

**LAND AND WORK IN THE RURAL PERIPHERIES  
OF LARGE METROPOLITAN CITIES**

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# Chapter 1

## Introduction

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The rate of urbanization in India shows moderate progression from 24% in 1981 to 26% in 1991 to 28% in 2001 and it is primarily large city oriented (Sivaramakrishnan et al, 2005). The recent trend of growth experienced by the million plus cities and agglomerations reveal that out of the six largest cities, five of them experience higher growth rate in their periphery relative to that experienced by the core<sup>1</sup>. Studies on third world urbanization also corroborate the fact that current era of urbanization is region based rather than city based. As transnational capital favour locations in and around largest cities owing to their infrastructural endowments, the rural areas lying in the vicinity of largest cities are more exposed to radical transformation. Such economic deconcentration towards the metropolitan periphery has the greatest implications for the people inhabiting the affected areas as their environment and also usual way of life is impacted. There would be therefore a two-fold impact upon the peripheral area of the city:

- ❖ Land-use change in favour of non-agricultural uses,
- ❖ Change in livelihood patterns of the people in the periphery in response to land-use changes.

The population dependent upon land based activities gets displaced from both land and livelihood as the city expands into the rural areas. Diffusion of urban influences tends to modify the nature of work in the peri-urban interface<sup>2</sup>. Ideally, the characteristics must represent a midway path between rural and urban. However, it is expected that regional specificities, nature of the dominant economic function of the city and the nature of dynamism of the city are distorting elements that hinder generalizations.

It is worthwhile to select the six largest metropolitan cities of Delhi, Mumbai, Kolkata, Chennai, Bangalore and Hyderabad which are undergoing rapid transformation in the liberalized era and attempt to look into the scenario of changing land and livelihood in their peripheries. This study however indicates only the broad trends of the

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<sup>1</sup> Examining the growth of the million plus cities in terms of the core (main city) vis-a-vis the periphery (urban areas around the main city in periphery), Sivaramakrishnan et al (2005) have identified four notable features: declining core-growing periphery, growing core -declining periphery an declining core- declining periphery,

<sup>2</sup> The term PUI has been used by Development Planning Unit (DPU) of the UK Department for International Development (DFID) which supports policies, programmes and projects to promote international development.

implications of land-use change in the fringes for changes in workforce structure in the fringe and calls for further in-depth enquiry.

### ***1.1 Statement of Problem***

Urban expansion and the processes and outcomes associated with the phenomenon of peri-urbanization encompass the arenas of space, class and gender. It has been observed that following globalization, the urban fringe areas have emerged as prominent locales where the forces of globalization and localization have met to give rise to newer socio-spatial formations that guide the path towards future research. It has been therefore established that the areas in the vicinity of urban centres are extremely dynamic in terms of changing economic base as well as livelihood strategies and outcomes and represent intense rural-urban interaction. Within such a spatial frame, the issue of the inter-linkages between land and livelihood and consequently the issues pertaining to employment in the vicinity of large cities arouse scholarly interest. Within the gamut of this discourse on the issue of land and livelihood in the context of urban expansion, it is important to integrate the gendered connotations of impact of change in the structure of the economy. Studies on gender dimension of work and the implications of change in technology change point towards disproportionate sharing of the benefits therein among the men and women workers. It is therefore worthwhile to look into the employment scenario in the vicinity of the largest cities and the gender dimensions therein and attempt to review the issue in relation to land-use change.

### ***1.2 Survey of Literature***

#### **1.2.1 Urban Expansion**

Urban and rural are two separate entities on the landscape. Outer boundary of city is well defined by its municipality. In general, at the outer boundary, the urban land-use abruptly gives way to rural land-use. However, the case is very different for the major urban centres (cities with one lakh and above population) in India where the built-up area has grown beyond the municipal boundary. Much of such development is haphazard and unplanned. Features like new residential colonies, partially developed or vacant stretches of land, partially developed residential plots, brick kilns etc indicate the physical expansion of the city (Ramachandran, 1989). This phenomenon of physical expansion of the city is referred to as urban sprawl. "Sprawl is considered to be an unplanned

outgrowth of urban centres along the periphery of the cities, along highways, along the road connecting a city, etc.” (<http://chesapeake.towson.edu/landscape/urbansprawl/>).

Population growth in the urban centre has been considered to be the single most important factor causing the city to grow beyond its municipal limits thereby engulfing rural land along its margins (Ramachandran, 1989; Marshall, Julian D, 2007). Marshall (2007) has proposed a model that explores how urban land area expands over time in response to growth in urban population<sup>3</sup> in the U. S. The expansion of the city leads to transformation of the villages along its peripheries which gradually get subsumed within the urban area. However, these villages may acquire urban characteristics and become urban or remain as pockets of rurality within the city. The process by which the village gets incorporated within the city involves a competition between rural and urban land-use. Over the question of land value, rural land-use most often loses as urban land rents are much higher (Nkambwe, M and W. Arnberg 1996)<sup>4</sup>.

### 1.2.2 Issues related to Peri-urbanization

In recent literature the phenomenon of over all transformation of the urban fringe villages have been referred to as ‘peri-urbanization’ (Dupont, V 2005). It encompasses the processes related to the development and progressive expansion of the urban fringe and also the formations that evolve in the process.

Studies point out the chief determinants of extent of urban influence on the villages as follows:

- distance from the core,
- extent of communication links,
- population size and principal function of the city (Kundu et al, 2002; Oliveau, 2005).

As distance from the core increases, indicators of development decline while those of social and economic backwardness increase (Kundu et al, 2002). Kundu et al (2002) found that there is a sharp fall in the values in the immediate periphery and less steep

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<sup>3</sup> The scaling relationship proposed is as follows:  $A \propto P^n$  where A is the land area and P is the population. Land area increases proportionally to population size raised to power “n”. Values of “n” vary among urban areas with a central tendency value of ~2 implying that on average, every new comer in the urban area occupy about twice the land area per capita of existing residents in U.S.

<sup>4</sup> The authors have studied the dynamics of land-use change in the village of Tlokweng on fringe of Gaborone in Botswana and have shown that urban uses compete favourably over rural land-uses under the principle of land rent in the free market. However, a host of complications arise in the absence of prevalence of free market.

decline beyond it which indicates the absence of continuum in space. They referred to this phenomenon as 'degenerated peripheralisation'. However, Oliveau (2005) trying to look at the phenomenon of peri-urbanisation in Tamil Nadu observed that there is clearly a presence of peri-urban space only around some of the Indian cities. He has found that the population size and principal function of the city determines the presence of peri-urban space. Cities with service sector as the dominating function tend to have a more distinct peri-urban space than other cities as the difference between these cities and surrounding landscape are most conspicuous. The nature of the peri-urban space and its extents are structured by the extent of communication links. The authors observed that the highly modernized pockets seem to be concentrated around the towns while the less modern zones are characterized by the relative absence of urbanization<sup>5</sup> (Kundu et al, 2002; Oliveau, 2005).

Bentinck (2000) focuses on the urban expansion of Delhi and its impact upon land-use and livelihood of the villagers in the peripheral villages. The study has found that urbanization caused massive land-use changes in the peripheral villages on one hand and on the other has caused the village households to improve and diversify their livelihood situation. It has also been found that the agricultural decline is only partial as many of the fields remaining were used for intensive agriculture and horticulture. The author argued that the pace of such urban transformation has been the causal factor behind the gradual subsuming of the village communities within the urban economy. Though Bentinck's study reveals the positive impact of urban expansion in terms of diversification of rural livelihoods and income for the households in the peripheral villages of Delhi, Reddy et al (2007) in their study at the peripheral villages of Hyderabad-Secundrabad have found the contrary. Reddy et al (2007) have sought to highlight the phenomenon of unjust land acquisition and land conversions taking place in the peripheral villages of Hyderabad-Secundrabad. The paper shows how the rural communities are alienated from their land which is translated in the form of displacement from their rural livelihoods aided by both public as well as private agencies in the name of development.

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<sup>5</sup> The indicators of the "modernization index" taken by the Oliveau (2005) are:

1) child sex ratio, 2) general sex ratio, 3) child-woman ratio, 4) literacy, 5) literacy sex ratio, 6) cultivated area per agricultural workers, 7) cultivators/labourers ratio, 8) industrial workers, 9) workers in service sector, 10) percentage of irrigation, 11) taxis and bus stops, 12) schools, 13) medical institutions.

### 1.2.3 Globalization and Peri-urbanization

Globalization has emerged as one of the most significant driver for structuring of peripheral lands of largest cities in the developing countries (Keivani and Mattingly, 2007; Aguilar and Ward, 2003; Adesina, 2007; Webster, 2002; Brook and Davila, 2000). The authors have observed that global capital inflow in the cities induce the growth of 'off centre business districts'. The emerging urban forms in the third world are products of "region-based urbanization" rather than city-based urbanization (Aguilar and Ward, 2003; p.4). The hinterland and the periphery of the large cities of the developing world are the sites where the leading changes are taking place associated with the impact of globalization upon such cities. Shift in the focus of growth of economic activities to the peripheries of the mega-cities from the mega-city itself is facilitated by emergence of environmental lobbies in the big cities (Kundu, 2003) that regulate the location of manufacturing units within the city coupled with shortage of land for expansion within the city (Keivani and Mattingly, 2007). It is also associated with easy availability of land and access to an unorganized rural labour market (Kundu, 2003; Keivani and Mattingly, 2007) besides lesser awareness and less care towards implementation of environmental regulations in the rural settlements in the urban periphery (Kundu 2003). Aguilar and Ward (2003) have therefore contented that the hot-spot of economic activities will be the periphery of the mega-cities where reproduction of labour will be concentrated in the 21<sup>st</sup> century. The two most significant features of the economic changes are

- The dispersion of manufacturing activities from the central-city areas to the peripheries<sup>6</sup>, and
- Change in the mix of dominant industrial activities within the periphery itself (Aguilar and Ward, 2003).

Empirical studies reveal instances of rapid development of FDI driven industrialization in peripheral lands of Bangkok Extended Region (Thailand), Metro-Manila Region (Philippines), Shanghai Extended Region in coastal China (Webster, 2002), In Abadan Metropolitan area in Nigeria (Adesina, 2007), Hubli-Dharwad (Brook and Davila, 2000) and Bangalore (Keivani and Mattingly, 2007) in India, Kumasi in Ghana (Brook and Davila, 2000) and in many other places. Dispersal of the city into the surrounding rural space connotes a more intense rural urban interaction that evolves transformation of land-use and occupations within the peri-urban areas (Lintello et al, 2001; Budds and Minaya,

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<sup>6</sup> Chakraborty (2003) observed that bulk of the post-reform investments are located within the existing clusters but in new locations within the region. He has cited the case of Greater Bombay where Thane and Raigad are the present preferred locations for investment.



1999; Davila et al, 1999; Allen, 2003) and calls for proper management. Unfortunately, most of the interventions that bear implication for the land and livelihood in the peri-urban context are generally components of other rural, urban or regional plan<sup>7</sup> that incorporate some concern for the peri-urban interface (PUI) for managing the inputs and outputs required and produced by the city and are not directly focused on the peri-urban interface (Budds and Minaya, 1999; Allen, 2003). Some of such projects include the Sustainable Cities Programme operating in Chennai, Local Agenda 21, Settlements, Infrastructure and Environmental Programme (SIEP), Metropolitan Environmental Improvement Programme (MEIP) and so on (Budds and Minaya, 1999).

Formulation of policy for the PUI and its implementation is challenged by the ever changing geographical location of the PUI itself along with the heterogeneity of the social groups residing there who are also constantly undergoing transition. These two factors along with the anomalous and fragmented nature of governance in the PUI hinder the formulation of any permanent institutional arrangement (Allen, 2003). Nevertheless, the dynamism and vulnerability inherent in the peri-urban locale necessitate policy intervention directed towards assisting the inhabitants in coping with the processes and outcomes. It has been observed by many studies that the extent of access to livelihood assets play a decisive role in enabling the peri-urban population in translating the spatial characteristics of the PUI into opportunities rather than constrains (Allen, 2003; Tacoli, 1999; Hanstad et al, 2004). The combined pressures of localization and globalization that are dominant in the PUI render the poor and the women especially vulnerable to the ensuing changes. Such socio-economic and spatial environment calls for multi-level policy intervention in the PUI that would essentially encourage access to opportunities and reduce constraints (Tacoli, 1999) with special attention directed towards the poor and women.

#### **1.2.4 Land and Livelihood**

Land in rural India is much more than merely a means of livelihood. Access to land has been considered to be of fundamental importance in rural India (Agarwal, 1998; Mearns, 1999; Hanstad, 2004; Cotula et al, 2006). There has been a positive correlation between incidence of poverty and landlessness in rural areas. Besides being a factor of

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<sup>7</sup> While the rural plans emphasize upon community planning techniques, the regional plans harp upon the reciprocal link between the rural and urban and the urban perspective concentrates upon management of the urban system and its hinterland and upon the quality of life of peri-urban dwellers (Allen, 2003).

production, land plays a variety of roles in rural India like serving as collateral in credit market, security in events of calamity and as a symbol of social status (Mearns, 1999). Access to even a small plot of land can place a household in a better situation with respect to livelihood prospects. Livelihood encompasses ‘access to, and benefits derived from, social and public services provided by the state, such as education, health services, roads, water supplies and so on’ (Ellis, 1998). The main components of the sustainable livelihood framework are:

- ‘Livelihood assets’- these are five different types of capitals viz. social, human, natural, financial & physical.
- ‘Transforming structures and processes’- this determines access to or lack of it to the capitals.
- ‘Livelihood strategies and outcomes’ (Tacoli, 1999).

Access to livelihood assets enables the individuals to ensure a basis of sustenance. Sen (1997; cited in Tacoli, 1999: p. 4).has argued that assets are not only resources that people use, but they are also what give people the capability to be and act. So, access to livelihood assets enhances the individual’s capability of transforming livelihood strategies. Land is a natural as well as physical capital which alone has immense implications for transforming livelihood strategies within the rural economy (Tacoli, 1999).

In the peripheral areas of cities, land altogether has different connotation with respect to the dynamism inherent in the region. Rakodi (1999; cited in Brook and Davila, 2000: p. 169) hypothesized that during the initial phases of urban influence, farm sector would benefit as farmers will tend to orient their crop mix towards the growing urban demands for high value farm resources. This will be the case for large farmers who can afford to invest in land. At a later stage of urban influence, when the land market will become very crucial with competing land values between urban and rural uses, farmers would tend to abandon farm enterprises vouching upon land asset as an income earning means. Rakodi (1999) mentions that under both circumstances, only the landed households benefit. It logically follows that those lacking access to land (marginal cultivators as well as farm labourers and women specially) become more reliant on casual wage work or less lucrative informal work. Also, unemployment rates may increase following reduced access to land.

Generally land and livelihoods are studied within the framework of “driver-feedback relationship” (McCusker and Carr, 2006; p.791) where it is generally assumed that livelihood change drives land-use change. Although livelihood change is the out

come of how people manage the livelihood assets, capabilities and activities (Tacoli, 1999), land-use change has been considered as a manifestation of local social processes and power relations (McCusker and Carr, 2006). Changes in the two essentially reflect the larger social reality and are intertwined processes. Changes in land and livelihood have been therefore looked upon as “co-produced” where “shifts in one are reflexive of shifts in the other” (McCusker and Carr, 2006; p.791).

Conversion of land from the different categories has different implication for livelihood. While the decline in the stock of agricultural land affects the agricultural population, i.e. cultivators and agricultural labourers, decline in the share of village common lands affect the rural poor and the vulnerable sections. Land dispossession displaces the agrarian population from their means of sustenance and also destroys their future prospects of diversifying livelihoods. Loss of the village common lands affect the livelihood of the poorest sections of the rural economy as it compensates partly for lack of access to privately owned land and other assets (Jodha, 1990) and allows the asset-poor households to diversify their livelihoods (Agarwal, 1989; Mearns, 1999; Jodha, 1990).

In the current era swept across by waves of developmental projects encompassing construction of roads and highways, communication hubs, real estates, other infrastructures and of late Special Economic Zones (SEZs) there is a high demand for acquisition of land. If land acquired for these purposes hail from categories like barren & un-culturable land, it is a positive development (Chadha et al, 2004). It does not adversely harm the livelihood of the rural communities. However, this is necessarily not the case. The case study in Tamil Nadu has shown that there has been change in land-use in favour of non-agricultural uses at the cost of cultivable waste lands and village common lands<sup>8</sup> (Ramaswamy et al, 2005). Studies on land acquisition for industrialization and other developmental purposes like extension of physical infrastructure, urban expansion, SEZs and so on reveal that agriculturally productive land has moved out of the stock (Chandna, 2008) accompanied by a gamut of unjust compensation policies for the affected farmers marginalizing their livelihoods (Guha, 2004; Dutt, 2007; Basu 2007; Bhaduri, 2007; Sau, 2007). The study of the case of New Bombay by Parasuraman (1995) has revealed that state intervened land acquisition has affected the peasant cultivators and fishermen

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<sup>8</sup>Village commons or the common property resources have been variously conceptualized to comprise mainly of permanent pastures and other grazing lands and land under miscellaneous tree crops and groves, and partly of barren and uncultivated lands, culturable wastes and some forest lands by Ramaswamy et al (2005).

adversely marginalizing them from productive work and reduced their access to the traditional productive assets.

### **1.2.5 Issues related to Employment**

#### *a) Employment and Development*

Employment is intricately related to the issue of livelihood and in turn with development. Structure of employment in the economy has been considered to be reflective of the level of economic development. Clark-Fisher thesis on economic development harped upon the phenomenon of gradual shift of workforce from the primary to secondary and tertiary sectors as the economy moved upward the ladder of economic development. Within the dual economy model, Lewis (1954) has talked of transfer of surplus labour from the less dynamic subsistence agricultural sector to the capitalist modern sector. In the process, the economy gradually becomes self sustaining dominated by the modern sector when all the surplus labour has been absorbed by the latter.

Within the context of developing economy, especially India, employment is the means of livelihood. Livelihood is much more than mere income. Livelihood encompasses income, social institutions, gender relations and also property rights (Lipton and Maxwell, 1992; Ellis, 1998). In rural India, agriculture forms the basis of livelihood and also the principal employment provider. So, any kind of development that threatens the already scarce availability of employment, at once threatens the prevailing livelihood strategy of the population. Planned development tries to finance industrial development from surplus extracted from agriculture. It has been argued that although the mechanism of inter-sectoral labour transfer cannot be isolated from utilization of agricultural surplus, forcible extraction at high rates may act as a 'push factor' that may 'force' workers in agriculture to out-migrate rendering them forsaken and devoid of livelihood (Bhaduri, 2006). Therefore, Bhaduri (2006) has argued against the Schumpeterian process of 'creative destruction' and have argued that development strategy should be such that it should create more income earning opportunities than it destroys.

#### *b) Employment Trends in the light of Liberalization*

The economic reforms were introduced in India in 1991 with the objective of tiding over the crisis in balance of payment. It essentially opened up the Indian economy to free movement of transnational capital. It was argued that liberalized regime would remove

the restrictions of quotas and controls that will smooth the path of growth and development (Dutt, 2003). However, scholars were apprehensive that the benefits of growth will be shared unequally with the vulnerable sections being marginalized (Kundu, 1997; Chadha and Sahu, 2002). They feared that job creation that will take place under liberalized regime would be of such a nature that only some sections of the population would be benefited as it will entail specialized skills. It was found that although acceleration of GDP growth took place, it was not accompanied by commensurate growth in employment (Dutt, 2003). Studies looking into the impact of liberalization on employment have revealed a disturbing situation, more so regarding rural labour and employment of women. Studies have pointed towards the following:

- Dualism within the labour market has got sharpened: a steadily upcoming market for the educated, trained and skilled job aspirants simultaneously with a declining market for the semi- or unskilled and untrained job seekers. So quality of manpower has become very important for fetching job. The rural workers and female rural workers specifically have been found to manifest setbacks in employment scenario because of their lower human capital indices.
- Post-reform era has been found to be witnessing a halting pace of sectoral diversification of rural workers towards non-agricultural work. Women in rural areas are worse affected than the male counterparts and continue to remain heavily tied to the agricultural sector.
- In rural India, casual employment has been steadily rising at the cost of self-employment. In rural areas it means displacement of people from self-cultivation to swell the rank of landless agricultural labourers (Chadha, 2001; Chadha and Sahu, 2002; Bhalla, 1999; Kundu et al, 2005).

*c) Trends in Work Participation Rates (WPR)*

Deshpande et al (1998) have tried to look into the short run impacts of liberalization upon labour market in India. It was seen that demand for labour increased following liberalization but this was shared quite unevenly across regions and sexes. On the whole, demand for casual labour increased. Two most notable phenomena were casualisation of work and feminization. They also observed that gender differentials of wages widened further after liberalization. Bannerjee (1997), however, has argued that there has been no feminization of workforce following liberalization. The tasks which are being hyped as to have become feminized have always been the exclusive realms of women.

Work participation rates defined by usual status was found to be almost stable before the 1990s but declined thereafter. WPRs have declined in rural and urban areas for both males and females. Even the growth rates of employment declined sharply (Kundu,

1997; Chadha and Sahu, 2002; Dutt, 2003; Kundu et al, 2005). Dutt (2003) considers this to be due to lower growth rates in employment than growth rate of labour force which has resulted in increase in unemployment.

However, there has been an increase in WPR analyzed by weekly as well as daily status for both men and women. This is a clear indication for increase in part time short duration jobs (Kundu, 1997; Chadha and Sahu, 2002; Dutt, 2003; Kundu et al, 2005). This is particularly true for women. The phenomenon of feminization of work in the recent years is explained by growing demand for short duration informal work especially in urban areas that more conveniently employ women (Kundu, 1997). It has been argued that employment situation worsened on the post 1990s at a greater degree in rural areas compared to the urban areas (Kundu et al, 2005).

Casualisation of the labour market has emerged as a significant phenomenon and has been captured by weekly and daily status. While most of the scholars have found that the labour market has experienced increasing casualisation of labour, more so following liberalization (Vaidyanathan, 1994; Deshpande et al, 1998; Bhatt, P. R., 2003; Singh, Ajit Kumar, 2003; Bhaumik, S. K., 2003), Kundu et al (2005) observed that growth rates of casual workers works out to be lower during 1993-99 from the previous estimations the decline being sharper for females. It is generally believed that trends of casualisation of workforce resemble deteriorating work conditions. However, Papola (1997) has argued that whether condition of work is deteriorating or not is determined by the nature of shift of sectors. That is to say, if shift takes place between low return subsistence agriculture and relatively better remunerated casual work, it is not a case of deterioration.

With regards to status of work it was expected that wage employment would reduce while self employment will increase and that regular work will decrease at the cost of casual work following liberalization (Deshpande et al, 1998). The proportion of self-employed to total workers reveals a declining trend over the recent twenty year period. While the proportion of regular salaried workers has remained almost same, there has been a clear trend of casualisation of work. This has been true in rural as well as in urban India. Self employment activities and casual work are higher for females in both urban and rural areas while the males are in a favourable position with respect to regular salaried work (Bhaumik, 2001). Bhaumik (2001) has observed a clear break of trend in the year 1993 that marks the increasing rates of casualisation following the reforms. However, Kundu et al (2005) have found that regular salaried work for urban females has gone up but these sub-categories of work are of informal nature and are low paid.

*d) Sectoral trends*

Literatures relating to employment and workforce structure are abundant. Sharp shift of workforce out of agricultural sector has been observed by many studies. Increase in non-agricultural jobs has been observed unanimously by all scholars although its rate has not equaled the rate of increase of income derived from non-agricultural sector (Vaidyanathan, 1994; Bhatt, P. R., 2003; Singh, Ajit Kumar, 2003; Bhaumik, S. K., 2003; Kundu et al, 2005). This clearly indicates the prevalence of disguised unemployment in agriculture. However, growth of non-farm jobs in rural areas is often interpreted as indications of sectoral diversification<sup>9</sup> of the rural economy. But, the females have largely continued to remain in agriculture leading to feminization of the agricultural sector (Chadha and Sahu, 2002).

The rate of growth of non-farm employment was below that in urban areas in the 1980s and the gap widened during 1993-99. The slowing down of diversification has affected the rural population and women the most. However, the tertiarisation of the urban economy is mostly due to informalisation of work (Kundu et al, 2005).

The increase in rural non-agricultural employment has been observed to be principally in the manufacturing, trade and services. Within the manufacturing sector, construction work has registered the most notable growth. However, such a trend, especially in rural areas during 1972 to 1987-88 has been attributed to special employment programmes launched by the government under various anti-poverty programmes (Vaidyanathan, 1994; Kundu et al, 2005). Growth of manufacturing in urban areas has however declined as much of these work are subcontracted and performed at household level (Kundu, 1997).

Service sector has been growing enormously between 1981 and 2001, more so between 1991 and 2001.

In rural areas, self-employment has been the predominant mode of employment apart from wage work. In urban areas, both regular employment and self-employment are important (Bhaumik, S. K., 2003).

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<sup>9</sup>There has been a debate on what has led to rural diversification. Mellor (1976) was the chief proponent of agricultural growth led diversification while Vaidyanathan (1986, 1994) proposed the Residual Sector Hypothesis relating to distress induced rural diversification. However, urbanisation induced diversification is yet another factor leading to rural diversification.

### 1.2.6 Urbanization and Rural Non-farm work

“Livelihood diversification is defined as the process by which (rural) families construct a diverse portfolio of activities and social support capabilities in order to improve their standards of living” (Ellis, 1998; p. 4). This phenomenon principally stems from agricultural development (Mellor, 1976), rural distress (Vaidyanathan, 1986, 1994) and rural-urban growth linkages (Hazell and Haggblade, 1991, Kundu et al, 2005; Eapen, 2001). Studies probing into the growth, development and trends of the rural non-farm sector in India are numerous (Basant and Parthasarathy, 1991; Basant, and Joshi, 1994; Chadha, 1993, 2002; Mahajan, 2002; Mahendra Dev, 1994; Singh, 1994).

Studies looking into the role of urbanization in the development of rural non-farm sector reveal a positive relationship between the rate of urbanization and the proportion of workers in the non-agricultural sectors in rural areas. Extent of rural non-agricultural employment and the size of the urban centre are interrelated (Kundu et al, 2005). This may be mixed up with the impact of large villages in a region. A large village performs the function of a small town. It is seen that the proportion of workers in the non-agricultural sectors is higher in large villages (Basant and Parthasarathy, 1991).

Distance plays the most important role in determining the intensity of urban linkages. Closer is the village, greater are the chances of the village economy being influenced by the urban processes. The urban centres create a demand for semi and unskilled labour that induces commuters to commute to the city for work. Rural areas undertaking non-agricultural works of urban areas of the nature of sub-contracting show higher non-farm employments (Datta, 2002). Such a phenomenon occurs in order to take advantage of lower labour costs and lower land values. Also urban infrastructure has its role to play in increasing rural non-farm employment. As roads improve, more people commute to the urban centre for work (Eapen, 2001). Jayraj (1994) observes that the capacity of the urban centre to emit growth impulses in the rural hinterland determines to what extent rural employment diversification will take place in response to urban influences<sup>10</sup>.

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<sup>10</sup> The author observed that rural areas of taluks around Coimbatore, Madras and Salem registered greater proportion of non-agricultural employment than those around Madurai and Tiruchirapalli. This implies that the economies of Tiruchirapalli and Madurai, when compared to Salem, Coimbatore and Madras, are not strong enough to spread their impact upon the rural non-farm sectors of the nearby taluks.



### 1.2.7 Education and employment

Education has been considered as a factor that enables skill formation. Higher skill level raises the productivity of labour as well as of physical capital. Skill is the key factor governing employability of an individual. So, logically it is postulated that higher the education level of an individual, higher will be his skill level and greater will be his chances of finding employment. Employability encompasses the skills and knowledge of the worker, his capacity to obtain a job and also retain it and progress in the field. It also includes the capabilities of the worker to leave one job and secure another as and when required (ILO, 2002). However, in India, empirical studies looking into the interlinkages between education, skill and employability portray a somewhat different scenario that calls for serious deliberations.

An inverted U-shaped relationship between unemployment rate and level of education has been commonly observed through case studies in developing countries (Mehtar, 1995). With globalization, the nature of labour market has undergone some changes. Deshpande et al (1998) looking at education-specific participation, found that the demand for both skilled as well as unskilled labour increased following liberalization. Increased demand for skilled labour is explained by the entry of the technology intensive industries. Demand for unskilled labour is raised by the shift from capital intensive import substituting industry to labour intensive export industry. Singh (2003) noted that

- With an increase in the level of education there has been an increase in the proportion of the skilled labour force. This association has been particularly strong for secondary level educated cohorts across sexes.
- Studies have also revealed that highest concentrations of skilled non-workers are associated with high education levels.
- Lower the level of education, lower has been the incidence of unemployment.
- Among the educated unemployed, 69% do not possess any skill. But, the remaining 31% of educated unemployed possess skill but continue to remain unemployed which has been a matter of serious concern.
- A remarkable high rate of unemployment has also been noted among technically educated persons as well.
- There has not been any significant relationship between occupational mobility and education level. However, the reverse directions of occupation change at many instances (especially for professional and technical workers) reveal the economy's inability to enable vertical occupation shifts<sup>11</sup> (Singh, 2003).

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<sup>11</sup> Singh (2003) has however put a note of caution as the different occupational groupings in the National Classification of Occupations are likely to have many interlinkages and therefore entails intensive empirical investigations for conclusive inferences. The author also mentions that though mobility is a voluntary act, in the NSSO rounds used in his study, such mobility includes involuntary ones caused by closure, lay off etc.

Vaidyanathan (1994) has also noted that the most alarming issue in the arena of employment in India is the growth of educated unemployment. Sahu (2002) has observed that majority of the rural workers in farm as well as non-farm sectors are devoid of substantial education.

Scholars looking at the trend of educated people not finding employment have sought to probe into this alarming issue. Cohen (2002) has argued that technological progress associated with globalization will lead to declining returns to education in the developing countries as it enhances the demand for low skilled workers. In India, prior to globalization, education was the key to achieving the desired goals. But following globalization, a mismatch between skill level of the labour force and required skills for new jobs created in the emerging labour market has been observed by the scholars (Chadha and Sahu, 2002; Sharma et al, 2002; Ramachandran, 2002; Singh, 2003). There is also a lack of balance between intake-outturns of technical education institutions and suitable job creation, even technically trained persons remain unemployed or underemployed (Ramachandran, 2002). Singh (2003) reflecting upon skill, education and employment issues has stated that unemployment is principally due to lack of adequately skilled and dynamic labour force. Although skill and education level are co-terminus, it is found that unemployment rates are lowest for moderately educated persons<sup>12</sup>.

### **1.2.8 Women and Employment**

#### *a) Measurement of Women's Work*

Gender disparity in work is an empirically observed phenomenon. Such disparity is partly the result of problems regarding capturing of women's work besides the discriminations faced by the women workers at various levels. Baneria (1988) has pointed out two basic issues regarding obscurity and low value attached to women's work that lead to its under-enumeration:

- The first issue is related to conceptualization of women's work. Women's work is considered to be 'subordinate' to that of men. The author has stated "... *the ideological aspect is reinforced by the pervasive lack of a clear conceptualization of the role played by women at different levels of economic life*" (Baneria, 1988: p. 373). The issue is related to the 'conceptual bias, cultural perception' that men are the breadwinners of the household and that work done by women is not economically significant and is often considered as non-work (Afzal, 1992: p.42).

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<sup>12</sup> Singh (2003) has found analyzing NSS 43<sup>rd</sup>, 50<sup>th</sup> and 55<sup>th</sup> rounds that lower the level of education, lower is unemployment rates. The author infers that there is a demand bottleneck in the case of educated labour force.

- The second issue is related to capturing of women's work. Work is conceptualized as participation in paid production such that it becomes an income-earning activity. As economically gainful activities are only enumerated in the accounting of national accounts statistics, the economic contribution of the women folk are not captured who are primarily engaged in subsistence production.

In addition to these, generally it is the male members of the family who respond for the females of the family which often leads to distortions in the reporting to a certain extent. Also the questions are framed and canvassed in a manner that fails to capture women's work in its entirety (Afzal, 1992). So, the problem is with the system "by men for men" (Richards, 1988: cited in Jenkins, 2004; p. 9) that looks upon men as the usual phenomenon and women as a deviant (Jenkins, 2004).

