Chapter 9

Findings, Policy Recommendations and Conclusion
9.1. Introduction

The post liberalization era in India was marked by the dominance of secondary and tertiary sectors in GDP growth as compared to the predominance of the agricultural sector in the pre-liberalization period. This was also accompanied by the development of the new industrial centres in the early period of liberalization and followed by the mushroom growth of Special Economic Zones (SEZs) and Free Trade Zones (FTZs) from the beginning of the new millennium. As a result, there was a compelling need for more skilled as well as unskilled workers and this attracted the unemployed labour force and the underemployed workforce who are highly concentrated in the agricultural sector in rural India to a well spread out diversification in the manufacturing and the service sectors, particularly, in the 21st Century. While this was welcomed by the policy makers, they were also concerned about the unprecedented and unplanned urbanization putting pressure on civic and infrastructure facilities in urban India. Though, it is well understood that it was only the disguised employees in the villages who moved to other non-farm activities and the core workforce engaged in cultivation continued to concentrate on farm activities with more modern methods and high yielding varieties (HYVs), the envisaged inclusive growth of four per cent is still elusive. Significantly, even the cultivators

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155 A Special Economic Zone (SEZ) is a geographical region that has economic and other laws that are more free-market-oriented than a country's typical or national laws. 'Nationwide' laws may be suspended inside a special economic zone. The category 'SEZ' covers a broad range of more specific zone types, including Free Trade Zones (FTZ), Export Processing Zones (EPZ), Free Zones (FZ), Industrial Estates (IE), Free Ports, Urban Enterprise Zones and others. Usually the goal of a structure is to increase foreign direct investment by foreign investors, typically an international business or a multinational corporation (MNC). Considering the need to enhance foreign investment and promote exports from the country and realizing the need that a level playing field must be made available to the domestic enterprises and manufacturers to be competitive globally, the Government of India had in April 2000 announced the introduction of Special Economic Zones Policy in the country, deemed to be foreign territory for the purposes of trade operations, duties and tariffs.

156 A Free Trade Zone (FTZ) or Export Processing Zone (EPZ) is an area of a country where some normal trade barriers, such as, tariffs and quotas, are eliminated and bureaucratic requirements are lowered in hopes of attracting new business and foreign investments. It is a region where a group of countries has agreed to reduce or eliminate trade barriers. Free trade zones can be defined as labor intensive manufacturing centers that involve the import of raw materials or components and the export of factory products.

157 High-yielding varieties (HYVs) are any of a group of genetically enhanced cultivars of crops, such as, rice, wheat and maize that have an increased growth rate, an increased percentage of usable plant parts or an increased resistance against crop diseases. In general, they require a higher level of agricultural care, such as, intensive disease control, higher fertilizer levels and controlled water supply. While those crops have enabled the multiplication of agricultural production, their increased demands of fertilizers, pesticides and water control have drawn criticism from environmentalists.
and the agricultural labourers engaged in core agricultural activities felt the need to diversify into other non-farm activities to meet the demands of increased cost of living on the one hand, and greater consumption expenditure for better standard of living on the other.

In this context, the phenomenon of occupational diversification has become topical with more and more prominent voices expressing views on this issue in the recent years (Chandrasekhar, 1993; Sen, 1997; Chadha, 2001; Dev, 2002, Bhaumik, 2007; Jha, 2008; Ghosh, 2009; Mukhopadhyay, 2009; Ranjan, 2009a; Ghosh, 2010). It is repeatedly stated that the growth of India in the next two decades will be propelled by the growth of ‘Bharat’ which is rural India, and there is a lot of credence to this claim. Rural India is now being seen as a great opportunity and market for many goods and services and there is a lot rural thrust in marketing strategies by the Indian multinational corporations. The additional income generated by workforce diversification gives impetus to greater consumption and spending as witnessed in the recent years (Jha, 2008; Mukhopadhyay, 2009; Papola, 2008; Ranjan, 2008; Bhaumik, 2009). This in turn will result in expanded markets and more opportunities for rural non-farm employment which is a welcome cycle.

Under these circumstances, this research study assumes great ramification as it seeks to identify the factors responsible for occupational shift from farm to non-farm sector and also tries to establish the relationship between the pull and push factors causing such shift in rural India. The culmination of the analysis captured in the previous chapters is sought to be brought out clearly in the chapter in terms of the major findings, and its close relationship with the objectives of the study. This chapter will also highlight the validation of the hypotheses and logical inferences drawn from the same. This will pave the way to some policy recommendations and the possible future outcome of these recommendations. Therefore, this chapter is structured as follows.

