

## **CHAPTER II**

### **REVIEW OF LITERATURE**

Review of literature justifies the choice of research question, theoretical or conceptual framework and method. It further establishes the background information needed for the study. The literature pertaining to the current research topic on “Quality of Life of Migrant Construction Workers in Coimbatore City” is discussed in this chapter under the following heads.

- 2.1. Migration concept and Theories of Migration
- 2.2. Poverty and Migration
- 2.3. Quality of life – Concept and studies.
- 2.4. Studies on Construction Workers
- 2.5. Studies on Migrant Construction Workers

#### **2.1. Migration Concept and Theories of Migration**

An integral feature of demographic transition is migration, which changes the size and structure of population. Eisenstadt (1953) has defined migration as “the physical transition of an individual or a group from one society to another. This transition usually involves abandoning one social setting and entering another and permanent one”.

According to Theodore Caplow (1954), “Migration is, strictly speaking, a change of residence and need not necessarily involve any change of occupation, but it is closely associated with occupational shifts of one kind or another. The principal directions of migration are illustrated by more or less continuous movements from rural areas towards the city, from areas of stable population towards centers of industrial or commercial opportunity, from densely settled countries and from the center of cities to their suburbs”.

In the opinion of Hagerstrand (cited in Hannerberg et al., 1957), "Migration is the change in the centre of gravity of an individuals' mobility pattern. The destination of the mobility flows need not, therefore, change as a result of the change in their centre of gravity."

U.N. Multilingual Dictionary (1958) has defined migration as "a form of 'geographical mobility' or 'spatial mobility' between one geographical unit and another, generally involving a change of residence from the place of origin to the place of destination. Such migration is called permanent migration and should be distinguished from other forms of movement which do not involve a permanent change of residence".

Weinberg (1961) has defined human migration as the change of place of abode permanently; or when temporarily, for an appreciable duration, as in the case of seasonal workers.

Rose (1965) gives a comprehensive definition of migration as the movement of people from areas where they are likely to reproduce less to areas where they are likely to reproduce more or vice-versa.

Webster's Third New International Dictionary (1966) defines migration as '(i) the act or an instance of moving from one country, region or place to settle in another; (ii) the act or instance of moving from one area to other in search of work'

In the opinion of Lee (1966), migration can be thought of as a permanent or semi-permanent change of residence involving 'an origin, a destination and an intervening set of obstacles'.

Van Binsbergen and Mcilink (1978) define migration 'as the geographical displacement of people, for a considerable time and over a considerable distance'.

Migration was defined as a geographical movement either as a single person or as a family involving a change from a usual place of residence (Misra, 1980).

Shreshtha (1986) has expressed migration as “a socio-economic process in which the movement of people takes place not only from one spatial to another, but also from one socio-cultural setting to another, although not necessarily a different one in terms of its socio-economic characteristics. He further writes: ‘it is a socio-economic phenomenon, a dynamic process, which has to be explicitly related to the institutional arrangements and functioning of the total economic system’.

According to Sinha and Ataullah (1987) ‘Migration may be defined as a movement from one place to another permanently or semi-permanently leading to cultural diffusion and social integration’.

In the words of Ram Nath Singh (1989), ‘The term mobility is distinguished from the term migration. The term mobility is considered the most general concept in migration study. It includes all kinds of movements both temporary and permanent, while the term migration is much more restricted and related to a permanent change in residence. In fact, migration requires both temporal and locational criteria’.

For Surjeet Singh and Pardeep Bhargav (1991) migration means the relatively permanent movement of persons over a significant distance. In its popular sense migration includes international, inter state, inter district and intra district movement, making the administrators, statisticians, demographers and social scientists to exhibit keen interest on the study of movement of people for crossing from one socio economic system to the other.

According to Kamaljit Singh (1991), ‘Migration is a permanent change of residence by an individual, a household or a group’.

Zelinsky (1994) defines migration as the ‘permanent or semi-permanent change in residence involving some distance from one’s community. The change of residence may occur from one village or town to village with in the district or commune or between the district or commune, with in the country or outside the country’. So the nature of migration requires

both temporal and vocational implications (i.e.) 'ever changing space-content and space relations in the country'.

Human migration is a universal phenomenon. It is a process through which people move from a permanent place of residence to another more or less permanent one for a substantial period of time (Chakravarthi, 2001; Chand, 2002).

### **Theories of Migration**

Right from the time of Ravenstein who was the first to formulate laws of migration on the basis of his study of extent and mode of migration in the United Kingdom, a number of theories and models have been propounded by different thinkers highlighting different dimensions of this important phenomenon. Since for proper understanding of migration in totality, it is essential to have adequate knowledge of these theories and models, relatively more important and well known ones are being described in the ensuing paragraphs.

### **Ravenstein's laws of migration**

Ravenstein (1885, 1889) made out five explicit and two implicit statements concerning patterns, migratory streams, migration motives, characteristics of migrants and distance of migration. His laws of migration are as follows:

- (i) Migration and distance: The rate of migration between two points will be inversely related to the distance between these two points. Long distance migrants have a preference for large centers of commerce and industry.
- (ii) Migration by stages: The inhabitants tend to move firstly towards nearby towns and then migrate towards the most rapidly growing cities.
- (iii) Stream and counter-stream: Each main current of migration produces a compensating counter current.

- (iv) Rural-urban differences in propensities to migrate: The natives of towns are less migratory than those of the rural parts of the country.
- (v) Technology, communication and migration: The magnitude of migration increases with the advancement of technology. It further accelerates with the growth in means of transport and communication and expansion of trade and industry.
- (vi) Pre-dominance of females among short distance: Among the short-distance migrants, female migrants appear to dominate. Moreover females in general are more migratory than males.
- (vii) Motives behind migration: Economic motive is always pre-dominant factor in influencing the decision to migrate.

On the basis of the above description, he concluded that people move from an area of low opportunity to areas of high opportunity.

### **Intervening Opportunity Theory**

According to the theory of Intervening Opportunity of Stouffer (1940) “the number of persons going to a given distance is directly proportional to the number of opportunities at that distance and inversely proportional to the number of intervening opportunities”.

### **Gravity theory of migration**

John Q. Stewart (1950) introduced the isomorphic relationship of population movements with Newton’s Law of gravitation. He observed that the movement of persons between two urban centers would be proportional to the product of their population and inversely proportional to the square of the distance between them. The theory propagated that the economic base of a country attracts migrants.

### **Lewis-Fei- Ranis theory of development**

The first comprehensive theory of development related to the process of rural-urban labour transfer was the one developed by W.A. Lewis (1954) and later extended by John Fei and Gustav Ranis (1961). The combined

structure is known as LFR Model. It is based on the concept of dual economy, comprising a subsistence agricultural sector (rural) characterized by unemployment and under-employment and a modern industrial sector (urban) characterized by full employment where capitalists re-invest the full amount of their profit. This model considers migration as an equilibrating mechanism, which through transfer of labour from the traditional labour surplus sector to the modern labour deficit sector, eventually brings about wage equality in the two sectors. The marginal productivity of labour in the subsistence sector is zero or very low and the wages paid to the workers are equal to their cost of subsistence, so wage rates exceed marginal products. Contrary to this, wage rates in the modern urban sector are much higher mainly due to the high productivity oriented activities. Migration of workers from the rural areas to the urban areas is caused by differences in those wage rates.

### **Sjaastad's Human Investment Theory**

Sjaastad (1962) presented the human investment theory of migration, which treats the decision to migrate as an investment decision involving costs and returns distributed overtime. According to this model, a person is supposed to migrate if the present value of all monetary benefits from migration is greater than monetary costs involved. The theory thus involves costs and benefits at the origin and destination as well as transport costs.

The theory also recognizes the effect of the individual characteristics of potential migrants. Older people are less likely to move because differential income returns from migration accrue over a shorter remaining life span and psychic costs may be greater. Educated youth tend to be more mobile because their lifetime origin destination income differences are usually larger and their greater awareness probably reduces the psychic costs of migration.

### **Behavioural Theory**

In 1965, J. Wolpert developed a behavioural theory for migration focusing a place utility matrix and action space as a framework for studying rational decision-making in the context of migration. It deals with subjective

evaluation of net utilities. He further clarifies that the degree to which an individual's action space accurately represents the physically objective world in its totality is a variable function of the characteristics of both man and the variability of the environment.

### **Lee's conceptual framework for migration analysis**

Excret. S. Lee (1966, 1969) postulated a general schematic framework for analyzing the volume of migration, the development of streams and counter streams and the characteristics of migrants. He elucidated the factors associated with the decision to migrate and the process of migration into four categories.

a) Factors associated with the area of origin, (b) Factors associated with the area of destination, (c) Intervening obstacles and (d) Personal factors.

Further, he divided the forces exerting influence on migrant's perception into 'pluses', 'minuses' and 'zeros'. Pluses pull individuals towards them, where as minuses tend to drive them away. Further, zeros balance both the competing attractive and repellent forces and towards which people are therefore essentially indifferent.

### **Todaro's theory of rural-urban migration**

Todaro (1969) has tried to develop a theory of migration starting from the assumption that migration is primarily an economic phenomenon. The Todaro theory establishes the rationality of such apparently contradictory situation by postulating that migration occurs in response to rural-urban difference in expected rather than actual earnings.

The four major features of Todaro's theory (1976) are

- i) Migration is stimulated by rational economic consideration of relative benefits and costs, mostly financial but also psychological.
- ii) The decision to migrate depends on the expected rather than the actual rural –urban wage differentials and the probability of successfully obtaining employment in the urban modern sector.

- iii) The probability of obtaining an urban job is inversely related to the urban unemployment rate.
- iv) Migration rates in excess of urban job opportunity growth rates are not only possible but also rational and probable in the face of continued positive rural-urban expected income differentials.

### **Situation Oriented Theory**

In the situation oriented theory, the push and pull hypothesis has dominated the mode of thinking, where migration is considered to be the outcome of the interplay and balance of expulsive forces and attractive forces in the place of origin and destination. The push and pull theory was developed in order to explain the causes of motivation for migration.

As Hassan (1971) points, 'those who migrate due to pull factors find it relatively easy to adjust to urban life compared to those who migrate due to push factors'. The push factors at origin are factors such as high rate of natural disasters, depletion of natural resources, drought and flood and other climatic condition etc. Pull factors working at destination include discovery and development of new resources, new industries and emergence of new services and trade centers. Some factors operate either way like changes in demand, joint policies, entertainment facilities and personal factors (Nelson, 1955).

In recent years, a new 'economics of migration' has arisen to challenge many of the assumptions and conclusions of neo-classical theory (Stark and Bloom, 1985). The main thrust of this new approach is that migration decisions are not made by isolated individual actors, but by larger units of related people – typically families or households in which people act collectively not only to maximize expected income, but also to minimize risks and to loosen constraints associated with a variety of market failures, apart from those in the labour market (Katz and Stark, 1986; Stark and Levhari, 1982; Stark, 1984; Taylor, 1986; Stark, 1991).