#### *b) Women's Place within the Labour Market*

Scholars are undivided in their opinion that men and women operate in different labour market contexts. The operational norms of the labour market and the motivation behind entry and exit from the labour market are different for men and women even if they hail from the same household. The position of men and women in the labour market is the result of segmentation of the labour market based on gender and the importance attached to the home sphere in their respective lives (Jenkins, 2004). Scholars have argued that the unfavourable position of female workers is the result of combination of discrimination of women at principally three levels:

- "in societal and household efforts to improve their skills endowments;
- in limiting opportunities for wider economic participation; and
- in entry and upward mobility in employment" (Papola & Sharma, 1997; p. 347).

This is manifested in the labour market through non-employment of women, their dominance in low end jobs and lower wage rates than men (Papola, 1997; Deshpande et al, 1997). According to the labour market theorists this is due to the fact that the employers perceive that since women have more responsibilities in the home sphere, their commitment towards work sphere is much less than men. However, the feminist geographers argue that it is the burden of domestic responsibilities that do not allow a flowering career for a woman and therefore determine her subordinate position within the work sphere.

*"Labour market segmentation is a historical process whereby political-economic forces encourage the division of the labour market into separate sub-markets, or segments, distinguished by different labour market characteristics and behavioral rules"* (Reich et al, 1980; p. 233). The scheme of dual labour market was initially developed by

Doeringer and Piore in the 1960s. This is commonly referred to as first generation of segmentation theory. The labour market is segregated broadly into two segments based on the job characteristics:

- firstly, there is the primary sector i. e. the formal sector that is noted by stability of job, high skill level of the workers with high pay and possibility of career advancement;
- secondly, there is the secondary sector i. e. the informal sector that is marked by considerable casual nature of work and does not require high skill level of the workers.

Barron and Norris (1976, p. 53: cited in Jenkins, 2004; p. 6) have observed five attributes that make any social group a worker in the secondary sector. These are 'dispensability, clearly visible social difference, little interest in acquiring training, low economism and lack of solidarity'. The authors have argued that since for women, home-making and childrearing are the primary responsibilities, their commitment towards paid work acquires secondary importance. Also, for married women, their income assumes only a supplementary importance with regards to family income that leads to their weak attachment towards work. Due to such causalities, women are the common source of workers in the secondary sector. Theorists also argue that women's access to the stable sector is restricted by their 'gender role constraints' meaning that they have alternative role outside the waged labour market (Jenkins, 2004: p. 8).

The second generation of segmentation theory developed by the radical theorists during the 1970s considered the labour market segmentation as a capitalist strategy to gain control over production process (Reich et al, 1980). The capitalists, by virtue of conscious effort, sought to maintain low return rates and instability in the secondary sector to guard the interests of the employees in the primary sector. A process of employment de-skilling is performed by the capitalists by mechanizing most of the operations. So, less skilled people who are interested in devoting less time for skill formation may be employed which also reduces cost of the firm. Women take up most of these less-skilled jobs. So, within the primary sector itself, two internal hierarchical segments come to play. They are termed the "subordinate" and the "independent" primary jobs (Reich et al, 1980; p. 233). The subordinate jobs are ones that are routinized and encompass the regular office jobs. The independent primary jobs entail creativity, problem solving, self-initiating characteristics and often have professional standards of work.

The socialist-feminist school of thought that emerged in the early 1980s sought to explore the interdependencies between a woman's public, work sphere and private,

domestic sphere. It encircled around the fact that women are increasingly trying to combine home and work. The gender division of work was seen as an outcome of contemporary economic restructuring. Gender division of labour market was looked upon as a factor behind production and locational change of the major industries. The socialist-feminist school studied the changing gender composition of employment and unemployment in terms of their impact upon composition of local class relations. It was recognized that men and women operate in different labour markets with very small region of overlap between them. From the socialist-feminist school of thought emerged the third generation of segmentation theory which noted that the nature of labour market is modified by the factors stemming from division of labour within the domestic realms (Jenkins, 2004). In short, it was recognized that an understanding of women's position in the labour market entails an understanding of the inter-penetration of home and work spheres. So, women's work is a multi-causal phenomenon and is only partly explained through the dualistic labour market models. It was further recognized that women in general does not comprise a homogeneous group and that place per se is an important category in determining the nature of labour market. Thus the fourth generation of segmentation theory emphasizes upon the dynamics of local labour supply and differentiation of women.

More recently, Hakim (1995, 2000: cited in Jenkins, 2004; p. 23) has stated that women suffer a disadvantageous position in the labour market not because they are exploited by institutional factors or structures of patriarchy, but by virtue of their own choices. He argues that that modern women choose to enter into the dual role where she has to struggle constantly to strike a balance between home and work and therefore prefers her career to suffer. This is referred to as the Preference Theory. This theory recognizes personal preferences as a significant determinant of women's behavior which has become a feature of 21st century's modern lifestyle.

### *c) Rural Women and Work*

Agriculture still forms the basis of rural livelihood in India and most of the developing countries. While men are conceptualized as the sole "bread-winner" of the household and the women as the "non-working dependent housewife" (Mies et al, 1986: p. 4), it is the women who contribute 3/4th of the labour required for agricultural operations (Mies et al, 1986; Patnaik and Debi, 1991). Majority of the women workers in rural areas are in

agriculture. Yet, their high work participation rate goes unnoticed as it is generally perceived to be a logical extension of house-work.

It has been observed that proportion of women employed in agricultural sector has risen continuously with simultaneous outflow of men from the sector. This phenomenon has multiple interpretations. While men have shifted to non-farm activities, women have not been able to take the benefits of higher return jobs because of their lack of skills and also due to their burden of household duties. Initially, women used to work mostly as unpaid casual labourers in the family farms. But with men leaving agriculture, the responsibility of the family farms have come to rest with the women who, however, continue to have the subordinate position (Aggarwal, 1989). Banerjee (1997) has however observed that feminization of agriculture has taken place only in those areas and operations which have had an established tradition of higher female participation. Infact, with increasing modernization of agriculture also the women participation in the sector has undergone modification. With the emergence of the seed-fertilizer technology, volume of manual work like weeding and seeding have increased that increased demand for unskilled women workers. Again, with mechanization, women agricultural workers were displaced to certain extent (Roy, 1995). So, the phenomenon of feminization of agriculture also must be accepted with certain degree of reservation.

Work of women is qualitatively different from that of men. Whatever agricultural operations men perform are those that require sophisticated implements and use draught animals or any other mechanical or hydraulic source of energy. But, the women's part of work employs the hand and body of the women and utilizes human energy only. Mechanical energy is more efficient than human energy. So, tasks undertaken by women are considered to be less skilled and hence less productive than men's work (Mies et al, 1986). However, women's 'less productive manual labour' is a necessary precondition for maintaining the men's productive work (Mies et al, 1986: p. 64). The women, besides performing agricultural tasks like preparing the seed beds, transplanting, weeding etc., performs tasks like cooking food for the workers, feeding the cattle before they go to field, takes care of the hut and its surrounding that is necessary for the wellbeing of the family. Without the women's efforts, the work of the men of the household is not possible. But, as the common belief runs, all these essential tasks are considered to be only an extension of domestic work of the woman.

In rural India, where majority of the population dwells in abject poverty, the earnings of the male member do not suffice the needs of the household. In India,

especially in rural areas, participation of women in the labour market is inversely related with economic prosperity of the household. Landholding size and hours of work of the females is also inversely related (Patnaik and Debi, 1991). Papola (1997) has therefore cautioned that high rate of female work participation may not be a positive development. A probing analysis of the nature of jobs must be taken note of. Higher female WPR is guided by the factor of poverty where maximum number of members in the household need to take part in some kind of work. So, entry and exit of women of the household is flexible and depends upon the changing economic condition of the household. Therefore, income of the female member assumes only a supplementary value. However, studies have shown that a larger share of the woman's earning goes into the household expenses than that of the man although her income is less than the male counterpart of the family and also her consumption basket is disproportionately meager. Women's earnings have greater welfare impact upon the household (Mies et al, 1986; Aggarwal, 1989, 1998; Patnaik and Debi, 1991) although she consumes much less than what she contributes to the household.

#### *d) Technology and Women's Work*

Scholars have found that when the economy moves away from the traditional methods of production towards the modern economic system women workers fail in reaping the benefits of such a development (Boserup, 1970, Parthasarathy and Nirmala, 1999). While the men are able to adjust to the emerging system of work, women tend to get marginalized to those sectors of work which continue to employ the traditional method and do not call for newer skill formation. Mies et al (1986) have stated it as "*a process of internal colonization, a polarization between rural and urban centres, between various sections of the population and generally between men and women, particularly in rural areas*" (p. 4). Marginalization of women is manifested through:

- exclusion of women from productive employment either in the form of a decline in the overall work participation rates of women or a decline in their share in wages to salaried employment
- concentration of all working women in the informal sector or in the unpaid categories,
- segregation of women in certain types of jobs which are low in the occupational hierarchy and are low paying and low status, commonly referred to as 'feminization' or segregation in employment,
- economic inequality reflected through wage differentials and casualisation of female labour force (Scott, 1986; cited in Parthasarathy and Nirmala, 1999: p. 123).

This is particularly true for rural women as they fall way behind the men and also the urban women in terms of education and skill levels. Empirical studies point out that women have suffered a decline in overall work participation and shift have occurred towards low paid occupations (Parthasarathy and Nirmala, 1999; Kundu, 1997) and they also constitute majority of the agricultural labourers (Pai, 1987). Women workers face exploitation through wage rates that are lower than that of the male counterparts for the same basket of activities. The study of Mies et al (1986) noted that in their study area when modern agricultural technology was introduced by the land lords, it displaced only male labour allowing the tasks specialized by the female agricultural workers to remain within their realm. This way agricultural development enabled the rich land lords to maximize profits through continued exploitation of cheap female labour and mechanizing the tasks of expensive male labour.

Modern agriculture in India ushered in the tradition of high yielding variety seeds, commercialization and mechanization of agriculture. The HYV technology augmented the demand for casual labour, especially for the female, because HYV technology increased cropping intensity and demand for labour for specific tasks that were exclusive realms of the females (like weeding, transplanting and harvesting). However, there emerged also the dichotomy of increased income that induced withdrawal of family female labour. The net impact upon female casual labour was the balance of such positive and negative demand (Aggarwal, 1991). There was also increase in the demand for permanent labourers which accounted for the male agricultural workers only. Such a task-specific nature of labour demand induced by modern agriculture also meant that *“women dependant on such work for their livelihood (agricultural labour households) are likely to be especially vulnerable to the introduction of technologies such as rice transplanters, weedicides, power operated paddy processing mills etc. which would decrease the total demand for female labour for such operations”* (Aggarwal, 1991: p. 243-244). The HYV technology increased the working hours of the females in the cultivator as well as agriculture labour households although it does not ensure greater control over the incremental income. Infact it has been noted by Roy Singha (1995) that *“the material prosperity that agricultural development and occupational mobility have brought have increased the gender gap in the access, control and ownership of property”* (p. 199). So, the implication of improved agricultural technology upon rural women’s work is a complex issue and must be looked into in the light of existing sexual division of labour in

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the field and home, prevalent institutions, intra-household differences in income and consumption and so on.

*e) Rural Non-Farm Work and Women*

For rural female workers, construction, transport-communication-storage and mining-quarrying have been identified as areas of high employment growth in the pre-reform period. This was partly due to the drought conditions of the 1987-88 which caused shift of rural labour to non-farm work and also due to the short term public relief works that increased rural non-farm work on a temporary basis. However, following the reforms the growth of employment suffered in the rural areas more for the females than that for rural males and urban workers. It was clear that the rural female workers concentrated in the low return agriculture sector (Chadha, 1999). Chadha (1999) considers the loss of 'restructuring verve of 1980s' (p. 147) in rural areas to be the principal cause of this phenomenon along with the lack of education and skill of rural women to fetch them better return non-farm employment. In spite of the dispersal of industries in the rural areas, the women have not been able to find satisfactory place within the emerging rural non-farm economy. Chadha (1999) has noted that "*it is for sure that the rural workforce in India, more certainly the female partners among them, is not yet ripe to enough to take up more specialized and skill-oriented industrial jobs*" (p. 154). Following the economic reforms, with the waning away of the traditional village crafts and dwindling agricultural economy, the lack of skill and education of the females in rural India has proven to be their 'Achilles' heels' (Chadha, 1999).

*f) Globalization and Women's Work*

Globalization has marginalized the vulnerable sections in general and the women in particular. The women have largely failed to grasp the economic opportunities created through globalization (Mukherjee, 2004). With liberalization of the Indian economy, most of the structured economic activities underwent technological restructuring. Studies have shown that women have not been able to adapt themselves to the new techniques. The organizational changes that are taking place are creating jobs which are "not suitable for women" (Papola, 1997). Therefore, they are forced to take refuge in the informal economy (Mukherjee, 2004). However, with growing trends of subcontracting in the urban economy, a process of organized informalisation is emerging for the women workers. Whatever may be the wage rates or working conditions, it is of a more regular

kind of work and female workers in this sector do not report as self-employed (Kundu, 1997).

The international division of labour was directed towards regional specialization of work on the basis of comparative advantage of the countries. Therefore, the one of the aims of the enterprises in post globalization era was to maximize profit through minimizing labour costs. Liberalization dismantled the rigidities of labour legislation and gave flexibility to the employer. The type of jobs created under this environment of flexibility of organization suited the women. This led to the phenomenon of feminization of work<sup>13</sup> (Banerjee, 1997; Papola, 1997). Banerjee (1997) has argued that in the Indian economy, feminization of work has really not taken place in remarkable scale in India as has been the experience of other globalizing developing economies. Her study has revealed that there has been increasing feminization of few specific sectors of work (like jari work and textiles) which were already within the realms of women. So, in her opinion, feminization of work in India is yet to take place.

### **1.3.9 Emerging Issues from the Survey of Literature**

The section discussing the survey of literature tries to grapple with a number of issues that have received considerable academic attention. The following may be pointed out as the areas requiring greater academic attention:

- The phenomenon of peri-urbanization with focus on land and livelihood is an interesting area of study. A comparison of the processes operative in the context of different size-class of urban centres, offering varying socio-spatial and economic contexts would be interesting to note. Under liberalized regime where the terms of rural-urban interaction and the outcomes are considerably modified, it would be worthwhile to reflect upon the said issue from a multidimensional perspective.
- The differing size and economic bases of the cities serve as a determining factor for the extent of its influence upon its hinterland. The degree to which globalization would impact this process also depends upon the nature and characteristics of the core city. Therefore, in order to understand the variations in the processes of rural-urban interaction in the vicinity of cities and peri-urbanization it is important to study the city level characteristics for attempting to explain the variations in the behaviour of the peri-urban spaces.
- The inter-linkage between change in land-use and livelihood in general and within the peri-urban areas in particular has not been explored adequately. While it has

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<sup>13</sup> The term “feminization of work” was first coined by Guy Standing of ILO. Feminization can take either through women replacing men in the jobs that were previously held by the latter or it could be the result of a development whereby new additional jobs go to women on terms similar to those normally offered to women workers.

been acknowledged that land within the rural economy has manifold connotations, in the peri-urban areas they assume an even over-powering significance. In this ever changing locale, access to land as a natural as well as physical asset appear to have immense implications for structural changes under way in the area under review. In addition to the issues pertaining to changing land-use and livelihood in response to urban expansion, the current era of land acquisition for the industrialization has attracted considerable attention from various quarters. With the proliferation of Special Economic Zones in the recent times this particular issue has assumed prominence and has aroused serious agitation amongst the agrarian communities who are faced with this phenomenon. The issue of land-use and resultant livelihood transformation in the light of the debate on the development paradigm pursued by the state requires serious academic attention with a focus on the availability of alternative livelihood options for the affected people.

- Enough academic attention has been bestowed over the issues of rehabilitation and compensation policy associated with displacement from land and resultant economic displacement perpetrated by large development projects and SEZs. However, similar issues consequent upon urban expansion into the peripheral agricultural land have not received adequate concern from the academia. These issues, therefore, need deeper and further probe taking into cognizance the discrepancies in the compensation rates offered by the government and private agencies.
- While it has been unanimously acknowledged that women are assigned a secondary position within the realms of private as well as public spheres, and that the negative fallouts of any aspect falls upon the women disproportionately, it may be logical to look into how she negotiates the dynamisms inherent in the peri-urban space in the face of gross incapacities ensuing from her disadvantaged position in the society. It may be also noted that following liberalization, some of the tasks have become feminized. Yet, it would be interesting to decipher how the rural women who are subjected to the radically changing economic base in the vicinity of cities negotiate their livelihood strategies.

Only few of these emerging issues have been accommodated in the present study owing to limitations of available data and stipulated time. The issues that have been focused upon have been outlined in the objectives.

#### ***1.4 Objectives of the Study***

In the current era the peripheral lands of largest cities have emerged as the hubs of economic activities. The processes of industrial de-concentration away from the cities towards its peripheries have been accentuated by the forces of globalization. This dissertation aims to look into the employment scenario in the vicinity of the large cities in relation to the scenario noted in the region at large and the impact of the economic reforms upon it. The gender dimension of the said issue has been also looked into within the framework of district around the metro vis-à-vis the state. A humble effort has been directed towards understanding of the impact of land dispossession upon the people

dependent upon it in the peripheral areas of Delhi. The specific objectives of the dissertation may be outlined as follows:

1. To analyze changes in the work-force structure around the large metropolitan cities a decade before and after the opening up of the Indian economy, with a view to compare these changes with the ones that has taken place in the rural areas.
2. To look into the gender differentials of work participation, workforce structure and status of work in the districts around metropolitan cities vis-à-vis the respective states.
3. To compare critical elements of livelihood status between displaced farmers and the farmers who continue with agriculture as their primary source of income in a village located near Delhi.

### ***1.5 Research Questions***

1. Is there any indication that the land-use changes in the urban fringe have any implication for changes in workforce structure?
2. Are the fringes reflective of the critical changes experienced by the large cities in the post-reform era? Has there been any evidence of such impact upon the livelihood in the fringes?
3. Does the periphery of cities exhibit a more acute form of casualisation than that exhibited at the state levels?
4. What is the skill level of the agricultural population? Are their educational endowments sufficient for them to get absorbed in the growing non-primary sectors in and around the urban areas, particularly after they are displaced from agricultural occupations as a result of acquisition of their farm-lands?
5. Are the processes of physical and economic displacement related? If so, is the latter restricted to cultivators who own the acquired land or also others who depended on these lands for their livelihoods?

### ***1.6 Database***

- Secondary data on land-use and age-wise workforce at the state and district levels have been obtained from:
  - Indian Agricultural Statistics for the years 1979-80, 1989-90, 1999-2000
  - Economic Tables, B-Series, Census for the years 1981, 1991 and 2001
- Primary data have been collected through a field survey conducted in April 2008.

### ***1.7 Framework of Analysis***

Recent trend of urbanization has been observed to be concentrated in the peripheries of the large cities rather than the city itself. The forces of globalization have accentuated the processes of industrial de-concentration towards the peripheral lands in the developing countries. Such a phenomenon entails modification of livelihoods of the people residing in the affected areas. While changes in the land-use form one of the impetuses for transformation of rural livelihoods, the broader stimulation is provided by the forces

emanating from the city. Under such circumstances it may be argued that the fallouts of this phenomenon will have different implications for men and women.

For this analysis, the principle thrust has been on age-wise rural workforce data from population census to concentrate on the working age population (15-59 years). The age-group wise analysis on one hand has focused on working population but has also overlooked child workers and also old age workers.

Owing to the limitation of age-wise workforce data which is available up to district level only, the unit for analysis has been restricted to the district level. The districts around the metropolitan cities represent the rural periphery of the city and the respective domain state represents the regional rural interiors. The variables have been analyzed at two levels:-

- the respective state,
- districts around the metropolitan city.

Such a scheme of two tier comparative analyses would enable one to realize whether the districts around the city behave in lines similar to the behaviour of the region i.e. the state. Any departure from the regional trend may be interpreted as the result of the distortions created by the metropolitan city. However, this frame of analysis has not been able to cater to some of the issues which necessitated a probing enquiry. An exploratory field survey has been undertaken in the vicinity of Delhi where both households and individuals have been taken as the level of analysis. People who had been in agriculture in the capacity of primary or subsidiary occupation have constituted the basis of selection of samples. However, the survey has been truly exploratory in nature.

It must be mentioned at this juncture that there exists a multitude of terminologies to refer to the areas surrounding the cities. The terms like urban fringe, rural-urban fringe, rurban, ruralurban, peri-urban areas, peri-urban interface, peripheral areas and the related terms used to denote the vicinity of cities have been used interchangeably and quite loosely to refer to the districts around the metropolitan cities in this dissertation.

The time period covered in the analysis constitutes the period from 1981 to 2001. This attempts to provide a comparative analysis of the pre-reform and post-reform periods 1981 to 1991 representing the former and 1991 to 2001 representing the latter.

## 1.8 Methodology

### 1.8.1 Secondary data analysis:

#### a) Selection of Study Area:

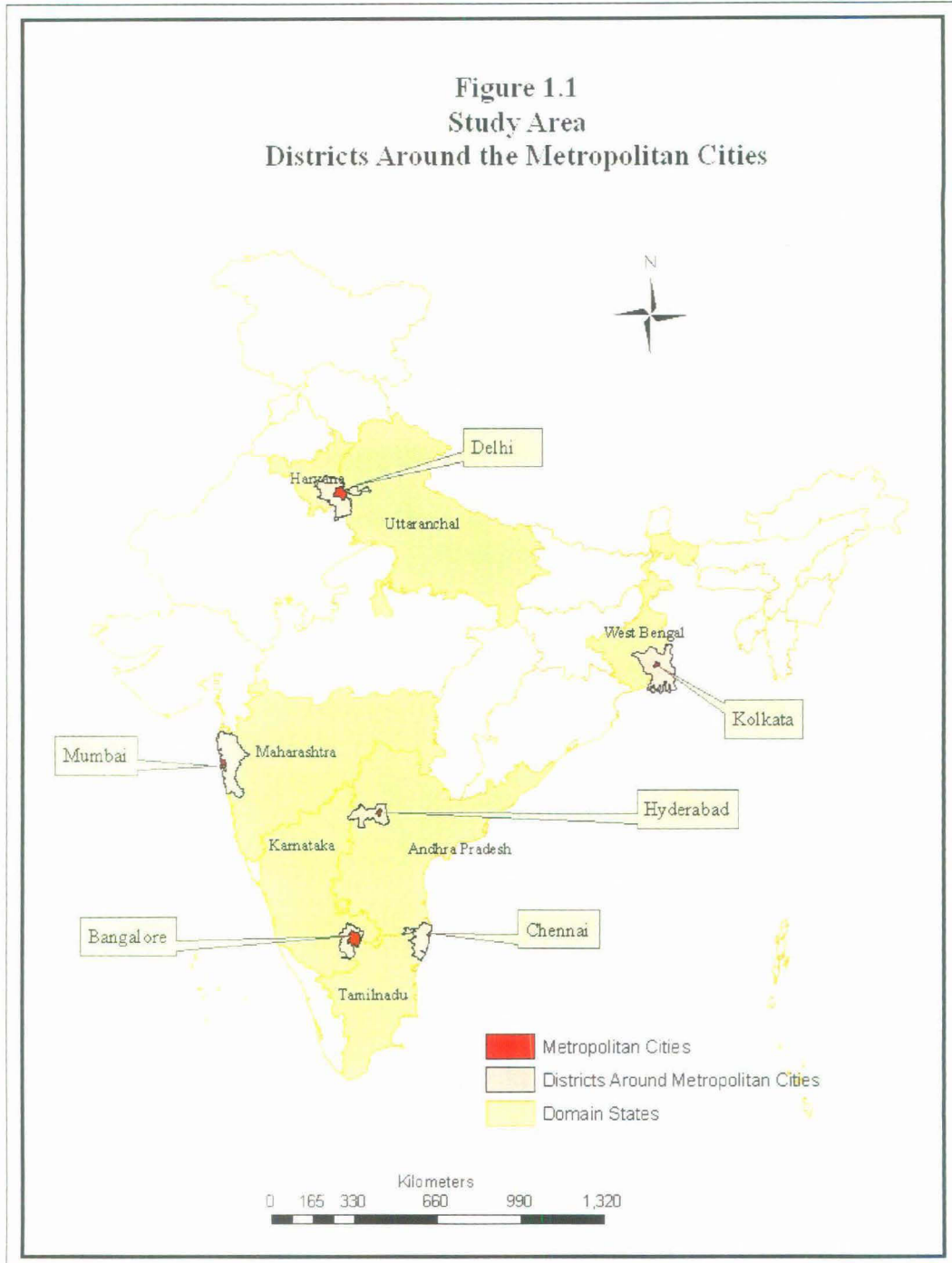
Basis of selecting the districts around the city have been physical contiguity of the districts. Those districts that share a common boundary with the metropolitan district (as the case with Kolkata and Greater Mumbai) or the city (as the case with Chennai and Hyderabad), have been considered for the study. The selected districts have been indicated in Table 1.1 and Figure 1.1 below.

**Table 1.1: District around the metropolitan cities**

Mumbai	Kolkata	Delhi*	Chennai	Hyderabad	Bangalore
1. Thane 2. Raigad (Kolaba)	1. Howrah 2. Hugly 3. 24 Paraganas (N & S)	1. Gurgaon 2. Sonipat 3. Rohtak 4. Jhajjar 5. Faridabad 6. Ghaziabad	Chengalpattu	Rangareddy	Bangalore Rural

\* Districts in Haryana have been compared with Haryana state and Ghaziabad has been compared with Uttar Pradesh as Delhi shares physical contiguity with both these states.

**Figure 1.1**  
**Study Area**  
**Districts Around the Metropolitan Cities**



b) *Computations:*

Concepts used in the Study

- Total Stock of Agricultural Land = NSA + Current Fallow + Fallow other than current Fallow + Culturable Waste.
- Land Currently Under Agriculture = NSA + Current Fallow.
- Net Area Sown
- Potential Agricultural Area = Fallow other than current fallow + Culturable Waste.
- Village Commons = Permanent pastures and other grazing lands + Land under miscellaneous tree crops and groves.
- Land put to non-agricultural uses
- Barren and uncultivated land

After such re-grouping, percentages of area under each group as shares to reporting area and their compound growth rates have been computed. Compound growth rate has been computed as follows:

$$r = \left[ 10^{\frac{\{\text{Log } P_1 - \text{Log } P_0\}}{t} + 2} \right] - 100$$

Computations for Workforce

The workforce data has been grouped as follows:

Categories	1981	1991	2001
Workers in agriculture	I to III	I to III	A and B
Workers in non- agriculture	IV to IX	IV to IX	C to Q

**INDUSTRIAL CATEGORIES in 1981 & 1991:-** I: Cultivators; II: Agricultural labourers; III: Livestock forestry, fishing, hunting and plantation, orchards and allied activities; IV: Mining and Quarrying; V (a): Manufacturing, processing, servicing and repairs in household industry; V (b): Manufacturing, processing, servicing and repairs in other than household industry; VI: Construction; VII: Trade and commerce; VIII: Transport, storage and communication; IX: Other services

**INDUSTRIAL CATEGORIES in 2001:** A – Agriculture, Hunting and Forestry; B – Fishing; C – Mining and Quarrying; D – Manufacturing ; E – Electricity, Gas and Water Supply; F – Construction; G – Wholesale and Retail Trade; H – Hotels and Restaurants; I – Transport, Storage and Communications; J – Financial Intermediation; K – Real Estate, Renting and Business Activities; L – Public Administration and Defence, Compulsory Social Security; M – Education; N – Health and Social Work; O – Other Community, Social and Personal Service Activities; P – Private Households with Employed Persons; Q – Extra-Territorial Organizations and Bodies.

After such groupings, percentages and exponential growth rates have been computed. Exponential growth rates have been computed using the following formula:

$$R = ((\text{Log}_e (P_1/P_0))/t)*100$$



For analyzing gender disparity in work, Sopher's Disparity Index has been used.

$$DIS = \text{Log}_{10} \left[ \frac{p(1-q)}{q(1-p)} \right]$$

where 'p' and 'q' are the ratios of the two groups that have the property.

### 1.8.2 Primary data analysis

Although the analysis based on secondary data has illuminated some issues that are crucial in the current era it has been able to provide only broad indications of some critical aspects and has been inadequate for explaining them. Given the limitations of time, an exploratory survey has been done in April 2008 drawing upon a very small sample of thirty agricultural households from a village near Delhi to obtain an insight into the critical fallouts of the analysis of secondary data.

#### a) *Selection of Village:*

Two villages have been selected for the field survey (Figure 1.2): one of them is within Delhi ( Rani Khera) and the other is located in the district around Delhi (Manesar in Gurgaon). This has been done principally for comparing the nature of link between land and livelihood in a village that is essentially within the urban area and that which lies in the periphery of the urban area.

The DDA data for land acquisition from the villages around Delhi for the different projects have been merged with the census data to see what proportion of the village land had been taken possession of before and after 1991. It has been observed that there are around 8 villages where maximum acquisition took place before 1991 and another 8 where it happened mostly after 1991. Out of them, Rani Khera village in North West Delhi, where 19% of agricultural land had been acquired through a notification in 2007, has been selected as the area of study. This village selection has been deliberate as agriculture is still prevailing there so that it is possible to look into the issue of land-use change and its impact upon those depending on it for livelihood.

Manesar has been the hub of industrial development through conspicuous take-over and conversion of agricultural land. The issue of land dispossession and resultant transformation of livelihood strategies has been triggered more fiercely following the locating of a Special Economic Zone in the village recently. Lying on NH 8, Manesar has been selected which is also lying in the periphery of Delhi. For the analysis based on secondary information, the district around the metropolitan city has been conceptualized

as the periphery of the city. So, Manesar also constitutes a sample village from the periphery of Delhi. However, the survey in Manesar has been restricted to focus group discussions only as the structured questionnaire could not be canvassed owing to the extreme sensitivity of the villagers regarding the recent issue of land acquisition for the SEZ.

*b) Data Collection:*

Snow-ball sampling method<sup>14</sup> has been used to select 30 households from which at least one member had been in agricultural pursuits prior to land acquisition. Information at the household and individual level has been collected through structured questionnaire and focus group discussion. Structured interview format has been used to collect data on:

- Basic demographic data of the members of the household,
- Details of primary and subsidiary occupations of the members of the selected households before and after land acquisition,
- Access to and dependence on land before and after land acquisition for the household
- Perception of the respondents regarding impact of land dispossession upon livelihoods of the affected people,
- Perception of the respondents regarding compensation rate offered by the land acquisition authorities and the differences therein between the private and public agencies,
- Use of the compensation money by the households and its impact upon the village economy.

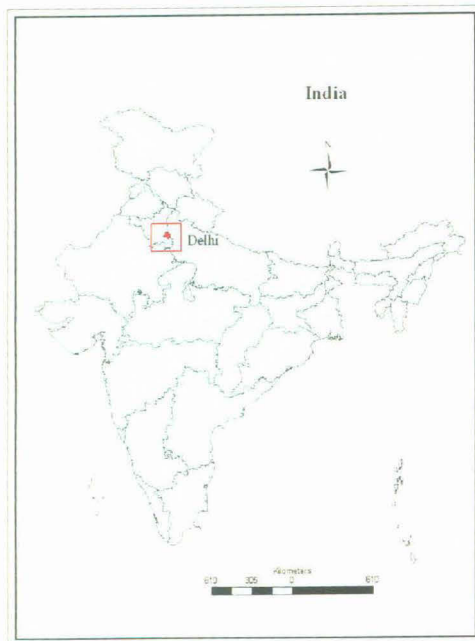
The focus group discussion was directed towards having a deeper insight over the perception oriented issues which have been captured through the structured questionnaire.

*c) Computations*

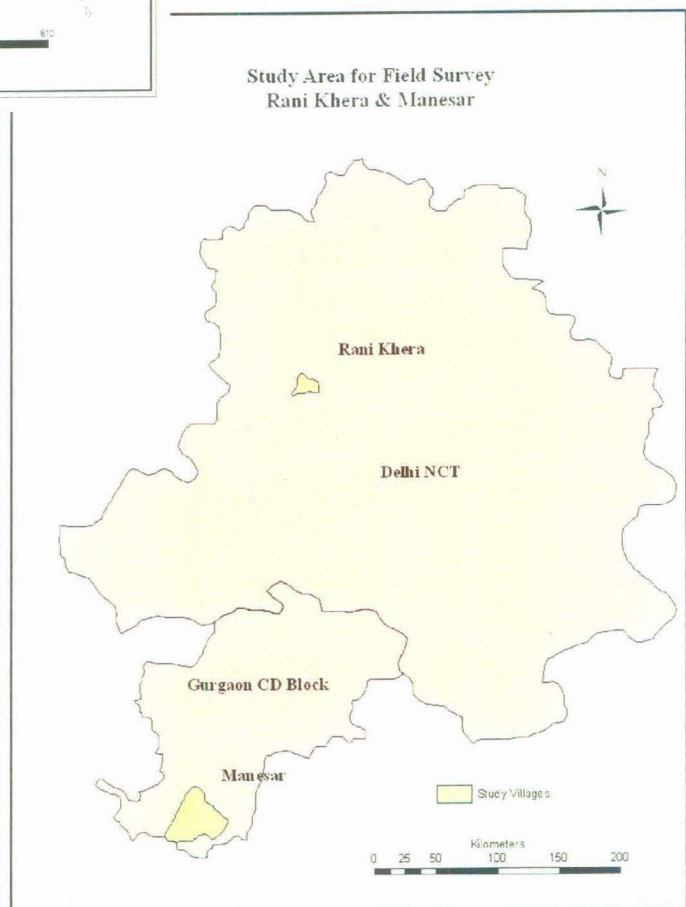
Simple percentages have been computed and cross tabulated for qualitative analysis of the data collected through the field survey.