Section 9.2 captures the most significant findings of this study. Section 9.3 relates these findings with the stated objectives of the study. Section 9.4 is devoted to validation of hypotheses. Significant policy recommendations are narrated in Section 9.5. Section 9.6 outlines the scope for further research. Section 9.7 brings up the conclusion of this chapter.
9.2. Major Findings of the Study

The major findings of this study are drawn from the analysis of the secondary data which mostly relies on population census data of India for the years 1981, 1991 and 2001 and the data collected from the primary survey in 16 villages (eight each from West Bengal and Andhra Pradesh) during the period 2008. Hence, this section is divided into two parts where the first part is devoted to findings based on the analysis of secondary data sources and the second part brings out findings of analysis from the field survey.

9.2.1. Findings from Analysis of Secondary Data Sources

The findings from analysis of the secondary data are listed below:

1. It is clear from the analysis of the secondary data that there was a greater shift of the workforce in rural India towards non-farm activities in the post-liberalization period from 1991 to 2001, as compared to the same in the pre-liberalization period between 1981 and 1991.

2. Three states of India, namely, Andhra Pradesh, Bihar and Madhya Pradesh, witnessed shift of the workforce from non-farm activity to farm activity during the period 1981-1991. However, a reverse in this trend was witnessed during the post-liberalization period with rural workforce in all the states displaying a tendency to move away from the agricultural activity to other activities as per the data between the years 1991 and 2001.

3. Although there was a trend of movement in favour of non-farm activity among the rural workforce during the period 1991-2001 in all the states, there was a significant variation in the degree of shift between the states. For example, Punjab showed the highest occupational shift of workforce at 21.1 per cent points, while, Madhya Pradesh accounted only for 3.5 per cent points. The identification of the high shift state of West Bengal and the low shift state of Andhra Pradesh was the outcome of this analysis for the purpose of a comparative study between the two states.
4. The analysis has also established a positive relationship between occupational shift and agricultural productivity and a negative relationship between occupational shift and agricultural labour productivity during the period 1991-2001. These two variables have a great bearing as agrarian development in any country is not only linked to agricultural productivity, but also to agricultural labour productivity. However, no relationship was witnessed between occupational shift and real agricultural wages.

The positive relationship between occupational shift and agricultural productivity indicates that small and marginal farmers with bare minimum grain surplus look for alternative sources of income to improve sustainability and enhance their current occupational status. On the other hand, medium and large farmers who benefit out of increased agricultural productivity look to enhance their occupational status from that of farmers to small businessman or other socially recognized jobs in terms of status and dignity.

Consequently, diversification takes precedence over cultivation and this example is being imitated by the lower level agricultural labourers. When these labourers diversify to non-farm activities, even if it amounts to working on daily wages, their labour productivity in agricultural activity comes down because of the shift in focus from farm to non-farm activities. As a result, agricultural labour productivity and occupational diversification show a negative correlation as evidenced by secondary data sources.

In terms of real wages in agriculture, there is no statistical evident to prove that this is the cause of occupational shift in rural India. In fact, this may well be the result of occupational shift because of the growing wage rates in the non-farm sector pulling the agricultural labourers with lower income and lower labour productivity. However, all these three factors were completely absent in influencing occupational shift during the period 1981 and 1991.

5. The statistical analysis of the secondary data also discounted the possibility of a relationship between rural poverty and occupational shift for both the periods 1981-1991 and 1991-2001. This may probably be due to the fact that the actual benefits of growth and development did not
reach the interior villages of rural India, and hence, the available opportunities to diversify were also limited.

6. It is also relevant to note that the work participation rate (WPR) during the two decades in 1981-1991 and 1991-2001 in rural West Bengal is considerably lower when compared with Andhra Pradesh. Whereas, this rate in West Bengal is lower than the average rate for India, the same for the state of Andhra Pradesh is higher than the Indian average. Similarly, West Bengal also lacks behind in terms of women participation in workforce when compared to Andhra Pradesh. Howrah accounts for the lowest women worker participation with 10 per cent in 2001, while Rangareddy accounts for 42.1 per cent, in spite of the fact that these two districts are in close proximity to their respective capital cities.

7. The secondary data analysis also established Howrah as the highest occupational shift district and Purulia as the lowest shift district in rural West Bengal between the period 1991 and 2001. Similarly, Rangareddy district emerged as the highest shift district, while West Godavari was the lowest shift district in Andhra Pradesh for the same period. This exercise was repeated to identify the highest shift blocks and the lowest shift blocks in each of the four districts mentioned above and highest shift village and the lowest shift village in each of the eight blocks forming part of these districts. The choice of all the 16 villages for the primary survey is entirely based on this analysis.