Safa (1982), McGee (1982), Standing (1985) and Breman (1985) challenged the individualistic approach in the analysis of migration. For them, migration is not a choice for poor people, but the only option for survival after alienation from the land. Hence the neo classicals, and the new economics of migration view the rationale of migration as a welfare promoting device or an investment decision on the part of a rational individual or the family on the basis of costs and benefits. The Marxists visualize migration as an action of last resort for the pauperized peasant.

### **Types of migration**

Migration consists of two sub-processes: (a) 'emigration'-moving out of the place of origin, and (b) 'immigration'- entering into the place of destination.

Different writers have classified migration in a number of ways. Some of the important classifications are given chronologically as under:

Fairchild (1925) classified migration into four categories of invasion, consequent, colonization and immigration.

Isaac (1947) categorized migration into two types of free and forced migration including seasonal, nomadic, temporary and permanent with in the former category and refugees, slaves and population transfer in the latter one.

Hagerstrand (1957) classified migration on the basis of environment at the place of origin and the place of destination into three categories of (i) country place to/from country place; (ii) country place to/from urban agglomerations and (iii) urban agglomerations to/from urban agglomerations.

Gonzalez (1961) has classified migration into five categories: (a) seasonal, (b) temporary non-seasonal, (c) recurrent, (d) continuous and (e) permanent removal.

Petersen (1961) classified migration into five categories: (i) primitive migration; (ii) impelled migration; (iii) forced migration; (iv) free migration; and (v) mass migration.

Kant (1962) has classified migration into three broad categories of (a) accidental or temporary, (b) permanent or periodic, and (c) definitive migration.

Zachariah (1964) attempted to classify migration on the basis of the distance of movement and pointed out (a) short distance, and (b) long distance types of migration.

Davis (1965) has pointed out five types of migration: (i) conquest, (ii) displacement, (iii) forced labour, (iv) free individual migration, and (v) controlled migration.

Thomas (1968) classified migration into the categories of voluntary international migration and involuntary migration which includes persons who have left their own nation, people fleeing from one part of a national state to another, displaced persons (non-repatriable), expelled persons and escapees.

Kosinski (1970) has prepared a multi-dimensional scheme classifying migration on the basis of time, distance, boundaries crossed, decision making, number of migrants involved, social organization of migration, political organization of migration, causes of migration and aims of migration. On time dimension, migration can be temporary or permanent. Distance-wise, it can be long distance or short distance. According to boundaries crossed, it can be international, external and areal. On the basis of decision making, it can be voluntary, impelled or forced. According to number involved, it can be individual or mass migration. On the basis of social organization, it can be family or individual migration. As per political migration, it can be sponsored or free. Cause-wise, it can be economic or non-economic. According to aims, it can be conservative or innovative.

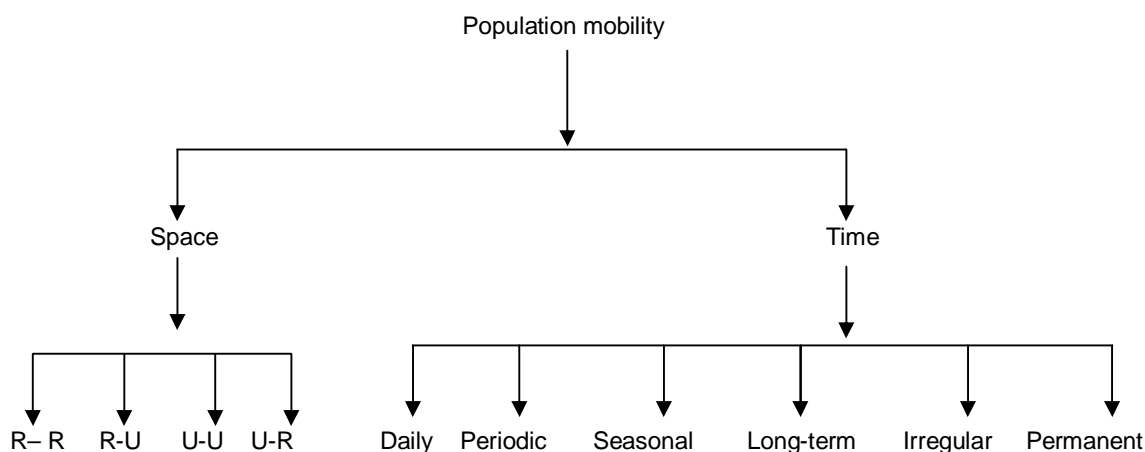
Zelinsky (1971) has pointed out four types of migration: (i) rural – urban, (ii) inter-urban, (iii) sub-urban and (iv) frontier-ward migration.

Roseman (1971) has classified migration into two categories: (i) total displacement migration involving complete spatial displacement of the daily/weekly reciprocal movement patterns of the migrants and, (ii) partial displacement migration involving displacement of only part of the everyday reciprocal movements of migrants.

Amin (1974) has classified migration on the basis of the place of origin and the place of destination into four categories: (i) rural – rural, (ii) rural – urban, (iii) urban – urban and (iv) urban – rural.

Du Toit (1975) has given two types of migration: (i) forced migration and (ii) voluntary migration.

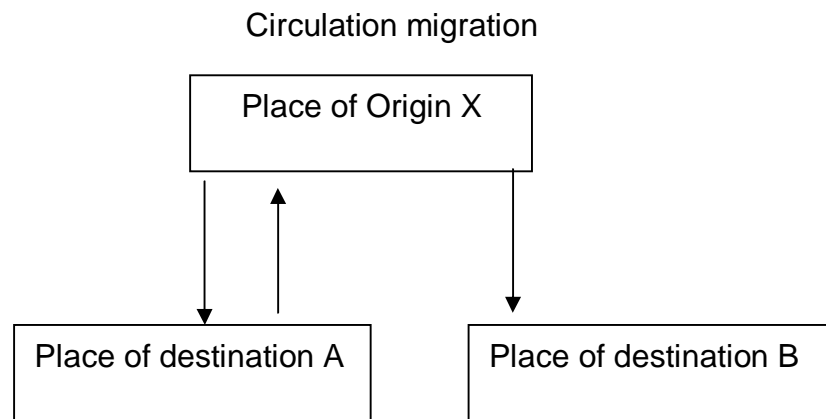
Gould and Prothero (1975) have presented the following typology of migration.



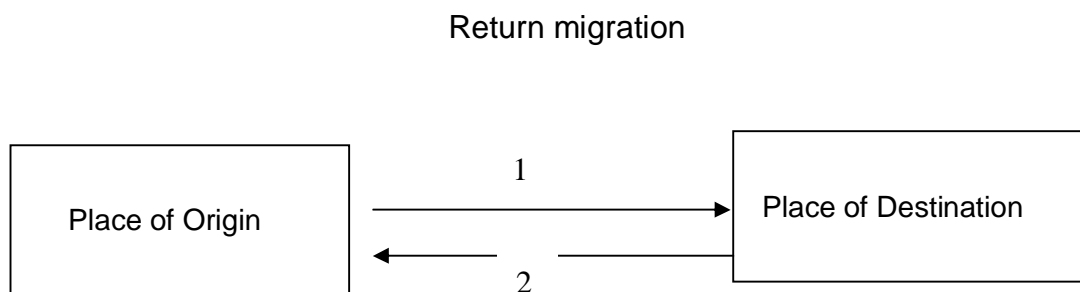
Sinha and Ataulah (1987) have attempted to classify migration on four basis (i) space, (ii) time, (iii) volume and (iv) miscellaneous. On the basis of space, they have developed eight categories of inter continental migration, international migration, interstate migration, local migration, rural to rural migration, rural to urban migration, urban to urban migration and urban to rural migration. Time wise migration has been categorized into long-range migration, periodic or seasonal migration, permanent migration, semi-permanent migration, temporary migration, irregular migration, casual migration and daily or pendulum type migration. Volume wise, it can be classified as (i) large scale migration, (ii) medium scale migration and (iii) minor scale migration. On the basis of miscellaneous other factors, migration can be classified as (i) brain-drain, (ii) refugees, (iii) forced or involuntary migration, (iv) voluntary migration and (v) labour migration.

Sundari (2007) defines migration with respect to destination, direction and duration as (i) circulation migration, (ii) return migration, (iii) counter stream migration, (iv) step migration, (v) chain migration and (vi) return migration. Circulation migration refers to the case where the migrant does not

stay at the place of destination for all of his or her lifetime. Migrant involves go back to their place of origin after a long period and then moves to another place again. In other words, it is not a one-way movement.

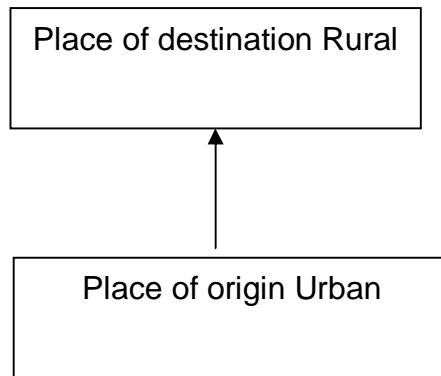


In return migration, the migrant after staying some time in the place of destination returns to their place of origin to settle there again and does not move to another place.



In counter stream migration, migrants move in the opposite direction, compared to all other migrants. In this case, urban citizens move to the rural areas.

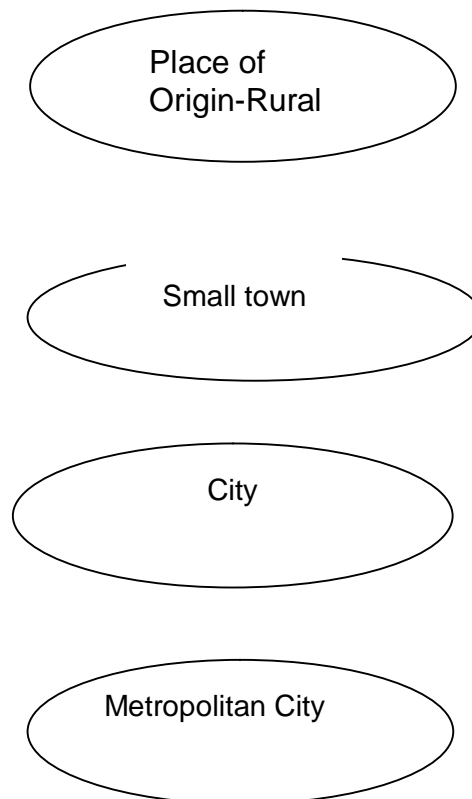
### Counter stream migration



This trend is very rare.

In step migration, the migrant moves in different stages upwards in the urban hierarchy. The first movement may be towards a small town, the second towards a city and the last to a metropolitan city.