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<sup>14</sup> Snow ball sampling is a method designed to identify people with particular knowledge, skills or characteristics that are needed as part of a committee and or consultative process. It allows selecting those people best suited for the needs of a project or process.



**Figure 1.2**  
**Study Area for Field Survey**  
**(2008)**



### ***1.9 Chapter Scheme***

The chapter 1 gives an overview of the literature surveyed and the research design of the dissertation.

The chapter 2 is concerned with the dynamics of land-use & rural work in the peripheries of large cities.

The chapter 3 reflects upon the gender disparity of work in the peripheries of large cities.

The chapter 4 attempts to provide an insight into the issue of land dispossession & rural livelihood in a village located in the urban fringe of Delhi.

The chapter 5 attempts to summarize the preceding chapters and draw policy implications.

## Chapter 2

### Dynamics of Land-use & Rural Work in the Peripheries of Large Cities

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#### *2.1 The Conceptual Framework*

In the post-reform era, the areas surrounding large cities have assumed preeminence in space although such peripheral areas have been significant for the understanding of rural urban interactions since time immemorial. Although the protagonists as well the critics of the economic reforms converged over the point that liberalization will give impetus to urban growth in India, data has proved them wrong (Kundu, 2003; Sivaramakrishnan et al, 2005). It has been observed that much of post-reform urban growth is taking place in the periphery of the metropolitan cities<sup>1</sup>. So, much of the incremental population is received by the peripheral land which emerges as a “complex structure characterized by heterogeneity and segmentation, creating new forms of segregation, polarization, and socio-spatial fragmentations...” (Arabindoo, 2006; p. 18).

It has been observed that the mega-cities, better understood as urban agglomerations, are expanding outward spatially engulfing the areas under rural land-use as well as the neighbouring municipalities (Census, 1981-2001). Dispersal of the city into the surrounding rural space, a culmination of the combined impact of economic and environmental factors, denotes an intense rural-urban interaction that evolves transformation of land-use and occupations within the peri-urban areas. As the land-uses change in favour of non-agricultural uses, the emergent nature of work also tends to be semi-urban (Shaw, 2005). With the forces of globalization at work upon the pre-existing heterogeneous structures in the peri-urban areas, the complexity of this process gets accentuated and Thong (1995: cited in Arabindoo, 2006:p. 18) calls it “super-induced development”. So, peri-urban space provides

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<sup>1</sup> Sivaramakrishnan et al (2005) have observed that growth tendencies of the mega-cities in India reveal that growth rates are higher in the peripheries than that in the cores. This is partly due to the emergence of environmental lobbies in the big cities (Kundu, 2003) that regulate the location of manufacturing units within the city coupled with shortage of land for expansion within the city (Keivani and Mattingly, 2007). It is also associated with easy availability of land and access to an unorganized rural labour market (Kundu, 2003; Keivani and Mattingly, 2007) besides lesser awareness and less care towards implementation of environmental regulations in the rural settlements in the urban periphery (Kundu 2003). Sita & Bhagat (2007: cited in Shaw, 2005) has observed that the smaller metropolitan cities are still experiencing higher growth in their cores while reverse trend is prevalent for the larger metropolitan cities.

the platform where the forces of globalization and localization intersect (Webster, 2002). It is understandable that as market forces are instrumental in triggering off the processes in the peri-urban areas, the local interests are often lost sight of. It has been observed that it results in displacement of vulnerable sections residing there (Keivani and Mattingly, 2007) along with differentiation and polarization between capitalists and subsistence producers (Keivani and Mattingly, 2007; Rakodi, 1999 cited in Brook and Davila, 2000) besides degradation of local resource base (Rakodi, 1999 cited in Brook and Davila, 2000). Although it creates some limited opportunities for the local economy, land and property assume significance as income generating assets<sup>2</sup>. This link with the land market becomes more important under liberalized regime (Keivani and Mattingly, 2007). It follows logically that land-poor households, who incidentally lack high skill levels, have limited access to the upcoming economic opportunities in the peri-urban areas. Besides agricultural land, the village common lands have implications for livelihood. The village common lands not only compliment livelihood strategies of marginal farmers and agricultural labour households, but appear to be the basis of sustenance for the asset poor rural population (Jodha, 1990; Mearns, 1999). The main categories of stock of agricultural land and village common lands are the sources of livelihood of rural population. If land is found to be moving out of these categories, it indicates that some of the rural population must negotiate change in their livelihood pattern.

That globalization, in India, has accentuated the dualisms in the labour market, retarded the pace of rural diversification, worsened the conditions of the women workers, and accelerated the phenomenon of casualization has been well documented by many scholars (Chadha, 2001; Chadha and Sahu, 2002; Bhalla S, 1999; Kundu et al, 2005, Chandrasekhar and Ghosh, 2007). Observing such disturbing rural employment trends at the macro level, it may be conjectured that in the peri-urban areas, where the impact of globalization is realized strongly will usher in a more critical rural employment scenario.

This chapter has been divided into two sections. The first section very briefly looks into the dynamics of land-use change in the vicinity of the large urban centres and seeks to decipher what implication it has for changes in the workforce structure in the study area. The

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<sup>2</sup> The study of two villages in China and Vietnam by Leaf (2002) revealed how land and property was used by the villagers as income generating elements. Land was taken over by the state for development purposes. The villagers invested the compensation money for expansion of the village owned factories. This is an instance where villagers adapted their economy to the emerging demands of the market economy.

second section specifically attempts to look into the rural workforce structure trends in the districts around the metro-cities (largest six) in India relative to that in the respective states.

## ***2.2 Dynamics of Land-use in the Peripheries of Large Cities***

It may be expected that land under agricultural use will be lower in the districts around the metros relative to the state as the economy in the peri-urban interface is continuously being exposed to intense rural urban interaction and that the peri-urban economy is tilting towards non-agricultural activities. It may also be expected that as there is escalation of land values near the urban centre, land-use in the DAMs will increasingly get dominated by high return non-agricultural uses displacing agriculture and also the agrarian population from their livelihood. Chadha et al (2004) have exposted that land management for the remaining agricultural land will be more efficient in the DAMs such that barren and fallow lands will be lower than that in the respective states as land values tend to increase. At this juncture, the case of the six largest metropolitan cities may be examined in the light of the preceding discussion.

The share of stock of agricultural land, NSA and land under current agricultural uses are lower in the DAMs than that in the respective states in all the decades, exception being Hyderabad and Delhi (UP) (Table 2.1). Also, the share of land under non-agricultural uses is higher for all the DAMs than that in the respective states. The share of barren lands is lower in the DAMs than that in the states except for the DAMs of Mumbai and Bangalore. The share of potential agricultural land is lower in three of the DAMs while it is higher than that in the state for the remaining three. Four of the DAMs register a higher share of village common lands than that in the respective states.

Looking at the changes in land-use, it may be observed that the total stock of agricultural land is declining over both the decades, more so in the post-reform period (Table 2.2). The rates of decline are high in the DAMs while that in the respective states has virtually stagnated (exceptions are Hyderabad and Bangalore where rate of change is negligible in the state as well as the DAMs). While only Delhi (both UP & Haryana side) and Bangalore exhibit such a trend with respect to net sown area, all of the six metropolitan cities reveal such trend with respect to land under current agricultural use. It may be also noted that potential agricultural land is declining in the DAMs at a rate higher than that in the respective

states of Mumbai, Kolkata and Delhi (UP) as expected while the opposite is true for the remaining three cities in the post-reform period. So, land under agricultural uses, whether current or potential, is declining at a higher rate in the DAMs than that in the respective states, more so in the in the post-reform period. Village common lands have declined in three of the DAMs (Chennai, Bangalore & Delhi) at a rate higher than that in the state in the post-reform period. So, land-uses which have connotations for livelihood options have been observed to be declining in the DAMs at a rate higher than that in the respective states of almost all of the six largest cities, the rate of decline being higher in the post-reform period compared to the pre-reform levels. On the other hand, land put to non-agricultural uses has been observed to be increasing in the states as well as the DAMs of all the cities, the rate of growth being higher in the DAMs (exceptions are Mumbai). In the DAM of Delhi (UP) there has been negative growth rate for all the categories of land-uses because of lower area reported. However, the shares reveal that over the decades there has been decline in the land-uses under agricultural uses and increase in non-agricultural land-uses (Table 2.1).



**Table 2.1 Comparison of Land utilization around the metropolitan cities and the respective states**

State/District	Total Stock of Agricultural land			Net Area Sown			Land Currently under Agricultural Uses			Potential Agricultural Land			Village Common Lands			Land put to non-agricultural uses			Barren and uncultivated land		
	1979-80	1989-90	1999-00	1979-80	1989-90	1999-00	1979-80	1989-90	1999-00	1979-80	1989-90	1999-00	1979-80	1989-90	1999-00	1979-80	1989-90	1999-00	1979-80	1989-90	1999-00
Maharashtra DAM Mumbai	67.8	69.7	68.7	59.0	60.0	57.5	61.6	63.0	61.3	6.2	6.8	7.3	5.8	4.6	4.9	3.4	3.6	4.3	5.7	5.3	5.2
	38.1	45.1	41.8	27.8	33.0	32.0	30.1	35.5	34.2	8.0	9.6	7.5	9.8	7.4	8.2	6.4	7.8	8.5	13.0	10.1	9.7
West Bengal DAM Kolkata	68.7	66.5	66.6	62.6	60.3	62.7	63.7	64.6	65.7	5.0	1.9	0.8	2.3	0.6	0.9	15.0	18.3	18.6	1.4	2.1	0.3
	54.7	52.6	55.0	53.3	48.1	53.4	53.5	51.9	54.7	1.2	0.7	0.3	1.4	0.4	0.7	8.1	19.5	20.1	0.1	0.4	0.1
Tamil Nadu DAM Chennai	63.9	63.2	61.9	45.7	43.0	42.1	57.8	52.4	50.3	6.1	10.8	11.6	2.8	2.3	2.8	13.2	14.0	15.1	4.6	3.9	3.7
	59.5	58.9	54.7	40.5	36.2	36.9	54.8	47.8	38.4	4.7	11.1	16.3	7.3	6.5	6.0	23.7	25.4	30.6	4.0	3.8	3.1
Andhra Pradesh DAM Hyderabad	56.5	57.4	56.8	39.6	40.2	39.7	48.7	49.4	48.7	7.8	8.0	8.1	4.4	4.1	3.4	7.8	8.4	9.5	8.5	7.9	7.7
	65.9	66.4	66.6	42.2	39.5	39.7	52.1	55.2	54.7	13.8	11.2	11.9	9.1	8.1	7.1	9.2	10.1	11.6	6.2	5.7	5.0
Karnataka DAM Bangalore	65.2	66.0	66.2	53.4	55.3	54.5	59.4	61.5	58.4	5.7	4.6	7.8	8.9	7.4	6.7	5.5	6.2	6.8	4.5	4.2	4.2
	#	61.5	60.9	#	52.3	51.0	#	58.6	54.7	#	2.9	6.2	#	10.6	9.2	#	7.5	9.9		6.5	6.2
Uttar Pradesh DAM Delhi (UP)	68.2	68.1	68.0	57.9	57.9	59.0	61.8	61.6	62.6	6.3	6.5	5.4	3.2	2.9	2.9	7.5	8.2	8.6	3.9	3.5	3.1
	82.0	80.7	79.8	73.1	71.1	71.8	76.5	74.3	75.2	5.5	6.5	4.6	0.7	0.8	0.2	12.1	14.1	16.1	4.2	3.4	2.7
Haryana DAM Delhi (Haryana)	86.3	86.4	86.2	81.8	81.6	81.1	85.6	85.8	85.6	0.7	0.6	0.6	0.8	0.6	0.7	8.5	6.5	8.2	1.6	2.7	2.2
	84.5	83.9	83.5	75.8	78.6	78.2	82.2	82.5	81.9	2.2	1.4	1.6	1.0	0.9	1.1	10.0	9.5	11.2	1.5	2.4	2.2

Source: Computed from Indian Agricultural Statistics, various issues.

# Data for Bangalore Rural was not available for 1979-81 as it was combined with the urban part.

**Table 2.2 Comparison of Compound Growth Rates of Land-uses around the metropolitan cities and the respective states**

State/Districts	Total Stock of Agricultural land		Net Sown Area		Land Currently under Agricultural Uses		Potential Agricultural Land		Village Common Lands		Land put to non-agricultural uses		Barren and uncultivated land	
	1979-80 to 1989-90	1989-90 to 1999-00	1979-80 to 1989-90	1989-90 to 1999-00	1979-80 to 1989-90	1989-90 to 1999-00	1979-80 to 1989-90	1989-90 to 1999-00	1979-80 to 1989-90	1989-90 to 1999-00	1979-80 to 1989-90	1989-90 to 1999-00	1979-80 to 1989-90	1989-90 to 1999-00
Maharashtra	0.27	-0.16	0.17	-0.42	0.22	-0.27	0.83	0.79	-2.36	0.78	0.77	1.70	-0.68	-0.19
<i>DAM Mumbai</i>	1.70	-0.77	1.73	-0.33	1.66	-0.36	1.85	-2.42	-2.78	1.12	1.91	0.97	-2.45	-0.42
West Bengal	-0.32	-0.17	-0.37	0.20	0.13	-0.01	-9.04	-8.08	-12.20	3.19	2.60	0.13	4.11	-17.28
<i>DAM Kolkata</i>	-0.41	-0.22	-1.02	0.37	-0.32	-0.14	-5.34	-8.50	-11.80	4.26	1.23	0.28	13.78	-16.96
Tamil Nadu	-0.10	-0.23	-0.61	-0.23	-0.97	-0.43	5.90	0.71	-1.71	1.95	0.63	0.71	-1.52	-0.72
<i>DAM Chennai</i>	-0.12	-0.73	-1.12	0.20	-1.38	-2.15	9.05	3.90	-1.18	-0.71	0.66	1.87	-0.52	-1.97
Andhra Pradesh	0.15	-0.09	0.16	-0.13	0.14	-0.14	0.21	0.18	-0.75	-1.85	0.64	1.30	-0.78	-0.29
<i>DAM Hyderabad</i>	0.06	0.03	-0.68	0.05	0.57	-0.10	-2.11	0.66	-1.16	-1.28	0.94	1.40	-0.81	-1.42
Karnataka	0.13	0.02	0.34	-0.14	0.33	-0.51	-2.26	5.51	-1.82	-1.00	1.14	0.96	-0.68	-0.03
<i>DAM Bangalore</i>	#	-0.09	#	-0.25	#	-0.69	#	8.01	#	-1.47	#	2.83	#	-0.60
Uttar Pradesh	0.00	-0.01	0.01	0.20	-0.02	0.16	0.26	-1.73	-1.01	0.00	0.78	0.58	-0.99	-1.17
<i>DAM Delhi (UP)</i>	-0.13	-2.64	-0.26	-2.43	-0.28	-2.40	1.69	-5.88	0.09	-13.57	1.57	-1.25	-1.93	-4.86
Haryana	-0.04	0.02	-0.07	-0.02	-0.02	0.01	-2.43	0.71	-2.48	1.84	-2.80	2.49	5.47	-2.16
<i>DAM Delhi (Haryana)</i>	-0.27	-0.21	0.16	-0.21	-0.17	-0.23	-4.88	1.03	-1.53	2.19	-0.74	1.57	4.33	-1.07

Source: Computed from Indian Agricultural Statistics, various issues.

# Data for Bangalore Rural was not available for 1979-81 as it was combined with the urban part.

**Table 2.3 Nature of Land-use change in the State and Districts around the metro-cities**

State/ Districts		Total Stock of Agricultural land		NSA		Village Commons		Land put to non-agricultural uses		Barren and uncultivated land	
		Pre-Reform	Post-Reform	Pre-Reform	Post-Reform	Pre-Reform	Post-Reform	Pre-Reform	Post-Reform	Pre-Reform	Post-Reform
Mumbai	State	↑	↓	↑	↓↓	↓	↑	↑	↑	↓	↓
	DAM	↑↑↑	↓↓	↑↑	↓	↓↓↓↓	↑↑	↑	↑	↓↓↓	↓↓
Kolkata	State	↓↓	↑	↓	↑↑	↓↓	↑	↑↑↑	↑	↓↓	↓↓↓↓
	DAM	↓↓	↑↑↑	↓↓	↑↑↑	↓↓	↑	↑↑↑	↑↑	↑	↓↓
Chennai	State	↓	↓	↓	↓	↓↓	↑↑	↑	↑	↓	↓↓
	DAM	↓	↓↓↓	↓↓	↓	↓↓	↓	↑	↑↑↑	↓	↓↓
Hyderabad	State	↑	↓	↑	↓	↓↓	↓	↑	↑	↓	↓↓
	DAM	↑	↑	↓	↑	↓↓	↑↑	↑	↑	↓	↓↓
Bangalore	State	↑	↑	↑	↓	↓↓	↓	↑	↑	↓	↔
	DAM	@	↓	@	↓	@	↓↓	@	↑	@	↓↓
Delhi (U. P.)	State	↓	↓	↔	↑	↓↓	↔	↑	↑	↓	↓↓
	DAM	↓	↓	↓	↑	↔	↓	↑	↑	↓	↓↓
Delhi (Haryana)	State	↑	↓	↓	↓	↓↓	↑	↓↓↓	↑	↑↑	↓↓
	DAM	↓	↓	↑↑	↓	↓	↑	↓	↑	↑↑	↓↓

Source: Computed from Table 2.1

Note: The symbols have been used taking note of the mean and standard deviation of change in shares

@ Data for Bangalore Rural was not available for 1979-81 as it was combined with the urban part.

So it may be summarized (see Table 2.3) that land-uses in the vicinity of the metropolitan cities are largely different from that of the state. It has been observed that land under agricultural uses in the DAMs are declining at a rate higher than that exhibited by the respective states, the magnitude of decline being higher in majority of the DAMs in the post-reform period. Also, share of land put to non-agricultural uses has increased in the state as well as the in the DAMs of all the metro-cities during the post-reform period, magnitude of increase being higher in the DAMs. It is probable that agricultural land in the vicinity of the large urban centres is being transformed in favour of non-agricultural uses. Infact, Chadha et al (2004) have observed that net outflow of cultivable land to non-agricultural uses in the nineties. The overview of the trend of land-use change in the DAMs of the large cities with respect to their domain states suggest that the agrarian population residing in the vicinity of these cities are likely to get affected as land is moving out of agricultural uses.

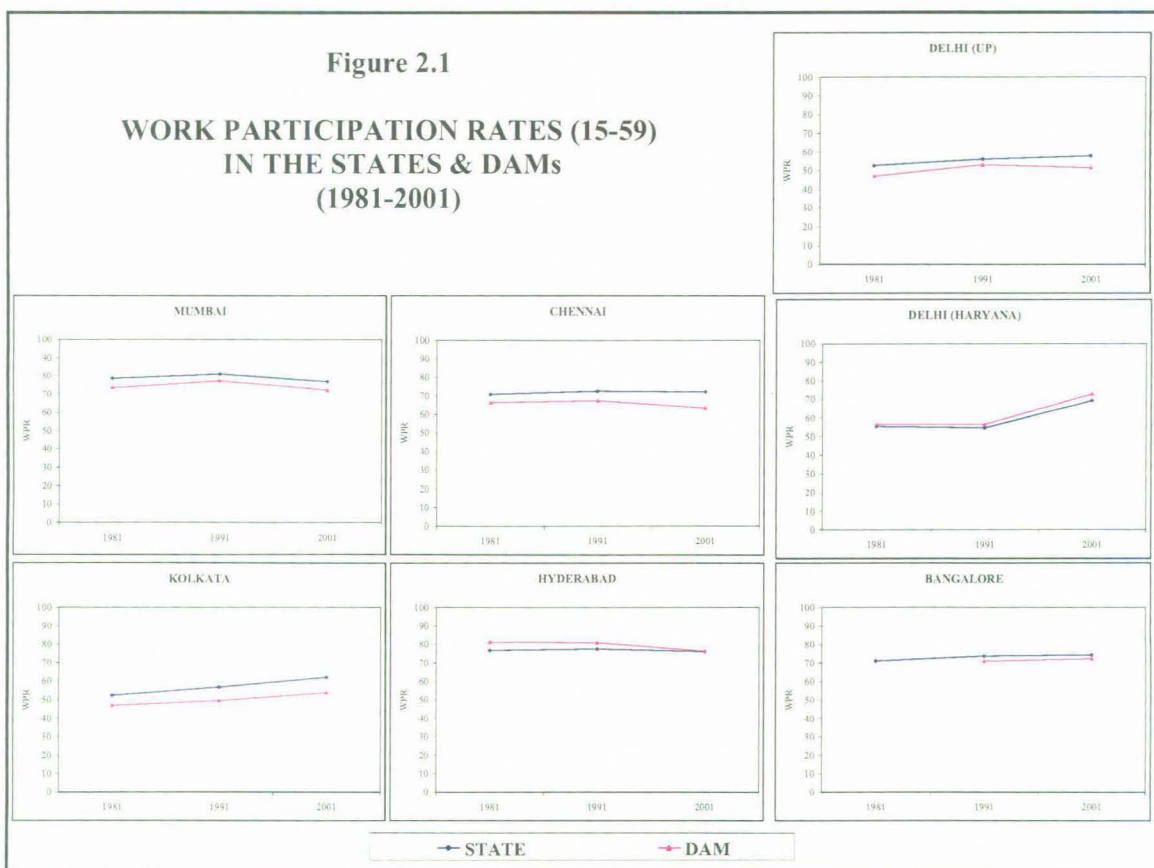
### ***2.3 Dynamics of Rural Work in the Peripheries of Large Cities***

From the preceding discussion it may be observed that there has been clear indication of land moving out of agricultural uses and village common lands in the vicinity of the large cities. With declining significance of agriculture in the urban vicinity and outflow of land from agricultural uses it may be expected that some of the cultivators and also those agricultural labourers depending for livelihood on acquired plots of lands shall be affected adversely. The trend of marginalization of rural workers from productive work would therefore be sharper in the DAMs than that in the respective states such that rural non-workers and job seekers may be expected to be higher in the DAMs. Again, with outflow of land away from agricultural uses by a greater magnitude in the DAMs, there may emerge a class of workers relying on wage labour in the agricultural as well as non-agricultural sectors in the DAMs. It is probable that the displaced people shall get absorbed in the rural non-farm sector. But, it cannot be ascertained that the alternative livelihood options shall provide them with an equally good or a better mode of living as the rural agricultural workers have been observed to be ill-equipped for reaping the benefits of the emerging opportunities owing to urban linkages. It is possible that a farmer moving out of agricultural activities shall turn into a marginal non-agricultural worker which may not be a promising livelihood option. So, the question remains as to whether urbanization induced land conversion processes benefiting the rural population of the peripheral areas.

This section focuses on the emerging pattern of workforce structure in the peripheral areas of the large metropolitan cities. It may be expected that the patterns observed in the DAM shall be slightly different from that exhibited by the respective states as the DAM is supposed to reflect the critical changes that are taking place in the city following increased capital inflows in the post-reform era. This section attempts to validate the propositions outlined above through an analysis of the status of work and the sectoral trends therein in the rural peripheries of the six largest cities in India.

### 2.3.1 Status of Work in the Rural Peripheries of Large Cities

Work participation rate (WPR) is lower in the DAMs than that in the respective states in all the decades. While the shares of total workers (15-59) registered negligible change in the states during the pre- and post-reform period, it has largely declined in the DAMs in the post-reform period exceptions being Kolkata and Delhi (Haryana) (Figure 2.1). It has been well documented that agriculture continues to be the chief employment provider in the rural areas. As agriculture is less significant as an economic activity in the peripheral areas compared to the rural interiors, WPR is lower in DAMs. The observations pertaining to the faster decline in agricultural land-uses in the vicinity of the metropolitan cities relative to that in the respective states and a simultaneous decline in work participation in the peripheral areas are perhaps related phenomenon, one leading to the other. This correspondence of declining WPR and declining agricultural land in the peripheral areas may be considered as a pointer to the critical impact of the ensuing changes in the economic base in the peri-urban interface upon the lives of the rural workers residing there.



Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

**Table 2.4 Exponential Growth Rates of Total Workers (both Main & Marginal) and Non-Workers (15-59)**

States/Districts	Total Workers		Non-Workers		Those seeking work among non-workers		Main Workers		Marginal Workers	
	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001
Maharashtra	2.39	1.07	1.04	3.44	@	20.45	2.47	0.16	1.76	6.73
<i>DAM Mumbai</i>	1.56	1.19	-0.46	3.93	@	22.55	1.33	-0.80	3.61	10.31
West Bengal	3.03	2.97	1.26	0.73	@	13.27	3.00	0.72	3.47	14.52
<i>DAM Kolkata</i>	3.02	3.02	1.99	1.30	@	18.73	3.03	1.06	2.88	18.00
Tamil Nadu	1.88	-0.32	1.01	-0.12	@	15.50	1.85	-1.54	2.32	8.85
<i>DAM Chennai</i>	2.06	0.03	1.58	1.77	@	18.16	2.29	-2.41	-0.91	14.52
Andhra Pradesh	2.04	1.59	2.36	2.34	@	27.88	2.34	0.22	-1.87	12.81
<i>DAM Hyderabad</i>	1.28	2.09	1.52	4.77	@	35.87	1.72	0.86	-6.44	16.21
Karnataka	1.99	1.87	0.66	1.59	@	17.77	2.00	0.61	1.88	9.22
<i>DAM Bangalore</i>	#	1.87	#	1.17	@	24.30	#	1.20	#	5.00
Uttar Pradesh	2.82	2.24	1.43	1.53	@	19.76	2.47	-0.38	7.32	14.51
<i>DAM Delhi (UP)</i>	3.11	0.05	0.71	0.63	@	12.09	1.79	-0.74	29.34	4.09
Haryana	2.24	4.88	2.61	-1.44	@	22.96	2.51	2.55	-0.07	15.97
<i>DAM Delhi (Haryana)</i>	2.09	4.78	2.10	-2.51	@	17.14	2.55	2.41	-1.27	15.39

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

@ Data not available for 1981

It may be further noted that the rate of growth of total workers has been lower in the post-reform period than that in the pre-reform period in all the states as well as the DAMs (except DAM of Hyderabad and Delhi (Haryana)) (Table 2.4) although the rates continue to be positive. Except Delhi and Bangalore, growth rates for total workers have been higher in the DAMs relative to the respective states during the post-reform period although there has been a deceleration of the rates of growth from the pre-reform levels in almost all areas. This observation perhaps implies that the amount of work created in few of the DAMs in the post-reform period is higher than that in the respective states. However, it has been also observed that the growth of marginal workers is much higher in all the DAMs relative to the respective states during the post-reform period while the main workers reveal a mixed picture (Table 2.4). So, any increase in available work is on account of casual activities which are perceived by the scholars as a general deterioration of working conditions. At this juncture, it may be also noted that for the main workers, the rates of growth have declined in the post-reform period than their pre-reform levels in almost all the areas. Also, the rough index of casualisation has increased over the decades and it is higher in the DAMs of Mumbai, Chennai and Delhi (Haryana) in 2001 (Table 2.5) which only supports the preceding contention of higher degree of casualisation of the



rural workforce in the DAMs compared to those residing in the corresponding rural interiors .

**Table 2.5 Index Of Casualisation\***

State/Districts	Total Workers			Agriculture			Non-Agriculture		
	1981	1991	2001	1981	1991	2001	1981	1991	2001
Maharashtra	12	11	22	14	13	23	129	144	97
<i>DAM Mumbai</i>	<i>10</i>	<i>12</i>	<i>37</i>	<i>12</i>	<i>15</i>	<i>49</i>	<i>334</i>	<i>253</i>	<i>153</i>
West Bengal	9	9	37	9	9	40	291	346	145
<i>DAM Kolkata</i>	<i>5</i>	<i>5</i>	<i>28</i>	<i>6</i>	<i>6</i>	<i>36</i>	<i>825</i>	<i>959</i>	<i>315</i>
Tamil Nadu	7	8	22	8	9	26	295	297	170
<i>DAM Chennai</i>	<i>9</i>	<i>7</i>	<i>36</i>	<i>11</i>	<i>8</i>	<i>47</i>	<i>280</i>	<i>426</i>	<i>146</i>
Andhra Pradesh	9	6	22	10	7	24	212	327	135
<i>DAM Hyderabad</i>	<i>8</i>	<i>4</i>	<i>17</i>	<i>10</i>	<i>4</i>	<i>19</i>	<i>337</i>	<i>605</i>	<i>228</i>
Karnataka	11	11	26	12	12	28	162	168	110
<i>DAM Bangalore</i>	<i>#</i>	<i>18</i>	<i>26</i>	<i>#</i>	<i>19</i>	<i>27</i>	<i>#</i>	<i>99</i>	<i>127</i>
Uttar Pradesh	6	10	42	6	11	45	253	173	69
<i>DAM Delhi (UP)</i>	<i>1</i>	<i>15</i>	<i>25</i>	<i>1</i>	<i>14</i>	<i>24</i>	<i>5708</i>	<i>389</i>	<i>406</i>
Haryana	13	10	39	16	13	42	182	257	107
<i>DAM Delhi (Haryana)</i>	<i>16</i>	<i>11</i>	<i>41</i>	<i>22</i>	<i>17</i>	<i>48</i>	<i>195</i>	<i>310</i>	<i>134</i>

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

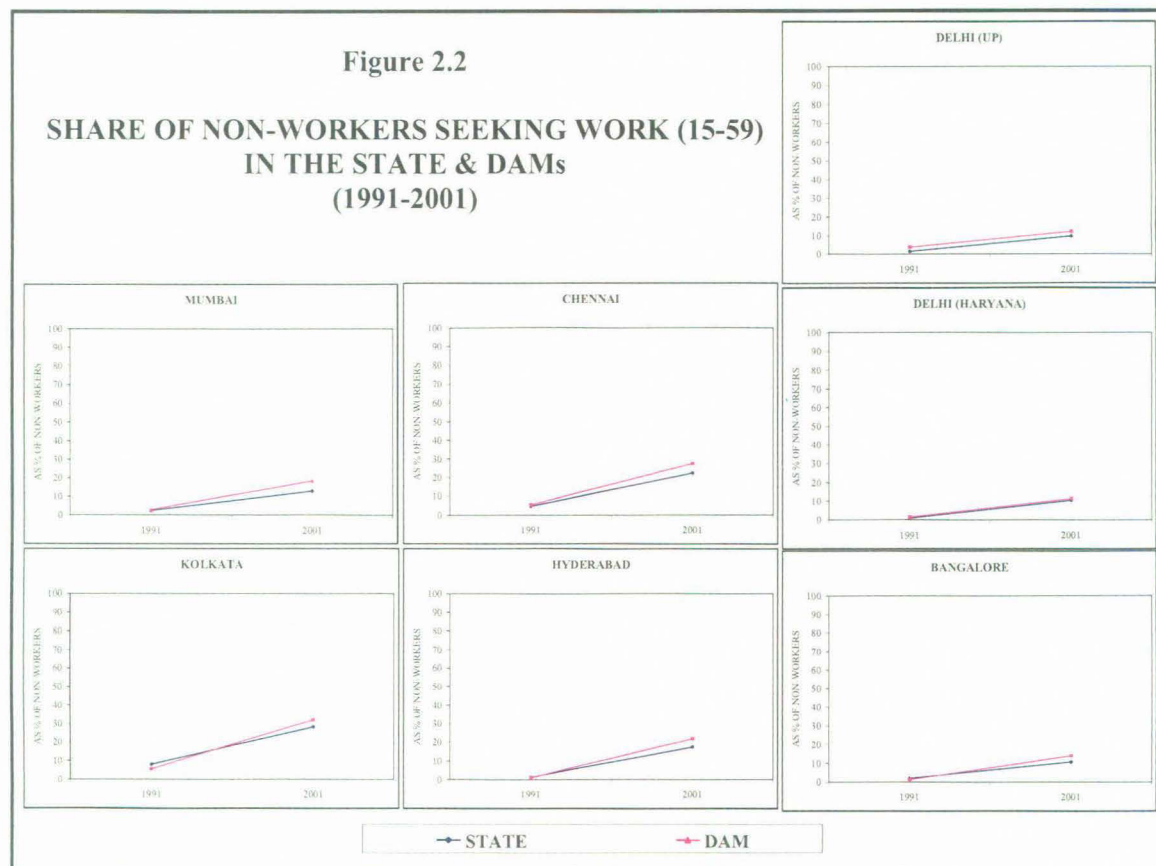
# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

\* Index of casualisation refers to the number of marginal workers per 100 main workers (adopted from Chadha, 2001)

It has been observed that growth rates of non-workers have been higher in the post-reform period than the pre-reform levels. Also, growth rate of non-workers is higher in the DAMs than that in the respective states in the post-reform period (Table 2.4). Growth of non-workers within the working age group (15-59) is a worrisome phenomenon. That the growth of non-workers, especially in the DAMs, is indicative of gradual marginalization of workers from productive work is re-emphasized by the analysis of non-workers seeking work. It is observed that the shares of non-workers seeking work is higher in the DAMs than that in the states for all of the six metro-cities (Figure 2.2) and that the growth rates are higher in the DAMs than that in the states (Table 2.4).