The findings relating to the primary survey is discussed next.

9.2.2. Findings from Analysis of Primary Data

The findings from analysis of the primary data are listed below:

1. The analysis based on primary survey has been carried out in four stages: (i) by combining the results of the two states and also analyzing them separately; (ii) district-wise analysis of all the four districts in the two states; (iii) block-wise analysis of all the eight blocks in the two states; and (iv) micro-level analysis at the village-level for all the 16 villages surveyed.
2. Analysis based on combined results of the two states identified gender and age as the most significant demographic variables impacting occupational shift in both the states. Marital status also emerged as a significant factor for the two states with similar analysis.

Among all the 11 socio-economic variables considered for the study, income from agricultural sources, migration and current occupational status are found to be highly significant in both the states. Other socio-economic variables, such as, family structure and land operated, are also found to be significant in aiding shift decisions in the two states.

With respect to the policy variables, district-level development and government assistance are highly significant as a factor responsible for shift. State-level development and agricultural loan also emerged as significant as factors determining shift preferences. Variables like, religion, caste, educational attainment, consumption expenditure and formal credit for non-farm purposes, were not identified as factors having significant impact on occupational shift at the state-level, though one or more of them, with the exception of formal credit for non-farm purposes, had isolated impact in either West Bengal or Andhra Pradesh. For example, while religion was found to be significant in the state of Andhra Pradesh, it did not have any influence in West Bengal. Similarly, consumption expenditure was significant in West Bengal, while it was found to be absent in the state of Andhra Pradesh.

3. When the analysis was carried out district-wise in both the states, gender and age again emerged as a significant factor in more than one district in the two states. While gender was found to be highly significant in the male dominated districts of Howrah and Purulia, age emerged as a significant factor in Rangareddy and West Godavari districts. The other demographic variable, namely, marital status was found to be significant in all the four districts in the two states. However, some other factors, such as, caste and religion, had only isolated impact in the districts. For example, while caste was found to be significant in Howrah and West Godavari districts, religion was found to be significant in Rangareddy district.
As for the socio-economic variables, migration and current occupational status continue to be significant in all the four districts in the two states, though migration had greater impact in the districts in West Bengal as compared to the districts in Andhra Pradesh.

In the policy variable category, block-level development and government assistance are found to be significant in the districts of Howrah and Rangareddy. While none of these chosen policy variables had any impact in Purulia district, government assistance had isolated impacted in the lowest shift villages of the West Godavari district.

4. Shifting focus to block-wise analysis, gender as a factor has dominated in three out of the four blocks in West Bengal and impacted only one block in Andhra Pradesh, while age and marital status was more significant in three out of the four blocks in Andhra Pradesh and one block in West Bengal. Religion as a factor was completely absent in all the eight blocks, though caste was found to be impacting shift decisions in one block each in the two states (namely, Uluberia I block in West Bengal and Gopalapuram in Andhra Pradesh).

The most significant socio-economic variable that influenced occupational shift in all the eight blocks is current occupational status which is found to be highly significant in seven out of the eight blocks and is significant in the other one block. Migration was identified as the other important socio-economic variable that is significant in three out of the four blocks in West Bengal and one block in Andhra Pradesh. All other factors, such as, education, number of workers in the family, family structure, land owned, income from agricultural sources, wealth index and crop diversification, had very isolated impact in one or the other block in the two states. However, land operated did not have any impact in anyone of the eight blocks.

As for the policy variables, government assistance emerged as highly significant in Bantwaram block, but it was only significant in Hayathnagar and Uluberia I. Village-level development was significant in one block each in the two states (namely, Bagnan II block in West Bengal and Bantwaram in Andhra Pradesh), while training is significant only in Bantwaram block in Andhra Pradesh. The other two variables, namely, formal credit for non-farm purposes and agricultural loan, are conspicuous by their absence in any of the blocks in the two states.
5. The results of the primary survey at the village-level reveal that demographic and socio-economic factors are more dominant in influencing occupational shift in most of the villages under survey and the policy variables had only limited impact in isolated pockets, particularly, in the villages of Andhra Pradesh. However, more variables are at work in the state of Andhra Pradesh as compared of West Bengal. But a common feature that emerges out of this survey is that more socio-economic variables are found to be responsible for causing the shift in both the states. Among the demographic variables, only age and gender have significant impact in the villages of the two states. Four out of the six villages that are impacted by age are located in Andhra Pradesh, while three out of the five villages impacted by gender are situated in West Bengal. Marital status is a more dominant factor in three villages in Andhra Pradesh and one village in West Bengal. Caste and religion have only isolated impact, with religion accounting for impact in one village in Andhra Pradesh and caste impacting one village each in the two states.

