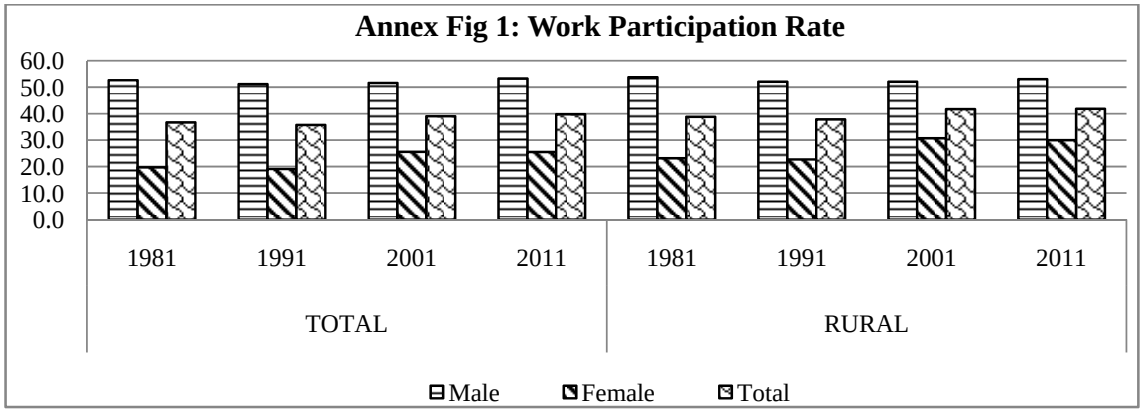
Annexure



Source: Census documents by Registrar General, Govt. of India.

Annex Table 1: Age-wise Distribution of the Work Participation Rate (1981-2001)

		15-34			35-59			60+			Total		
		1981	1991	2001	1981	1991	2001	1981	1991	2001	1981	1991	2001
Total	MALE	77.7	73.5	70.3	96.4	95.5	95.6	65.1	60.0	60.2	52.7	51.2	50.5
	FEMALE	30.2	28.7	36.2	34.4	34.3	45.6	14.0	13.9	20.9	19.8	19.1	25.6
	TOTAL	54.6	51.7	53.8	66.9	66.7	71.7	40.1	37.8	40.3	36.8	35.8	39.1
Rural	MALE	82.1	77.3	74.2	97.2	96.3	96.4	69.1	64.8	65.6	53.8	52.1	52.1
	FEMALE	36.6	35.4	45.6	39.3	40.1	55.1	15.9	16.2	24.9	23.2	22.7	30.8
	TOTAL	59.6	56.7	60.2	69.1	69.4	76.4	43.1	41.5	45.0	38.9	37.9	41.7
Urban	MALE	66.4	64.1	61.8	93.9	93.2	93.7	48.3	42.5	44.1	49.1	48.6	50.5
	FEMALE	11.5	11.2	14.2	16.6	17.0	22.6	6.5	5.7	8.9	8.3	8.4	11.8
	TOTAL	41.1	38.9	39.3	59.6	59.2	60.8	27.5	24.5	26.2	30.0	29.6	32.2

Source: Census documents by Registrar General, Govt. of India.

(See end note no 11 for detailed explanation)

Annex table 2: Trends in Population (Million)

	1981	1991	2001	2011
Total Population	665	838	1028	1210
Main Workers	222	285	313	362
Marginal Workers	22	28	89	119
Non-Workers	420	524	626	728
Total CL	102	122	127	118
Total AL	64	75	106	144
Total HH	7	7	16	18
Total OT	66	95	151	200

Source: Census documents by Registrar General, Govt. of India.

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