The peripheral rural areas of the largest cities are therefore plagued by increase in jobs of casual nature on one hand while they are also experiencing incidence of joblessness during the post-reform period much more than the rural population of the respective states. Commonly scholars are concerned about the impoverishment of the rural interiors. What emerges from this analysis is that the fringe areas of the largest cities are even more critically placed than their rural interiors and that the reforms conveyed

much more critical implications for the former as they are directly exposed to the fallouts of competitive market forces that has been emanating from the largest cities following increased capital inflow.



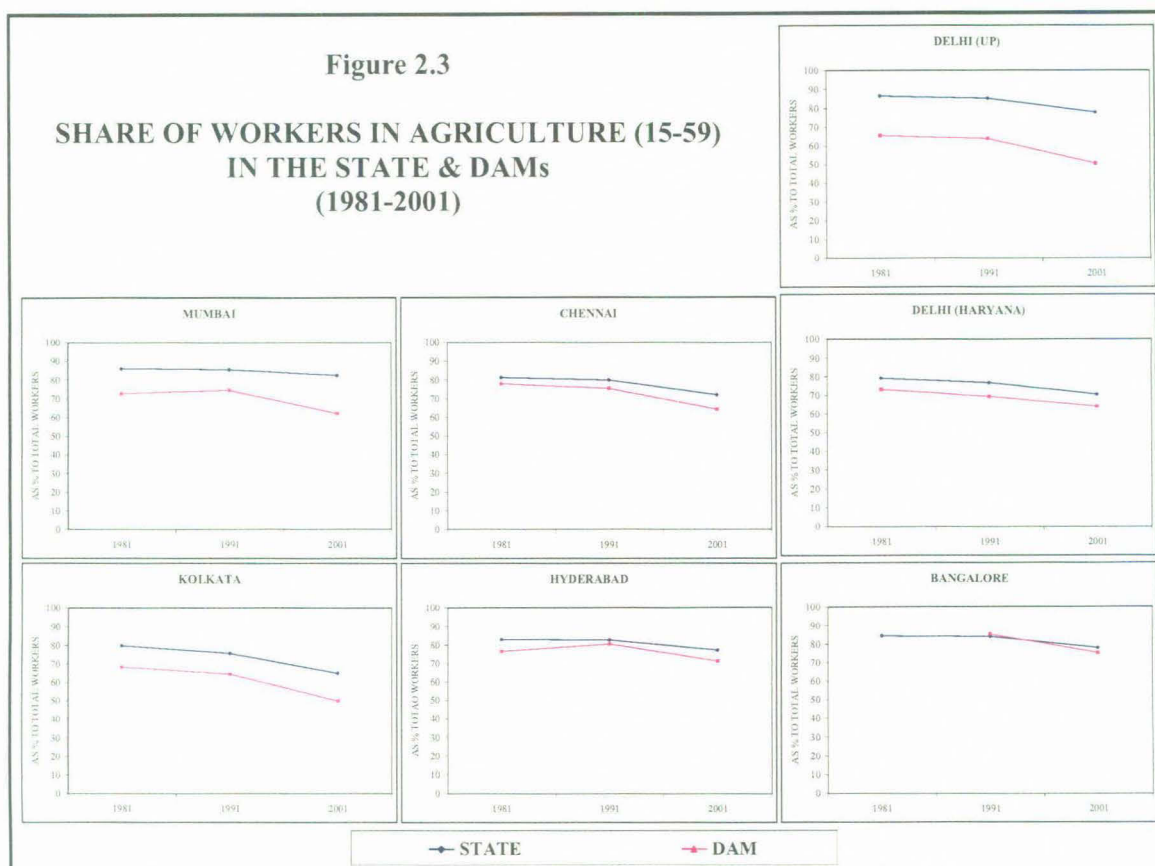
Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

### 2.3.2 Sectoral Trends in the Rural Peripheries of Large Cities

Looking at the sectoral trends, it is observed that the share of total workers in agriculture is lower in the DAMs and the shares are declining over the decades in all the areas (Figure 2.3). Growth rates of workers in agriculture decelerated between the pre- and post-reform periods in all the areas exception being Delhi (Haryana) where it has increased in the post-reform period in the state as well as the DAM (Table 2.6). In the DAM of Mumbai, Chennai and Delhi (UP) the rates of growth even became negative in the post-reform period for total agricultural workers. Within agriculture, the main workers registered negative growth in the post-reform period, the rate of decline being higher in the DAMs than that in the respective states and the marginal workers registered positive growth in all areas, the rate of growth in the DAMs being slightly higher than that in the



respective states (except in Bangalore and Delhi where marginal agriculture grew at a rate lower than the state) (Table 2.6).



Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

**Table 2.6 Exponential Growth Rates of Workers in Agriculture**  
**(Total, Main & Marginal) (15-59)**

State/Districts	Workers in Agriculture					
	Total		Main		Marginal	
	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001
Maharashtra	2.32	0.72	2.38	-0.17	1.82	5.80
<i>DAM Mumbai</i>	<i>1.80</i>	<i>-0.62</i>	<i>1.56</i>	<i>-3.22</i>	<i>3.53</i>	<i>8.75</i>
West Bengal	2.50	1.40	2.44	-1.07	3.19	13.51
<i>DAM Kolkata</i>	<i>2.43</i>	<i>0.47</i>	<i>2.41</i>	<i>-2.01</i>	<i>2.71</i>	<i>16.02</i>
Tamil Nadu	1.72	-1.38	1.64	-2.82	2.58	7.77
<i>DAM Chennai</i>	<i>1.72</i>	<i>-1.60</i>	<i>1.97</i>	<i>-4.67</i>	<i>-0.91</i>	<i>12.93</i>
Andhra Pradesh	1.99	0.88	2.30	-0.64	-1.84	12.32
<i>DAM Hyderabad</i>	<i>1.78</i>	<i>0.86</i>	<i>2.29</i>	<i>-0.44</i>	<i>-6.12</i>	<i>14.64</i>
Karnataka	1.93	1.11	1.91	-0.22	2.09	8.14
<i>DAM Bangalore</i>	#	<i>0.63</i>	#	<i>-0.05</i>	#	<i>3.59</i>
Uttar Pradesh	2.66	1.34	2.26	-1.37	7.54	12.94
<i>DAM Delhi (UP)</i>	<i>2.85</i>	<i>-2.31</i>	<i>1.62</i>	<i>-3.12</i>	<i>28.96</i>	<i>2.08</i>
Haryana	1.92	4.03	2.19	1.75	0.09	13.31
<i>DAM Delhi (Haryana)</i>	<i>1.54</i>	<i>3.99</i>	<i>2.01</i>	<i>1.63</i>	<i>-0.94</i>	<i>12.16</i>

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

Now, within agriculture, total cultivators have registered decline in growth in the post-reform period at a greater degree in the DAMs than that in the respective states in five of the metro cities exception being Hyderabad (Table 2.7). This decline has been mostly on account of main cultivators which registered mainly negative growth in the DAMs while marginal cultivators registered positive growth rates which were higher than that in the respective states for the DAMs of Mumbai, Chennai and Hyderabad (Table 2.7).

**Table 2.7 Exponential Growth Rates of Cultivators & Agriculture and allied (Main & Marginal) (15-59)**

State/Districts	Cultivators						Livestock, Forestry, Fishing, Hunting and Plantations, Orchards and allied activities	
	Total		Main		Marginal		Main	
	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001
Maharashtra	1.99	0.10	1.96	0.04	2.21	0.55	0.91	4.59
<i>DAM Mumbai</i>	<i>1.16</i>	<i>-2.52</i>	<i>1.01</i>	<i>-4.10</i>	<i>2.50</i>	<i>5.38</i>	<i>0.96</i>	<i>1.65</i>
West Bengal	2.75	-1.05	2.46	-2.24	6.35	6.50	0.69	2.30
<i>DAM Kolkata</i>	<i>2.38</i>	<i>-2.19</i>	<i>2.13</i>	<i>-3.28</i>	<i>6.60</i>	<i>6.51</i>	<i>5.75</i>	<i>8.39</i>
Tamil Nadu	0.38	-2.16	0.17	-2.25	4.00	-0.92	-0.26	2.20
<i>DAM Chennai</i>	<i>-0.39</i>	<i>-3.26</i>	<i>-0.53</i>	<i>-3.76</i>	<i>2.57</i>	<i>2.91</i>	<i>1.02</i>	<i>3.11</i>
Andhra Pradesh	0.69	-0.36	0.83	-0.44	-1.75	1.08	-0.20	5.07
<i>DAM Hyderabad</i>	<i>0.81</i>	<i>0.95</i>	<i>1.22</i>	<i>0.93</i>	<i>-7.91</i>	<i>1.68</i>	<i>-0.92</i>	<i>2.74</i>
Karnataka	1.17	0.50	0.89	0.68	3.77	-1.02	2.17	5.10
<i>DAM Bangalore</i>	<i>#</i>	<i>0.14</i>	<i>#</i>	<i>0.60</i>	<i>#</i>	<i>-2.72</i>	<i>#</i>	<i>0.32</i>
Uttar Pradesh	1.97	-0.31	1.60	-1.33	7.21	6.87	5.79	10.62
<i>DAM Delhi (UP)</i>	<i>2.17</i>	<i>-2.75</i>	<i>0.89</i>	<i>-2.71</i>	<i>28.65</i>	<i>-3.01</i>	<i>-7.84</i>	<i>19.58</i>
Haryana	1.04	3.84	1.23	2.44	-0.19	10.26	4.15	22.45
<i>DAM Delhi (Haryana)</i>	<i>0.84</i>	<i>3.66</i>	<i>1.26</i>	<i>2.18</i>	<i>-1.40</i>	<i>9.77</i>	<i>0.90</i>	<i>25.21</i>

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

Total agricultural labourers registered positive growth in the post-reform period although the rates of growth declined from the pre-reform levels (Table 2.8). Only in the DAMs of Mumbai and Bangalore growth of total agricultural labourers was higher than that for the state. These are the two DAMs where the total cultivators experienced rates of growth lower than the state and it was even negative in Mumbai DAM. Growth of agricultural labourers with declining trends of cultivators has been referred to as 'the process of peasant pauperization' (Jha, 1997; p. 12) where the cultivators being uprooted from their land take to wage labour as the principal means for livelihood. It may be assumed that such a process is under way in the DAMs of Mumbai and Bangalore. In the

post-reform period, decline of the main agricultural labourers was across the board while the marginal category exhibited positive rate of growth which has been higher in the DAMs than that in the respective states of four of the metro-cities. So, the growth of agricultural labourers has been on account of the marginal categories.

**Table 2.8 Exponential Growth Rates of Agricultural Labourers  
(Main & Marginal) (15-59)**

State/Districts	Agricultural Labourers					
	Total		Main		Marginal	
	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001
Maharashtra	2.78	1.26	2.98	-0.68	1.39	9.65
<i>DAM Mumbai</i>	3.35	2.16	3.02	-2.34	4.92	11.69
West Bengal	2.42	3.69	2.66	-0.24	0.20	18.51
<i>DAM Kolkata</i>	2.33	1.87	2.52	-1.90	-0.94	22.12
Tamil Nadu	2.87	-1.02	2.97	-3.55	2.00	10.09
<i>DAM Chennai</i>	2.86	-1.10	3.42	-5.52	-1.71	14.58
Andhra Pradesh	3.08	1.50	3.61	-1.06	-1.89	15.00
<i>DAM Hyderabad</i>	2.94	0.68	3.64	-2.18	-5.09	17.74
Karnataka	2.90	1.32	3.27	-2.34	0.45	13.39
<i>DAM Bangalore</i>	#	1.71	#	-1.88	#	10.38
Uttar Pradesh	4.73	4.51	4.29	-2.11	8.15	18.69
<i>DAM Delhi (UP)</i>	5.14	-4.34	3.93	-8.51	29.63	8.01
Haryana	3.86	2.79	4.28	-2.73	0.82	18.25
<i>DAM Delhi (Haryana)</i>	3.53	2.31	4.27	-5.34	0.18	16.12

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

**Table 2.9 Exponential Growth Rates of Workers in Non-Agriculture  
(Total, Main & Marginal) (15-59)**

Districts	Workers in Non-Agriculture					
	Total		Main		Marginal	
	1981-1991	1991-2001	1981-1991	1991-2001	1981-1991	1991-2001
Maharashtra	2.85	2.95	2.94	1.80	0.82	16.09
<i>DAM Mumbai</i>	0.89	5.13	0.75	3.74	4.20	17.90
West Bengal	4.90	6.68	4.94	4.84	4.44	17.17
<i>DAM Kolkata</i>	4.18	6.44	4.22	4.90	3.34	21.96
Tamil Nadu	2.55	3.05	2.64	2.18	-0.30	16.79
<i>DAM Chennai</i>	3.17	3.82	3.29	2.23	-0.98	23.32
Andhra Pradesh	2.27	4.38	2.50	3.44	-2.10	15.83
<i>DAM Hyderabad</i>	-0.54	5.97	-0.28	4.86	-8.66	23.83
Karnataka	2.30	5.12	2.45	3.88	-0.35	17.23
<i>DAM Bangalore</i>	#	7.01	#	6.08	#	12.83
Uttar Pradesh	3.74	6.29	3.73	3.67	3.79	27.78
<i>DAM Delhi (UP)</i>	3.59	3.20	2.11	2.51	29.94	6.49
Haryana	3.40	7.25	3.53	4.59	-4.57	38.32
<i>DAM Delhi (Haryana)</i>	3.46	6.37	3.67	3.77	-10.28	41.49

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

On the other hand, the non-agricultural workers taken together have registered positive growth in both the periods in all the areas (Table 2.9). While during the pre-reform period, growth rates were higher in some of the states than that in the DAMs, in the post-reform period growth of non-agricultural workers has been higher in the DAMs (except in Delhi). Growth rates have increased for both the main and marginal categories of non-agricultural workers between the pre- and post-reform periods. The growth rates are very high for the marginal non-agricultural workers.

It is evident that as growth rates of workers in agriculture, especially main agriculture is decelerating, growth rates of non-agricultural workers in both the categories, more so for the marginal categories, is accelerating. As agriculture itself is shrinking in the DAMs, the cultivators who are leaving agriculture by force or by choice are probably becoming either marginal agricultural labourers or they are finding some non-agricultural work. It is also possible that workforce moving out of agriculture, are joining marginal non-agricultural work. However, some growth is taking place in the main non-agriculture as well, more in the DAMs than that in the states.

In the non-agricultural sector, construction, followed by transport, storage and communication and household industry account for maximum of the growth of workers in the main non-agricultural sector in the DAMs (Table 2.10). Based on NSS data, Kundu et al (2005) are of the opinion that the growth of rural non-farm employment in construction, trade & transportation has taken place in the form of residual activities as they take place 'through subcontracting of jobs and exploitation of the labour class in terms of wages, working conditions, working hours etc.' (p. 146-147). It may therefore be stated that the principal sectors of non-farm work that have registered remarkable growth may not be indicative of a shift of workers towards improvement of their working conditions and also livelihood. However, Bentinck (2000) in his study of the peri-urbanization of Delhi fringes observed that linkages with the urban economy led to a proliferation of non-farm jobs in the form of construction activity, building material for upcoming constructions, brick kilns and so on which benefited the local population and improved their incomes. Observing the dichotomy in the implications of the findings of different scholars, a greater in-depth analysis is required for any definitive assertions regarding the implication of the nature of post-reform growth experience by the different categories of non-agricultural workers in the DAMs.

**Table 2.10 Post-reform Exponential Growth Rates of Main Non-Agricultural Workers (15-59)**

Districts	Mining & Quarrying	Manufacturing, Processing, Servicing & Repairs		Construct-ions	Transport, Storage & Communicat-ions	Other services *
		In Household Industry	In other Than Household Industry			
	1991-2001	1991-2001	1991-2001	1991-2001	1991-2001	1991-2001
Maharashtra	2.68	2.98	-0.41	4.43	4.61	0.49
<i>DAM Mumbai</i>	<i>9.24</i>	<i>4.71</i>	<i>2.36</i>	<i>5.65</i>	<i>5.89</i>	<i>2.08</i>
West Bengal	0.99	5.06	3.39	10.20	6.30	3.53
<i>DAM Kolkata</i>	<i>4.08</i>	<i>6.55</i>	<i>3.48</i>	<i>10.43</i>	<i>5.45</i>	<i>3.56</i>
Tamil Nadu	7.81	3.06	2.20	7.18	2.81	-0.93
<i>DAM Chennai</i>	<i>2.32</i>	<i>3.79</i>	<i>-0.13</i>	<i>6.76</i>	<i>1.64</i>	<i>-0.08</i>
Andhra Pradesh	2.85	3.53	2.91	10.15	5.65	1.35
<i>DAM Hyderabad</i>	<i>2.03</i>	<i>6.03</i>	<i>2.32</i>	<i>11.45</i>	<i>7.09</i>	<i>2.92</i>
Karnataka	1.69	8.98	0.01	7.93	7.18	1.67
<i>DAM Bangalore</i>	<i>2.85</i>	<i>6.67</i>	<i>5.75</i>	<i>10.02</i>	<i>9.58</i>	<i>3.48</i>
Uttar Pradesh	9.17	8.39	3.96	9.02	5.33	-0.40
<i>DAM Delhi (UP)</i>	<i>18.52</i>	<i>11.97</i>	<i>0.21</i>	<i>11.12</i>	<i>4.41</i>	<i>-1.28</i>
Haryana	19.01	6.02	6.95	8.92	4.62	1.81
<i>DAM Delhi (Haryana)</i>	<i>19.26</i>	<i>10.49</i>	<i>6.18</i>	<i>8.67</i>	<i>3.87</i>	<i>0.11</i>

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

\* includes Trade and Commerce

It may be noted that the casualisation indices are very high for non-agriculture compared to agriculture (Table 2.5). Although it has increased between 1981 and 1991, it declined thereafter. For agriculture, casualisation index did not record much change during 1981-91 and increased during 1991-2001. It is higher in the DAMs of three of the metro-cities relative to the respective states in 2001. For non-agriculture, it is higher in all the DAMs (except for Kolkata).

#### **2.4 Major Findings & Conclusion**

From the preceding discussion it has emerged that land-use and employment in the DAMs have been remarkably affected by the reforms and the patterns observed there are different from that of the domain states. Land from agricultural stock and village common land has been noted to be moving out towards non-agricultural uses at a greater magnitude in the DAMs relative to the respective states. Although the emerging employment trend in the DAMs cannot be entirely assigned to land conversions as land acquisition for urban expansion is much localized the following may be pointed out:

- Firstly, following liberalization, there has been marginalization of workers from productive work in the DAMs at a greater degree than that in the respective states.

This is manifested through the higher growth rates of non-workers and those non-workers seeking work in the DAMs. Also, higher shares and post-reform growth rates of marginal workers in the DAMs mark the process of gradual deterioration in the status of available work for the rural workers in the DAMs, the magnitude being higher than that in the respective states.

- Secondly, it is observed that incidence of marginalization is higher in non-agriculture than agriculture in the DAMs. This shows that although sectoral diversification is under way owing to urban influence, it is principally in favour of marginal non-agricultural work. Therefore, the diversification of rural livelihood opportunities may not be taken as indicative of improved income and standard of living of the rural folks. Chadha (2001; p. 504) has mentioned the possibility of the phenomenon of “switch-over or seasonal supplementation”, but it needs in-depth enquiry to validate how far they are improving the earnings.
- Lastly, while the cultivators have registered decline in most of the areas, the combined processes of waning away of cultivators with a simultaneous increase in agricultural labourers has been observed in two of the DAMs which may be considered as an indication of de-peasantisation of the economy in those DAMs.

**Table 2.11 Summary Table for Behaviour of the DAMs**

Criteria	Mumbai	Kolkata	Chennai	Hyderabad	Bangalore	Delhi (UP)	Delhi (Haryana)
Growth rate of Non-workers higher in DAM	√	√	√	√	-	-	-
Growth rate of 'non-workers seeking work' higher in DAM	√	√	√	√	√	-	-
Index of Casualisation (Total Workers) higher in DAM	√	-	√	-	-	-	√
Index of Casualisation in Agriculture higher in DAM	√	-	√	-	-	-	√
Index of Casualisation in Non-Agriculture higher in DAM	√	√	-	√	√	√	√
Total Cultivators declining along with increasing Agricultural Labourers (Pauperization of peasantry)	√	-	-	-	√	-	-

Source: Compiled by Author

“√”: applicable;

“-”: not applicable

There is, however, not much uniformity in the behaviour pattern of the DAMs of the different cities. While marginalization of workforce in the DAMs has been a universal phenomenon, it may be observed that the DAM of Mumbai conform the most to the model proposed here followed by Chennai.

It has been clear that the DAMs are emerging as platforms of intense turmoil between rural and urban processes where the forces of globalization are not only accelerating the pace of interaction, but also making it critical for adaptation of the rural workforce who are being exposed to it. The peripheral rural population has emerged as more erratically placed than their rural counterparts in the respective states.

## Chapter 3

### Gender Disparity of Work in the Peripheries of Large Cities

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#### *3.1 The Conceptual Framework*

The urban periphery is the area where the turmoil of change from rural to urban ways is realized most strongly. With the changing nature of economic base in the fringe associated with urban expansion, the nature of available work in the area tends to be dominated by urban-service functions (Anguilar & Ward, 2003). Globalization has accentuated this process (Brook & Davila, 2000; Webster, 2002; Anguilar & Ward, 2003). It has been extensively argued that change in the nature of available work has different implications for the men and women (Mies et al, 1986; Pai, 1987; Agarwal, 1991; Bhalla, 1999; Carpenter, 2000; Chadha, 1999; 2001; Chadha & Sahu, 2002; Chandrasekhar & Ghosh, 2007). The rural urban fringe, where the nature of rural work is changing rapidly, provides an excellent base for the study of the implications of rural-urban interaction upon gender dimension of rural employment. That the economic reforms have affected employment of rural population adversely has been widely studied and debated (Kundu, 1997; Bhalla, 1999; Carpenter, 2000; Chadha, 1999; 2001; Chadha & Sahu, 2002; Kundu et al, 2005; Chandrasekhar & Ghosh, 2007). It has also been established that rural women have come out worse-off by the processes of economic reforms, compared to men.

Gender disparity in work is an empirically observed phenomenon. Such disparity is partly the result of inadequacies in the conceptualization of women's work and partly a consequence of methodological problems regarding capturing of women's work<sup>1</sup>; both of which emanate from the ideological construction of women as the "second sex" and the consequent subsidiary status assigned to them in the society as well as in the labour market. It is also believed that a woman's position in the domestic division of labour and her familial responsibilities determine her position in the labour market. That her primary engagement is that of a home-maker and child rearing and therefore she is less committed

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<sup>1</sup> Baneria (1988) has pointed out two basic issues regarding obscurity and low value attached to women's work that lead to its under-enumeration. The first issue is ideological and relates to the conceptualization of women's work. The second issue is related to capturing of women's work. Work is defined as any economically gainful activity that produces income. But, women are dominantly engaged in subsistence production much of which is family labour i. e. unpaid work. Due this conceptual bias regarding definition of work, women's work is significantly under-enumerated (Baneria, 1988).



to formal jobs than men are often posited as the chief arguments in marginalizing her further in the labour market. Her employment in paid work is considered to be only optional, a manifestation of voluntary choice they make to be able to meet family obligations, and is seen to be adding only supplemental value to the household income. Such presuppositions about women's work are operationalized to construct a uni-dimensional image of them as mothers/ housewives, which gives rise to and considerably influences the practice of discrimination in hiring, wage structure and job-sex segregation. Interpreted in simple terms, these arguments attempt to justify her marginal position in the labour market. In the areas surrounding large cities, agriculture as the means of livelihood is waning due to urban expansion. As the agricultural base is shrinking in the areas surrounding the large cities, it may be conjectured that non-workers will increase in the DAMs than that in the state for both men and women, more so for the women.. The reason for greater displacement among women is partly due to the fact that agriculture is the chief employer of women in rural areas and partly because any structural and organizational changes in the labour market typically result in reduction in jobs 'suitable for women'. Carpenter (2000) observed that any change within the economy is liable to affect the female workers more than their male counterparts as women workers are considered to be only a "reserve labour force" (p. 465) who can shift between work and non-work at ease in accordance with what the position of the male workers is within labour force.

The second major issue associated with urban expansion and its impact upon female employment pertains to the fact the women workers who get displaced from agriculture are less likely to find work in the non-agricultural sector. This is because women workers, especially rural women are inadequately equipped to negotiate any radical change in the production system or technological changes (Boserup,1970; Parthasarathy and Nirmala, 1999; Agarwal, 1991, Mies, 1986; Roy Singha, 1995). Lack of education and skill formation emerges as their "Achilles' heels" (Chadha, 1999) which retards their sectoral mobility in favour of the more productive non-agricultural work. Mies (1987) has argued that with modernization of production system there occurs "*a process of internal colonization, a polarization.....between various sections of the population and generally between men and women, particularly in the rural areas*" (p. 4). Having thus failed in getting themselves absorbed in the diversifying rural economy, it is also probable that women may be thrown back to the agricultural sector in places where

the rural men move out in favour of whatever little non-agricultural work is available due to urban linkages.

However, it must be remembered that rural men are also not well equipped to handle radical shifts towards modernization of production system. It is, therefore, expected that rural workers in general will get marginalized in the wake of urban expansion. In the urban fringe, therefore the result of such marginalization on both the rural men and women is a complex issue. It is to be seen whether liberalization has specially marginalized the rural women more than the male counterparts in the areas around large cities at a greater degree than that experienced by the region as a whole.

### ***3.2 Gender Disparity in Work: Status of Work and Inter-Sectoral Dynamics***

#### **3.2.1 Status of Employment in the Rural Peripheries of Large Cities**

It may be observed that WPR for men is almost same in the DAMs and the respective states and has maintained stability across the three decades in all the areas, while for the females there are considerable variations. For females, WPR is lower in the DAMs than that in the respective states in all the decades, exception being Hyderabad and Delhi (Haryana) (Figure 3.1), and has registered inter-city as well as inter-censal variations. The shares of total female workers have largely declined during the post-reform period in the DAMs exceptions being Kolkata and Delhi (Haryana). Such a disparate trend of WPR of men and women across the states and DAMs through the three time periods point towards the fact that men are relatively stable with respect to WPR than women irrespective of their location over space and that women workers are more vulnerable to space-time context.

Rate of growth of total workers, both male and female, decelerated in all the states during the post-reform period compared to that in the pre-reform period while the DAMs registered variations across cities and gender (Table 3.1). Male workers exhibited post-reform acceleration in growth rates in three of the DAMs (Mumbai, Hyderabad and Delhi (Haryana)) while female workers registered the same in the DAMs of Kolkata, Hyderabad and Delhi (Haryana). The DAMs were largely noted with higher growth rates of total workers for both the males and females than that in the respective states. Also, in four of the DAMs (Kolkata, Chennai, Bangalore and Delhi) growth rates of female workers has been more than that of the males in the post-reform period. Greater activity

rate of the females is generally interpreted as a distress-induced situation<sup>2</sup> (Papola & Sharma, 1997). So, while higher growth rates of male workers in the DAMs may be considered as a positive development that of the females needs to be looked at with caution. Hence, the DAMs which are experiencing post-reform acceleration in the growth rates of rural female workforce needs to be looked into closely.

**Table 3.1 Exponential Growth Rate of Male & Female Total Workers & Non-Workers (15-59)**

State/Districts	Total Workers				Non-Workers				Those seeking work among non-workers	
	1981-1991		1991-2001		1981-1991		1991-2001		1991-2001	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Maharashtra	1.73	3.22	1.44	0.63	5.91	-0.95	3.47	3.43	18.76	23.81
<i>DAM Mumbai</i>	0.64	2.84	1.92	0.19	3.00	-1.63	3.51	4.10	20.21	26.11
West Bengal	2.38	5.78	1.97	5.89	1.37	1.24	2.27	0.37	9.21	16.46
<i>DAM Kolkata</i>	2.65	6.76	2.05	8.77	1.59	2.07	2.45	1.06	13.84	22.23
Tamil Nadu	1.24	2.91	-0.65	0.16	4.75	0.12	1.75	-0.76	11.10	21.15
<i>DAM Chennai</i>	1.56	3.03	0.01	0.06	3.95	1.01	3.51	1.23	12.39	25.83
Andhra Pradesh	1.66	2.58	1.51	1.69	6.84	1.33	3.77	1.87	22.48	36.00
<i>DAM Hyderabad</i>	1.09	1.53	2.34	1.75	4.94	0.42	5.23	4.57	29.10	47.13
Karnataka	1.22	3.31	1.66	2.19	4.86	-0.28	2.87	1.19	16.29	19.44
<i>DAM Bangalore</i>	#	#	1.36	2.73	#	#	3.06	0.60	26.86	22.32
Uttar Pradesh	2.03	6.67	1.26	5.38	4.04	0.93	4.50	0.74	22.79	16.40
<i>DAM Delhi (UP)</i>	1.83	16.40	-0.24	1.50	3.22	0.14	2.21	0.17	21.26	5.40
Haryana	2.12	2.84	2.35	12.13	5.43	2.06	2.90	-2.80	20.26	28.21
<i>DAM Delhi (Haryana)</i>	2.02	2.37	2.30	10.69	4.67	1.41	1.18	-4.03	13.96	27.53

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

Note: Data on 'non-workers seeking work' is not available for 1981.

Main workers registered deceleration of growth rates between the pre- and post-reform periods for the males as well as the females in the states as well as the DAMs of all the cities, exception being Delhi (Haryana) DAM where the females experienced acceleration of growth rates of main workers inspite of falling rates of growth for the male main workers (Table 3.2). The rates of growth of both male and female main workers are lower in the DAMs than that in the respective states. On the other hand, marginal workers have registered very high post-reform growth rates for the males as well as the females, the rates of growth being higher for the males than that of females in all the states and DAMs. However, the growth rates of marginal workers are higher in the

<sup>2</sup> Papola & Sharma (1997) has argued that a higher labour force participation of women is often a result of poverty where every member of the household need to work for securing a minimum level of income.