Turning focus to socio-economic variables, current occupational status has emerged as the most significant factor influencing shift choices in 11 out of the 16 villages under survey. The distribution is almost equal between the two states with six of them in West Bengal and five villages in Andhra Pradesh. Migration is also a significant factor impacting occupational shift in five villages, four of which are located in Purulia district of West Bengal and the other one in West Godavari district of Andhra Pradesh. The field survey in Purulia revealed that the nature of unfertile land in the district coupled with its proximity to industrial towns like, Tatanagar (Jamshedpur), Ranchi, Bokaro, Durgapur, Asansol and Burdwan, is the main reason for migration of workers to other areas in search of alternative avenues of income. All other socio-economic variables have scattered impact in one or the other village and are not as wide spread as current occupational status and migration.

With regard to policy variables, government assistance as a factor is found to be significant in three villages in Andhra Pradesh and only in one village in West Bengal. Significantly, the other seven villages in the state of West Bengal are not impacted at all by any policy variables. Training and agricultural loan are the other two variables that have impacted one village each in Andhra Pradesh. None of the 16 villages under the survey have been impacted by formal credit.
for non-farm purposes. Interestingly, one village each in the two states, namely, Borar in West Bengal and Ajjamuru in Andhra Pradesh, have not been impacted by any one of the 24 chosen variables.

In the light of these findings, it is important to establish the relevance of these findings with the stated objectives of the study. This relationship between the findings and the objectives is taken up for discussion in the next section.

9.3. Relationship between the Findings and the Stated Objectives of the Study

The discussion starts with establishment of the relationship of the findings with the primary objectives of the study in Section 9.3.1.

9.3.1. Relationship between the Findings and the Primary Objectives

The relationship between the findings and the three primary objectives are explained below.

**Objective 1: To identify and analyze the individual factors at the village-level and their impact on occupational diversity.**

It is evident from the analysis at the village-level based on the primary survey that demographic and socio-economic variables have significantly contributed to occupational diversity in the 16 villages surveyed. While socio-economic variables, such as, current occupational status and migration have greater impact, other variables, such as, education, land owned, family structure, land operated and income from agricultural sources, have comparatively lesser impact. However, together, these variables outnumber the demographic variables in terms of influencing the shift phenomenon. Age and gender, among the demographic variables, are the two most prominent factors that influenced shifting decisions in many of the villages under survey. In the policy variable category, government assistance was the only factor identified that has impacted occupational diversity at the village-level. The other variables either in the demographic category or under the socio-economic and policy variable category have only had selective impact in a
few villages that were surveyed. Formal credit for non-farm purposes is completely absent in all the 16 villages and two out of the 16 villages have not been impacted by any of the 24 selected variables.

**Objective 2: To see if the identified factors have a pull effect or a push effect on the workforce.**

It is observed from the results of the survey that some factors like, government assistance, educational attainment, current occupational status and migration, have acted as pull factors, while age, gender, marital status, income from agricultural sources, land owned and land operated, have acted as push factors. However, the results also indicate while a particular factor like, land owned for example, acted as a push factor in one village with even distribution of land holding, the same was observed to be a pull factor in another village with unequal distribution of land holding. The landless labourers are pushed out of agriculture to non-farm activities, while farmers with medium and large land holding are pulled by other opportunities, such as, setting up of small business or other jobs available in the non-farm sector.

**Objective 3: To investigate and find out the factors responsible for occupational shift at the state-level, district-level and block-level.**

The results of the survey clearly establish age and gender among the demographic variables, current occupational status and migration among the socio-economic variables and government assistance among the policy variables as the factors responsible for occupational diversity at the state-level, district-level and block-level. This is particularly so in the light of the fact that all the variables stated above are found to be either highly significant or significant at all these levels and are clearly established by statistical analysis.

In the backdrop of this relationship between the primary objectives and the findings of the study, it is imperative to establish a similar relationship between the secondary objectives and the findings based on both the primary and the secondary survey.
9.3.2. Relationship between the Findings and the Secondary Objectives

The relationship between the findings and the five secondary objectives are explained below.

**Objective 1: To analyze the occupational diversification with respect to rural India.**

The population census data for the periods 1981-1991 and 1991-2001 indicated that with the exception of four states, namely, Andhra Pradesh, Bihar, Madhya Pradesh and Rajasthan, all the other 11 states witnessed movement of the workforce away from the farm activity to the non-farm activity in the pre-liberalization period between 1981 and 1991. But the magnitude of shift was quite low in all the states with the maximum being 3.5 per cent points and 3.4 per cent points in Punjab and West Bengal respectively. However, this was significantly higher when compared with the average for the whole of rural India which then stood at 0.5 per cent point.