### Step migration



Chain migration describes individual and family migration in longitudinal perspective. It refers to the movement in which prospective migrants learn of opportunities, and are provided with transportation and employment arranged by means of primary social relationship with previous migrants.

## **2.2. Poverty and Migration**

Migration can both cause and be caused by poverty. Similarly, poverty can be alleviated as well as exacerbated by population movement. Easy generalizations are impossible to make but it is likely that the relative impact of migration on poverty, and of poverty on migration, varies by level of development of the area under consideration. Poverty as the root cause of migration and migration as the result of poverty might suggest the same thing but there are significant differences. Migration as the result of poverty shifts the focus to the issue of feeling poor: relative rather than absolute deprivation. Migration, either of outsiders into a community, or of natives going outside their community, establishes linkages between origins and destinations. These linkages spread knowledge about conditions in a wider world that can transform communities from conditions of "subsistence affluence" (Sahlins 1974) to those of relative deprivation without any significant real change in the quantity of subsistence in the community. What changes is the less tangible quality of life when the number of potential migrants increases as a consequence of community members beginning to judge their own conditions relative to those of people living elsewhere.

Thus, migration creates the conditions that lead to people feeling themselves to be poor, which in turn leads to further migration as they move in order to satisfy new-found aspirations. This process is perhaps at the root of most migration, giving the impression that poverty is the driving force but in reality is the product of a desire to better oneself against new standards rather than the result of absolute deprivation. Migration is thus both the creator and the product of poverty. (Ronald Skeldon, 2003)

Mehta (1991) in his study highlighted the level of poverty existing in rural areas as the most important cause, which was forcing the rural population to migrate in search of employment opportunities in urban areas in order to send remittances for supplementing the income of their households at the native place. Migration from higher economic group was found to be at a significantly lower proportion, which was motivated with the desire to obtain prestigious white-collar jobs.

Paul R. Masson (2001) made an analysis on migration, human capital, and poverty in a dual-economy model of a developing country. He studied the coexistence of urban and rural poverty and migration to cities in a dual economy model where the acquisition of skills is costly and involved migration to urban areas. In this model, it was identified that both the distribution of innate abilities and the distribution of wealth matter for the migration decision, and costs of back migration may produce an urban poverty trap if unemployment lowers household wealth below the cost of skills acquisition.

Indhrani Gupta and Anu Mithra (2002) in their study on “Rural Migrants and Labour Segmentation: Micro Level evidence from Delhi Slums”, concluded that the percentage of migrants below the poverty line was the highest among those who migrated within five years and lowest among those who migrated between 12 to 15 years. With a rise in the period of stay, migrants were able to improve their standard of living. The incidence of poverty was highest for petty trade and in service sector it was on the low side. Migrants were found to be concentrated on small units characterized by low productivity. With experience migrants were found to move from low productivity to high productivity jobs.

Tiwari. R.S. and Goel. M.S. (2002) analyzed the pattern of migration, poverty profile and consumption pattern of a sample of 500 workers engaged in informal sector in Agra and Kanpur cities in Uttar Pradesh and Puri in Orissa. The study underlined that low level of income was the major determinant in the process of rural-urban migration. It further manifested the bonded type of job of workers under the compelled economic conditions.

Abdur Rafique (2003) analysed, "Floods, Poverty and Seasonal Migration". The monsoon floods that struck several districts of West Bengal in 2000 though expected were devastating in the damage it wreaked. The impact however differed among classes. While the well off had substantial paddy stores to recoup in the post-flood desolation, the smaller cultivators had no option but to secure loans on credit. Landless labourers were, compelled to migrate in search of work. Most of this out migration was sequential in nature and their large numbers also placed them at the mercy of employers.

Hugh Waddington and Rachel Sabates-Wheeler (2003) made a comprehensive analysis of the relationships between poverty, vulnerability and migration and observed some general patterns:

1. The option of migrating is not available to all poor people, least of all the chronically (long-term) and severely (poorest) poor. The ability to adopt migration as a livelihood strategy is affected by the degree of social inclusion/exclusion, reflected in access to and control over resources.
2. Many non-moving individuals and households from a sending area are likely to be, or become, chronically poor. They are unable, unless 'forced', to choose migration to ameliorate their circumstances due to prohibitive financial and economic costs, as well as such factors as limited access to networks and disadvantage in terms of skills, knowledge and physical mobility.
3. It is the poorest groups of people who are typically disproportionately represented in circumstance of 'distress migration', that is, migration as a response to severe livelihood constraints.

Shah and Amita Shah (2003) stated that the incidence of poverty in South Western Tribal Madhya Pradesh was alarmingly high leading to mass migration. The reasons cited for migration were poverty, population pressure and shrinking size of land holdings, recurring droughts and lack of off-farm employment avenues and consumption loan from the moneylenders resulting a debt-trap. The study demonstrated that a shock could push even a well-to-

do tribal household into a debt-trap and consequently it had to resort to migration as coping mechanism.

Patel's (2005) study on the migrant tribal farm labourers in the villages of Anand District of Gujarat covering 75 migrant tribal farm labourers revealed poverty as the main reason for migration. Further, the migrants were illiterates and indebted. The migrant labourers were deprived of basic amenities like shelter, water and sanitation in their work place. The tribal women were sexually exploited by the land lords, while the migrant men folk had to work hard.

Rachel Sabates et al (2005) in a paper on 'Tackling Poverty-Migration Linkages: Evidence from Ghana and Egypt' stated that the very poorest in a community are unlikely to migrate due to the high transaction costs associated with migration, and therefore migration is not a viable strategy to enable these households to move out of poverty. This paper explored the findings quantitatively. First, it described the main challenges in the empirical literature and introduced a conceptual model to explore the links between migration and poverty. Using a bivariate probit model, the results show that poverty is a positive and significant determinant of migration. Furthermore, migration can have a significant impact on helping poor people move out of poverty.

Amitab Kundu and Niranjana Sarangi (2007) examined "Migration, Employment Status and Poverty". The study analysed the pattern of migration in urban areas and its socio – economic correlates. The analysis was based on the National Sample Survey's Reports of employment and unemployment pertaining to the latest rounds, which provide information on migration. Economic deprivation was not the most critical factor for migration decisions, even for seasonal migrants. People migrate out of both poor and rich households, although the reasons for migration and the nature of jobs sought by them are different. Rural – urban migrants have a greater risk than non – migrants. The probability of a person being poor is low in a large city compared to any other urban centres, irrespective of the migration status, age, number of subsidiary activities undertaken etc. the results indicate that

migration has been a definite instrument of improving economic well – being and escaping from poverty. The probability of being poor is much less among the migrants compared to the local population in all size classes of urban centres.

Bruce Weber et al., (2007) presented a paper on 'Education's effect on Poverty: the role of Migration and Labour Markets' stating that improving the quality of education and encouraging students to stay in school is one possible strategy for reducing poverty and raising local well-being in rural areas. In this paper, they tested for both the 'direct' effect of educational attainment on the poverty status of rural adults, which operates through access to higher-quality jobs; and an 'indirect' effect, which operates through a higher likelihood of outmigration to urban areas and hence access to higher monetary returns to education. Drawing from a sample of 701 households in the Panel Study of Income Dynamics, it was found that, better-educated rural household heads are more likely to move to urban areas during the 1990s and that poverty status is affected by that move.

Maja Micevska et al.,(2007) made an analysis on two major issues: the relationship between migration and relative poverty and the relationship between migration and human capital formation. Regression analysis suggested that relatively poverty impinges positively on inclinations to migrate.

Orsolya Lelkes (2007), made an analysis on the level of poverty among migrants in 14 European countries. It was identified that migrants from outside the European Union are occasionally exposed to a multiple times higher risk of poverty than the "indigenous" population. EU and non-EU migrants constitute two rather distinct groups in most countries in terms of their exposure to poverty. . One definition captures people who are born in a different country than their country of residence. The other definition identifies those who have citizenship other than the country where they live. This group tends to be smaller, which is not surprising, as many of those who were born elsewhere have already received the citizenship of their country

of residence. The analysis suggests that migrants might face higher poverty due to lower levels of education, lower labour market participation, linguistic barriers, social discrimination, and a number of other reasons. Results of the multivariate regression analysis also highlight that (1) non-EU migrants tend to have nearly twice as high a risk of poverty than EU-migrants, (2) people who are not citizens of their country of residence tend to have higher poverty on average than those who are born outside of the country. The difference between these specific groups (EU, non- on the one hand, and citizenship and country of birth on the other) is not simply attributable to differences in labour force status, education attainment and household composition, since immigrant status tends to be associated with higher poverty in the regression results, which control for the potential impact of all these factors.

Marre, Alexander W (2009) made an analysis on "Rural Out-Migration, Income, and Poverty: Are Those Who Move Truly Better Off?" by raising a question, on whether working-age rural migrants to urban areas really better off? This paper used data from the Panel Study of Income Dynamics from 1979 to 1997 to answer the question. It builds on literature by Fisher (2005, 2007) on the role of unmeasured characteristics in influencing rural residential choice and economic outcomes. Recursive bivariate probit models of migration and household poverty and two-stage least squares models of migration and household income were estimated for three periods: 1979 to 1985, 1985 to 1991, and 1991 to 1997. The models used in this study suggested that the relationship between rural out-migration and poverty is mixed, while there appears to be no discernable effect of rural out-migration on income in the short-run.

William et al., (2009), made an analysis on 'Migration And Urban Poverty In India Some Preliminary Observations'. This paper examined the migration decisions to urban areas that are backed by economic rationale and attempted to understand gains accruing to individuals from migration, in terms of poverty outcomes. The analysis was based on the 55<sup>th</sup> round survey data on

Employment - Unemployment Survey 1999-2000 (EUS) provided by the National Sample Survey Organisation. The study undertook a broad descriptive socio-economic profiling of the migrant households in urban India and explored the dynamics of poverty among interstate as well as intrastate migrants to urban destinations. Further, it evaluated the impact of migration on the economic status of migrants by analysing the characteristic of 'duration since migration'. Considering migration as a transition, this exercise made a broad comparison of change in economic status of migrants at the destination as against the origin. The analysis revealed that migrants disadvantaged in terms of caste, education and residence earn poorer returns to migration. While returns to migration had proved to be positive with increased duration at the destination, the characteristic endowment like education and social group identity seem to make a further difference.

The paper by William Joe Priyajit Samaiyar U.S. Mishra (2009) on 'Migration And Urban Poverty In India Some Preliminary Observations' deals with migration decisions to urban areas that are backed by economic rationale and attempts to understand gains accruing to individuals from migration, in terms of poverty outcomes. The analysis is based on the 55<sup>th</sup> round survey data on Employment - Unemployment Survey 1999-2000 (EUS) provided by the National Sample Survey Organisation. The study undertook a broad descriptive socio-economic profiling of the migrant households in urban India and explored the dynamics of poverty among interstate as well as intrastate migrants to urban destinations. The analysis revealed that migrants disadvantaged in terms of caste, education and residence earn poorer returns to migration. While returns to migration have proved to be positive with increased duration at the destination, the characteristic endowment like education and social group identity seem to make a further difference.