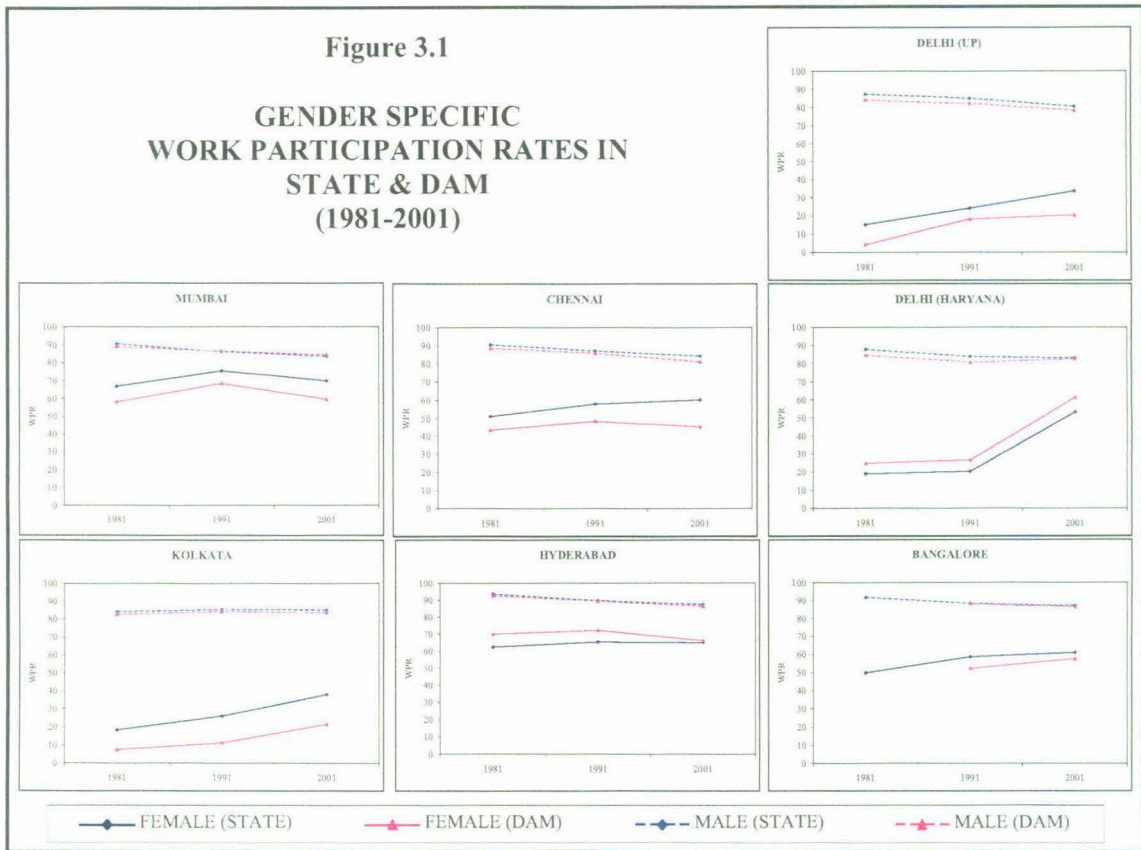
DAMs than that in the respective states for the male and female workers, exception being again Delhi. The increase in the share of marginal workers has been much smaller in the case of women than of men and this is consistent with findings in existing literature (Papola & Sharma, 1997). It must be remembered that women workers had already constituted the bulk of the share of marginal workers (Table 3.3).

**Table 3.2 Exponential Growth Rate of Male & Female Main & Marginal Workers (15-59)**

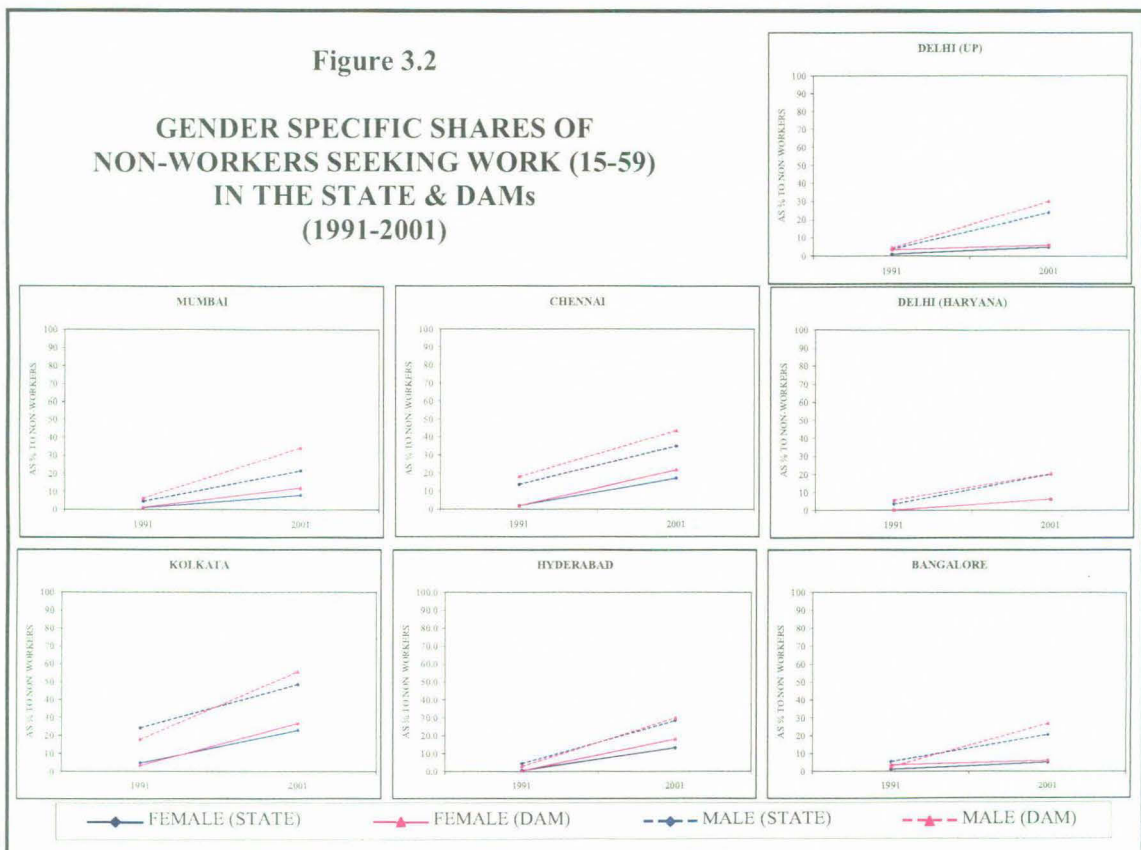
State/Districts	Main Workers				Marginal Workers			
	1981-1991		1991-2001		1981-1991		1991-2001	
	Male	Female	Male	Female	Male	Female	Male	Female
Maharashtra	1.80	3.52	0.51	-0.36	-2.03	2.17	20.61	3.74
<i>DAM Mumbai</i>	0.70	2.44	0.20	-2.61	-1.96	4.44	24.17	6.41
West Bengal	2.58	5.52	0.58	1.45	-5.00	6.34	23.33	11.45
<i>DAM Kolkata</i>	2.85	5.48	0.64	5.22	-6.52	9.77	25.83	13.24
Tamil Nadu	1.31	2.88	-1.86	-1.01	-6.79	3.06	30.23	4.47
<i>DAM Chennai</i>	1.73	3.61	-2.14	-3.00	-11.18	0.48	34.18	8.64
Andhra Pradesh	1.69	3.46	0.45	-0.16	-2.87	-1.82	32.78	9.14
<i>DAM Hyderabad</i>	1.15	2.59	1.40	0.07	-8.24	-6.33	35.48	12.19
Karnataka	1.24	3.74	0.75	0.31	-1.02	2.05	26.71	6.52
<i>DAM Bangalore</i>	#	#	0.42	3.24	#	#	27.32	1.95
Uttar Pradesh	2.05	5.78	-0.58	0.83	-1.07	8.16	34.37	9.67
<i>DAM Delhi (UP)</i>	1.74	3.04	-1.51	9.74	18.73	30.92	24.18	-2.79
Haryana	2.24	5.59	0.88	11.68	-10.42	0.77	36.26	12.54
<i>DAM Delhi (Haryana)</i>	2.26	4.72	0.66	9.61	-13.75	0.07	34.69	11.87

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.



Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.



Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

So, lower growth rate of female marginal workers in the DAMs may not necessarily be indicative of an improvement in the employment scenario for the women. Rather, it is more probable that the phenomenon of post-reform casualization of labour market is manifested more in case of the male workers as they are more visibly employed than the female counterparts. What is also clear from the casualization index (Table 3.3) is that marginal workers have increased remarkably in the post-reform period and that three of the DAMs exhibit higher casualization index than that of the domain state for the males as well as the females in 2001. So, it may be argued that whatever increase in total workers have occurred accrues to the growth of marginal workers which is generally looked upon as deterioration of work conditions. However, Papola and Sharma (1997) have argued that in rural areas, as long as casualization of work implies 'a shift from subsistence agriculture or other low productivity occupations to casual yet substantial employment in more remunerative sectors or work' (p.349), casualization necessarily does not imply deterioration of livelihood. So, what is the dynamics operative in the DAMs of the metro-cities must be looked into carefully.

**Table 3.3 Gender Specific Index of Casualisation for Total Workers (15-59)**

States/ Districts	1981		1991		2001	
	Male	Female	Male	Female	Male	Female
Maharashtra	2	29	2	26	11	39
<i>DAM Mumbai</i>	3	23	2	28	21	70
West Bengal	4	45	2	48	17	131
<i>DAM Kolkata</i>	3	35	1	53	17	118
Tamil Nadu	1	20	1	20	13	35
<i>DAM Chennai</i>	2	27	1	19	25	62
Andhra Pradesh	1	26	0	15	12	39
<i>DAM Hyderabad</i>	1	21	0	8	10	28
Karnataka	1	37	1	32	10	59
<i>DAM Bangalore</i>	#	#	1	69	11	61
Uttar Pradesh	1	54	1	68	21	165
<i>DAM Delhi (UP)</i>	0	23	1	366	15	105
Haryana	2	169	0	105	16	114
<i>DAM Delhi (Haryana)</i>	3	129	1	81	19	101

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

The share of non-workers is largely on decline in the states for male as well as females, while that in the DAMs is largely increasing in the post-reform period (Appendix 2 and also Figure 3.1). It may be observed that three of the DAMs registered



post-reform acceleration of growth of male and female non-workers. The rates of growth are higher for the males in the DAMs than the females (Table 3.1). It must be remembered that the share of non-workers is higher for the females which continued to maintain positive growth in the post-reform period. The increase in non-workers for the males as well as females within the working age (15-59) is disturbing, a phenomenon which is reinforced by the increase in the shares of non-workers seeking work for both the males and females (Figure 3.2). Although the shares of non-workers seeking work are higher for the males than the females in all the states as well the DAMs in all the decades, the growth rates of female non-workers seeking work is higher than that of the men (Table 3.1, Fig 3.2). The higher share of male non-workers seeking work is quite expected as men are conceptualized as the breadwinners of the household and are keener in looking for work when marginalized from the same. But, the higher growth rates of female non-workers seeking work may be considered as an indication of deteriorating livelihood situation in the DAMs such that women non-workers are also seeking work.

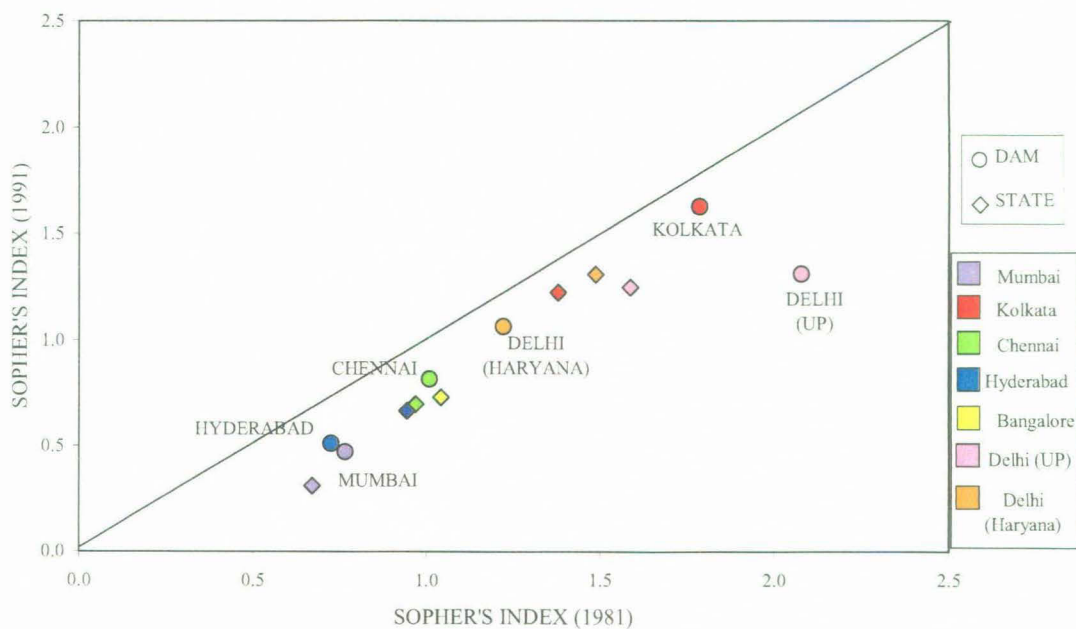
In order to look into the gender disparity of work within the state and DAM, Sopher's Disparity Index has been used. Disparity is greater in five of the DAMs than that in the respective states and it has declined over the decades (Fig 3.3). Also, the gap between the states and the DAMs has decreased over the decades. Except for the metro-cities of Delhi and Kolkata, the state and DAM are near to each other with respect to disparity. This is true for both the decades. In the post-reform period, although the gap between the state and the respective DAMs has reduced, Delhi and Kolkata continues to maintain the pattern exhibited between 1981 and 1991.

Following the general observation regarding the negative fallouts of the economic reforms upon work status in existing literature, the finding of declining gender disparity in work may be assigned to deterioration in the condition of work for the male workers rather than any improvement in the status of the women workers. Hence, the disparity has gone down probably because the male workers have slipped away from their better-off position relative to the women.

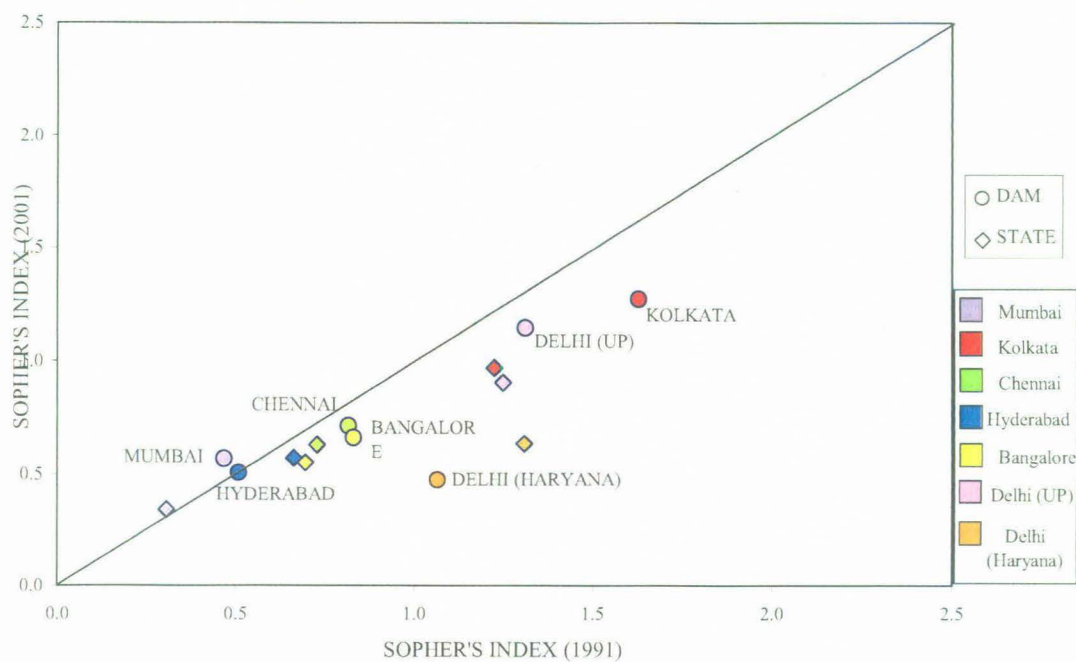
**Figure 3.3**

**Sopher's Index  
Comparison of Gender Disparity of Work Participation  
in the Pre- and Post Reform Period**

**Pre-Reform Period**



**Post Reform Period**



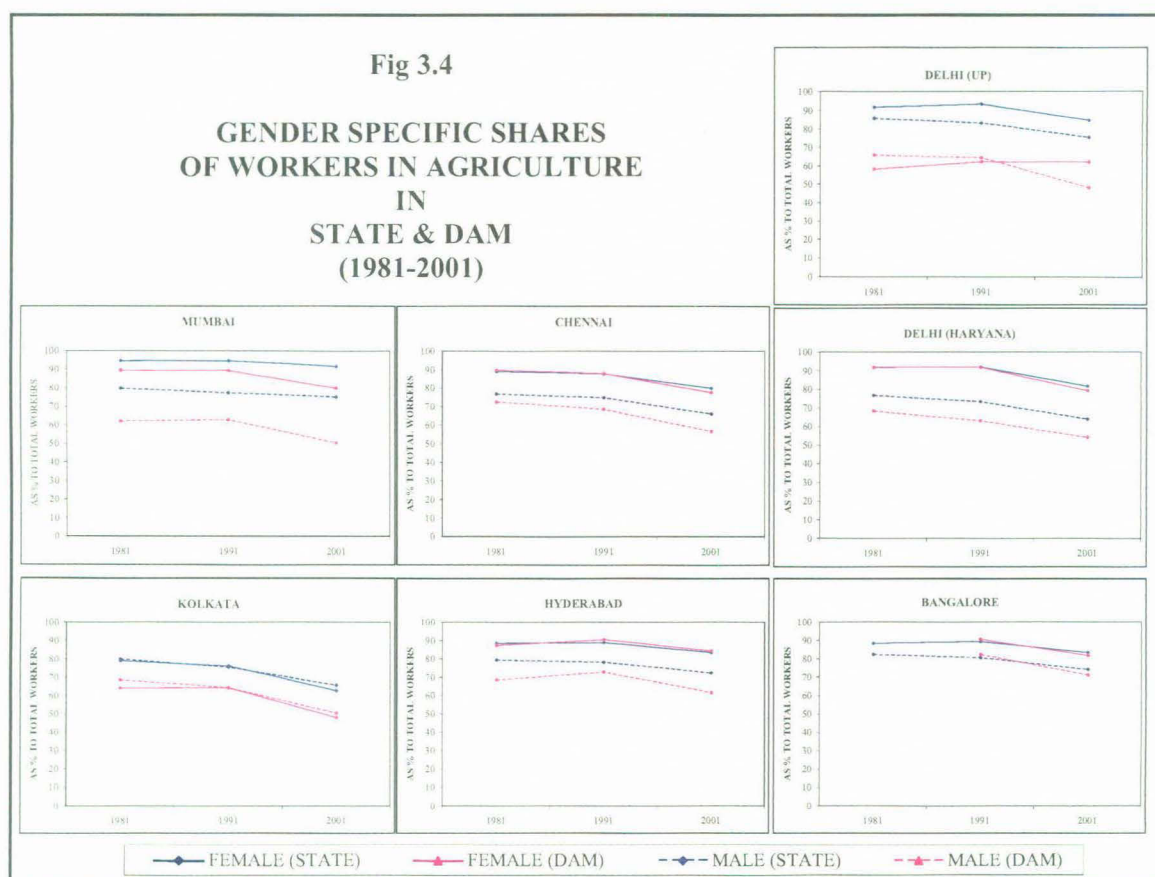
Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001



### 3.2.2 Sectoral Trends in the Rural Peripheries of Large Cities

Agriculture is dominated by women workers in all the states as well as the DAMs in all the time periods and the shares are largely declining during the post-reform period (Figure 3.4). Share of agricultural workers, both males and females is higher in the respective states than that in the respective DAMs.

In the DAMs, growth rate of male workers in total agriculture is negative in the post-reform period while that of females is either positive (as in Kolkata, Bangalore & Delhi) or declining at a rate lower than that of males (as in Chennai). Only in Mumbai, male as well as female agricultural workers are declining in the post-reform period (Table 3.4). While the growth rates of male workers in main agriculture is negative in all the DAMs that of females are positive in the DAMs of Kolkata, Bangalore and Delhi. This may be considered as an indication that in these three DAMs, as male workers are moving out of agriculture, the women's economic bases are getting increasingly tagged to agriculture. At a further disaggregated level, it is evident that the male cultivators register negative growth largely in the DAMs, and the female cultivators register either positive



Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

**Table 3.4 Exponential Growth Rate of Male & Female Workers in Agriculture (15-59)**

State/Districts	Total Agricultural Workers				Main Agricultural Workers				Marginal Agricultural Workers			
	1981-1991		1991-2001		1981-1991		1991-2001		1981-1991		1991-2001	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Maharashtra	1.43	3.24	1.13	0.30	1.50	3.54	0.18	-0.60	-1.96	2.17	19.83	3.17
<i>DAM Mumbai</i>	0.75	2.81	-0.27	-0.94	0.85	2.42	-2.64	-3.91	-2.60	4.33	22.90	5.48
West Bengal	1.81	5.42	0.56	3.93	2.03	4.91	-1.05	-1.15	-6.95	6.54	24.19	9.81
<i>DAM Kolkata</i>	2.01	6.80	-0.42	5.85	2.26	4.67	-2.36	1.76	-7.42	11.41	24.60	10.06
Tamil Nadu	0.97	2.76	-1.88	-0.77	1.04	2.65	-3.32	-2.09	-7.49	3.27	30.58	3.69
<i>DAM Chennai</i>	1.01	2.83	-1.90	-1.19	1.21	3.39	-4.62	-4.76	-12.35	0.46	33.31	7.85
Andhra Pradesh	1.50	2.61	0.74	1.06	1.53	3.49	-0.42	-0.95	-3.39	-1.78	33.31	8.92
<i>DAM Hyderabad</i>	1.69	1.88	0.68	1.05	1.75	2.94	-0.23	-0.68	-7.93	-6.04	34.09	11.67
Karnataka	1.00	3.41	0.83	1.48	1.01	3.83	-0.07	-0.49	-0.73	2.23	25.81	5.80
<i>DAM Bangalore</i>	#	#	-0.09	1.70	#	#	-0.96	2.10	#	#	25.33	1.10
Uttar Pradesh	1.73	6.84	0.26	4.38	1.75	5.88	-1.58	-0.17	-1.10	8.36	32.71	8.55
<i>DAM Delhi (UP)</i>	1.58	17.04	-3.16	1.46	1.49	5.06	-4.24	9.10	18.08	30.72	19.96	-3.15
Haryana	1.68	2.87	0.98	10.94	1.82	5.89	-0.56	11.70	-10.71	0.89	33.73	10.26
<i>DAM Delhi (Haryana)</i>	1.22	2.37	0.79	9.22	1.53	4.71	-1.07	9.19	-13.50	0.32	30.60	9.26

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

**Table 3.5 Exponential Growth Rate of Male & Female Cultivators (Total, Main & Marginal) (15-59)**

State/Districts	Total Cultivators				Main Cultivators				Marginal Cultivators			
	1981-1991		1991-2001		1981-1991		1991-2001		1981-1991		1991-2001	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Maharashtra	0.89	3.46	0.33	-0.18	0.90	3.79	-0.10	0.24	-0.04	2.40	13.62	-1.73
<i>DAM Mumbai</i>	<i>0.20</i>	<i>2.10</i>	<i>-2.32</i>	<i>-2.69</i>	<i>0.25</i>	<i>1.90</i>	<i>-3.78</i>	<i>-4.47</i>	<i>-1.99</i>	<i>2.96</i>	<i>19.48</i>	<i>2.57</i>
West Bengal	1.97	8.54	-1.47	0.97	2.14	6.52	-2.29	-1.78	-5.39	11.12	16.35	3.15
<i>DAM Kolkata</i>	<i>1.87</i>	<i>12.72</i>	<i>-2.81</i>	<i>3.37</i>	<i>2.03</i>	<i>7.26</i>	<i>-3.50</i>	<i>3.30</i>	<i>-4.46</i>	<i>16.19</i>	<i>12.81</i>	<i>3.39</i>
Tamil Nadu	-0.44	2.41	-3.23	-0.18	-0.40	1.89	-3.65	0.73	-8.24	4.95	22.41	-5.25
<i>DAM Chennai</i>	<i>-1.24</i>	<i>2.64</i>	<i>-3.92</i>	<i>-1.54</i>	<i>-1.15</i>	<i>2.15</i>	<i>-4.58</i>	<i>-1.22</i>	<i>-16.26</i>	<i>4.78</i>	<i>28.79</i>	<i>-2.85</i>
Andhra Pradesh	0.07	2.14	-0.77	0.47	0.09	2.94	-1.01	0.86	-4.71	-1.59	20.89	-2.25
<i>DAM Hyderabad</i>	<i>0.72</i>	<i>0.98</i>	<i>0.52</i>	<i>1.65</i>	<i>0.76</i>	<i>2.13</i>	<i>0.37</i>	<i>1.89</i>	<i>-8.93</i>	<i>-7.85</i>	<i>20.37</i>	<i>-2.05</i>
Karnataka	0.16	3.90	0.52	0.46	0.15	3.88	0.32	1.80	0.73	3.95	12.88	-2.70
<i>DAM Bangalore</i>	#	#	<i>-0.14</i>	<i>0.69</i>	#	#	<i>-0.44</i>	<i>3.84</i>	#	#	<i>16.25</i>	<i>-4.70</i>
Uttar Pradesh	1.15	6.81	-1.10	2.61	1.17	5.84	-1.69	1.10	-2.08	8.21	22.27	4.27
<i>DAM Delhi (UP)</i>	<i>0.86</i>	<i>20.24</i>	<i>-3.00</i>	<i>-1.37</i>	<i>0.77</i>	<i>6.67</i>	<i>-3.29</i>	<i>7.96</i>	<i>20.23</i>	<i>29.79</i>	<i>9.74</i>	<i>-5.36</i>
Haryana	0.71	2.34	1.48	9.53	0.84	5.29	0.66	11.05	-11.17	0.57	28.33	8.20
<i>DAM Delhi (Haryana)</i>	<i>0.54</i>	<i>1.70</i>	<i>1.19</i>	<i>8.18</i>	<i>0.77</i>	<i>4.14</i>	<i>0.15</i>	<i>8.72</i>	<i>-12.75</i>	<i>-0.38</i>	<i>26.50</i>	<i>7.58</i>

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

growth (as in Kolkata, Bangalore, Hyderabad & Delhi) or a slower rate of decline than the male counterparts (Table 3.5). This re-emphasizes the increasing dependence of women workers on agriculture in the DAMs<sup>3</sup>.

Again, in four of the DAMs, female agricultural labourers display either a higher rate of growth or a lower rate of decline than that of the male counterparts during the post-reform period (Table 3.6). Also, in three of the DAMs, the growth of female agricultural labourers has been higher than that of the state, which is not the case with the male counterparts. So, the female agricultural labourers, who already constituted a majority of total agricultural labourers, registered increase in the DAMs at a rate higher than that of the state which has not been so remarkable in case of the male agricultural labourers. This only re-establishes the phenomenon of lack of access of women to gainful work and resources, and this is more clearly evident in the DAMs than that in the domain states. Within the rural setting, agricultural labour households are the most disadvantaged category of people as they lack access to means of production land and their work is mostly of casual nature (Jha, 1997; Pai, 1987). It is the women who crowd in agricultural labour and marginal cultivator categories which are the two most insecure means of subsistence. So, the rural women workers are doubly disadvantaged<sup>4</sup>: firstly by being pushed into the low return agriculture sector, and secondly, by being placed in the most insecure mode of livelihood within the agriculture sector itself.

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<sup>3</sup> Banerjee (1997) in her study observed increase in the relative share of female cultivators within female agricultural labourers. But she also observed that this has not brought any real change in women's role in agriculture. It was that the rural men, especially with small holdings, moved out of agriculture leaving women to cultivate the family plots. The women continued to lack the authority to take decisions regarding production and marketing. Another study of women in agriculture in Himachal Pradesh by Raj Mohini Sethi (1991) reveals that men in the study area are engaged mostly with commercial agriculture or non-farm work while the women are overwhelmingly into peasant agriculture. The burden of domestic work and subsistence agriculture is solely with the women of all ages and this trend is getting aggravated as more men are shifting away from subsistence agriculture.

<sup>4</sup> Pai (1987), while discussing the status of female agricultural labourers in India stated that the subordinate position of women workers within the sphere of production and reproduction is the outcome of the interaction of class and gender at various levels, women are subject to "double oppression" (p. 17).

**Table 3.6 Exponential Growth Rate of Male & Female Agricultural Labourers (Total, Main & Marginal) (15-59)**

State/Districts	Total Agricultural Labourers				Main Agricultural Labourers				Marginal Agricultural Labourers			
	1981-1991		1991-2001		1981-1991		1991-2001		1981-1991		1991-2001	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Maharashtra	2.40	3.06	2.15	0.58	2.58	3.34	0.38	-1.67	-3.81	1.91	24.15	6.86
<i>DAM Mumbai</i>	2.13	4.34	2.84	1.62	2.43	3.65	-1.61	-3.12	-3.15	6.28	25.31	8.16
West Bengal	1.72	4.43	2.86	5.51	2.03	5.13	0.27	-2.12	-8.81	2.72	29.89	14.61
<i>DAM Kolkata</i>	1.99	4.78	1.07	5.81	2.34	4.14	-1.96	-1.36	-10.08	7.06	30.60	15.35
Tamil Nadu	2.79	2.94	-0.90	-1.14	2.93	3.02	-3.38	-3.73	-7.14	2.59	32.79	6.04
<i>DAM Chennai</i>	2.89	2.84	-0.97	-1.24	3.24	3.64	-5.12	-6.02	-11.58	-0.51	33.87	9.60
Andhra Pradesh	3.46	2.79	1.84	1.21	3.51	3.70	-0.23	-1.89	-2.60	-1.86	36.57	11.58
<i>DAM Hyderabad</i>	3.87	2.40	0.71	0.66	3.96	3.43	-1.59	-2.59	-7.09	-5.01	38.66	14.80
Karnataka	2.60	3.14	0.75	1.74	2.66	3.89	-1.88	-2.81	-2.82	0.59	33.91	10.79
<i>DAM Bangalore</i>	#	#	0.56	2.64	#	#	-2.44	-1.17	#	#	35.64	7.54
Uttar Pradesh	3.82	6.85	3.60	6.12	3.85	5.89	-1.58	-4.07	1.46	8.62	41.51	13.17
<i>DAM Delhi (UP)</i>	3.84	16.46	-5.43	-0.25	3.77	6.77	-9.25	-1.36	14.80	32.94	28.20	0.25
Haryana	3.81	4.08	-0.41	10.17	3.97	7.08	-4.07	4.09	-9.71	1.70	39.78	14.02
<i>DAM Delhi (Haryana)</i>	3.30	4.06	-1.26	7.42	3.87	6.07	-6.94	-0.60	-14.88	2.16	35.85	12.32

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

Non-agricultural workers, both males and females, experienced acceleration of growth rates during the post-reform period relative to their pre-reform levels, in the states as well the DAMs (Table 3.7). Also, the growth rates are higher in the DAMs for the male as well as female workers in non-agriculture. It is noted that the post-reform growth rates are higher in case of the females than that of the males in all the areas. Before concluding that the women are doing better than the men in the DAMs with respect to non-agricultural work, it must be remembered that the share of women workers in non-agriculture is by far much lower than that of male workers (Appendix 15 and also Figure 3.4). It has been observed in many studies that lack of education and skills constrain sectoral diversification of rural female workers (Papola & Sharma, 1997; Chadha, 1999; Chadha, 2001, Chadha & Sahu, 2002, Kundu et al, 2005). It has been also observed that women are largely concentrated in the low and insecure earning end of the non-farm occupational spectrum (Agarwal, 1998; Kundu et al, 2005). So increase in non-farm work for the females in the post-reform period in the DAMs needs to be analyzed more closely to conclude about their real position within the emerging labour market there.

Construction and transport & trade are the two sectors that registered highest post-reform growth rates for the female workers in the DAMs followed by household industries (Table 3.8). Kundu et al (2005) are of the opinion that the post-reform growth in construction activities and trade and transport in the rural areas are of residual kind and that they are exploitative in nature. So, the increase in the non-agricultural workers in the DAMs for both men and women in the post-reform period must be interpreted with some reservation.