During the post-reform period, all the states showed a clear tendency of rural workforce shifting towards non-farm activity. Punjab, Kerala and West Bengal topped the list with 21.1 per cent points, 19.2 per cent points and 12.1 per cent points respectively, while states like, Madhya Pradesh, Maharashtra, Himachal Pradesh and Andhra Pradesh showed a lower shift with 3.5 per cent points, 3.9 per cent points, 4 per cent points and 6.4 per cent points respectively. The degree of variation between the highest shift and lowest shift states and also between the national average (8.1 per cent) and higher and lower shift states was considerably higher during this period as compared to the pre-reform period. It is significant to note that there has been an all-round increase in the proportion of the workforce diversification both in terms of the national average as well as for individual states in post-liberalization period.

Most importantly, the category-wise analysis reveals that in most of the states, the negative shift in the proportion of cultivators is also accompanied by a negative shift in the category of agricultural labourers which implies that the small and marginal farmers are not joining the ranks of agricultural labourers, but seeking employment in the non-agricultural activities. This indicates casualisation of labourers in the non-farm sector.
Objective 2: To analyze the occupational diversification with respect to West Bengal and Andhra Pradesh.

Secondary data sources bring out the fact that work participation rate in rural employment of the in the state of West Bengal is lower than the national average, while the same is higher in the state of Andhra Pradesh for both the decades. This is in spite of the fact that West Bengal showed higher shift of the workforce from farm to non-farm during these decades as compared to Andhra Pradesh. It is also significant that the rate of female participation in the workforce is considerably higher in Andhra Pradesh as compared to West Bengal.

District-wise analysis for the two states revealed that the district of Howrah in West Bengal and the district of Rangareddy in Andhra Pradesh, both of which have close proximity to their respective capital cities, have been identified as the highest shift districts in the two states between 1991 and 2001. It is evident that the growth and development witnessed in the two capital cities of Kolkata and Hyderabad have acted as a pull factor in attracting the workforce to non-farm activities from these two districts. It may also be noted that the district of Purulia in West Bengal and West Godavari district in Andhra Pradesh which are in the interior part of the respective states have been both identified as lowest shift districts probably because of lack of similar opportunities available to the workforce in the other two districts mentioned above.

A similar analysis carried out at the block and village-level also indicated almost the same result with blocks and villages located closer to industrial towns showing greater shift as compared to the others located far away from these towns. The highest and lowest shift villages were identified on the basis of these data taken from the population census studies.
Objective 3: To identify the impact of state-level policies on occupational shift in the two states under study.

The results of the primary survey obtained by combining all the villages in the state of West Bengal and also in the state of Andhra Pradesh highlights the fact the government assistance and block-level development are the two policy variables that have significantly impacted shift choices. On the other hand, district-level development as a variable has only impacted the state of Andhra Pradesh.

Other policy variables, such as, village-level development, training, formal credit for non-farm purposes and agricultural loan, have not had any impact at the overall state-level, though an almost imperceptible impact is found at the block or village-level as indicated by the results of the survey. For example, the Bantwaram block in the Rangareddy district in Andhra Pradesh shows that training is significant in occupational shift, though it is seen that more untrained workers show a clear tendency to move away from farm to non-farm activities. Similarly, agricultural loan as a factor is significant only in the village of Bandaraviryal, situated in Rangareddy district.

Objective 4: To understand the dynamics of occupational shift in the two states of West Bengal and Andhra Pradesh.

A detailed analysis of the dynamics of occupational shift in the two states brings to the fore two important aspects of this phenomenon. The workforce in West Bengal preferred to move away from the farm activity to non-farm activity, while the workforce in Andhra Pradesh have diversified into other activities by retaining their basic character as cultivators and agricultural labourers. This is also indicated by the fact that the number of people in ‘other workers’ category has significantly increased in West Bengal, whereas, the number of workers engaged in two or more activities showed a similar increase in Andhra Pradesh. However, when the proportion of workers engaged in non-farm activities or multiple activities is considered, the patterns are similar and high in both the states with Howrah and Rangareddy districts depicting a comparatively higher percentage than that of Purulia and West Godavari during the survey.
period. This may be attributed to the economic development in the capital cities that are in close proximity to the respective districts.

It is evident from the analysis of the results that while the rural workforce is influenced by push factors in the short run, they are driven more by pull factors in the long run. It is also observed that while pull factors are found to be more dominant in West Bengal, the workforce in Andhra Pradesh is pushed out of agriculture and pulled by economic development in their neighbourhood.