The EUS data has been used to obtain disaggregated estimates of incidence of poverty among migrants according to specific characteristics. An Index of Relative Deprivation (RDI) is computed to comprehend deprivation of certain groups of migrants residing in urban India. The RDI is calculated by the following method;

$$RDI = (C_i - S_i) / (C_i \max - S_i)$$

where  $i = 1 \dots n$ ;  $C_i \max = S_i / AD$  if  $S_i < AD$  and  $C_i \max = 1$  if  $S_i > AD$ ;  
Where,  $AD = \sum S_i * DC_i$

Here,  $DC_i$  is the  $i^{\text{th}}$  group specific poverty incidence and  $C_i$  is the share of  $i^{\text{th}}$  group in total poor migrants.  $S_i$  is the share of  $i^{\text{th}}$  group of migrant in total migrant population.  $C_i \max$  is the maximum contribution that  $i^{\text{th}}$  group can make;  $AD$  is the average incidence. RDI finds an easy and interesting interpretation in the sense that a group is said to be relatively disadvantaged whenever RDI value is positive and is recognized relatively advantaged whenever RDI value is negative. A ranking of  $i$  number of groups in ascending order of the obtained values of RDI will place the least disadvantaged (most advantaged) group at the top of the index and the most disadvantaged (least advantaged) at the bottom of the index.

In his paper on “Inclusive growth: Labour migration and poverty in India”, Arjan de Haan (2011), discussed the relationship between labour migration and poverty in India. The paper focused on the migration patterns of deprived social groups, analysing whether migration form a routes out of poverty, and what specific policies for these groups exists or should be recommended. The paper discussed the general findings on the links between poverty and internal labour migration the facts to be used to structure the insights into the changes in migration patterns in India, highlighting the under-recording of migration of most vulnerable groups. The paper also discussed the implications of these insights for a notion of Inclusive Growth, concluding there is a need to address the invisibility of migrants and to review common policy aspirations to reduce migration. The conclusion reflects on the analysis of migration and policies to enhance migrants’ well-being and ability to participate in India’s disequalising growth.

### **2.3. Quality of life – Concept and Studies**

The term 'quality of life' (QOL) was originally coined in the USA in the post-war period to describe the effect of material affluence on people's lives and was subsequently broadened to encompass education, health and welfare, economic and industrial growth, and defence of the 'free world'. In the socio medical literature, quality of life has been equated with a variety of terms, including life satisfaction, self-esteem, well-being, happiness, health, the value and meaning of life, functional status and adjustment. (Carr,A.J. etal 1996).

Quality of Life is a function of people's life circumstances, which of course have an economic dimension, and also includes their social networks, their health and their sense of worth, and the sustainability of the environment on which they depend. Quality of Life emanates from having the capability to flourish. In an environment where those factors that enhance well-being are being augmented, people can be expected to flourish more. There are different ways of exploring Quality of Life. (John Grieve &Ulrike Weinspach, 2010). Some view it in terms of subjective well-being, others argue that it is represented by a 'capability to flourish' based on people's ability to pursue the goals they value. This suggests some basic entitlements that support a capability to flourish: from democratic rights; to physical and mental health; to education; to meaningful employment and to participation in society (Jackson 2009).

Work on the concept of quality of life grew out of the social indicators movement of the 1960s and investigators started using a social indicator approach to define what QOL meant to them. (Beck P & Mishra B.K, 2010) However, subsequently, many researchers adopted both subjective and objective approaches to assess QOL, available on wide literature on the subject. The following are some of the definitions given by the authors.

There are essentially two perspectives taken in quality of life research: social indicators research which considers the elites' valuation of what the people need, and conventional quality of life research which studies what

people want, in order to improve their quality of life. (Ramkrishna Mukherjee, 1989)

QOL is normally taken to mean the general well-being of people and the quality of the environment in which they live. There is presently no general agreement on the definition of QOL. For some, it is concerned with personal well-being and satisfaction or happiness, while for others, it is concerned with living conditions of a place. In the research of QOL, one often distinguishes between "subjective" and "objective" QOL, and indicators are usually derived for QOL measurement. (Working paper 11, Planning Department, 2002)

### **Subjective QOL**

Subjective QOL of life is about feeling good and being satisfied with things in general. The subjective QOL indicators used may include the individual's level of satisfaction with aspects to life such as health, wealth and family life. Examples of the indicators are satisfaction with marriage and family life, specific recreational pleasures and satisfaction with job and salary. Since these indicators are difficult to define and measure, they are excluded from most of the QOL evaluations.

### **Objective QOL**

Objective QOL is about fulfilling the societal demands for material wealth, social status and physical well-being. Objective QOL can be further classified into hardware and software aspects. Hardware aspects refer to living conditions, living environment, infrastructure and public service provisions. Software aspects are those related to social, psychological and behavioural dimensions such as social order, safety, communications and so on.

Quality of life has also been defined "as the satisfaction of an individual's values, goals and needs through the actualisation of their abilities or lifestyle" (Emerson, 1985, p. 282).

Quality of Life is the product of the interplay among social, health, economic and environmental conditions which affect human and social

development (Ontario Social Development Council, 1997). Standard of living is considered to be one of the dimensions of QOL

World Health Organisation (1997) had defined Quality of Life as individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment (Oort, 2005). Ferrell, who has carried out a large research programme on pain and quality of life, defined quality of life as well-being covering four areas: quality of life is physical, mental, social and spiritual well-being (Ferrell, 1995).

Lindströ (1994) had presented a model where quality of life was divided in a different way into four life spheres /the global, external, interpersonal and personal sphere where the last one was represented by the physical, mental and spiritual dimension. (Faisal Barwais, 2011)

According to Janssen Quality-of-life Studies (2007), QOL may be defined as 'subjective well-being'. Recognising the subjectivity of QOL is a key to understanding this construct. QOL reflects the difference, the gap between the hopes and expectations of a person and their present experience. Human adaptation is such that life expectations are usually adjusted so as to lie within the realm of what the individual perceives to be possible. This enables people who have difficult life circumstances to maintain a reasonable QOL.

The Quality of Life Research Unit, University of Toronto (2001) has defined QOL as 'The degree to which a person enjoys the important possibilities of his/her life. Possibilities result from the opportunities and limitations each person has in his/her life and reflect the interaction of personal and environmental factors. Enjoyment has two components: the experience of satisfaction and the possession or achievement of some characteristic, as illustrated by the expression: "She enjoys good health." Three major life domains are identified: 'Being, Belonging, and Becoming'.

The conceptualization of 'Being, Belonging, and Becoming' as the domains of quality of life were developed from the insights of various writers which were presented below:

### **Three major life domains of QOL**

The Being domain includes the basic aspects of "who one is" and has three sub-domains. Physical being includes aspects of physical health, personal hygiene, nutrition, exercise, grooming, clothing, and physical appearance. Psychological being includes the person's psychological health and adjustment, cognitions, feelings, and evaluations concerning the self, and self-control. Spiritual being reflects personal values, personal standards of conduct, and spiritual beliefs which may or may not be associated with organized religions.

Belonging includes the person's fit with his/her environments and also has three sub-domains. Physical Belonging is defined as the connections the person has with his/her physical environments such as home, workplace, neighbourhood, school and community. Social Belonging includes links with social environments and includes the sense of acceptance by intimate others, family, friends, co-workers, and neighbourhood and community. Community Belonging represents access to resources normally available to community members, such as adequate income, health and social services, employment, educational and recreational programs, and community activities.

Becoming refers to the purposeful activities carried out to achieve personal goals, hopes, and wishes. Practical Becoming describes day-to-day actions such as domestic activities, paid work, school or volunteer activities, and seeing to health or social needs. Leisure Becoming includes activities that promote relaxation and stress reduction. These include card games, neighbourhood walks, and family visits, or longer duration activities such as vacations or holidays. Growth Becoming activities promote the improvement or maintenance of knowledge and skills.

## **Measurement of quality of life**

There is no simple and easy way to measure Quality of Life. It clearly needs a range of indicators. Quality of Life is multi-dimensional. This is why measures under Axes 3 and 4 of the Rural Development Programmes 2007-2013 are closely and often interlinked. Because these measures are social, economic and environmental in character, but undertaken with a desire to stimulate progress towards sustainable rural development, the relationship between measure and economic impact or outcome is not always easy to identify.

Most quality of life measures are generic rather than disease specific and can be divided into two categories: those which provide a single, global score of well-being (health indices) and those designed to measure a number of dimensions of health status (health profiles) (Carr A.J. et al,1996)

The best way of approaching quality of life measurement is to measure the extent to which people's 'happiness requirements' are met - ie those requirements which are a necessary (although not sufficient) condition of anyone's happiness - those 'without which no member of the human race can be happy.' (McCall, S. 1975)

Quality of life is a measure of an individual's ability to function physically, emotionally and socially within his/her environment at a level consistent with his/her own expectations. (WHOQOL-BREF,2004 )

Quality of life (QOL) is a multi-level and amorphous concept, and is popular as an endpoint in the evaluation of public policy (e.g. outcomes of health and social care). Thus, despite a plethora of research on a wide range of objective and subjective indicators of QOL, there is no widely accepted or supported theory or measurement instrument of quality of life. Quality of life has been defined in macro (societal, objective) and micro (individual, subjective) terms (Rosenberg 1992; Bowling 1995a; 1995b; 1996; Bowling and Windsor 2001). The former includes income, employment, housing, education, other living and environmental circumstances. The latter includes perceptions of overall quality of life, individual's experiences and values, and has included related, proxy indicators such as well-being, happiness and life

satisfaction (Jackie Brown et al, 2004). Models of quality of life are also not consistent, ranging from needs based approaches derived from Maslow's (1954; 1968) hierarchy of human needs (deficiency needs: hunger, thirst, loneliness, security; and growth needs: learning, mastery and self-actualisation) to classic models based solely on psychological well-being, happiness, morale, life satisfaction (Andrews 1986; Andrews and Withey 1976; Larson 1978), social expectations (Calman 1983) or the individual's unique perceptions (O.Boyle 1997). Quality of life is thus a complex collection of interacting objective and subjective dimensions (Lawton 1991).