**Table 3.7 Exponential Growth Rate of Male & Female Workers in Non-Agriculture (15-59)**

State/Districts	Total Non-Agricultural Workers				Main Non-Agricultural Workers				Marginal Non-Agricultural Workers			
	1981-1991		1991-2001		1981-1991		1991-2001		1981-1991		1991-2001	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Maharashtra	2.84	2.88	2.44	5.17	2.92	3.06	1.57	3.08	-2.41	2.09	23.87	11.54
<i>DAM Mumbai</i>	<i>0.44</i>	<i>3.10</i>	<i>4.79</i>	<i>6.53</i>	<i>0.45</i>	<i>2.56</i>	<i>3.65</i>	<i>4.26</i>	<i>0.31</i>	<i>5.58</i>	<i>27.28</i>	<i>12.41</i>
West Bengal	4.40	7.01	5.37	10.43	4.50	7.66	4.41	6.81	0.87	5.68	21.28	15.67
<i>DAM Kolkata</i>	<i>3.92</i>	<i>6.70</i>	<i>5.38</i>	<i>12.52</i>	<i>4.01</i>	<i>6.81</i>	<i>4.46</i>	<i>8.85</i>	<i>-3.18</i>	<i>6.42</i>	<i>28.83</i>	<i>18.63</i>
Tamil Nadu	2.11	4.03	2.30	5.04	2.16	4.46	1.54	4.06	-4.40	0.61	29.08	11.39
<i>DAM Chennai</i>	<i>2.88</i>	<i>4.66</i>	<i>3.23</i>	<i>6.20</i>	<i>2.95</i>	<i>5.30</i>	<i>1.76</i>	<i>4.35</i>	<i>-6.33</i>	<i>0.64</i>	<i>36.47</i>	<i>14.68</i>
Andhra Pradesh	2.26	2.29	3.86	5.67	2.29	3.20	3.04	4.61	-1.24	-2.19	31.08	10.69
<i>DAM Hyderabad</i>	<i>-0.35</i>	<i>-1.22</i>	<i>5.76</i>	<i>6.69</i>	<i>-0.30</i>	<i>-0.19</i>	<i>4.76</i>	<i>5.24</i>	<i>-8.86</i>	<i>-8.63</i>	<i>37.91</i>	<i>15.88</i>
Karnataka	2.22	2.52	4.51	6.67	2.26	3.09	3.57	4.84	-2.16	-0.08	29.71	13.04
<i>DAM Bangalore</i>	#	#	<i>6.20</i>	<i>9.34</i>	#	#	<i>5.10</i>	<i>10.40</i>	#	#	<i>33.07</i>	<i>7.64</i>
Uttar Pradesh	3.65	4.64	5.09	13.76	3.67	4.62	3.25	8.15	-0.85	4.66	42.56	21.23
<i>DAM Delhi (UP)</i>	<i>2.31</i>	<i>15.44</i>	<i>3.50</i>	<i>1.56</i>	<i>2.21</i>	<i>-0.58</i>	<i>2.05</i>	<i>11.10</i>	<i>19.97</i>	<i>31.21</i>	<i>28.85</i>	<i>-2.29</i>
Haryana	3.46	2.45	5.37	20.43	3.51	3.92	4.03	11.56	-8.25	-3.39	45.41	35.31
<i>DAM Delhi (Haryana)</i>	<i>3.54</i>	<i>2.34</i>	<i>4.46</i>	<i>19.98</i>	<i>3.62</i>	<i>4.78</i>	<i>3.05</i>	<i>12.02</i>	<i>-16.34</i>	<i>-8.34</i>	<i>50.71</i>	<i>37.62</i>

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

**Table 3.8 Post-Reform Exponential Growth Rates of Male & Female Main Non-Agricultural Workers (15-59)**

State/Districts	Mining & Quarrying		Manufacturing, Processing, Servicing & Repairs				Constructions		Transport, Storage & Communications		Other services *	
			In Household Industry		In other Than Household Industry							
	1991-2001		1991-2001		1991-2001		1991-2001		1991-2001		1991-2001	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Maharashtra	2.53	3.19	2.27	4.27	-0.25	-1.58	3.98	7.58	4.53	9.47	0.09	2.67
<i>DAM Mumbai</i>	9.53	7.21	5.09	3.89	1.99	5.11	5.45	7.07	5.91	5.19	1.94	2.52
West Bengal	0.47	6.30	2.85	7.47	3.42	3.24	10.12	12.82	6.26	10.96	3.14	6.78
<i>DAM Kolkata</i>	4.11	2.70	5.35	9.87	3.18	6.87	10.34	15.85	5.41	9.88	2.96	8.45
Tamil Nadu	6.99	10.50	1.15	4.79	1.23	5.22	6.91	9.62	2.71	6.68	-1.39	0.60
<i>DAM Chennai</i>	4.71	-5.71	1.68	8.65	-1.22	6.30	6.63	8.59	1.59	3.51	-0.17	0.27
Andhra Pradesh	1.87	5.92	1.53	5.43	2.30	4.92	9.77	12.76	5.56	10.72	1.14	2.05
<i>DAM Hyderabad</i>	1.83	2.38	5.07	7.76	1.88	4.46	10.85	14.25	7.16	3.84	2.97	2.74
Karnataka	1.31	2.87	4.28	15.37	2.10	-3.86	7.65	10.91	7.07	11.60	1.20	3.61
<i>DAM Bangalore</i>	2.91	2.63	4.76	9.95	4.82	9.93	9.35	15.02	9.34	19.64	2.40	8.69
Uttar Pradesh	8.73	12.73	7.70	11.11	3.92	4.44	9.10	6.81	5.29	9.37	-0.77	4.35
<i>DAM Delhi (UP)</i>	19.30	0.00	10.15	23.07	0.00	4.16	11.06	16.73	4.32	19.61	-1.79	8.27
Haryana	17.98	27.96	3.81	17.83	6.48	11.64	8.76	12.42	4.56	14.38	1.24	8.89
<i>DAM Delhi (Haryana)</i>	18.98	24.87	7.56	23.18	5.05	15.23	8.26	14.78	3.82	10.99	-0.42	6.63

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

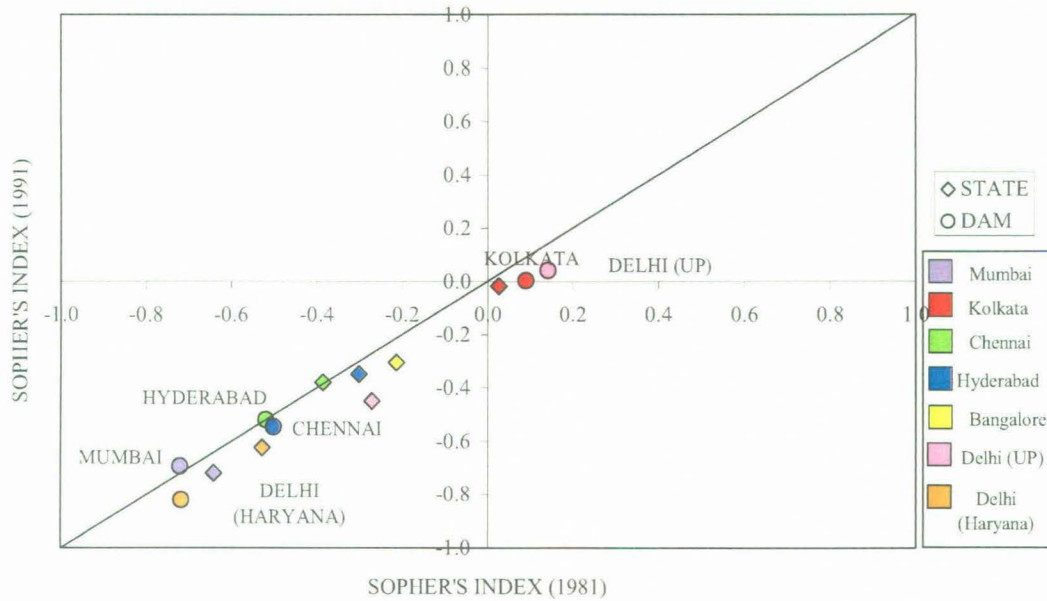
# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.



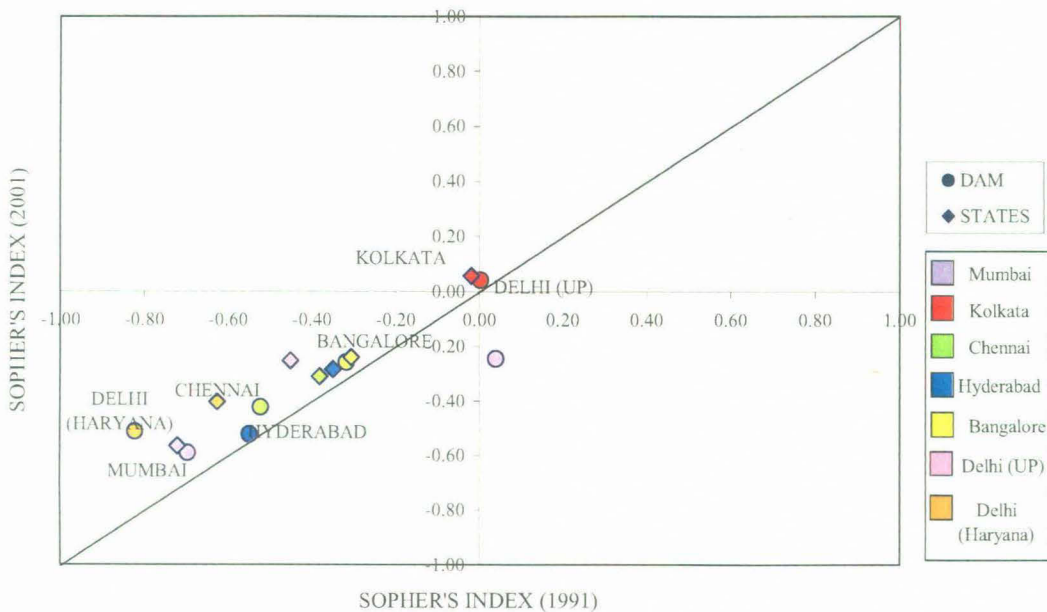
**Figure 3.5**

**Sopher's Index:  
Comparison of Gender Disparity of Workforce in Agriculture in the  
Pre- and Post Reform Period**

**Pre-reform**



**Post-Reform Period**



Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001

Sopher's index for work participation of male and female workers in agriculture and non-agriculture reveals that disparity of sector-specific work participation of the male and female workers increased during the pre-reform period and declined in the post-reform period in all the states and DAMs (Figure 3.5). Sector specific disparity is higher in the DAMs than that in the respective states. During the pre-reform period the DAM and state of Kolkata were close to each other in terms of sector specific disparity of male-female work participation while that of Delhi were farthest apart. During the post-reform period, in addition to Kolkata, the DAM and state of Mumbai and Bangalore came closer to each other and the DAM and states of Delhi continued to remain far apart. The DAMs of Hyderabad and Chennai have remained close to each other in both the decades while their respective states have also displayed clustering.

### **3.3 Major findings and Conclusion**

From the preceding discussion it has been observed that gender disparity in work is higher in the DAMs than that in the states and that the reforms have affected economic activities of men and women differently. Marginalization of workforce for the males in the DAMs has been evident from waning away of regular type of jobs while that for females has been evident from their marginalization from productive and remunerative work and concentration within agricultural sector. The principle trends may be pointed out as follows:

- Firstly, gender disparity in work is higher in the DAMs than that in the respective states. WPR has declined more for the females in the DAMs of Kolkata, Hyderabad and Delhi (Haryana) than that of the females in the respective states while there has been acceleration of the same in the remaining DAMs. In the DAMs therefore, there is a tendency of post-reform growth of male as well as female non-workers in three DAMs and increased work participation in the remaining three DAMs.
- Secondly, while the male workers exhibited less variability between the state and DAMs, the females registered greater sensitivity to space-time context.
- Thirdly, there has been clearly a post-reform trend of concentration of women workers in the DAMs into low return agriculture while the males have shifted away. This is true for both cultivators as well as agricultural labourers.
- Lastly, there have been evidences of sectoral diversification in favour of non-agriculture on part of both males and females, at a greater degree in the DAMs than that in the states.

From the summary table provided below (Table 3.9) it may be observed that the DAM of Kolkata represents a case where gender disparity of work in terms of status of work as

well as sectoral segregation is noted followed by the DAMs of Chennai and Mumbai. An explanation of such trend lies at the micro-level analysis and calls for in-depth study.

However, the notion of flexibility of female work and their mobility between work and non-work is validated by the pattern of work participation of the females and their nature of movement within and between the sectors of work in the study areas. With the reforms, there has been a change in the nature of the work available which is intrinsically different from the earlier job types. Scholars are undivided in their opinion that women, especially rural women, are not yet in a position to adequately negotiate for benefits emanating from the process of modernization of production systems or structural changes taking place within the economy owing to their low human capital index. Yet, the high growth rates of non-agricultural workers, especially females, calls for probing analysis. It is also observed that gender disparity in work in the DAMs is on the decline. Noting that both the rural men as well women workers are exposed to adverse labour market situation following the reforms, the decline in gender disparity is the net result of marginalization of both men and women workers. A more definitive interpretation of the emerging trends, call for further in-depth study.

**Table 3.9 Summary Table for Gender Dimension of the Behaviour of the DAMs**

Criteria	Mumbai	Kolkata	Chennai	Hyderabad	Bangalore	Delhi (UP)	Delhi (Haryana)
Post-reform acceleration of female work in the DAM while state experienced deceleration	-	√	-	√	-	-	√
Post-reform Casualization Index for females higher in the DAMs than state *	√	-	√	-	-	-	-
Post-reform growth rate of female marginal workers is higher in the DAM than that in the state **	√	√	√	√	-	-	-
Post-reform growth rate of female non-workers seeking work is higher in the DAM than that of females in the state & also higher than male counterparts in the DAM	√	√	√	√	-	-	-
Sopher's Disparity Index for total workers is higher in the DAM (2001)	√	√	√	-	√	√	-
Women's economic base getting increasingly tagged to agriculture while men moving out of agriculture in the DAM	-	√	√	-	√	√	√

Source: Compiled by author

\* Value of Casualization Index is higher for females than the males in all the areas in all the decades.

\*\* Post-reform growth rate of marginal workers is higher for males than that of females in all the areas.

“√”: applicable; “-”: not applicable

## Chapter 4

### **LAND DISPOSSESSION & RURAL LIVELIHOOD: Case of a Village in Rural Delhi**

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The previous chapters tried to look into the employment scenario in the districts around the metropolitan cities following the economic reforms whereby the district around the metro-city was looked upon as a proxy for the urban fringe and the state as representative of the region. The phenomenon viewed using secondary data where the issue of land-use change leading to change in livelihood following liberalization was implicit. However, the link between change in land-use and livelihood could not be studied with assertion owing to limitations of secondary data. In this chapter, an attempt has been made to probe into the issue of land dispossession and its implications for the rural households through an exploratory field survey with very limited scope. The analysis has been carried out through selection of a village where major part of agricultural land loss has taken place in the period following 1991.

#### ***4.1 The Conceptual Framework***

Land forms the basis of rural livelihood in most of the developing countries (Hanstad, 2004; Mearns, 1999; Cotula et al, 2006). Incidence of poverty is highly correlated with landlessness. It is a well documented fact that majority of the rural poor belong to agricultural labour households. Land, besides being a productive asset, has multitude of connotations within the rural setting. Land ownership confers collateral in credit market, security in the event of hazards and also determines social status of the household (Mearns, 1999). Even a small plot of land widens one's livelihood prospects, enhancing his income, cash or kind; strengthening the social institutions viz kin, family, village etc. to his benefit; confirming property rights essential to sustain a given standard of living and enabling him to enjoy the benefits accruing from the social and public services provided by the state (Ellis, 1998).

Livelihood, on the other hand, is the outcome of how the individuals manage the complex combination of capabilities, assets and activities (Tacoli, 1999). Access to livelihood assets enables the individuals to ensure a basis of livelihood. The livelihood strategies and outcomes are determined by access to or lack of it to capitals (Tacoli, 1999). Sen (1997; cited in Tacoli, 1999: p. 4) has argued that assets are not only resources that people use, but they are also what give people the capability to be and act. So, access

to livelihood assets enhances the individual's capability of transforming livelihood strategies.

Land and livelihood are often looked upon separately in a "driver-feedback" (McCusker and Carr, 2006; p.791) relationship, usually constructed as changes in livelihood driving land-use changes. McCusker and Carr (2006) have argued that changes in land-use and livelihood are different manifestations of local social processes and power relations. They have proposed that livelihood and land-use changes are "co-produced, where shifts in one are reflexive of shifts in the other" (p. 791). They have proposed that land-use and livelihood change must be studied as intertwined processes viewed in the light of power relations and social processes. It is conditioned by how the local people perceive and negotiate the every day conditions that shape their lives. So, livelihood diversification, social networks and relationships and land-use are closely linked (McCusker and Carr, 2006).

That in the peri-urban area land is the most important issue has been noted by many scholars (Tacoli, 1999; Adrian & Ward, 2003). A study of the case of New Bombay by Parasuraman (1995) has revealed that state intervened land acquisition has affected the peasant cultivators and fishermen reducing their access to their traditional productive assets and thereby marginalizing them from productive work. Owing to urban expansion, as land-use in the fringe area is changing in favour of non-agricultural uses, livelihood of those depending on land as a productive base would change. Those who are capable of taking advantage of the emerging opportunities of work due to urbanization would shift towards non-agricultural work while those who will fail to do so would be marginalized from productive work and will negotiate a deterioration of livelihood. It has been noted that the impact of land dispossession is selective and this is particularly true in the peri-urban areas (Cotula, 2006).

In the face of such voluminous contemporary academic concern for the issue of land dispossession in the urban fringes, it would be worthwhile to explore the scenario in the peri-urban areas of Delhi, the processes operational therein and its impact upon the native people.

## ***4.2 The Case of Rani Khera***

### **4.2.1 Selection of the Study Area**

Delhi Development Authority (DDA) is the premier planning body in India that is responsible for preparing plans at the city as well sub-city levels under Sections 7 - 11A of the DD Act of 1957. It acquires land for the planned development of Delhi and develops these lands and properties in implementation of the Master Plan and Zonal Plans ([www.dda.org.in](http://www.dda.org.in)). The DDA data for land acquisition from the villages within Delhi for the different projects have been merged with the census data to see what proportion of the village land had been taken possession of before and after 1991. It is seen that there are around 8 villages where maximum acquisition took place before 1991 and another 8 where it happened mostly after 1991. Out of them, Rani Khera village, where 19% of agricultural land had been acquired through a notification in 2007, has been selected as the area of study (Table 4.1). This village has been randomly selected from a group of villages having both relatively high share of acquired area after 1991 and that of agricultural. Rani Khera, falling within the NCR of Delhi has been exposed to urban influence for quite sometime. Yet, agriculture appears to be the predominant livelihood for the local people. The previous chapters have considered districts around the metro as the proxy for urban fringe while here, a village lying within the metro, but towards the outer margin of Delhi has been selected. In spite of this limitation, the selected village has served the purpose of deliberating about the issue of land dispossession and its impact upon livelihood owing to urban expansion.

This chapter seeks to look into the impact of land acquisition, following urban expansion, upon the livelihood status of the affected households in Rani Khera village. The main thrust is on deciphering the link between land and livelihood. It tries to explore the extent to which land dispossession affects the livelihoods of the concerned people and their nature of response. It also tries to see whether education has played any role in enabling the affected people in securing alternative livelihoods. The respondents have essentially been drawn from among those who were into agriculture in the capacity of primary or subsidiary occupation. The objective is to see how land dispossession affected their working status and, if displaced from agriculture, have they been accommodated into non-agriculture or not and whether their educational level has any bearing upon the outcome.

Table 4.1 Selected Villages (possessed mainly in the post-reform period)											
2001 Census Code	Name of the Village	Total Area (ha)	Area Awarded (Ha)	% of Area Awarded	Total_pre-reform	% poss in pre-reform	Total_post-reform	% poss in post-reform	Total Poss.	% of Total Poss.	Location
56	Mubarikpur Dabas	235	209	89	0	0	107	45	107	45	NW
164	Aali	403	172	43	0	0	128	32	128	32	S
<b>58</b>	<b>Rani Khera</b>	<b>317</b>	<b>77</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>60</b>	<b>19</b>	<b>60</b>	<b>19</b>	<b>NW</b>
21	Bhor Garh	392	225	57	28	7	73	19	100	26	NW
4	Singhola	286	55	19	1	0	40	14	41	14	NW
31	Holambi Khurd	424	117	28	0	0	50	12	50	12	NW
53	Karala	879	274	31	0	0	93	11	93	11	NW
39	Mukhmelpur	260	26	10	0	0	25	10	25	10	NW
Selected Villages (possessed mainly in the pre-reform period)											
157	Satbari	533	346	65	160	30	0	0	160	30	S
154	Maidan Garhi	765	449	59	227	30	0	0	227	30	S
149	Malik Pur Kohi alias Rang Puri	750	329	44	150	20	1	0	151	20	SW
17	Khampur Raya	349	65	19	60	17	0	0	60	17	NW
165	Jait Pur	376	79	21	60	16	17	5	77	21	S
67	Salimpur Majra Madipur	494	109	22	72	14	19	4	90	18	N
92	Bakarwala	661	105	16	92	14	11	2	103	16	W
158	Shahur Pur	461	405	88	63	14	0	0	63	14	S
Selected Villages (possessed almost equally)											
19	Teekri Khurd	309	119	39	71	23	48	16	120	39	NW
115	Khanpur	503	155	31	46	9	57	11	103	21	SW

Source: DDA and Census 2001

#### 4.2.2 Selection of the Samples

**Table 4.2 General Characteristics of the Surveyed Households**

	Attributes		Count	Percent
	<b>Household Characteristics</b>	Caste	Jath	24
Jimmer			2	6.7
Kashyap			4	13.3
<b>Total</b>			<b>30</b>	<b>100.0</b>
Religion		Hindu	30	100.0
Access to Land		Land Owned	24	80.0
		Landless	6	20.0
		<b>Total</b>	<b>30</b>	<b>100.0</b>
Category of Household		Partially lost land	18	60.0
		Never owned land	6	20.0
	Never lost any land	3	10.0	
	Completely lost land	3	10.0	
	<b>Total</b>	<b>30</b>	<b>100.0</b>	
<b>Individual Characteristics</b>	<b>Age-Sex Composition</b>			
	0-14	Male	37	28.7
		Female	15	17.6
		<b>Total</b>	<b>52</b>	<b>24.3</b>
	15-59	Male	75	58.1
		Female	58	68.2
		<b>Total</b>	<b>133</b>	<b>62.1</b>
	Above 60	Male	17	13.2
		Female	12	14.1
		<b>Total</b>	<b>29</b>	<b>13.6</b>
	<b>Total</b>	<b>Male</b>	<b>129</b>	<b>100.0</b>
		<b>Female</b>	<b>85</b>	<b>100.0</b>
		<b>Total</b>	<b>214</b>	<b>100.0</b>
	<b>Education Level (above 15 years)</b>			
	Households Owning Land	Illiterate	20	15.4
		Up to Primary	3	2.3
		Up to Secondary	47	36.2
		Higher Secondary & Above	60	46.2
	Landless Households	Illiterate	9	33.3
		Up to Primary	3	11.1
		Up to Secondary	14	51.9
		Higher Secondary & Above	1	3.7
<b>Total</b>	Illiterate	29	18.5	
	Up to Primary	6	3.8	
	Up to Secondary	61	38.9	
	Higher Secondary & Above	61	38.9	
<b>% of Persons in Non-Farm as Primary Occupation (above 15 years)*</b>				
	Households Owning Land	30	19.0	
	Landless Households	4	10.5	
	<b>Total</b>	<b>34</b>	<b>17.3</b>	

Source: Field Survey, 2008

\*pertains to pre-acquisition period

Households have been selected purposively such that at least some of the family members of the household had been engaged in agricultural work prior to land acquisition. The



samples have been selected using snow-ball sampling method. Survey has been conducted using a structured questionnaire at the household as well individual level.

The sample consists of 30 households of whom Jaths (24) are the land-owning households in the village. There are 6 landless households who used to cultivate by leasing-in land. Out of the 30 surveyed households, 21 of them (70%) have been affected by the recent DDA land acquisition and 3 households (10%) have not suffered from any loss of land (Table 4.2).

**Table 4.3 Land Ownership & Principal Use of Crops**

		Principal Use of Crops				
		Not applicable*	Self Consumption	Marketing	Self Consumption & Marketing	Total
Households	Count	2	15	1	6	24
Owning Land	Percentage	8.3	62.5	4.2	25.0	100.0
Landless	Count	0	0	4	2	6
Households	Percentage	0.0	0.0	66.7	33.3	100.0
Total	Count	2	15	5	8	30
	Percentage	6.7	50.0	16.7	26.7	100.0

Source: Field Survey, 2008.

\* These households lease-out their land and thus the question pertaining to principal use of crop is not applicable for them.

It has been noted that majority of the land owning households (62.5%) cultivated the owned land for self-consumption only while the landless households leased in land for raising crops for marketing them (Table 4.3). It may also be mentioned at this juncture that the land-owning households have larger number of their members into non-agricultural pursuits than the landless households (Table 4.2). Therefore, it may perhaps be concluded that the dependence on land is much more crucial to the landless households than the landed gentry.

It is a well documented fact that access to education enhances one's capabilities and empowers him to enjoy a beneficial edge in the labour market. Conversely, the lack of it puts him at a receiving end and precludes his finding prospective livelihood opportunities. It may be noted that the level of education among the landless households is remarkably lower than that observed among the land owning households. While only one person has opted for higher education from among the landless households, this figures as 60 (46.2%) for the land owning households (Table 4.2). This gets reflected in

their respective nature of employment. The former are likely to get employed mostly in low-end jobs, the remunerations from which fail to usher in much improvement in their standard of living and these factors together culminate into low skill formation. On the other hand, the landed households exhibit a much better scenario in terms of educational attainment. Consequently, they have greater probability of being better placed in terms of livelihood opportunities.

#### 4.2.3 Analysis

##### a) Changes in access to land

**Table 4.4 Change in the Size of Ownership Holding (2007-2008)**

		Landless	Small (0.1-5)	Medium (5.1-10)	Large (above 10)	Total	Mean Size of holding (Bigha)
Before Land	Count	6	6	6	12	30	11.6
Acquisition (2007)	Percentage	20	20	20	40	100	
After Land	Count	9	8	5	8	30	6.2
Acquisition (2008)	Percentage	30	26.7	16.7	26.7	100	

Source: Field Survey, 2008.

**Table 4.5 Change in the Nature of Access to Land (2007-2008)**

		Owned	Leased in	Owned but leased out	Owned & leased in	No access	Total
Before Land	Count	20	6	2	2	0	30
Acquisition (2007)	Percentage	66.7	20	6.7	6.7	0	100
After Land	Count	19	0	1	1	9	30
Acquisition (2008)	Percentage	63.3	0	3.3	3.3	30.0	100

Source: Field Survey, 2008.

Following repercussions have been noticeable following land acquisition by DDA,

- The average size of holdings among the surveyed households have decreased from 11.6 bighas to 6.2 bighas within a span of one year (Table 4.4).
- The number of landless households has increased from 6 to 9 within this one year.
- The number of households owning land above 10 bighas has been reduced from 12 to 8 owing to DDA land acquisition (Table 4.4).
- While, all the surveyed households had access to land before land acquisition, 9 of them (30%) have been reported as losing the same (Table 4.5).

Therefore, it can be inferred that the DDA land acquisition has been instrumental in not only downsizing ownership holdings, but has also displaced some of

the households from land-based activities. Thus, the farmers have been confronted with shrinking land base hindering livelihood from land. It is therefore expected that the affected farmers shall seek alternative means of sustenance. It has been noted by many scholars that as agriculture has failed progressively in providing productive additional rural employment, there has been a thrust towards diversifying rural livelihood opportunities to accommodate the rural population seeking rural non-farm work. It has, however, been observed that rural non-farm work is highly heterogeneous and access to different non-farm jobs vary considerably with education levels and possession of other assets.

**b) Change in Primary Occupation**

**Table 4.6 Change in the Shares of the Broad Primary & Secondary Occupation Categories (2007-2008)**

Occupation Categories	Occupations Before Land Acquisition (2007)				Occupations After Land Acquisition (2008)			
	Primary Occupations		Secondary Occupations		Primary Occupations		Secondary Occupations	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
None	14	7.1	97	49.5	24	12.2	112	57.1
Agriculture	36	18.4	86	43.9	21	10.7	70	35.7
Non-Agriculture	34	17.3	10	5.1	40	20.4	11	5.6
Students	55	28.1	2	1.0	55	28.1	2	1.0
Housewife	57	29.1	1	0.5	56	28.6	1	0.5
Total	196	100	196	100	196	100	196	100

Source: Field Survey, 2008

Note: Population above 5 years of age has been taken as often children are also engaged in agriculture as secondary occupation

Broadly it may be noted that following land acquisition, 15 out of 36 persons who reported agriculture as their primary occupation have been displaced such that the share of workers having agriculture as primary occupation has declined from 18.4% to 10.7% within just one year (Table 4.6). While a marginal increase in the share of workers in non-agriculture has been observed, there has been an increase in the share of non-workers from 7.1% to 12.2% within one year. In terms of absolute numbers, out of the 15 people who were displaced from agriculture as primary occupation, only 6 of them have been able to secure alternative employment in the non-agricultural sector while the remaining 9 have become idle.

### Box 1

#### Perspectives from Manesar

Focus group discussions were conducted in Manesar Village of Gurgaon, lying on NH 8. It was a small village which has now turned into an industrial and commercial hub. The IMT Manesar Industrial area has boosted up the commercialization of the area.

It has been reported that 99% of total agricultural land in the village has been acquired for industrialization with the result that agriculture is almost non-existent and the livestock economy has been demolished. A lot of money has been injected into the village economy in the form of compensation money that has given spurt to conspicuous consumption and immoral activities. The Yadavs were the chief land owners and consider it below their dignity to do anything other than cultivation and prefer to remain idle than going for service.

*The village headman Gajraj stated ".....kheti nahi hai, par hum Yadavs apas mein majduri nahi kar sakte, jo so kam nahi karte. Apna prestige hai...sab Baith ke tash khelte hai..." (Agriculture is no more... but we Yadavs cannot afford to do anything and everything. We have some prestige.....we prefer playing cards).*

#### **Alternative Occupations following Land Dispossession:**

Social stratification has influenced the capability of the individuals to change their occupation. The higher castes diversified their livelihoods in the following ways:

- ❖ Compensation money has been used to build and extent houses that accommodate "paying guests" or are rented out;
- ❖ Invested in shops and cars for hiring out as an alternative to farm income.

The lower castes were traditionally tied to land as labourers also were compelled to shift towards non-farm income sources. They lacked financial capital and managed to find place in menial and petty non farm work like:

- ❖ wage labourers, and
- ❖ petty vendors and shops

#### **Voice of the Commons**

'Land acquiring agency, public or private, must ensure compensatory employment for at least one of the family member of the household whose land is being taken away or those who were tied to land in any form for their livelihoods'.

\* \* \*

**Table 4.7 Change in Primary Occupation & Educational Level (2007-2008)**

Change in Occupation		Educational Levels				Total
		Illiterate	Primary	Secondary	Higher Secondary and Above	
Not applicable	Count	2	0	0	0	2
	Percentage	100.0	0.0	0.0	0.0	100
Cultivator to Wage labourer	Count	0	0	2	1	3
	Percentage	0.0	0.0	66.7	33.3	100
Agricultural Worker to Non-Farm Work	Count	1	0	4	1	6
	Percentage	16.7	0.0	66.7	16.7	100
Agricultural Worker to Unemployed	Count	1	1	4	1	7
	Percentage	14.3	14.3	57.1	14.3	100
Continuing with Earlier Agricultural Occupation	Count	3	0	10	5	18
	Percentage	16.7	0.0	55.6	27.8	100
Total	Count	7	1	20	8	36
	Percentage	19.4	2.8	55.6	22.2	100

Source: Field Survey, 2008

It is important to note the role of education in affecting the occupational shift of the people who reported agriculture as their primary occupation. It has been revealed that 5 out of the 6 agricultural workers who got absorbed into non-agricultural pursuits have above secondary education. However, majority of the agricultural workers who became unemployed (61.4%) and all the cultivators who turned towards wage labour also reported being secondary and above educated (Table 4.7). Under such mixed relation between occupational shift and educational level of the people, the role of education as a capability-enhancing element has been rendered unclear. However, it may be possible that access to productive assets and social network has enabled some of the affected individuals to secure productive non-farm occupation. This aspect has been looked into at a later part of this chapter.

### *c) Change in Secondary Occupation*

With respect to agriculture as secondary occupation, it has been observed that

- Out of the 86 members who reported being in agriculture, 16 got displaced such that the share declined from 43.9% to 35.7% within one year (Table 4.6).
- Out of the displaced agricultural workers, only one has been accommodated in non-agriculture while the remaining 15 persons have become idle such that the share of workers having no secondary occupation increased from 49.5% to 57.1% (Table 4.6).

**Table 4.8 Change in Secondary Occupation of Agricultural Workers & Educational Level (2007-2008)**

Change in Occupation		Level of Education				Total
		Illiterate	Primary	Secondary	Higher Secondary and Above	
Cultivator to Wage labourer	Count	3	0	1	0	4
	Percentage	75.0	0.0	25.0	0.0	100
Agricultural Worker to Unemployed	Count	6	2	11	0	19
	Percentage	31.6	10.5	57.9	0.0	100
Agricultural Worker to Non-Farm Work	Count	0	0	0	1	1
	Percentage	0.0	0.0	0.0	100.0	100
Continuing with Earlier Agricultural Occupation	Count	8	5	21	28	62
	Percentage	12.9	8.1	33.9	45.2	100
Total	Count	17	7	33	29	86
	Percentage	19.8	8.1	38.4	33.7	100

Source: Field Survey, 2008.