Gender has emerged as the most prominent factor and is highly significant in determining shift decisions at all levels in both the states. Similarly, current occupational status is also found to be highly significant at all levels in both the states. On the other hand, migration is found to be significant in the state of West Bengal and age is more dominant in Andhra Pradesh. Other factors, such as, government assistance and block-level development, are also known to be significantly impacting shift preferences at all levels in both the states. All other variables considered for the study have an isolated impact on the workforce in terms of shift decisions.

Objective 5: To analyze if the occupational shift has resulted in improved standard of living for the workforce at the state-level.

To realize this objective, this study considered two important parameters, namely, income and consumption expenditure of the households. Income and its disparity in the two states are measured by Lorenz curve and the Gini coefficient. The results of the analysis disclosed that income disparities have considerably reduced in the state of West Bengal and there is only a marginal reduction in the state of Andhra Pradesh.

Turning to consumption expenditure, it is found that there is a significant increase in Andhra Pradesh among the households, while in West Bengal though there is an increase, it is comparatively lower. This can be explained in terms of the difference in inflation rates and the cost of living between the two states.
However, the role of occupational shift in bringing down the levels of income disparity or increase in consumption expenditure cannot be downplayed.

Based on the relationship between the stated objectives of the study and the findings, it is important to validate the hypotheses of this study which is taken up for discussion in the next section.

9.4. Validation of Hypotheses

In this section, the validation of the formulated hypotheses is undertaken. Since, the analysis has been carried out at four different levels, namely, state-level, district-level, block-level and village-level, there is bound to be a statistical variation in terms of level of significance. However, these variations will be overcome when the results for all the villages are combined at the state-level and on an average they will either show that the results are significant or not significant. In other words, the hypotheses will either be proved or the alternative will hold good. Therefore, the interpretation in this section is on the basis of such average and not on the basis of micro-level analysis which has already been discussed in detail in Chapter 7.

Table 9.1 displays the summary of the results and the validation of the hypotheses.
## Table 9.1: Summary Results of Hypotheses

<table>
<thead>
<tr>
<th>No.</th>
<th>Hypotheses (H&lt;sub&gt;0&lt;/sub&gt;)</th>
<th>Result</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The relationship between the occupational shift towards the non-farm sector and age of the worker is positive.</td>
<td>Accepted</td>
<td>0.01</td>
</tr>
<tr>
<td>2.</td>
<td>The relationship between the occupational shift to non-farm employment and gender is positive.</td>
<td>Accepted</td>
<td>0.01</td>
</tr>
<tr>
<td>3.</td>
<td>The relationship between occupational shift to non-farm employment and marital status is positive.</td>
<td>Accepted</td>
<td>0.05</td>
</tr>
<tr>
<td>4.</td>
<td>A negative relationship is hypothesized between caste and occupational diversification to non-farm sector.</td>
<td>Rejected</td>
<td>--</td>
</tr>
<tr>
<td>5.</td>
<td>A positive relationship is hypothesized between religion and occupational diversification to non-farm sector.</td>
<td>Rejected</td>
<td>--</td>
</tr>
<tr>
<td>6.</td>
<td>Educational level of the worker increases the probability of diversifying into non-farm employment and the relationship is positive.</td>
<td>Rejected</td>
<td>--</td>
</tr>
<tr>
<td>7.</td>
<td>The relationship between occupational shift to non-farm employment and total number of workers in the family is positive.</td>
<td>Rejected</td>
<td>--</td>
</tr>
<tr>
<td>8.</td>
<td>The relationship between family structure and occupational shift to non-farm employment is negative (structure of the family is a binary variable that assumes value ‘1’ for nuclear families and ‘0’ for joint families).</td>
<td>Accepted</td>
<td>0.05</td>
</tr>
<tr>
<td>9.</td>
<td>The relationship between occupational shift to non-farm employment and land ownership is negative.</td>
<td>Rejected</td>
<td>--</td>
</tr>
<tr>
<td>10.</td>
<td>The relationship between operated land and occupational shift to non-farm employment is hypothesized to be negative.</td>
<td>Accepted</td>
<td>0.05</td>
</tr>
<tr>
<td>11.</td>
<td>The relationship between occupational shift to non-farm employment and income from agricultural activities is negative.</td>
<td>Accepted</td>
<td>0.01</td>
</tr>
<tr>
<td>12.</td>
<td>The relationship between occupational shift to non-farm employment and consumption expenditure is hypothesized to be positive.</td>
<td>Rejected</td>
<td>--</td>
</tr>
<tr>
<td>13.</td>
<td>The relationship between occupational shift to non-farm employment and wealth index is negative.</td>
<td>Rejected</td>
<td>--</td>
</tr>
<tr>
<td>14.</td>
<td>The relationship between occupational shift to non-farm employment and crop diversification is hypothesized to be positive.</td>
<td>Rejected</td>
<td>--</td>
</tr>
<tr>
<td>15.</td>
<td>The relationship between occupational shift to non-farm employment and migration is positive.</td>
<td>Accepted</td>
<td>0.01</td>
</tr>
<tr>
<td>16.</td>
<td>The relationship between occupational shift to non-farm employment and current occupational status is positive.</td>
<td>Accepted</td>
<td>0.01</td>
</tr>
</tbody>
</table>