The approach to the measurement of the quality of life derives from the position that there are a number of domains of living. Each domain contributes to one's overall assessment of the quality of life. The domains include family and friends, work, neighbourhood (shelter), community, health, education, and spiritual. (The University of Oklahoma School of Social Work)

The City of Vancouver measured QOL using the following indicators: community affordability measure, quality of employment measure, quality of housing measure, health community measure, community social infrastructure, human capital measure, community stress measure, community safety measure, community participation measure. (Website of the City of Vancouver)

UNDP has been publishing the annual Human Development Index (HDI) for countries around the world. It examines the health, education and wealth of each nation's citizens by measuring:

- life expectancy
- educational achievement -- adult literacy plus combined primary, secondary and tertiary enrolment; and
- Standard of living -- real GDP per capita based on PPP exchange rates. (Human Development Report, UNDP, 1997)

The purpose of the Quality of Life Index (QOLI) is to provide a tool for community development which can be used to monitor key indicators that

encompass the social, health, environmental and economic dimensions of the quality of life in the community. The QOLI can be used to comment frequently on key issues that affect people and contribute to the public debate about how to improve the quality of life in the community. (<http://www.gdrc.org/uem/qol-define.html>, Notes on "Quality of Life"). It is intended to monitor conditions which affect the living and working conditions of people and focus community action on ways to improve health. Indicators for the QOLI include:

- Social: Children in care of children's aid societies; social assistance beneficiaries; public housing waiting lists etc.
- Health: Low birth weight babies; elderly waiting for placement in long term care facilities; suicide rates etc.
- Economic: Number of people unemployed; number of people working; bankruptcies etc.
- Environmental: Hours of moderate/poor air quality; environmental spills; tonnes diverted from landfill to blue boxes etc.

In a study on 'Socio-Economic Profile And Quality Of Life Of Selected Oraon Tribal Living In And Around Sambalpur Town, Orissa', P. Beck And B.K. Mishra (2010) used 10 parameters for the computation of quality of life index which are : i) Housing (type and number of room ), ii) Source of water used, iii) Sanitary facilities available , iv) Food nutrients intake, v) Health and safety status, vi) Educational status, vii) Fuel and energy availability, viii) assets possessed, ix) own transportation means and x) Per-capita income.

### **Determinants of quality of life**

The nine quality-of-life factors, (Economist Intelligence Unit, 2012) and the indicators used to represent these factors, are: (i) Material wellbeing which is defined as GDP per person, (ii) Life expectancy at birth, (iii) Political stability and security ratings, (iv) Divorce rate (per 1,000 population), converted into index of 1 (lowest divorce rates) to 5 (highest), (v) Dummy variable taking value 1 if country has either high rate of church attendance or trade-union

membership; zero otherwise, (vi) Latitude, to distinguish between warmer and colder climates, (vii) Unemployment rate, (viii) Average of indices of political and civil liberties. Scale of 1 (completely free) to 7 (unfree), (ix) Ratio of average male and female earnings, latest available data.

### **Studies on Quality of life**

In a study on 'Multivariate Analysis of Quality of Life and Migration in North Dakota', Mohammad Hemmasi (1995) used principal component analysis and multiple regression to examine spatial variations in the quality of life indicators, and relationships between quality of life indicators and net migration rates for North Dakota counties between 1980 and 1990. Three quality of life dimensions were identified: affluence, suffering, and demography. Of the three derived indicators, 'affluence' was identified as the best overall statistical determinant of county migration rates. Adverse quality of life and migration trends were especially evident for counties with high non-white population proportions; and it was suggested that such counties may need special development policies.

Somjai Chutthai (1999) assessed the quality of life of construction workers and factors associated with their quality of life which included 225 workers who had moved to work in Nonthaburi for at least 3 months. The research tools included a questionnaire that was developed by the researcher and checked for quality assurance by an expert, to collect workers' information about socio-economic conditions and quality of life; and focus group discussions so as to obtain more information. For data analysis methods such as frequency, percentage, means, standard deviation, and multi-stage regression analysis were used. The study found that construction workers' quality of life was moderate. In general, their QOL was good in the aspects of health, residence, environmental conditions, and family relationships. The aspects that should be improved included annual physical examinations and mental health. A good QOL was also found in such working conditions as wages, welfare, job security and equality, working hours, and job satisfaction. However, improvements were required for work safety

measures since most business operations did not follow safety laws or regulations. There were no proper personal protection devices, no inspection of dangerous working conditions, and no work-related danger protection systems. Most workers were not aware of any law related to work safety and had to work on weekends. An analysis of factors related to workers' QOL revealed that the size of the business operation time period in the workplace area and income were significantly associated with their QOL ( $p < 0.05$ ). It is thus recommended that construction workers' QOL should be improved. The government sector should look into the workers' working conditions, enhancing law enforcement actions related to employment, wages, welfare services, work safety, to raise educational levels and skills as well as occupational development. In addition, the operators should follow the labour law, paying attention to labour skills and QOL development.

In his Paper on “ The Four Qualities Of Life, Ordering Concepts And Measures Of The Good Life”, Ruut Veenhoven (2000) proposed a classification based on two bi-partitions; between life 'chances' and life 'results', and between 'outer' and 'inner' qualities which together these dichotomies imply four qualities of life: 1) livability of the environment, 2) life-ability of the individual, 3) external utility of life and 4) inner appreciation of life. This fourfold matrix is applied in three ways: firstly to place related notions and alternative classifications, secondly to explore substantive meanings in various measures for quality of life and thirdly to find out whether quality-of-life can be measured comprehensively.

Sauni R, et al., (2001) studied the effects of asthma on the quality of life and employment of construction workers and the most important conditions that cause respiratory symptoms in construction work in Finland. A questionnaire was distributed to all construction workers (310) comprising of asthmatic construction workers (104) and non-asthmatic construction workers (206). Altogether 73 percent of the asthmatic construction workers and 70 percent of the controls completed the questionnaire. It was concluded that asthma limits the work and every day life of construction workers. Exposure to

dusty, non-sensitizing agents is associated with asthmatic symptoms among construction workers.

In a working paper on Quality of life, (No.11, Planning Department, 2002), Ontario has developed a QOL Index (QLI) to measure and monitor the living and working conditions which affect the QOL in the communities. QOL in Ontario is defined as: "The product of the interplay among social, health, economic and environmental conditions which affect human and social development". The QOL Index (QLI) is a community development strategy to monitor the living and working conditions of Ontario. There are twenty community partners across Ontario involved in the QLI project, using the QOL Index to measure changes in their local communities. QLI is a composite index which includes twelve indicators, three from each of four sectors - social, health, economic and environment. It can be used to comment frequently on key issues that affect people and contribute to the public debate about how to improve the QOL in the communities and province.

S. Sundari (2003) examined the quality of life of the migrant households in the slums of Coimbatore City, Tirupur Town and Chennai City in terms of select parameters in a study on 'Quality Of Life Of Migrant Households in Urban Slums. The study revealed that migrant households live in unhygienic and congested places devoid of basic necessities for a healthy life like housing, water supply, drainage and sanitation. Women and children were the worst victims. Physically, mentally and emotionally they were affected. The rehabilitation programme of the Tamil Nadu Slum Clearance Board is totally inadequate in relation to the mushroom growth of slums. Hence, the study stated that a comprehensive package incorporating measures to improve urban environment and health status should be launched on a massive scale.

Skevington SM, Lotfy M, O'Connell KA, and WHOQOL Group (2004), examined the performance of the WHOQOL-BREF as an integrated instrument, and to test its main psychometric properties. The WHOQOL-BREF was a 26-item version of the WHOQOL-100 assessment. Its psychometric properties were analysed using cross-sectional data obtained

from a survey of adults carried out in 23 countries (n = 11,830). Sick and well respondents were sampled from the general population, as well as from hospital, rehabilitation and primary care settings, serving patients with physical and mental disorders and with respect to quotas of important socio-demographic variables. The WHOQOL-BREF self-assessment was completed, together with socio-demographic and health status questions. Analyses of internal consistency, item-total correlations, discriminant validity and construct validity through confirmatory factor analysis, indicated that the WHOQOL-BREF had good to excellent psychometric properties of reliability and performed well in preliminary tests of validity. These results indicated that overall, the WHOQOL-BREF was a sound, cross-culturally valid assessment of QOL, as reflected by its four domains: physical, psychological, social and environment.

Jobi Babu (2009) made an attempt to study the quality of life and socio-economic well being of the migrants unorganized Tamil women construction workers in Kochi. The study was descriptive in nature. The Tamil migrant women construction workers in Kochi city was selected as the universe of the study. Sixty respondents below 35 year were selected as the sample. Researcher used convenient sampling method. Interview schedule and Scale to measure 'Quality of life of the people', were used to collect the data. The study found that the migrant women construction workers suffer many physical and emotional harassments in their work place. Some suggestions recommended were to make registration of migrant worker a compulsory which will ensure the fundamental rights of the migrant workers. Adequate basic amenities should be provided for the resident areas of the migrant workers. Education facilities should be created for the children of migrant workers and finally the self help groups can play an important role in developing saving habit among migrant workers.

## **2.4. Studies on Construction Workers**

Construction is an important part of the industrial sector and one of the core sectors of India's economy. It is also the second largest employer in the country following agriculture, employing 18 million people directly and 14 million indirectly. According to IHS Global Insight, US\$175 billion was spent on construction in India in 2007 after growing 56 percent since 2005. Out of US\$175 billion, US\$140 billion was spent on non residential, and the remaining US\$35 billion was spent on residential construction. Construction spending is expected to increase to US\$370 billion by the end of 2013, with residential totaling US\$63 billion and non residential registering US\$307 billion. This represents a compound annual growth rate (CAGR) of 13.3 percent. This sector has increased its share of India's total employment from 2.8 percent in 1983 to 5.4 percent in 2003-04. Further, it accounts for about 38 percent of gross investment and about 45 percent of India's total infrastructure costs (IHS Global Insight, 2009).

### **Characteristics of Construction Workers**

- a) High economic vulnerability due to the double combination of irregular and unstable employment and consequent high mobility on the one hand and their utilization only in the lowest grade or job on the other.
- b) High proportion of female labour and frequent employment of whole family or couples;
- c) Ignorance, poverty, illiteracy and poor health;
- d) Lack of unionization due to mobility;
- e) Lack of opportunities for training, skill up gradation and literacy for employed people and of basic education for the children;
- f) Most of the work is done in the open and the workers materials and equipment are exposed to the weather;
- g) Change in the work site activities from day-to-day;
- h) The workforce tends to be 'nomadic' moving from site-to-site and from employer-to-employer;

- i) The work site is often far from the head office or regional head quarters of the organization essentially responsible.
- j) A large proportion of specialized activities are involved generally in closely coordinated sequences;

### **Classification**

The classification of construction labourers proposed by Vander Loop (1998) can be summarized as follows:

**Stable wage workers:** Blue collar and white collar labourers permanently employed by capitalist enterprises, generally big construction firms. They are protected by official legislations regarding wages, social security, etc. There are for example, skilled or quasi skilled technicians working with specialist firms like lift erection or sanitary fitting.