Looking at the educational level of the affected people, it has been observed that of those who shifted from self cultivation to wage labour as a secondary occupation, 75% of them are illiterate and those who have lost subsidiary (secondary) course of income about half of them are educated up to primary level (Table 4.8). The only one person who has shifted to non-agriculture has higher secondary and above education. People who have been continuing with agriculture as secondary occupation are mostly secondary and above educated. It may be once again noted that a direct correspondence between educational achievement and occupational shift has not been observed with respect to agriculture as secondary occupation.

#### ***d) Occupational Shift and Category of Household***

The nature of shift of workers who were in agriculture has been different for the different categories of households. While some of the agricultural workers from households affected by land acquisition have exhibited occupational shift, those hailing from the households that never lost any land are continuing with agriculture as primary and secondary occupations (Table 4.9 and 4.10). Such a phenomenon points towards the fact that land continues to be a very significant source of livelihood and that urbanization has not offered enough opportunities which may act as a pull factor for shifting away from agriculture. Had there been any such pull factor operative, some of the member of

the households unaffected by land acquisition would have shifted out of agriculture voluntarily.

**Table 4.9 Category of Household & Change in Primary Occupation (2007-2008)**

Category of Households	Change in Primary Occupation						Total
	Not applicable*	Cultivator to Wage labourer	Agricultural Worker to Non-Farm Work	Agricultural Worker to Unemployed	Continuing with Earlier Agricultural Occupation		
Never lost any land	Count	0	0	0	0	4	4
	Percentage	0.0	0.0	0.0	0.0	100	100.0
Partially lost land	Count	1	0	1	3	14	19
	Percentage	5.3	0.0	5.3	15.8	73.7	100.0
Completely lost land	Count	0	1	2	0	0	3
	Percentage	0.0	33.3	66.7	0.0	0.0	100.0
Never owned land	Count	1	2	3 #	4	0	10
	Percentage	10.0	20.0	30.0	40.0	0.0	100.0
Total	Count	2	3	6	7	18	36
	Percentage	5.6	8.3	16.7	19.4	50.0	100.0

Source: Field Survey, 2008

\* This includes those individuals who left agriculture due to old age and has no relation to land dispossession.

# Out of these 3 in non-farm, 2 are into petty non-farm work like vegetable vending and construction wage worker.

**Table 4.10 Category of Household & Change in Secondary Occupation (2007-2008)**

Category of Households	Change in Secondary occupation					Total
	Cultivator to Wage labourer	Agricultural Worker to Unemployed	Agricultural Worker to Non-Farm Work	Continuing with Earlier Agricultural Occupation		
Never lost any land	Count	0	0	0	5	5
	Percentage	0.0	0.0	0.0	100.0	100
Partially lost land	Count	0	2	0	56	58
	Percentage	0.0	3.4	0.0	96.6	100
Completely lost land	Count	0	1	1	0	2
	Percentage	0.0	50.0	50.0	0.0	100
Never owned land	Count	4	16	0	1	21
	Percentage	19.0	76.2	0.0	4.8	100
Total	Count	4	19	1	62	86
	Percentage	4.7	22.1	1.2	72.1	100

Source; Field Survey, 2008

For agriculture as primary occupation, worse affected have been the households who completely lost land and those who were tenant cultivators. A shift towards wage work from self cultivation as primary occupation is exhibited by members from these two categories of households (Table 4.9). Shift towards non-farm work has been more for the land owing households than the tenants. It re-iterates the proposition that even for

diversification towards non-farm work, access to land plays a vital enabling role (Hanstad, 2004; Mearns, 1999; Cotula et al, 2006). It has also been argued that land owners diversify their livelihoods to accumulate, while the landless and near landless diversify to survive (Ellis, 1998). It is probable that access to land facilitate the land owning households' shift towards non-farm work, although induced by a push factor. For the landless households, this shift is principally towards petty non-farm work like vegetable vending. The most remarkable shift has been towards unemployment. About 40 % of the agricultural workers from landless households have become idle which figures as 15.8 % for the household that partially lost land.

With respect to agriculture as secondary occupation, once again it is the livelihood of the landless households who are hard hit due to land acquisition. About 19 % of the agricultural workers from landless households have taken up agricultural wage work as secondary occupation and 76.2 % of them have no alternative secondary occupation (Table 4.10).

Although the preceding analysis reveals that the land owning households have not been affected drastically due to land dispossession and that they already had alternative sources of income other than agriculture, all of the households negotiating reduced access to land perceive deterioration in their livelihood. Also, none of the households were satisfied with the rate of compensation provided by the government. Some of the households have sold off all their land to private agencies at a much higher price before DDA could notify their land for acquisition. Most of the households have used the compensation money in more than one way (Table 4.11). It is only the land owners who are compensated while it has been observed that the livelihoods of the tenant farmers are affected more severely.

**Table 4.11 Use of Compensation Money**

Households	Not Applicable*	Consumption	Investment in Agriculture	Investment Creation in Non-Agriculture	Financial Investment	Multiple Response	Total
Count	9	1	3	2	4	11	30
Percentage	30.0	3.3	10.0	6.7	13.3	36.7	100

Source; Field Survey, 2008

\* This category includes the landless households and those households which were not affected by land acquisition.



**Box 2**  
**Perspectives on Compensation**

Although the issue of compensation has not been explored in details, the issue of differences in public-private compensation rate has come up through informal discussion with the respondents in Rani Khera as well in Manesar. The important observations may be summed up as follows:

- Households selling land to private agencies did so willingly whereas majority of those giving away land to government did so under compulsion. Moreover, when government agencies notify any land for acquisition, the owner does not have any choice either in terms of giving up the land or negotiating for the compensation amount. There were some households in Rani Khera who sold some portion of their land to private agencies before DDA could serve notification to acquire their land.
- The difference in the rate of compensation offered by private and public agencies seems to be the key factor in causing these behavioural discrepancies. While the private agencies offered one crore thirty lakh rupees for one acre of land in Rani Khera village and two to five crore rupees in Manesar, government agencies provided only twenty-five thousand rupees per acre as compensation.

The land owners, whose land has been acquired by the Government, thus perceive that not only are they losing their traditional means of livelihood, but they are also unjustly compensated for the loss of land asset perpetrated by the state. The common consensus in the affected village is that the state rather than working to improve the living standards of the people, is leading to its deterioration by acquiring their most valued livelihood enhancing asset.

\* \* \*

### ***4.3 Major Findings & Conclusion***

From the preceding discussion it has been revealed that land and livelihood are not mutually exclusive and that one influences the transformation of the other. Through the case study of Rani Khera village the link between land and livelihood has not only been re-iterated but is strengthened. Scholars have discussed about the significance of land in the context of rural livelihoods. They have emphasized upon how land dispossession not only dislodges the agricultural households from their means of survival but also how it destroys their future prospect of livelihood diversification within the rural areas. However, Rani Khera which is located within Delhi is supposed to offer its inhabitants the urban opportunities such that loss of agricultural land would have relatively less implications for their livelihoods. But, the study reveals that many of the agricultural workers who have been affected by the land acquisition, have failed to obtain alternative occupation and have suffered deterioration of livelihood. So, even in a locale where physical distance from the urban market is not a hindrance, land dispossession has serious livelihood implications for the affected households.

It has been revealed that agriculture undertaken by the land owning households is for self consumption while it formed the basis of livelihood for the tenant cultivators. The land owning households had one or more of their family members into non-agricultural pursuits even before land acquisition drive of DDA commenced. Also, education level is higher amongst the members of landed households than that of the landless households. It is therefore understandable that even prior to land acquisition, livelihood of tenant cultivators solely depended upon land as a productive asset while the landed gentry had alternative sources of income other than land. Also, prevalence of higher education has been less in the landless households than the landed households that render the former incapable of securing remunerative non-farm work following land dispossession. It has been observed that following land acquisition, while the members of the landless households totally lost employment, those from the landed households managed to escape such abject conditions faced by the former category of households. It may be mentioned here that in Rani Khera, the role of educational level of the individuals in affecting the nature of alternative occupation adopted by them following land dispossession has not been very explicit. Rather, it is the access to land prior to land acquisition has enabled the individuals to shift in favour of high return non-farm work following land acquisition. It only re-iterates that access to assets expands ones choices for diversification livelihoods

(Ellis, 1998). The reasons for diverging impact of land acquisition upon landed and landless households may therefore be summarized as follows:

- Dependence of landed households on land as the sole means of sustenance was not as overwhelming as that of the landless households even in pre-acquisition era.
- The landed households receive monetary compensation in lieu of acquired land which they may productively invest to improve livelihood status.

The issue of compensation is vital at this point. Only the land owners are entitled to receive compensation. The fact that the landless people had not been compensated in the event of land acquisition has further added to their misery. While the issue of compensating those depending on acquired land for livelihood as labourers or tenants has been debated both among academicians and policy maker alike (Fernandes, 2007; Sarkar, 2007, Basu, 2007; Datt, 2007), there has been no breakthrough forthcoming to solve this problem. The development paradigm undertaken by the state is taking place at the cost of impoverishment of the already disadvantaged section of the population which some scholars expound as 'coercive' (Fernandes, 2007: p. 205; Sarkar, 2007: p. 1439). The issues that deserve immediate academic attention are:

- Tenant cultivators, who lack assets to reproduce labour, must be accommodated within the fold of receivers of compensation as they are the ones who lose the means of livelihood and get nothing to compensate their loss.
- Alternative occupation has to be provided to the affected households as monetary compensation in lieu of asset loss is not adequate.

## Chapter 5

### Summary & Conclusion

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#### *5.1 Summary*

The discourse outlined in the preceding chapters has been based upon the recent trend of third world urbanization that is concentrated in the rural peripheries of the largest cities and its implications for land and livelihood in the peri-urban areas. These areas have already been extremely dynamic marked by intense rural-urban interaction. The forces of globalization have accentuated the processes by providing impetus to industrial de-concentration towards the peripheral lands in the developing countries. With industrialization perhaps it is not wrong to expect that the peripheral areas of largest cities, where the post-reform investments are mostly concentrated (Chakraborty, 2003), would improve in terms of economic opportunities relative to the rural interiors although access to land may figure as a serious concern. An attempt has been made in this dissertation to understand the extent to which the rural workers residing in the vicinity of the six largest metropolitan cities in India are equipped to negotiate with the emerging changes in the structure of available work and shrinking natural resource base encompassing the relevant gender issues therein.

Within the framework of district around metro vis-à-vis state, it has been observed that following the economic reforms, the peripheral areas of the largest cities have emerged as distinct spatial units reflecting the critical processes that are operative in the respective cities. Land-use and employment in the DAMs have been remarkably affected by the reforms and the patterns observed there are slightly different from that of the domain states and also differ considerably from the trends noted during the pre-reform period. Land from agricultural stock and village common land has been observed to be moving out towards non-agricultural uses at a greater magnitude in the DAMs relative to the respective states, especially in the post-reform period. Although change in the share of these categories of land-uses bear implications for livelihood, within the rural peripheries of the large cities, any modification in livelihood strategy cannot be entirely assigned to urban expansion induced land-use change as the latter is a localized process. Yet, it has been observed that there has been clear indication of marginalization of workforce in the districts around the metropolitan cities at a higher degree relative to the respective states. That men and women operate within different labour market contexts and that they are

differentially affected by any change within the structure of the economy has been visible in the district around the metro and it is clear that the conditions of women workers are more unstable than the men, and this is true particularly in the peripheral regions of the metropolitan cities taken up for this analysis. It has been noted by the scholars that the rural workers in general, irrespective of their gender has experienced marginalization from productive work for which the scholars hold their low human capital index responsible. Under the situation of marginalization of male as well as female workers in the DAMs by a greater magnitude than the state, the net impact upon the gender disparity of work has been noted. It has been also noted that the manifestation of such adverse working condition in the DAM has not been alike across the gender divisions.

There has been not only post-reform increase in the non-workers, but also acceleration of the increase in non-workers seeking work in the district around the metro-cities by a greater magnitude relative to that in the respective states. What emerges clearly from this analysis is that neither male nor female workers have been able to reap the benefits of the emerging job opportunities in the peripheral areas of the large cities and that the process of progressive marginalisation of workforce from productive work has been higher in the DAMs than that experienced by the rural interiors of the respective states. Following liberalization it has been observed by many scholars that the rural workers, especially women have failed to integrate themselves within the emerging market opportunities as they lack the adequate expertise required for the same. Under such circumstances, three of the DAMs have registered post-reform acceleration of growth of women workers which may point towards distress-induced increase in women's work. The disparity index has indicated that gender disparity of total workers has been higher in favour of the male workers in the DAMs which have declined over the decades. Given the general view about the negative fallouts of the reform process in terms of work status and conditions in India in the existing literature, the finding of declining gender disparity of work in the DAMs can probably be explained by deteriorating conditions of the male workers rather than improvement of the women workers in the same.

The rates of growth of both male and female main workers are lower in the DAMs than that in the respective state. On the other hand, marginal workers have registered very high post-reform growth rates for the males as well as the females, the rates of growth being higher for the males than that of females in all the states and DAMs. The phenomenon of post-reform casualization of labour market is manifested more in case of

the male workers as they are more visibly employed than the female counterparts. The lower growth rates of the female workers relative to the male workers in the marginal worker category therefore may not denote an improved labour market situation for the former. Although casualization of work has been generally interpreted as decline in work status, Sharma and Papola (1997) have counter-argued the proposition within the context of the rural areas as it may involve a shift from subsistence agriculture or other low productivity occupations to casual yet substantial employment in more remunerative sectors or work. The present analysis has not been sufficient to resolve this dichotomy of casualization and question of deterioration of rural livelihoods in the DAMs.

Looking at the sectoral scenario, it may be observed that there has been three principal trends: firstly, within agriculture there has been a trend of decline of workers reporting as cultivators with continuing increase in those reporting as agricultural labourers although the rates of growth in the latter has decelerated from the pre-reform levels in all areas; secondly, the concentration of women workers in the agricultural sector has clearly increased in the post-reform period, supporting the general observation of feminisation of agriculture in the same period, more so in the DAMs than that in the respective states; and thirdly, a post-reform trend of diversification of workforce, both males and females towards marginal non-agricultural work by a greater magnitude in the DAMs. Some of the DAMs can therefore be associated with the phenomenon of dispossession of land assets and livelihoods based on such assets following the economic reforms. There has also been indication that in few of the DAMs the men are leaving agriculture while women are replacing them in the post-reform era such that the women's economic bases are getting increasingly tagged to agriculture. Not only that, it is the women who crowd in agricultural labour and marginal cultivator categories which are the two most insecure means of sustenance. So, an increase in the work participation of the women workers in the DAMs may not imply their empowerment or improvement in work opportunities rather qualifies their doubly disadvantaged position.

The marginal category of non-agricultural workers has experienced post-reform growth in the DAMs that was higher than that in the states and also higher than main non-agricultural workers in the DAMs. Therefore, the diversification of rural workforce in the peripheral areas of the large cities may not be taken as indicative of improved income and standard of living of the rural population. Infact scholars have sought to explain such proliferation of non-agricultural work as a phenomenon of "switch-over or seasonal

supplementation” (Chadha, 2001; p. 504), a phenomenon that has been found specifically in the peripheral areas of large cities in the present study.

It may be noted that there has not been much uniformity in the behaviour of the DAMs of the metropolitan cities. In terms of total workers, the rural peripheries of Mumbai and Chennai exhibit the worse affectation of the rural workers in the post-reform era. With respect to gender disparity, the DAMs of Kolkata followed by Chennai and Mumbai stand out from the other three metropolitan cities. So, it may be stated that Chennai and Mumbai stands closest to the thesis proposed here. The analysis, however, points towards broad trends only. The explanations for such trend must be sought through micro-level study.

The analysis based on secondary data has been insufficient to decipher the link between land and livelihood in the rural periphery of the large urban centres explicitly for which a primary level study has been undertaken in the village Rani Khera in North West Delhi and in Manesar village in Gurgaon. The study in these villages has revealed that although the villagers have been exposed to prolonged urban influences, land continues to be an integral part of their lives. Their proximity to urban area has not inculcated in them enough capability to de-link their livelihoods from land-based activities. At this juncture, two issues have been focussed on: firstly the role of asset ownership or lack of it in combating challenges arising out of land dispossession; and secondly the role of education in enabling them to shift in favour of non-agricultural occupations in the context of land-use change. Asset ownership has emerged as a very significant enabling factor for diversification of livelihood towards high-return non-farm activities in response to land dispossession. It has been observed that not only the land-owning households are more educated than the landless households, the former's dependence on land for sustenance has been less than the latter even before land acquisition. Although the link between education as a factor enhancing capability to migrate away from land-based activities has not been explicitly established in the study area, the difference in the nature of occupational shift of the agricultural workers hailing from landed and landless households point towards the fact that access to land rather than educational endowment of the workers has played a more important role in determining the direction of occupational shift following land acquisition. It is therefore clear that land acquisition has affected the tenant cultivators worse than the land owning households. Besides less dependence on land for livelihood on part of the landed gentry, the fact that they receive monetary compensation has placed them on a better footing to negotiate with the land

dispossession induced occupational shift relative to the landless tenant households where the latter not only are alienated from their means of sustenance, but are also not entitled to receive compensation.

That the post-reform pattern of employment opportunities has not carried much ray of hope for the rural workers has been revealed by many studies (Chadha, 2001; Chadha and Sahu, 2002; Bhalla, 1999). That the reforms would convey unpleasant implications for the population residing in the peripheral areas of the largest cities, as indicated by the present study, has been perhaps somewhat unforeseen. Infact, instances have been found where the rural interiors represented, by the state, has exhibited less drastic trends than that revealed by the districts around the metropolitan areas. It therefore emerges that the changes injected by the economic reforms have proved to be much more critical for the transitional areas than either the urban or rural areas. With the understanding of increased rural urban interaction and concentrated investments in the largest cities and their peripheries in the background, the present study has indicated that the while the economic reforms have not only failed to be inclusive in terms of rural workforce, but has also destabilised the peri-urban areas.

***Emerging issues:***

- The peripheries of the largest cities in India are remarkably affected by the forces of globalization and bear serious implications for the rural workers residing there.
- While the inter-relation between land-use change and employment transformation in the DAMs have not been very explicit, it has been very evident that the rural workers in general and rural female workers in particular are ill-equipped to negotiate the rapid changes under way in the peripheral areas of the largest cities and have undergone marginalization from productive work.
- Access to land is extremely significant for sustenance of livelihood as well as for the diversification of livelihoods even if land does not comprise the sole means of sustenance for any household in the rural area. Access to assets is important in this regard.
- The land owners are in a slightly advantageous position under any circumstance of land acquisition than the tenant cultivators and agricultural labourers because the former is entitled to receive cash compensation while the tenants receive nothing in lieu of their loss of the access to land.



## 5.2 Policy Implications

Two broad areas that require attention are:

- Issues related to adaptation of the rural population residing in the peri-urban interface (PUI) to the changing economic base and emerging basket of new job opportunities following increased rural-urban interaction that necessitate capacity building as well as access to livelihood assets.
- Issues regarding land acquisition and related compensation policies in the peripheries of large cities.

Through this study, it has been clear that the already fragile rural-urban fringes of the largest metropolitan cities have been rendered even more vulnerable following the economic reforms and that the enhanced interaction between the city and the hinterland has proved to be rather unfavourable for the rural workers residing there. It has been observed that the workforce in the PUI has not only been marginalized from productive work, but has also been plagued by increased joblessness. Perhaps, the post-reform nature of capital intensive industrialisation marked by jobless growth and entailing expertise have offered nothing considerable for the rural population who are exposed to the processes of physical as well economic displacements. In some of the district around the metros, the women workers have been especially affected more than the male counterparts. Perhaps the most remarkable finding of the present study is that the rural peripheries of the largest cities are more critically placed than the rural interior which is most often lost sight of. Although the role of state has undergone modification under the aegis of reforms, the government needs to intervene to counter the concerns regarding the status of the rural workers in the peri-urban areas even if research organisations and NGOs are active to help the rural population residing in these zones to cope with the situations confronted by them in the recent times. Following the preceding discussion, the broad policy directions may be identified as follows (refer to Table 5.1):

### **a) Livelihood competence enhancing intervention in the PUI that shall enable non-agricultural livelihood options:**

1) *Non-agriculture based income generating livelihood programmes*: As pointed by the findings of this analysis, the asset poor households are most erratically placed in terms of their capabilities of coping with the critical scenario of the PUI. This calls for immediate income generating interventions that can take place even without much skill formations. The asset poor inhabitants in the PUI who lack capital, both human and financial, may be trained to manufacture items like candle, incense sticks, papad making, pickle making and related items that can typically be produced within the household.

These activities may appear particularly convenient and attractive to the women workers who have exhibited remarkable instability in the post-reform period in the DAMs. NGOs and research organisations may intervene for providing the initial capital, training and marketing of the products.

The employment generation rural development programmes may also be infused in the peri-urban areas in a targeted fashion to cover the agricultural workers who have been displaced.

2) *Access to financial capital*: The tenant cultivators and agricultural labourers who are dislodged from their means of subsistence owing to land acquisition do not receive any compensation which they may capitalize to shift towards alternative livelihoods. The field survey has revealed that some of the tenant cultivators have exhibited a shift towards non-farm activities of petty nature while the rest have become idle as all of them lacked capital to invest in high-return non-farm work. For such people, constraints of access to finance is the chief drawback. Provisioning of micro-credit, intervention of self-help-groups (SHG) for mobilising savings and advancing loans and once again intervention of NGOs in facilitating access to institutional credit for the asset poor households may be of great help. Else, these people would struggle to eke out a living from petty informal work.

3) *Enhancing human capital through training and skill formation*: The study has shown that the members of the asset-rich households reveal a higher level of educational endowment than the landless households. So, for the latter, lack of education and other skill in addition to poverty of resources inhibit their integration into remunerative non-agricultural work following economic displacement. Special effort therefore needs to be directed towards training them. Agencies have to work towards fostering community based training to improve technical skills. This intervention needs to incorporate the aspects of dissemination of information such that the stakeholders themselves are enabled to realise the potential avenues of livelihood diversification and participate in the relevant decision making processes.

**Table 5.1: Issues and Policies on the Interplay of Land and Livelihood in the Rural Peripheries of Large Cities**

	Pressures	Process of Change	Issues	Findings	Policy
L A N D & L I V E L I H O O D L A N D	<p><b>Local</b> <i>Land competition for urban expansion</i></p> <p><b>Regional or National</b> <i>Promotion of de-centralized industrialization or privatization of natural resources</i></p>	<p><b>Change in nature of Work</b> <i>Non-Agricultural sector gaining dominance following industrial de-concentration and</i> Increased capital inflows in the PUI</p> <p><b>Changes in land-use</b> <i>Land conversion from agriculture and CPRs to urban or industrial uses</i></p>	<b>Related to Adaptation of the inhabitants of PUI to changing economic environment:-</b>		
			<p>Increased rural-urban interaction in peripheral areas of metropolitan cities</p> <p><b>Problem:</b> <i>Loss of land-based livelihoods for the poor and farmers</i></p> <p><b>Opportunity:</b> <i>New sources of employment, better transport links, improved access to infrastructure and social facilities</i></p>	<ul style="list-style-type: none"> <li>• Marginalization of the rural workers in the peripheries of metropolitan cities is higher than that in the rural interiors in post-reform era.</li> <li>• Women workers in DAMs have been rendered more unstable than those in the state following the reforms.</li> <li>• Lack of access to land assets inhibit the asset-poor population to shift in favour of remunerative non-agricultural activities</li> </ul>	<p><b>Interventions enabling non-agricultural livelihood options</b></p> <ul style="list-style-type: none"> <li>• <i>Non-agriculture based income generating programmes</i></li> <li>• <i>Access to financial capital for asset poor population</i></li> <li>• <i>Enhancing human capital</i></li> </ul>
			<b>Related to land acquisition and related compensation policies:-</b>		
			<p><b>Problem:</b></p> <ul style="list-style-type: none"> <li>• <i>Only land owners are compensated on event of land acquisition</i></li> <li>• <i>Delay in disbursement of compensation</i></li> <li>• <i>Land price offered by private agencies is higher than govt. agencies.</i></li> </ul> <p><b>Opportunities</b> <i>Those who receive compensation are able to re-invest and diversify livelihoods</i></p>	<ul style="list-style-type: none"> <li>• Access to land is closely related to livelihood and its diversification even in peripheral areas of largest metropolitan cities.</li> <li>• Dependence on land for sustenance is overwhelming in case of the tenant cultivators than the landed gentry where the former suffers deterioration of livelihood in instances of land acquisition as they are not entitled to receive any compensation.</li> </ul>	<p><b>Re-considering policies pertaining to land acquisition and compensation</b></p> <ul style="list-style-type: none"> <li>• Formalization of tenancy in the PUI in order to identify and compensate the tenant cultivators who lost livelihoods following land acquisition.</li> <li>• Extend the rural self-employment programmes in PUI especially to target the agricultural workers who have suffered livelihood loss following land acquisition.</li> <li>• Make land prices more competitive and less exploitative.</li> </ul>

Source: Adopted and modified from Allen, 2003 (p.143) and Final Technical Report of NRSP Project R8491, 2005

### **b) Re-considering policies pertaining to land acquisition and compensation**

This study has revealed that state perpetrated land acquisition and the compensation policies fail to take cognisance of the most disadvantaged groups comprising of the tenant cultivators who are mostly unregistered and the agricultural labourers which is corroborated by the findings of other scholars. These two groups already lack asset ownership and through the land acquisition drive essentially lose their livelihoods. They are not compensated for their economic displacement. The land acquisition policy needs to take note of the ensuing impoverishment of the already marginalized sections in the PUI. In addition to this, the aspect of competitive land price needs to be incorporated in the estimation of the compensation rates. The following may be pointed out:

- Compensation net must cover the tenant cultivators as well as all those who lost livelihoods following land acquisition. For this to be successful formalisation of tenancy needs to be undertaken in those peripheral areas which are expected to be affected recently. So, before state perpetrated land acquisition is undertaken the direct as well as indirect stakeholders are to be identified so that the compensation policy may be targeted.
- The target population in the safety net programmes, specifically those promoting self-employment opportunities can be tied up with the compensation package for land acquisition and should be flexible enough to include affected agricultural workers within their purview.
- The compensation provided to the land owner must be in accordance with the prevailing market price such that they are more competitive and less exploitative.

### **5.3 Concluding remarks**

A lot of effort needs to be directed towards empirical research focussed on the issue of land and livelihood in the PUI where the economic base is changing very fast challenging the quality of life of the asset poor population. Drawing on the empirical studies, a clearer understanding of the processes would qualify better chances of comprehensive policy formulation. The approach must be holistic and all encompassing taking into account the rural-urban flows as well as the in-situ possibilities of moderating the ensuing adversities of dramatic transformation of the natural resource base and work opportunities.

Urbanization is the inevitable destiny of human settlements. Expanding cities and shrinking agriculture along its edges in the current era is the fallout of the interplay of global and local forces. On one hand the so-called spread effects of the growing city throws up opportunities of elevating the peri-urban economy from dominance of primary activities, but on the other hand, the PUI is pinged by the progressive marginalization of peri-urban rural population from decent livelihoods following the nature of emerging

work that fails to integrate them. The economic reforms carried little for the rural area per se. Through this study, it has been evident that liberalisation has proved to be critical for the rural people residing in the peripheries of largest cities. While the policy-makers are sincerely concerned about rural poverty and livelihoods, the peri-urban dwellers, who are posited a more precarious position than the rural counterparts, is often overlooked. Under the neo-liberal paradigm of region-based urbanization processes that render the PUI of the largest cities even more destitute than the rural interiors call for serious concerns of the academia because of its crucial welfare concerns. The path trodden by the current phase of urbanization in the developing world has aptly been stated as:

*“Urbanization holds out both the bright promise of an unequalled future and the grave threat of unparalleled disaster, and which it will be depends on what we do today...”* (United Nations Centre for Human Settlements, 1996: p. xxiii).