## Chapter 9: Findings, Policy Recommendations and Conclusion
Table 9.1: Summary Results of Hypotheses (Contd.)

<table>
<thead>
<tr>
<th>Hypotheses No.</th>
<th>Hypotheses (H0)</th>
<th>Result</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.</td>
<td>The relationship between occupational shift to non-farm employment and state-level development is hypothesized to be positive.</td>
<td>Accepted</td>
<td>0.05</td>
</tr>
<tr>
<td>18.</td>
<td>The relationship between district-level development and occupational shift to non-farm employment is hypothesized to be positive.</td>
<td>Accepted</td>
<td>0.01</td>
</tr>
<tr>
<td>19.</td>
<td>The relationship between block-level development and occupational shift to non-farm employment is hypothesized to be positive.</td>
<td>Rejected</td>
<td>--</td>
</tr>
<tr>
<td>20.</td>
<td>The relationship between village-level development and occupational shift to non-farm employment is hypothesized to be positive.</td>
<td>Rejected</td>
<td>--</td>
</tr>
<tr>
<td>21.</td>
<td>The relationship between occupational shift to non-farm employment and government assistance is hypothesized to be positive (if the household received any government assistance, the dummy takes the value of ‘1’, or ‘0’ otherwise).</td>
<td>Accepted</td>
<td>0.01</td>
</tr>
<tr>
<td>22.</td>
<td>The relationship between occupational shift to non-farm employment and training of the workers is positive (if the workers received any training, the dummy takes the value of ‘1’, or ‘0’ otherwise).</td>
<td>Rejected</td>
<td>--</td>
</tr>
<tr>
<td>23.</td>
<td>The relationship between formal credits obtained from institutional sources for non-farm purposes and the extent of diversification by the households is positive (if the household received any formal credit for non-farm purposes, the dummy takes the value of ‘1’, or ‘0’ otherwise).</td>
<td>Rejected</td>
<td>--</td>
</tr>
<tr>
<td>24.</td>
<td>The relationship between agricultural loan and occupational shift to non-farm employment is negative (if the household received any agricultural loan, the dummy takes the value of ‘1’, or ‘0’ otherwise).</td>
<td>Accepted</td>
<td>0.05</td>
</tr>
</tbody>
</table>

The validation of the hypotheses as presented in the Table above brings to light the reality of occupational shift in rural India. It is clear that seven out of the 24 variables or factors are highly significant, while five other factors are found to be significant with the desired acceptance levels. Factors, such as, age, gender, income from agricultural sources, migration and current occupational status, are closely associated with each other and have a cause-effect relationship. Hence, they all have highly impacted the choice of the workforce to shift or diversify to non-farm activities. Factors like, district-level development and government assistance, are also found to be highly significant because both the Central and State Governments has taken up seriously the problem of low agricultural productivity and the consequent rural poverty and come up with policies which would address these issues in the near term. The non acceptance of block-level development and village-level development implies that if the policies are not formulated from the state- or district-level, then proactive measures...
taken by any individual block or village may not have a significant impact on rural development, and hence, the pull factor corresponding to occupational shift may not be operational.

Some other variables, such as, marital status, family structure and land operated, are also linked to each other and move in the same direction in influencing the shift phenomenon. State-level development and agricultural loan have also played their part in influencing shift preferences because the government has the habit of being reactive to certain issues and speeds up the assistance when the crisis hits rural India.

The above validation of hypotheses provides the much needed insight which is essential to draw some relevant policy recommendations. Hence, in the next section, recommendations pertinent to the current study are discussed in detail.

9.5. Policy Recommendations

The field survey brings to light some interesting dimensions which need to be further explored. While it is natural that the poor farmers have no choice but to look for alternative avenues of income for bare survival, people with reasonably higher income levels and in some cases even rich farmers diversify into non-farm activities to generate more income.