**Short term wage labourers:** contracted and paid per day, month or season, or for piece work. There is no guarantee for continuity of job. The location as well as the time of the work is being determined by the employer. The difference with the casual wage labourers are often at least; semi-skilled and that they have a greater employment opportunities.

**Casual wage labourers:** They are employed outside the manufacturing or service establishment like construction labourers, load carriers and pullers of hand carts. They get contracts only for very limited periods, for which they have to search continuously. In some cases, they are better organized than the short term wage labourers.

**Disguised wage labourers:** The worker himself decides where and when to work, but nevertheless an entrepreneur is able to appropriate part of the surplus produced by the worker. The best example is home work (a kind of sub-contracting).

**Dependent labourers:** They seem to be self-employed but are in reality strongly dependent on one or more large scale enterprises for credit, rent of equipment and/ or for sales.

Self-employed labourers: They are independent in all respects; they can make a choice among provisioners as well as customers. They are sole owners of their means of production. They do, however, depend on general economic and social circumstances and on the supply and demand position of their product.

The employment in unorganized construction sector rose from 8.43 lakhs in 1960-61 to 9.92 lakhs in 1976. Gradually it went upto 12.14 lakhs (Economic Survey 89-90). Construction accounts for 5.6 per cent of all jobs generated in the country. In addition, more than 90,000 contractors registered with various authorities operate in the informal sector activities. They account for 1,333 crores and form bulk of the employment in the construction sector (Vaid and Kutty 1986). As per the estimates, every one million worth of construction generates 3000 mandays of skilled and semi-skilled workers and 1300 mandays of managerial and technical manpower- (Bhargava, M.L. 1984). Over 6,000 women workers are employed in the organized sector of the construction activity. During the off-season a large number of migrant populations from farming join in construction activity. Studies reveal that the building materials constitute 60-70 per cent of the cost of construction in any project. They cover articles of wood, minerals products, glass, paints, metal products, flooring materials, etc. The investment in building materials is estimated to be about ` 22,000 crores (Sankaram Kutty, 1990).

Studies conducted by Guha (1970), Gulati (1981), Walter Fernandes (1986), Hema Nair (1988), Shiva Kumar, M.S. (1991), Sujata Madhok (2005) Mobile Creches (2008) and others revealed the following major issues on construction labour.

- a) There is absence of reliable data about the number of workers, employment trends, working conditions, recruitment and training, etc.
- b) Women workers are also found in large number in construction activity, child labour is a persistent problem in this sub-sector.
- c) Discrimination of wages is found and the women are paid low wages in most of the cases.

- d) The workers work for long hours in a day without any overtime facility.
- e) Construction labourers are forced to remain unemployed due to unfavorable climatic conditions, the non-arrival of building materials in time or illness in their families.
- f) Women construction workers are not merely supplementing household income, but in many instances are major contributors to the household income.
- g) Indebtedness is a perennial issue in the families which is passed on from father to son. Sometimes it turns marginal farmers into landless labourers and results in forced labour.
- h) The living conditions are deplorable in several cases with small houses, large size families, lack of proper medical aid, illiteracy among their children, etc.
- i) Unionism is mostly sporadic. Bargaining power is very low. They receive wages on the mercy of the contractor/ maistry.
- j) Usually recruitment of labour is done by 'maistry'. They follow informal processes for recruitment. The maistry serves as a bridge between supply and demand and the various fields and levels of work, he is sought after by both contractors and labourers, but is guided first by his own interest and then by those of the contractors or labourers.

Leela Gulathi (1979) in her study of socio-economic aspects of the brick kiln workers in Kerala has explained the cause of the wage differentials between male and female workers in the informal sector units.

Subrahmanyam (1992) et al., in their study on construction workers in Ahmadabad have noted that significant variations in earnings exist between casual and regular workers in the construction activity. Besides this, the study also observed that the percentage distribution of casual workers in the lower earning group ( ₹ 61.90) is nearly 60 per cent compared to the percentage of (25 per cent) regular workers in the same earning group. On the other hand, in the highest earning group ( ₹ 251+) only 2 per cent of casual workers are traced compared to 13 per cent of regular workers.

Satya Raju(1994) made an analysis on the "Socio-economic aspects of Construction Labour in India". He examined the issues relating to the

concepts of informal sector; the role and contribution of construction activity in service sector, the experiences of various studies conducted in India and the findings of a study in Visakhapatnam. On the basis of random sampling method, 250 workers were selected for the purpose of interview. The schedule was designed to elicit the information on their socio-economic conditions and working and living conditions.

Lusk et al (1997) made a study on 'Test of the health promotion model as a causal model of construction workers' use of hearing protection'. The health promotion model (HPM) was tested as a causal model of construction workers' use of hearing protection (N = 359). Theoretical and exploratory models fit well, with the theoretical model accounting for 36.3 percent of variance and the exploratory model accounting for 50.6 percent of variance in hearing protection use. Value of use (benefits of using hearing protection), barriers to use, and self-efficacy were significant predictors in both the theoretical and exploratory models, but perceived health status was a predictor only in the theoretical model. In the exploratory model, where modifying factors were allowed direct relationships with the use of hearing protection, two modifying factors—noise exposure and interpersonal influences-modeling—were significant predictors. Results of this test of the HPM are consistent with the revised HPM (Pender, 1996). There were significant direct paths from modifying factors to behavior. Use of hearing protection was best predicted by behavior-specific predictors, such as perceived barriers to use of hearing protection. Results support the use of the HPM to predict use of hearing protection.

Jayewardane, Gunawardena (1998) examined the human resource development (HRD) issues in the Sri Lankan construction industry by analyzing the occupational structure and characteristics of the construction work force as an aid to meeting the challenges of maintaining a skilled craft work force. Their study concluded that, comparing HRD practices to those in the USA and the UK indicates that Sri Lanka needs to adopt a more

structured approach, including a more formal training system and proper grading of the skilled work force.

Gyi, Gibb and Haslam (1999) undertook a study that investigated the quality of health data in the construction industry by interviewing senior managers. The study population included nine construction companies, among which seven undertook pre-employment medicals for their own (mostly white collar) workers. Only one of the seven contractors extended the requirement to subcontractors (usually skilled workers). Periodic screenings were undertaken by six of the nine companies, and only two of the monitored subcontractors on selected projects had an Occupational Health Nurse (OHN) on site. Overall findings from this study reported that little exists in terms of medical surveillance and health monitoring of workers, which in itself should be a major concern for the construction industry and its workers.

A survey was conducted by SEWA (2000) to study the socio-economic aspects of the lives of construction workers and to accelerate the process of organizing women construction workers of Ahmedabad. Out of 125 women workers surveyed, all the women workers were engaged in unskilled jobs. The average daily wages of the female workers were found to be substantially lower than the male workers. The incidence of physical strain during work was more in the case of women workers. About 51 percent of the women workers reported that they had sustained physical injuries during on-site work, while the incidence of injuries was much lower in the case of male workers. About 54.4 percent of the women surveyed, agreed that they were not provided with any basic amenities except drinking water on the sites, while 48 percent male workers confirmed about the inadequacy of basic amenities on the work site.

Raju (2003) observed that over 100 million workers are engaged in various construction works throughout the world and the employment in the sector was growing by seven per cent per annum. Construction workers constitute six percent of the world labour force. Construction was a high accident-prone industry. Annually about 10 million construction workers suffer

employment injuries. In India, the accident rate in construction ranges from 160 to 250 per 1000.

Examining the social security for the workers in the informal construction sector, Vanitha.B (2003) observed that women construction workers are generally engaged in less skilled jobs. There exists gender biased wage differential. Most of these workers face health problems due to occupational hazards and low calorie intake. Hence the study illustrates the need to develop strategic and comprehensive labour policy to solve the problems of poverty, unemployment and inequity.

Deshkal Society in their online article (2004) reported that, being part of unorganized sector of labourers, construction workers lose in bargaining for fair wages they are not paid minimum wages; even the agreed wages are not paid in time. Moreover, their working time and hours are not well regulated. They work under very hazardous conditions. In case of accident, there is, in general, no provision for financial and medical aid. There is no scheme like ESI coverage for them. Apart from these, there is no recreational facilities, no availability of drinking water, toilets, canteens etc.

Ramya Kanaganayagam (2004) observed that the construction industry has a very high potential of employment creation, especially for the uneducated and the poor. However prevailing practices regarding labour in the construction industry such as outsourcing and recruiting on temporary and casual terms, lead to deteriorating working conditions. It was sometimes viewed that construction employment was not 'decent' and a mere exploitation of cheap labour. This research aimed to investigate how construction employment was shaping workers' lives, what makes the workers willing to work in construction and how the job can be improved. Qualitative data gathered from case study and interviews conducted in Thailand and a review of literature helped to develop a system dynamic model to investigate workers' willingness to work in construction. The study reveals that insecure and inadequate income, necessity for severe physical exertion to health and

safety hazards, exposure to poor living conditions, requirement for separation from family, lack of free time and gender discrimination erode workers' quality of life and reduce their willingness. The pressure to generate income and satisfaction resulting from fulfillment of certain higher level needs increase willingness. The study also investigates possible actions by construction companies such as limiting overtime hours, provision for accommodation and welfare facilities, safety and health measures, skills development and gender equality which could improve workers' work, lighting and weather conditions.

Ram Lakhani (2004) made a study on the "Occupational Health of Women Construction Workers in the Unorganised Sector". One thousand and fifty-two workers were selected by stratified random sampling, medically examined and subject to relevant interviews, examinations and investigations. Over three-fourths of the women and almost all men reported working for 10 to 12 hours daily. A majority of the women reported headaches and backaches, as well as pain in the limbs. They had no social security or other workers' benefits. Respiratory, eye and skin disorders and noise-induced hearing loss (NIHL) were found to be prevalent amongst workers exposed to hazards like dust, noise, heat and cold, non-ionising radiation, and exposure to dry cement, glass and adhesives, tar and paint. About 76 per cent of women reported gender-specific work stress factors, such as sex discrimination, and balancing work and family demands, above and beyond the impact of general job stressors such as job overload and skill underutilisation. Discriminatory barriers to financial and career advancement were found to be linked to recurrent physical and psychological symptoms and more frequent visits to the doctor among women workers.

In the working paper on "Welfare fund for Kerala construction workers needs fine-tuning" Sankar Radhakrishnan (2004) reported that over one million of the estimated 1.5 million construction workers in the State are registered with the Kerala Construction Labour Welfare Fund. Despite this, the Fund's coverage in some districts of the State needs to be improved, accompanied by measures to create more awareness about the Fund, says a

recent working paper published by the International Labour Organisation (ILO). The paper also recommends several measures to improve the finances of the Fund, administrative measures to reign-in expenses and steps to enhance the benefits offered by the Kerala Construction Labour Welfare Fund. The working paper also suggested measures to control administrative expenses, especially staff salaries and reformation of the system used to remit benefits to members of the Fund. Another suggestion put forward in the paper was that steps be taken to strengthen the database of the Fund.