## Appendices

### Appendix 1: Work Participation Rates (15-59)

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	89.0	97.8	77.2	89.7	98.5	79.5	81.9	89.7	72.0
<i>DAM Mumbai</i>	<i>91.2</i>	<i>97.6</i>	<i>81.2</i>	<i>89.2</i>	<i>98.1</i>	<i>78.0</i>	<i>73.1</i>	<i>82.5</i>	<i>59.0</i>
West Bengal	91.9	96.4	69.2	91.5	98.3	67.4	73.1	85.5	43.2
<i>DAM Kolkata</i>	<i>95.0</i>	<i>96.7</i>	<i>74.3</i>	<i>95.1</i>	<i>98.7</i>	<i>65.4</i>	<i>78.1</i>	<i>85.7</i>	<i>45.8</i>
Tamil Nadu	93.2	98.8	83.3	92.9	99.5	83.0	82.2	88.2	73.9
<i>DAM Chennai</i>	<i>91.6</i>	<i>97.7</i>	<i>79.0</i>	<i>93.8</i>	<i>99.3</i>	<i>83.7</i>	<i>73.5</i>	<i>80.1</i>	<i>61.6</i>
Andhra Pradesh	91.4	99.3	79.5	94.2	99.5	86.8	82.2	89.5	72.1
<i>DAM Hyderabad</i>	<i>92.2</i>	<i>99.1</i>	<i>82.9</i>	<i>96.4</i>	<i>99.7</i>	<i>92.2</i>	<i>85.3</i>	<i>90.7</i>	<i>77.9</i>
Karnataka	90.0	99.0	72.8	90.1	99.2	76.0	79.4	90.6	63.0
<i>DAM Bangalore</i>	#	#	#	<i>85.0</i>	<i>99.3</i>	<i>59.1</i>	<i>79.4</i>	<i>90.4</i>	<i>62.2</i>
Uttar Pradesh	94.4	99.1	65.1	91.3	99.4	59.5	70.2	82.7	37.8
<i>DAM Delhi (UP)</i>	<i>99.0</i>	<i>99.8</i>	<i>81.6</i>	<i>86.8</i>	<i>98.9</i>	<i>21.4</i>	<i>80.2</i>	<i>87.1</i>	<i>48.8</i>
Haryana	88.3	98.3	37.1	90.7	99.5	48.9	71.9	86.0	46.8
<i>DAM Delhi (Haryana)</i>	<i>85.9</i>	<i>97.0</i>	<i>43.7</i>	<i>89.9</i>	<i>99.4</i>	<i>55.3</i>	<i>70.9</i>	<i>84.3</i>	<i>49.7</i>

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

### Appendix 2: Share of Non-Workers (15-59)

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	21.3	9.5	33.1	19.2	13.8	24.6	23.1	16.4	30.1
<i>DAM Mumbai</i>	<i>26.3</i>	<i>11.0</i>	<i>41.9</i>	<i>22.6</i>	<i>13.6</i>	<i>31.6</i>	<i>27.8</i>	<i>15.5</i>	<i>40.6</i>
West Bengal	47.5	15.9	81.8	43.1	14.6	74.1	37.8	14.9	62.2
<i>DAM Kolkata</i>	<i>53.0</i>	<i>17.2</i>	<i>92.7</i>	<i>50.5</i>	<i>15.8</i>	<i>88.8</i>	<i>46.2</i>	<i>16.3</i>	<i>78.6</i>
Tamil Nadu	29.3	9.4	49.1	27.6	12.8	42.2	28.0	15.7	40.0
<i>DAM Chennai</i>	<i>33.9</i>	<i>11.4</i>	<i>56.8</i>	<i>32.8</i>	<i>14.1</i>	<i>51.8</i>	<i>36.7</i>	<i>18.9</i>	<i>54.7</i>
Andhra Pradesh	21.8	6.4	37.5	22.4	10.3	34.6	23.7	12.6	35.0
<i>DAM Hyderabad</i>	<i>18.7</i>	<i>7.5</i>	<i>30.1</i>	<i>19.0</i>	<i>10.6</i>	<i>27.8</i>	<i>23.5</i>	<i>13.7</i>	<i>33.8</i>
Karnataka	28.9	8.4	50.2	26.3	11.6	41.3	25.8	13.0	39.0
<i>DAM Bangalore</i>	#	#	#	<i>29.1</i>	<i>11.8</i>	<i>47.6</i>	<i>27.7</i>	<i>13.7</i>	<i>42.3</i>
Uttar Pradesh	47.3	12.7	84.8	43.9	15.0	75.9	42.1	19.7	66.4
<i>DAM Delhi (UP)</i>	<i>52.9</i>	<i>16.0</i>	<i>95.8</i>	<i>46.9</i>	<i>17.9</i>	<i>81.7</i>	<i>48.4</i>	<i>21.8</i>	<i>79.7</i>
Haryana	44.6	12.1	80.8	45.5	16.1	79.6	30.8	16.8	46.7
<i>DAM Delhi (Haryana)</i>	<i>43.6</i>	<i>15.3</i>	<i>75.1</i>	<i>43.6</i>	<i>19.1</i>	<i>73.3</i>	<i>27.1</i>	<i>17.4</i>	<i>38.6</i>

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

### Appendix 3: Share of Non-Workers Seeking Work (15-59)

Districts	1991			2001		
	Total	Male	Female	Total	Male	Female
Maharashtra	2.4	4.7	1.0	12.9	21.5	8.0
<i>DAM Mumbai</i>	2.9	6.4	1.3	18.4	34.2	12.1
West Bengal	8.0	24.2	4.6	28.1	48.4	22.9
<i>DAM Kolkata</i>	5.6	17.8	3.2	32.0	55.5	26.7
Tamil Nadu	4.7	13.8	1.9	22.3	35.1	17.4
<i>DAM Chennai</i>	5.4	18.0	1.9	27.6	43.8	22.1
Andhra Pradesh	1.3	4.4	0.4	17.3	28.4	13.3
<i>DAM Hyderabad</i>	1.0	2.8	0.3	21.9	30.1	18.4
Karnataka	2.1	5.4	1.2	10.8	20.7	7.4
<i>DAM Bangalore</i>	1.4	2.5	1.1	14.0	27.1	9.6
Uttar Pradesh	1.6	3.8	1.0	9.6	23.9	5.0
<i>DAM Delhi (UP)</i>	3.8	4.5	3.6	12.0	30.2	6.1
Haryana	0.9	3.6	0.3	10.4	20.3	6.3
<i>DAM Delhi (Haryana)</i>	1.6	5.8	0.3	11.3	20.7	6.4

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

### Appendix 4: Share of Main Workers (15-59)

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	89.0	97.8	77.2	89.7	98.5	79.5	81.9	89.7	72.0
<i>DAM Mumbai</i>	91.2	97.6	81.2	89.2	98.1	78.0	73.1	82.5	59.0
West Bengal	91.9	96.4	69.2	91.5	98.3	67.4	73.1	85.5	43.2
<i>DAM Kolkata</i>	95.0	96.7	74.3	95.1	98.7	65.4	78.1	85.7	45.8
Tamil Nadu	93.2	98.8	83.3	92.9	99.5	83.0	82.2	88.2	73.9
<i>DAM Chennai</i>	91.6	97.7	79.0	93.8	99.3	83.7	73.5	80.1	61.6
Andhra Pradesh	91.4	99.3	79.5	94.2	99.5	86.8	82.2	89.5	72.1
<i>DAM Hyderabad</i>	92.2	99.1	82.9	96.4	99.7	92.2	85.3	90.7	77.9
Karnataka	90.0	99.0	72.8	90.1	99.2	76.0	79.4	90.6	63.0
<i>DAM Bangalore</i>	#	#	#	85.0	99.3	59.1	79.4	90.4	62.2
Uttar Pradesh	94.4	99.1	65.1	91.3	99.4	59.5	70.2	82.7	37.8
<i>DAM Delhi (UP)</i>	99.0	99.8	81.6	86.8	98.9	21.4	80.2	87.1	48.8
Haryana	88.3	98.3	37.1	90.7	99.5	48.9	71.9	86.0	46.8
<i>DAM Delhi (Haryana)</i>	85.9	97.0	43.7	89.9	99.4	55.3	70.9	84.3	49.7

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

### Appendix 5: Share of Marginal Workers (15-59)

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	11.0	2.2	22.8	10.3	1.5	20.5	18.1	10.3	28.0
<i>DAM Mumbai</i>	8.8	2.4	18.8	10.8	1.9	22.0	26.9	17.5	41.0
West Bengal	8.1	3.6	30.8	8.5	1.7	32.6	26.9	14.5	56.8
<i>DAM Kolkata</i>	5.0	3.3	25.7	4.9	1.3	34.6	21.9	14.3	54.2
Tamil Nadu	6.8	1.2	16.7	7.1	0.5	17.0	17.8	11.8	26.1
<i>DAM Chennai</i>	8.4	2.3	21.0	6.2	0.7	16.3	26.5	19.9	38.4
Andhra Pradesh	8.6	0.7	20.5	5.8	0.5	13.2	17.8	10.5	27.9
<i>DAM Hyderabad</i>	7.8	0.9	17.1	3.6	0.3	7.8	14.7	9.3	22.1
Karnataka	10.0	1.0	27.2	9.9	0.8	24.0	20.6	9.4	37.0
<i>DAM Bangalore</i>	#	#	#	15.0	0.7	40.9	20.6	9.6	37.8
Uttar Pradesh	5.6	0.9	34.9	8.7	0.6	40.5	29.8	17.3	62.2
<i>DAM Delhi (UP)</i>	1.0	0.2	18.4	13.2	1.1	78.6	19.8	12.9	51.2
Haryana	11.7	1.7	62.9	9.3	0.5	51.1	28.1	14.0	53.2
<i>DAM Delhi (Haryana)</i>	14.1	3.0	56.3	10.1	0.6	44.7	29.1	15.7	50.3

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

### Appendix 6: Share of Total Agricultural Workers (15-59)

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	86.1	79.8	94.5	85.4	77.4	94.7	82.4	75.1	91.7
<i>DAM Mumbai</i>	72.7	62.0	89.5	74.5	62.7	89.3	62.2	50.4	79.8
West Bengal	79.8	80.0	79.0	75.7	75.5	76.3	64.7	65.6	62.6
<i>DAM Kolkata</i>	68.3	68.6	64.0	64.4	64.4	64.2	49.9	50.3	48.0
Tamil Nadu	81.2	76.8	89.0	79.9	74.7	87.7	71.9	66.1	79.9
<i>DAM Chennai</i>	78.0	72.4	89.7	75.4	68.6	87.8	64.1	56.6	77.5
Andhra Pradesh	83.0	79.3	88.5	82.6	78.1	88.8	77.0	72.3	83.3
<i>DAM Hyderabad</i>	76.4	68.4	87.3	80.4	72.7	90.3	71.1	61.5	84.2
Karnataka	84.4	82.3	88.4	83.9	80.5	89.3	77.7	74.0	83.2
<i>DAM Bangalore</i>	#	#	#	85.1	82.2	90.5	75.2	71.1	81.6
Uttar Pradesh	86.5	85.6	91.7	85.2	83.1	93.3	77.8	75.2	84.4
<i>DAM Delhi (UP)</i>	65.5	65.8	58.1	63.8	64.2	62.0	50.4	47.9	61.7
Haryana	79.2	76.7	91.7	76.6	73.4	92.1	70.4	64.0	81.8
<i>DAM Delhi (Haryana)</i>	73.2	68.3	91.8	69.2	63.0	91.9	63.9	54.2	79.4

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.



**Appendix 7: Share of Main Workers in Agriculture (15-59)**

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	75.8	78.0	72.8	75.7	76.2	75.2	66.8	67.1	66.5
<i>DAM Mumbai</i>	64.9	60.0	72.4	64.9	61.3	69.4	41.8	38.8	46.1
West Bengal	73.5	77.1	55.6	69.3	74.4	51.0	46.3	55.0	25.2
<i>DAM Kolkata</i>	64.6	65.9	48.3	60.8	63.4	39.2	36.7	40.8	19.4
Tamil Nadu	75.1	75.9	73.7	73.4	74.3	71.9	57.1	56.9	57.4
<i>DAM Chennai</i>	70.4	70.5	70.4	69.8	68.1	72.9	43.6	42.8	45.0
Andhra Pradesh	75.4	78.8	70.3	77.4	77.7	77.1	62.0	64.1	59.2
<i>DAM Hyderabad</i>	69.8	67.8	72.4	77.2	72.4	83.4	59.9	56.0	65.3
Karnataka	75.4	81.6	63.6	74.8	79.9	67.0	60.7	67.1	51.2
<i>DAM Bangalore</i>	#	#	#	71.6	81.6	53.6	59.1	64.7	50.3
Uttar Pradesh	81.3	84.9	59.1	76.9	82.6	54.7	53.6	62.2	31.4
<i>DAM Delhi (UP)</i>	64.9	65.7	46.9	55.9	63.5	15.1	40.7	42.6	32.3
Haryana	68.0	75.2	31.0	67.6	73.0	42.1	49.5	54.6	40.3
<i>DAM Delhi (Haryana)</i>	59.8	65.6	38.0	59.4	62.5	48.0	43.3	44.6	41.3

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

**Appendix 8: Share of Marginal Workers in Agriculture (15-59)**

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	10.3	1.8	21.7	9.7	1.3	19.6	15.6	8.0	25.2
<i>DAM Mumbai</i>	7.9	2.0	17.1	9.6	1.4	19.8	20.4	11.6	33.7
West Bengal	6.3	2.9	23.5	6.4	1.1	25.3	18.5	10.6	37.4
<i>DAM Kolkata</i>	3.7	2.7	15.8	3.6	1.0	25.1	13.1	9.5	28.5
Tamil Nadu	6.1	1.0	15.2	6.6	0.4	15.8	14.8	9.2	22.5
<i>DAM Chennai</i>	7.6	2.0	19.3	5.6	0.5	14.9	20.5	13.8	32.5
Andhra Pradesh	7.5	0.6	18.1	5.1	0.3	11.7	15.0	8.2	24.2
<i>DAM Hyderabad</i>	6.7	0.6	14.9	3.2	0.2	7.0	11.1	5.5	18.8
Karnataka	9.0	0.8	24.8	9.1	0.6	22.3	17.1	6.9	31.9
<i>DAM Bangalore</i>	#	#	#	13.5	0.6	36.9	16.1	6.4	31.4
Uttar Pradesh	5.2	0.8	32.6	8.3	0.6	38.6	24.2	13.1	53.0
<i>DAM Delhi (UP)</i>	0.6	0.1	11.2	7.9	0.7	46.9	9.7	5.4	29.5
Haryana	11.2	1.5	60.7	9.0	0.4	50.0	20.9	9.5	41.4
<i>DAM Delhi (Haryana)</i>	13.3	2.7	53.8	9.9	0.6	43.9	20.6	9.6	38.0

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

**Appendix 9: Share of Total Cultivators (15-59)**

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	55.5	62.7	47.3	53.7	59.4	48.4	50.5	54.8	46.1
<i>DAM Mumbai</i>	68.6	68.2	69.0	64.4	64.6	64.2	53.2	52.6	53.9
West Bengal	51.3	56.0	27.3	52.6	56.9	37.4	41.1	46.4	27.8
<i>DAM Kolkata</i>	46.3	48.4	17.9	46.1	47.8	32.3	35.4	37.6	25.2
Tamil Nadu	46.0	56.6	30.1	40.3	49.1	29.0	37.2	42.9	30.8
<i>DAM Chennai</i>	37.5	48.5	18.9	30.3	38.7	18.5	25.7	31.6	17.9
Andhra Pradesh	45.6	57.2	29.7	40.0	49.5	28.4	35.3	42.6	26.8
<i>DAM Hyderabad</i>	52.0	64.1	39.1	47.2	58.2	35.8	47.6	57.2	38.0
Karnataka	56.2	67.2	36.5	52.0	61.8	38.3	49.0	59.9	34.6
<i>DAM Bangalore</i>	#	#	#	67.8	73.5	58.4	64.6	73.2	52.8
Uttar Pradesh	77.7	80.8	59.8	72.5	76.2	59.6	61.5	66.5	50.0
<i>DAM Delhi (UP)</i>	70.1	71.1	44.7	65.4	66.1	61.5	62.6	67.2	46.3
Haryana	71.9	72.0	71.6	65.8	65.3	67.9	64.6	68.6	59.0
<i>DAM Delhi (Haryana)</i>	75.8	76.5	73.6	70.7	71.5	68.8	68.4	74.4	62.0

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

**Appendix 10: Share of Main Cultivators (15-59)**

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	47.7	50.3	43.2	45.3	46.0	44.4	44.8	43.3	47.2
<i>DAM Mumbai</i>	49.5	42.5	62.8	47.9	40.6	59.5	34.4	27.3	49.4
West Bengal	41.7	44.9	19.2	39.5	43.0	21.3	29.4	32.3	15.4
<i>DAM Kolkata</i>	31.8	33.2	7.6	29.0	30.6	9.1	18.8	20.2	7.5
Tamil Nadu	38.4	43.7	27.3	32.5	36.8	24.7	30.3	30.8	29.4
<i>DAM Chennai</i>	30.6	35.5	17.9	23.1	26.6	15.4	20.1	20.9	18.4
Andhra Pradesh	38.8	45.5	26.2	33.4	38.7	24.8	31.2	33.5	27.5
<i>DAM Hyderabad</i>	40.2	44.0	34.1	38.2	42.3	32.6	38.5	38.2	39.1
Karnataka	48.1	55.4	29.1	43.0	49.7	29.5	43.3	47.7	34.2
<i>DAM Bangalore</i>	#	#	#	57.2	60.4	47.4	53.8	55.4	50.3
Uttar Pradesh	67.6	69.2	52.4	61.9	63.3	52.8	56.3	56.7	54.2
<i>DAM Delhi (UP)</i>	45.9	46.8	21.7	42.0	42.4	31.3	34.5	35.5	26.2
Haryana	55.2	55.1	57.0	48.6	47.9	55.3	48.0	46.8	51.9
<i>DAM Delhi (Haryana)</i>	53.2	52.1	62.4	46.8	44.9	58.9	45.7	42.7	53.9

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

### Appendix 11: Share of Marginal Cultivators (15-59)

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	48.5	36.9	50.0	50.7	45.1	51.1	27.3	22.4	29.6
<i>DAM Mumbai</i>	53.9	36.6	57.4	48.3	36.5	49.5	29.5	22.8	33.7
West Bengal	32.1	41.0	26.9	42.8	39.4	43.4	19.2	19.6	18.9
<i>DAM Kolkata</i>	29.1	33.2	22.4	42.2	40.8	42.7	13.4	11.1	15.9
Tamil Nadu	24.1	26.5	23.8*	28.5	22.9	28.8	10.7	10.5	10.9
<i>DAM Chennai</i>	14.1	16.9	13.4	20.0	10.2	20.7	6.3	5.9	6.6
Andhra Pradesh	27.2	31.1	27.0	27.5	25.9	27.6	8.5	7.9	8.8
<i>DAM Hyderabad</i>	34.3	31.9	34.4	29.6	29.7	29.6	6.9	6.6	7.1
Karnataka	40.9	42.7	40.8	49.4	50.8	49.3	17.8	12.8	19.6
<i>DAM Bangalore</i>	#	#	#	60.8	61.0	60.7	28.1	20.1	31.2
Uttar Pradesh	60.6	67.7	59.5	59.9	61.1	59.8	27.9	18.2	34.9
<i>DAM Delhi (UP)</i>	43.0	36.4	44.8	40.2	42.3	40.0	19.8	10.0	30.9
Haryana	69.8	62.4	70.8	69.0	57.9	69.5	39.0	26.2	45.0
<i>DAM Delhi (Haryana)</i>	69.0	56.1	71.6	68.1	62.0	68.4	38.9	27.3	44.5

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

### Appendix 12: Share of Total Agricultural Labourers (15-59)

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	36.8	27.5	49.3	38.2	29.4	48.5	39.0	31.6	48.3
<i>DAM Mumbai</i>	19.8	15.5	26.5	23.6	17.9	30.8	26.0	19.7	35.5
West Bengal	34.3	31.5	48.2	32.3	29.5	42.2	34.7	32.2	40.6
<i>DAM Kolkata</i>	35.5	34.2	51.7	33.1	32.0	42.4	29.5	29.0	31.6
Tamil Nadu	41.6	30.8	60.8	46.0	35.9	61.0	42.8	35.0	53.6
<i>DAM Chennai</i>	47.1	35.0	72.5	51.1	40.0	71.1	45.6	36.3	62.4
Andhra Pradesh	43.2	31.0	61.8	48.0	37.0	63.1	47.6	38.3	60.2
<i>DAM Hyderabad</i>	34.4	21.0	52.5	40.6	27.7	57.3	35.2	23.5	51.3
Karnataka	33.4	23.0	53.4	36.6	26.3	52.6	34.7	24.1	50.2
<i>DAM Bangalore</i>	#	#	#	24.6	18.2	36.2	24.2	16.8	35.9
Uttar Pradesh	18.9	16.0	36.7	22.9	19.2	37.4	28.7	24.3	40.3
<i>DAM Delhi (UP)</i>	17.4	17.2	23.0	21.3	21.0	23.1	13.8	12.5	19.4
Haryana	21.6	20.8	26.0	25.4	24.6	29.4	20.6	18.7	24.2
<i>DAM Delhi (Haryana)</i>	17.0	15.2	24.1	19.7	17.3	28.5	15.4	12.1	20.5

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

**Appendix 13: Share of Main Agricultural Labourers (15-59)**

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	35.7	27.1	50.5	37.6	29.3	49.6	34.6	28.9	43.5
<i>DAM Mumbai</i>	18.2	14.8	24.8	21.6	17.5	28.0	18.5	14.6	26.6
West Bengal	33.3	31.2	47.8	32.2	29.5	46.0	29.2	28.6	32.2
<i>DAM Kolkata</i>	34.9	33.6	56.1	33.2	32.0	49.1	24.7	24.6	25.4
Tamil Nadu	39.9	30.5	59.5	44.6	35.8	60.3	36.5	30.7	45.9
<i>DAM Chennai</i>	44.5	34.2	71.0	49.8	39.8	71.1	36.5	29.5	52.6
Andhra Pradesh	41.6	30.9	61.9	47.2	37.0	63.5	41.5	34.5	53.3
<i>DAM Hyderabad</i>	32.9	20.9	52.4	39.9	27.6	57.0	29.4	20.5	43.7
Karnataka	31.7	22.8	54.6	35.9	26.3	55.4	26.8	20.2	40.5
<i>DAM Bangalore</i>	#	#	#	23.8	18.2	40.8	17.5	13.6	26.2
Uttar Pradesh	18.1	16.0	38.2	21.7	19.1	38.7	18.3	17.3	23.7
<i>DAM Delhi (UP)</i>	17.4	17.2	24.5	21.6	21.0	35.7	9.9	9.7	11.8
Haryana	21.1	20.7	26.3	25.2	24.6	30.6	14.8	15.0	14.3
<i>DAM Delhi (Haryana)</i>	15.6	14.6	24.0	18.5	17.2	27.5	8.5	8.0	9.9

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

**Appendix 14: Share of Marginal Agricultural Labourers (15-59)**

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	45.6	46.1	45.5	43.9	38.6	44.4	58.8	55.0	60.6
<i>DAM Mumbai</i>	35.5	43.6	33.8	40.5	38.7	40.6	46.4	43.4	48.4
West Bengal	46.2	40.8	49.3	33.3	27.9	34.3	49.6	53.8	47.0
<i>DAM Kolkata</i>	45.2	49.0	39.0	30.8	34.3	29.7	46.6	55.3	36.7
Tamil Nadu	65.7	53.6	67.3	63.7	51.8	64.2	72.0	67.0	75.2
<i>DAM Chennai</i>	76.4	68.0	78.3	70.6	65.3	70.9	71.0	63.3	78.1
Andhra Pradesh	60.6	46.6	61.3	60.5	47.9	61.1	75.3	70.0	77.9
<i>DAM Hyderabad</i>	51.6	34.1	52.8	59.1	38.3	60.3	68.8	52.7	78.2
Karnataka	49.5	35.4	50.4	42.9	29.5	43.6	65.1	60.7	66.8
<i>DAM Bangalore</i>	#	#	#	29.3	20.2	29.6	50.2	46.3	51.7
Uttar Pradesh	32.3	21.8	33.9	35.1	28.1	35.5	53.3	57.3	50.4
<i>DAM Delhi (UP)</i>	19.2	31.3	16.1	19.8	21.1	19.7	29.3	31.6	26.7
Haryana	25.9	27.1	25.7	28.3	29.1	28.3	35.6	41.4	32.8
<i>DAM Delhi (Haryana)</i>	25.7	33.8	24.1	29.7	30.2	29.7	32.0	33.9	31.1

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

**Appendix 15: Share of Total Non-Agricultural Workers (15-59)**

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	13.9	20.2	5.5	14.6	22.6	5.3	17.6	24.9	8.3
<i>DAM Mumbai</i>	27.3	38.0	10.5	25.5	37.3	10.7	37.8	49.6	20.2
West Bengal	20.2	20.0	21.0	24.3	24.5	23.7	35.3	34.4	37.4
<i>DAM Kolkata</i>	31.7	31.4	36.0	35.6	35.6	35.8	50.1	49.7	52.0
Tamil Nadu	18.8	23.2	11.0	20.1	25.3	12.3	28.1	33.9	20.1
<i>DAM Chennai</i>	22.0	27.6	10.3	24.6	31.4	12.2	35.9	43.4	22.5
Andhra Pradesh	17.0	20.7	11.5	17.4	21.9	11.2	23.0	27.7	16.7
<i>DAM Hyderabad</i>	23.6	31.6	12.7	19.6	27.3	9.7	28.9	38.5	15.8
Karnataka	15.6	17.7	11.6	16.1	19.5	10.7	22.3	26.0	16.8
<i>DAM Bangalore</i>	#	#	#	14.9	17.8	9.5	24.8	28.9	18.4
Uttar Pradesh	13.5	14.4	8.3	14.8	16.9	6.7	22.2	24.8	15.6
<i>DAM Delhi (UP)</i>	34.5	34.2	41.9	36.2	35.8	38.0	49.6	52.1	38.3
Haryana	20.8	23.3	8.3	23.4	26.6	7.9	29.6	36.0	18.2
<i>DAM Delhi (Haryana)</i>	26.8	31.7	8.2	30.8	37.0	8.1	36.1	45.8	20.6

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

**Appendix 16: Share of Main Non-Agricultural Workers (15-59)**

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	13.3	19.8	4.4	14.0	22.3	4.4	15.1	22.6	5.6
<i>DAM Mumbai</i>	26.3	37.5	8.8	24.3	36.8	8.6	31.3	43.7	12.9
West Bengal	18.4	19.4	13.6	22.3	23.9	16.5	26.9	30.5	18.0
<i>DAM Kolkata</i>	30.4	30.8	26.1	34.3	35.3	26.2	41.4	44.9	26.4
Tamil Nadu	18.1	22.9	9.6	19.5	25.1	11.2	25.0	31.3	16.5
<i>DAM Chennai</i>	21.2	27.2	8.6	24.0	31.3	10.8	29.9	37.3	16.6
Andhra Pradesh	16.0	20.5	9.1	16.7	21.8	9.7	20.2	25.4	13.0
<i>DAM Hyderabad</i>	22.5	31.3	10.5	19.2	27.2	8.9	25.4	34.7	12.6
Karnataka	14.6	17.5	9.2	15.3	19.4	9.0	18.7	23.5	11.8
<i>DAM Bangalore</i>	#	#	#	13.4	17.7	5.5	20.4	25.7	11.9
Uttar Pradesh	13.1	14.3	6.0	14.4	16.8	4.9	16.6	20.5	6.4
<i>DAM Delhi (UP)</i>	34.1	34.1	34.7	30.9	35.4	6.3	39.5	44.5	16.6
Haryana	20.3	23.1	6.1	23.1	26.5	6.8	22.5	31.4	6.4
<i>DAM Delhi (Haryana)</i>	26.1	31.4	5.8	30.6	36.9	7.3	27.6	39.8	8.4

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

**Appendix 17: Share of Marginal Non-Agricultural Workers (15-59)**

Districts	1981			1991			2001		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Maharashtra	0.7	0.4	1.0	0.6	0.2	0.9	2.5	2.3	2.7
<i>DAM Mumbai</i>	<i>0.9</i>	<i>0.5</i>	<i>1.6</i>	<i>1.2</i>	<i>0.5</i>	<i>2.2</i>	<i>6.5</i>	<i>5.9</i>	<i>7.3</i>
West Bengal	1.8	0.6	7.3	2.0	0.6	7.3	8.4	3.9	19.3
<i>DAM Kolkata</i>	<i>1.3</i>	<i>0.6</i>	<i>9.9</i>	<i>1.3</i>	<i>0.3</i>	<i>9.6</i>	<i>8.8</i>	<i>4.8</i>	<i>25.6</i>
Tamil Nadu	0.7	0.2	1.5	0.6	0.1	1.2	3.1	2.7	3.6
<i>DAM Chennai</i>	<i>0.8</i>	<i>0.4</i>	<i>1.7</i>	<i>0.6</i>	<i>0.2</i>	<i>1.4</i>	<i>6.0</i>	<i>6.1</i>	<i>5.9</i>
Andhra Pradesh	1.1	0.2	2.4	0.7	0.1	1.5	2.9	2.3	3.7
<i>DAM Hyderabad</i>	<i>1.1</i>	<i>0.3</i>	<i>2.2</i>	<i>0.4</i>	<i>0.1</i>	<i>0.8</i>	<i>3.6</i>	<i>3.8</i>	<i>3.3</i>
Karnataka	1.0	0.2	2.4	0.8	0.2	1.7	3.5	2.5	5.0
<i>DAM Bangalore</i>	#	#	#	<i>1.5</i>	<i>0.1</i>	<i>3.9</i>	<i>4.5</i>	<i>3.2</i>	<i>6.4</i>
Uttar Pradesh	0.4	0.1	2.3	0.4	0.1	1.9	5.6	4.2	9.2
<i>DAM Delhi (UP)</i>	<i>0.4</i>	<i>0.1</i>	<i>7.2</i>	<i>5.3</i>	<i>0.4</i>	<i>31.7</i>	<i>10.1</i>	<i>7.5</i>	<i>21.7</i>
Haryana	0.5	0.2	2.2	0.3	0.1	1.2	7.2	4.6	11.8
<i>DAM Delhi (Haryana)</i>	<i>0.7</i>	<i>0.3</i>	<i>2.4</i>	<i>0.2</i>	<i>0.0</i>	<i>0.8</i>	<i>8.5</i>	<i>6.1</i>	<i>12.3</i>

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

**Appendix 18: Sopfers's Disparity Index (15-59)**

Districts	Total Workers			Workers in Agriculture		
	1981	1991	2001	1981	1991	2001
Maharashtra	0.7	0.3	0.3	0.2	0.2	0.3
<i>DAM Mumbai</i>	<i>0.8</i>	<i>0.5</i>	<i>0.6</i>	<i>0.2</i>	<i>0.2</i>	<i>0.3</i>
West Bengal	1.4	1.2	1.0	1.1	1.0	1.1
<i>DAM Kolkata</i>	<i>1.8</i>	<i>1.6</i>	<i>1.3</i>	<i>1.2</i>	<i>1.0</i>	<i>1.1</i>
Tamil Nadu	1.0	0.7	0.6	0.4	0.4	0.5
<i>DAM Chennai</i>	<i>1.0</i>	<i>0.8</i>	<i>0.7</i>	<i>0.3</i>	<i>0.3</i>	<i>0.4</i>
Andhra Pradesh	0.9	0.7	0.6	0.5	0.4	0.5
<i>DAM Hyderabad</i>	<i>0.7</i>	<i>0.5</i>	<i>0.5</i>	<i>0.3</i>	<i>0.3</i>	<i>0.3</i>
Karnataka	1.0	0.7	0.6	0.6	0.5	0.6
<i>DAM Bangalore</i>	#	<i>0.8</i>	<i>0.7</i>	#	<i>0.5</i>	<i>0.6</i>
Uttar Pradesh	1.6	1.2	0.9	0.5	0.4	0.6
<i>DAM Delhi (UP)</i>	<i>2.1</i>	<i>1.3</i>	<i>1.1</i>	<i>1.4</i>	<i>1.1</i>	<i>0.6</i>
Haryana	1.5	1.3	0.6	0.3	0.2	0.4
<i>DAM Delhi (Haryana)</i>	<i>1.2</i>	<i>1.1</i>	<i>0.5</i>	<i>0.2</i>	<i>0.2</i>	<i>0.3</i>

Source: Computed from Economic Tables, B-Series, Census, 1981, 1991, 2001.

# Data for Bangalore Rural was not available for 1981 as it was combined with the urban part.

## Appendix 19

### HOUSEHOLD SLIP

Id No: \_\_\_\_\_ Category: \_\_\_\_\_ Caste: \_\_\_\_\_ Religion: \_\_\_\_\_

1. Name of Respondent:
2. Name of Head of Household:
3. Family profile:

Id No.	Name	Sex	Age	Education	Occupation		Income	
					Primary	Secondary	Primary	Secondary

#### 4. Access to land

Type of holding:	Current	15 years ago	Reason
Area owned			
Area leased in			
Area leased out			
Area mortgaged in			
Area mortgaged out			

#### Land use

#### 5. Why are the lands being kept Fallow?

<i>Scarcity of Water</i>	<i>Scarcity of Credit</i>	<i>Development Activities</i>	<i>To get Tax rebate</i>	<i>Others (Please specify)</i>

#### 6. Fragmentation

Fragment number	Current land use	Land uses 5 years back	Whether acquired	Distance from homestead	Reasons ( If Changed)
1					
2					
3					
4					
5					
6					

7. Cropping pattern

Crops	Area	Yield	Cost/ unit area				Price	Principal Use of Crops
			Fertilizer + Irrigation +Manure	Hired machinery + fuel	Water charge	Hired labour		
Kharif								
Rabi								
Zaid								

Quality of land being sold off:

8. What is the type of land sold off?
  - a. Single cropped
  - b. Double cropped
  - c. Multiple cropped
  - d. Fallow less than 1 year
  - e. Fallow (1 to 5years)
  - f. Any other: \_\_\_\_\_



9. Land quality:

Irrigation	Source of irrigation	Distance of land from major transport route	Remarks
Present/ Absent			

10. How much was received as compensation or price of the land sold off?

\_\_\_\_\_

\_\_\_\_\_

11. How the compensation money was spent by the household? (give details)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

12. Were the money received satisfactory/ upto your expectation?

\_\_\_\_\_

13. What was the purpose of acquisition? Who is the developer?

\_\_\_\_\_

\_\_\_\_\_

14. Did you give away your land willingly? \_\_\_\_\_

15. Reasons for giving away land:

- a. Current income was not sufficient to maintain the family.
- b. Compensation money was immediately required to meet specific expenses.
- c. There was pressure to give away land to DDA at whatever price offered and could not bargain.
- d. Political pressure
- e. Pressure of middle-men or land mafia
- f. Thought that non-land based occupation would provide better income.
- g. Found a better occupation in non-agriculture
- h. Any other: \_\_\_\_\_

16. What is your response to reduced access to land?

- a. Changed cropping pattern
- b. Some of the family members are now working off-farm
- c. Perception that status of livelihood has worsened as could not respond adequately
- d. Any other: \_\_\_\_\_

17. Within the household, who are the members who have been affected by such reduced access to land?

Members continuing with on-farm work	Members who changed occupation due to reduced access to land	Members who became idle due to reduced access to land

## Appendix 20

### INDIVIDUAL SLIP

Id No: Household: \_\_\_\_\_ Individual: \_\_\_\_\_

1. Name of respondent:
2. Gender:
3. What was your occupation when you had access to land?
  - a. Owner cultivator only
  - b. Owner cultivator and leased out land
  - c. Cultivated own plot and also wage work
  - d. Only wage work ( *number of days work available:* \_\_\_\_\_ )
  - e. Subsistence farming and some non-farm work (*what non-farm work-specify*\_\_\_\_\_ )
  - f. Leased out own land and worked in non-farm sector (*what non-farm work??*)
  - g. Any other: \_\_\_\_\_
4. What is your present occupation?
  - a. Exactly same as earlier
  - b. Same work but number of days of work has reduced ( *reason:* \_\_\_\_\_ ) and so is complimenting with some menial non-farm work in village/nearby city
  - c. Have completely shifted to rural non-farm work in same village ( *what work:* \_\_\_\_\_ )
  - d. Have found better work in non-agriculture in same village/ other village/ nearby city (*what work:* \_\_\_\_\_ )
  - e. Non worker (unemployed)
  - f. No specific work and does whatever is available
  - g. Any other: \_\_\_\_\_
5. Where is your present place of work?
  - a. In the native village itself (*ie, have found alternative livelihood in situ*)
  - b. Commuting to Delhi for work (*what is the nature of the work*)
  - c. Migrated alone/with family to some city/ village in search of work
  - d. Any other: \_\_\_\_\_
6. Do you think land acquisition by DDA is better than private acquisition with regards to terms of compensation? Why? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
7. Are you better off now than what you were before giving away your land? How and why?

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