The tradition of the second generation automatically taking to farm activities is being gradually broken and the younger generation seek to diversify keeping in line with the development triggered by technology and innovation. The fact that agriculture is getting increasingly mechanized will only partly address the problems created by occupational shift and achieving sustainable growth in agriculture calls for more intensive efforts by the government and the policy makers to retain people’s loyalty in the core sector.

The variables like, caste and religion, have a social barring in a secular society like, India and the fact that the first two variables are completely absent in determining occupational shift is a desirable outcome pointing to the possible emergence of an egalitarian society. The survey also revealed that the implementation of NREGS in Rangareddy was majorly responsible for
low level migration in this district and the same scheme may be fully extended in other districts to minimize the threat of migration. Again, the occupational shift and diversification is gaining momentum in the state of Andhra Pradesh as evidenced by the survey and it is consistent in its behaviour in the state of West Bengal where there is no significant reverse shift back to agriculture.

The information contained in the Table validating the hypotheses and the explanation of the same in the foregoing Section clearly underlines the ramification of the study which seeks to analyze and explain the ‘dynamics of the shift in occupational structure in the process of agrarian development in India’. Since, it is well understood that growth and development are closely linked to agricultural productivity in rural India, any trend of movement away from the farm to non-farm activity on the part of the workforce may seriously cause impediments to the desired goal of four per cent growth in agriculture and the consequent inclusive growth that it is expected to bring in. Hence, the results of this study may give rise to some serious thinking on the part of the policy makers resulting in a more pragmatic approach to this issue through formulation of realistic policies.

With an understanding of the phenomenon of occupational diversification, the factors responsible for causing such diversification, the dynamics of shift and possible policy recommendations, it is imperative to outline some areas where further research can be undertaken. Therefore, Section 9.6 lists a few possible areas for further research.
9.6. Scope for Further Research

Research along the lines of this study can be undertaken on a comparative basis by the academicians and scholars on the following issues:

(a) Comparison in terms of geographical zones by taking one state each from North Zone, East Zone, South Zone, West Zone and Central Zone.

(b) A similar comparative research is also possible between agricultural workforce diversification in urban and rural India.

(c) Research can also be carried out to identify states that exhibit reverse occupational shift from the population census data of 2011 to be realized in the near future.

(d) Since the issue of casualisation is a matter of great concern, research may be carried out to identify states in which it is either low or absent and find out the reasons to create a model for other states to follow.

(e) A technical research involving econometricians, agriculturists and soil experts should be carried out to identify the most optimal size of land to be distributed through land reforms so that repeated enactment of legislations can be avoided and the farmers are not pushed away from agriculture due to the nature of uneconomical and unviable size of land holdings.

(f) Intensive research, most particularly, in agro-based states can be carried out to identify the availability of barren and wastelands to facilitate the formation of a database or Land Bank and persuade the states through statistical results that industrialization of such lands will be to the advantage of the state and the investors.

Having outlined the scope for further research based on the experience of the study, particularly from the field survey, the logical conclusion to the study is provided in the next section.
9.7. Conclusion

The United Nations 'World Food Programme' and M. S. Swaminathan Research Foundation have both attracted the attention of policy makers to the impending danger of food insecurity and the consequent malnutrition in rural India (FAO, 2009). Even globally, animated discussions are underway with people 'talking at each other' instead of 'talking to each other' to address this problem that threatens to undermine global peace as the food deficient super powers may soon think of colonising productive and weak countries to find channels of supply for themselves. George W. Bush (Jr.) during his last stages in the Office stirred the hornet's nest by stating that the largely populated Asian countries of India and China are primarily responsible for the impending danger of global food scarcity (Times of India, 2008). While there was a lot of counter attack on Mr. Bush for this irrational outburst, it should also be noted that the global population is inching close to seven billion and this is partly due to the population upsurge in the Asian countries. It is these countries and particularly India that should make all round efforts to retain the traditional character of an agrarian economy because agriculture to a larger extent provides raw materials to industries and these efforts should result in achieving the ever elusive four per cent growth in the near future. At the same time, it should also initiate policy measures to industrialize the rural parts of this country so that rural non-farm activities can generate additional sources of employment and income, and therefore, alleviate rural poverty.

Traditionally Classical economists, particularly, Smith, Malthus, and Ricardo, believed that a brick-and-mortar economy built on such strong foundation would easily take off to mass production and rapid economic growth when the development of service sector builds on this foundation. While this study does not venture into judgemental pronouncements about the desirability or otherwise of the phenomenon of rural occupational shift, it confines itself to suggesting that it should be well integrated (farm and non-farm) and not at the cost of one another.