Mathew Anna (2005) made a study on the “Awareness of social issues among Indian women construction workers”. The working conditions, quality of life and health facilities available for the women construction workers were assessed and it suggested that awareness must be created for the new set of opportunity for these women.

Bingquin Li and Huamin Peng (2006) had analysed the need for providing social protection to rural workers in the construction industry in urban China. Construction workers, the authors pointed out that, have long suffered from various problems, including delayed payment of salaries and exclusion from urban social security schemes. The authors analysed both the risks the rural workers in the construction industry face because of their being rural workers. The authors hence suggested that social protection needs to take into account both the work related risks and status related risks. Thirty one indepth interviews with Construction workers carried out in Tianjin, PRC, was used to demonstrate both the risks and the inability of the state led social policy to tackle these risks.

Dileep Kumar (2006) examining the problems of construction workers in Pune, Maharastra observes that the living conditions are so poor and the labourers are staying in tin sheet and rubber sheeted houses. Some construction companies are making provision for accommodation facilities to the labourers, while majority of labourers have to build temporary huts by themselves, near by the site. The construction company was not making

provision for any electricity, sanitation facility, and provision of water to the construction labourers. More over the companies are not ready to compensate employee's having partial and full injuries, who are not covered by life insurance. The wage structure of the construction labour was also found to be inadequate considering their labour. Leave facilities are not available for the construction labourers. The working hours of the construction labourers varied considerably with majority of construction sites making provision for 8-11 hours per day. Majority of children are wandering around the site while parents working in the site. There was no one to look after these children and ensure their better health, education and care in their tender age. Many factors like frequent migration from one area to another; economic problem etc, cited by the construction labourers in making provision for better education to their children.

Rao, Rajasekhar and Suchitra (2006) analyzed the provision of social security to the unorganized workers. The study based on large sample of unorganized workers-construction workers, domestic workers and agricultural labourers-from Karnataka, presents indices of their economic conditions and deprivation to show how inadequate it was to use the below poverty line criterion for providing benefits to unorganized sector workers. The study also stated that the need for social security benefits among the unorganized sector workers was pressing, as their economic status was much lower than that of the lowest strata of employees in the organized sector. Reaching development to those workers was a challenging task, but not an impossible one. The best approach would be to adopt a decentralized policy beginning with modest and feasible social security measures as a part of broader strategy to bring the marginalized groups closer to the main stream.

The main objective of the paper on "Women workers in unorganized sector: A study on construction industry in Haryana" by Santosh Nandal (2006) was to shed light on the socio-economic problems faced by a section of the women workers in construction industry. These women workers have a very tough life. In spite of being actively involved in economic activities for

survival, bearing and rearing of children remain their prime responsibility, and thus they end up with playing roles in both production and reproduction.

Self Employed Women's Association (SEWA, 2006) made a study of construction workers in Gujarat. The survey was conducted on a random sampling basis with 250 sample respondents (125 men and 125 women). A key finding of the study was that almost all the women workers were engaged in unskilled jobs (manually carrying/transferring construction materials); It was found that 65percent of the women's families had been doing construction work from one generation to the next, while the remaining 35 percent of women joined this sector to support their families mainly due to the non-availability of other work and the closure of the textile mills in the city; The average daily wages of the female workers were found to be substantially lower than the male workers. The incidence of physical strain during work was more in the case of women workers. The women surveyed agreed that they were not provided with any basic amenities except drinking water on the sites. These women also expressed their willingness to upgrade their skills in various construction related techniques.

Darshan Singh (2007) attempted to analyze the nature of the insecurities faced by the construction workers in the Kurushetra city of Haryana state. The study finds that the socio-economic developments of these poor people have remained inadequate in spite of their productive contribution to national development. They are burdened with indebtedness and poverty, their nutritional levels are low, their bodies are weak and they are overwhelmingly illiterate. Frequent changes in their work place and instability of their work deprive them and their children from primary facilities like health, education and food subsidy from ration cards. The primary concerns of the state should be to ensure decent working conditions and proper contract systems, providing social security and basic health care for their families together with educational opportunities.

Kamalakannan (2007) in his study on the women construction workers examined the socio-economic conditions of women construction workers. The study was based on the primary data collected from women construction workers in Thothukudi District in Tamil Nadu. The study found that women are unskilled and illiterate and they are subjected to economic exploitation with low and discriminatory wages. Hence, the government officials, NGO's and trade unions should take measure for the well being of women construction workers. The self help group needed to be formed among the construction workers for their economic empowerment.

In their study on "Health status of women employed in unorganized and self-employed sector" Ranjwan S. R and Zend J.P (2007) assessed the physical fitness of 110 women engaged in unorganized and self employed sector such as construction work, brick making, domestic work, tailoring and pottery by step-wise method. It was found that physical fitness and body mass index of the majority of subjects were below average in all occupational groups. Aerobic capacity of majority of workers was good but it was found to be decreased with age. Masculo skeletal complaints were highest among brick makers followed by pottery workers and construction workers. The attitude of women construction workers towards job was negative whereas other workers were in the state of neither liked nor disliked except tailors who had expressed favourableness at moderate level.

Archana Sinha (2008) analyzed that woman who works on worksites like construction work or brick kilns face problem of childcare, have no toilet and drinking water facilities and are vulnerable to sexual exploitation.

Labour and Human Resource Development (2008) stated that the construction industry was characterized by the predominance of migratory and unskilled labour. Therefore, there was need to expand the training and skill certification programmes, both in terms of content as well as geographical reach. But there was no intuitional framework to impart training at the worker's level, barring a few initiatives taken by the Construction Industry Development

Council (CIDC) and some companies. There was need to involve the industrial training institutes (ITI's) in a big way with training for the construction sector to bridge the demand- supply gap for skilled labour force.

The children living on construction sites often suffer from malnutrition, under nourishment, accidents, and innumerable health problems. According to a Mobile Crèche's (2008) study, about 70 per cent of children living on construction sites suffer from malnutrition, compared with the national average of 21 per cent. The study also pointed out that in the absence of clean drinking water and flush latrines, cholera and other diseases spread quickly and many people suffer coughs caused by inhaled paint fumes and cement particles. Most of the children on construction sites are out of school children. According to a survey conducted by Pratham in the city of Thane (2008) accessibility of school does not seem to be a major issue.

The thesis on "Making construction employment decent work; Dynamic modeling of worker's willingness to be employed in the industry" by Ramya Kanganayagam (2008) aimed to investigate how construction employment is shaping worker's lives, what make the workers willing to work in construction and how the job can be improved. From the qualitative data gathered from case study and literature a system dynamics model was developed to investigate worker's willingness to work in construction. The study revealed that insecure and inadequate income, necessity for physical exertion, exposure to health and safety hazards, exposure to poor living conditions, requirements for separation from family, lack of free time and gender discrimination erode worker's quality of life and reduce their willingness. The pressure to generate income and satisfaction resulting from fulfillment of certain higher level needs increase willingness. The study also investigated possible actions by construction companies such as limitation of overtime hours, provisions for accommodation and welfare facilities, safety and health measures, skills development and gender equality could improve worker's willingness and their life.

Annette Barnabas et al., (2009) made a study on the 'Empowerment of Women Construction Workers as Masons in Tamil Nadu'. The study was conducted on the career progress of 440 men construction workers and 440 women construction workers and 51 building contractors to find out the reasons why women in the construction sector were not able to acquire skills for masonry work and how they could be trained to become masons. The findings of the study revealed that there is an inherent gender bias against women and also the shared general belief that women construction workers are unfit to be trained informally like men in the construction sector even though they have the necessary skills, capability and desire to become masons. Though the contractors are willing to accept women as masons by giving them training and placement in the construction sector, it has been found, the social forces that have perpetuated the concept of women as inferior workers are inimical to any such move. This study also analysed the methodology of training offered to men in the construction sector in India and proposes a new methodology of training that would qualify women construction workers to become masons and empower them economically.

Jeet Singh Mann (2009) made a study on the "Welfare and Protective Measures pertaining to the Construction workers in India". Based on the study, certain guidelines for promotion and protection of these workers were suggested. It is the need of the hour to formulate a comprehensive protection law covering all construction workers for all adversities, not only at work place but also afterward. The proposed scheme the author reported should be equipped with single enforcement mechanism. Because the success of any scheme depends upon its implementation, otherwise the legislation remains a piece of paper for workers.

Mehernosh Rusi Zaveri (2009) in his study observed that in Surat the majority of human resources employed in construction sector were on daily wage system. The main objective of the study was to assess the family structure of the daily wage earners, awareness regarding to health, sources of entertainment, the social condition of the daily wage earners, savings and

investment pattern and their access to system of telecommunication and transportation. The study suggested that there was a need for local municipal corporation to establish more housing colonies for low income group so that their housing problem could be solved to a larger extent and there was also a need for starting few night schools where such worker can attain further education.

In the article “Women and globalization: Challenges and Opportunities Facing Construction workers in Contemporary India” Bipasha Baruah (2010) identified the opportunities and constraints faced by the female construction workers in urban India, citing empirical research conducted in the city of Ahmedabad. The Self-Employed Women's Association (SEWA) conducted three surveys in 1998, 2003, and 2007 to learn more about the needs and priorities of construction workers in the context of economic globalization. While enthusiastically endorsing the role that training and certification can play a role in providing skilled women with opportunities for quality employment, the author emphasized the need for wider policy intervention at the state and national levels to ensure that such programmes have replicable, sustainable, and gender-equitable results.

Jill Wells & Arthur Jason (2010) discussed the employment relationships and organizing strategies in the informal construction sector. The paper took a close look at the Tanzania case, where informal construction workers had come together into groups for social security and economic purposes. The relationships within the groups and the role of the leaders were discussed and these dispersed groups had recently formed an umbrella organization, the Tanzanian Informal Construction Workers Association. The paper also discussed its agenda, achievements, targets, and the diverse range of allies and actors with whom the association engaged.

In their paper, Kanak Kanti Bagchi and Nirupam Gope (2010) had made an attempt to find out the magnitude of pecuniary and non-pecuniary poverty of two groups of urban informal sector workers, viz., rickshaw pullers and construction workers at Siliguri town of Darjeeling district of West Bengal.

The study was based on a sample survey of 100 workers from each group of workers. An attempt was also made to find out justification for a modicum of social security to these two groups of workers. The study found that in addition to income poverty, there is a huge incidence of non-pecuniary poverty among these workers in the form of non-availability of basic minimum services like housing, sanitation, health facilities, safe drinking water and toilet facilities. In respect of social security it is revealed that the main concern of the workers is for assured employment.

Nuzhat Parveen and N.H. Patil (2010) discussed the nature of work of women in the informal sectors and analyzed national level statistics on the informal sector. The study analyzed the problems of the women construction workers and stressed the need on the part of the Government to enforce strict legislations pertaining to the life security of the women construction workers such as providing safety at the work places, subscribing insurance policies of the these workers, etc. Further, there is need to facilitate the women construction workers the maternity leave and such other facilities.

Guddi Tiwary, P. K. Gangopadhyay (2011) made a review on the occupational health and social security of unorganized workers in the construction industry. The study stated that there were huge numbers of the workforce in the unorganized sectors where the working hours were more than the stipulated hours of work, the work place were not proper, the working conditions were non-congenial which involved risk factors. It was also identified that their wages were also not adequate, making it difficult for them to run their families. The hazards included handling of different materials required for construction, and exposure to harsh environmental conditions like sun, rain, and so on. They are victims of headache, backache, joint pains, skin diseases, lung disorders like silicosis, other muscular skeletal disorders, and so on. Further the author has made an attempt about some of the important articles in this study which will give a broad idea of the problem and for furtherance of research in this field.

Bharara K etal., (2012) undertook a study on 'Issues of Occupational Health and Injuries among Unskilled Female Labourers in Construction

Industry: A Scenario of Punjab State' with an objective to find out injury and disease data of female construction workers. A sample consisting of 80 female workers up to the age of 40 years engaged in construction industry as unskilled labourer were selected from 8 randomly selected construction sites. Four sites were taken from within and another four from the outskirts of Ludhiana city. Results of study revealed that most of them belonged to the age group of 21-30 years, were married and lived in nuclear family setup. Mean weight and height of respondents were below the normal value. Cardiovascular responses, Basal Metabolic Index and Body Surface Area were very much within normal value. Injury data of sampled population revealed incidences of abrasion of skin, falls, slips, trips, crushing and pinching of body parts, boils in hands and feet, burns, sprains, cuts and bleeding and eye injury/hurt being more frequent occurring injuries during work. Illness data of respondents' correlated affect of work on their health as most frequently reported illnesses were identified as weakness, cough/chest infection, urinary tract infection, sore throat, cervical pain, skin allergy, dehydration, back pain, generalized fatigue and heat stroke.

In his paper on 'Socio Economic Characteristics of Women construction Workers in Tamilnadu – Some Evidences', Poongodi R (2012) made an attempt to study the age wise distribution of the women construction workers, their working conditions, the wage structure and the problems faced by them. Primary data were collected from a random sample of 50 women construction workers in Thuraiyur Taluk of Tiruchirapalli District in TamilNadu, during January to June 2012. To analyze the reason for joining construction work had been estimated using Garret Ranking Techniques. Simple averages and percentages were also used. The study reveals that, women not only face insecurity of work but are also paid lower wages compared to their male counterparts. Minimum wage and other legislation were violated for women. Women face instability in work, they get poor remuneration discrimination in the payment of wages and virtual absence of enforcement of protective labour legislation. Further, their work is regarded as unskilled, but they are given no opportunity to acquire skills on the job. Unlike other industries where women

are employed in semi-skilled or sometimes even in skilled jobs in the construction industry, they were employed only as unskilled labourers.

## **2.5. Studies on migrant construction workers**

The study by Virginia Fahys-Smith (1983) was a secondary analysis of the 'Construction Worker Profile Household Survey' and builds on internal migration studies that have found that migration tends to occur when the costs for remaining in the area outweigh the benefits. The findings suggest that, contrary to popular generalisations, wanderlust is not a significant variable for predicting migration ( $r=0.005$ ). Instead, the five strongest predictor variables were: time in the community ( $r= -0.48$ ), job security ( $r= -0.37$ ), age ( $r= 0.36$ ), housing integration ( $r=-0.34$ ), and dissatisfaction with facilities and services ( $r=0.28$ ). Building on these findings, possible policy options to limit the migration of this group such as regional planning, hiring locals, cross-training and the coordination of sub-contractors are presented.

Ram (2004) analyzed the impact of modernization on women construction workers, in Aurangabad city. Information was collected on the family aspect, work condition, socio-political life, economic condition, religious life, etc. The study reported that normally these women worked for 8-9 hours a day at the site with less than ₹ 70 as daily wage rate, nature of work being casual. These women workers were belonging to the socially and economically unprivileged castes, migrated from rural agricultural labour families. These women were unaware of political, social and economical legitimate rights provided to them by welfare state, they are unable to spare time for religious and recreational activities.

Rajwinder Virk (2004) focusing on the migration process of women construction workers in Amritsar city observed that the women construction workers belong to the poorer strata of the society. To earn their livelihood they have to migrate from one place to another. The suppression of wage rates by the influx of migrants creates conflict between local and migrant workers. In cities again they have to face problems of heavy work and low wages. They

have to live in filthy slums. Most of the women workers live in building under construction where they have to face problems of privacy and even they cannot protect themselves from sun, rain, wind and stray animals.

Maria Kuruvila, S Dubey, Pratik Gahalaut (2006) made a study on the pattern of skin diseases among migrant construction workers in Mangalore. This study was undertaken to provide epidemiological data regarding various dermatomes among migrant construction workers in India. One thousand construction workers, including 467 migrant labourers, were examined for various dermatomes. Most (88 percent) workers were males and 51.17 percent were in their third decade. Infective and no infective dermatomes were seen in 89.72 percent and 53.74 percent of labourers respectively. Masons had a significantly higher incidence of contact dermatitis to cement, viral infections and scabies than helpers. The study concluded that the pattern of dermatomes is an expression of poverty, overcrowding and the occupational hazards of the construction industry.

Bikram K. Pattanaik (2009) in his article on “Young Migrant Construction Workers in the Unorganised Urban Sector” made an empirical socio-economic analysis based on a field study involving 1200 young unorganised workers found in the construction sector of the tri-city of Chandigarh, Panchkula and Mohali. The main aim of the study was to examine the reasons on why and how these young people had come to work in this urban environment, how they live and spend their money and what they perceive as their major problems. Based on the findings, the article argued that Indian policy makers, with specific regard to the urban unorganised labour sector, should take more-adequate measures for the protection of human rights of such migrant workers.

Adsul BB, et al., (2011) in their cross sectional study on ‘Health problems among migrant construction workers: A unique public-private partnership project’ attempted to analyse the socio-demographic profile and morbidity pattern of construction workers in Mumbai. A medical team from a public sector teaching hospital in Mumbai provided comprehensive on-site

health care services, and a Health Card was devised to maintain the record of socio-demographic, occupational details, and complete physical examination findings of the workers who participated in the study. Results of the 1337 workers (all males) examined, 1289 (96.4%) belonged to 15-45 years age group. The mean age of the workers was  $26.25 \pm 8.49$  years. A third of the migrants belonged to West Bengal. The average number of health problems in the workers was 1.41. Regular consumers of tobacco and alcohol were 50.48 and 14.65%, respectively. Nearly one-fifth of the workers had febrile illness, of which 20.71% had suspected malaria; 12.6% had respiratory infections, while 3.4% were found to have hypertension. There was a statistically significant association ( $P < 0.05$ ) between type of occupation and morbidity status.

Balkrishna, et al., (2011) made a cross sectional study on health problems among migrant construction workers-a unique public-private partnership project at Mumbai. Of the 1337 workers (all males) examined, 1289 (96.4 percent) belonged to 15-45 years age group. The mean age of the workers was  $26.25 \pm 8.49$  years. A third of the migrants belonged to West Bengal. The results showed that the average number of health problems in the workers was 1.41. Regular consumers of tobacco and alcohol were 50.48 and 14.65 percent respectively. Nearly one-fifth of the workers had febrile illness, of which 20.71 percent had suspected malaria; 12.6 percent had respiratory infections, while 3.4 percent were found to have hypertension. It was found that there exist a statistically significant association ( $P < 0.05$ ) between type of occupation and morbidity status.

Madhu Nagla (2011) made an attempt to analyse the leisure activities pattern and the factors which inhibits the absence or presence of leisure activities among the young migrant construction labour groups in Rohtak city of Haryana state. The study was exploratory in nature. The sample size covered 62 workers, out of which 38 were men and 24 were women. Findings of the study revealed that migrants had lesser exposure to mass media. Almost all respondents reported that for them leisure time is when they return to their place of origin which was twice in a year for nearly 20-30 days and

they fully enjoy by meeting people, playing cards, going to fair and celebrating festivals in these days.

Niraj Pandit et al., (2011) made a cross sectional study to assess the various aspects of maternal and child health issues among migratory construction workers in the Sumandeeep Vidypeeth Campus, Piparia, district Vadodara. There were 52 families working in campus and all were interviewed for study. The results showed that almost 73% of women were illiterate with mean age of menarche 13 years and mean age for marriage 17 years and mean age for first birth 19 years. All were from tribal community. Only one child was fully immunized out of 11 children between 12-23 months. Two maternal deaths and death of two children of less than five years were reported among 52 families in last two years. Further the study reflected that the group is more vulnerable and there is need to focus on this group to achieve goals of MCH.

Valentina Prospero Sapienza Università di Roma (2011) presented a paper on 'Casual Migrant Workers in the Construction Industry in India-The Gender Dimension' in a conference on 'Political Studies in South Asia'. The aim of this paper was to explore and analyse the productive and reproductive life of women construction workers, posing particular attention to the tensions and contradictions which characterize the development process in India, as well as to their socio-economic and political implications. The research methods utilised include participatory observation, focus groups, interviews to key informants and structured interviews (questionnaires) to construction workers. A case study had been realised in Delhi, specifically in two work sites in the two main Universities where public institutions have contracted construction work to private companies who employ largely migrant labour, including women. This paper focused on the implications of employment in the construction industry, posing particular attention to the gender dimension; it makes an attempt to link the labour conditions and labour relations observed in the work sites to the pressure to cut costs and be competitive and to the incapacity/unwillingness (corruption issue) of the State to implement labour

laws. The research seems to suggest, also, that talking about female construction workers in general may be limiting, as they proved to be very diversified.

In his study on 'Migrant Construction Workers: A Study of Sexual Behavior and Sexual Health Problems', Mohammad Akram (2012) attempted to understand the issues related to sexual behaviour and sexual health of the Migrant Construction Workers (MCWs) in India. The study was conducted in six districts of western Uttar Pradesh. A multistage stratified random sampling had been used to select the three hundred respondents. The findings suggested that the MCWs were marginalized people in urban spaces and more susceptible to sexual health problems. They were victims of multiple complications because of unstable nature of their employment, vulnerable living conditions, lack of health awareness and dearth of health care facilities. The study draws the attention of the policy makers and health planners towards the sexual health problems of the unorganized workers and concluded that immediate intervention was required for improving their situation.