Work Participation and Time-Use Pattern of Women in Rural Arunachal Pradesh

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Preface

North East Research Centre (NERC) at V.V.Giri National Labour Institue has been set up with an objective of promoting research on themes specially related to labour and employment issues pertaining to India's North Eastern Region, comprising of Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim. Identifying and involving concerned institutions and individuals who are working on similar issues was the first task before NERC. It is in this context that a National Workshop was organized during 19-20th November, 2009 at Agartala, Tripura in which invited resource persons presented papers and proposals on their ongoing and proposed research on various dimensions of labour in North Eastern States. As a follow up to this Workshop, a set of research projects were commissioned by the NERC on select and prioritized areas/themes. The present working paper by Dr. Vandana Upadhyay, titled, *'Work Participation and Time-Use Pattern of Women in Rural Arunachal Pradesh* is an output of one of these projects.

The working paper attempts to understand household work, workforce participation, and division of labour in rural Arunachal Pradesh. Using both qualitative and quantitative approach, the average time spent on household work and agricultural activities by both men and women and the gendered division of labour has been examined by the author through a time use survey. In case of Arunachal Pradesh, the time use survey has an added significance, given the relative importance of subsistence production and low levels of commercialisation of the economy. It is observed that the problems of underestimation of women's work are found to be far more serious in the State. The paper highlights that economic transformation of the State itself has generated gendered processes of exclusion and impoverishment. Although gender relations in Arunachal Pradesh is generally described as egalitarian, particularly in comparision with many other states of India, such a general portrayal, the paper has attempted to argue, not only hides the wide variations that exists among the north eastern states, but also does not pay adequate attention to the continuing and emerging disparities in various dimensions of well being, division of labour and empowerment.

I am sure that this working paper, focusing on certain unaddressed concerns of women's 'unpaid' work in India, will be of immense interest and use to policy planners, academics and other concerned actors – dealing with issues of gender, work and employment. I congratulate the author for the excellent and time bound work and thank Dr. Anoop K. Satpathy for skillfully coordinating this project for the NERC/VVGNLI.

V.P. Yajurvedi
Director General

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I. Introduction

1.1 Context of the Study

One of the fundamental aspects of gender discrimination, in almost all parts of the world, is the unequal access of women to gainful employment opportunities. The key question that needs to be addressed in the context of economic transformation of Arunachal Pradesh is the changing patterns of gender division of labour and the underlying changes in social attitudes and stereotypes. The state has undergone a significant and multi-layered transition in past decades and gender roles within and outside the household are being redefined throughout this on-going transition. Across the state there is a great deal of diversity in the pace, direction and nature of changes in gender roles. While improvements in the levels of education, greater facilities for learning and skill formation along with improvements in infrastructure have opened up new employment opportunities for a section of women in the State, the gender gap in access to new opportunities continues to remain a cause of concern.

It is important to take note of a few specificities of the process of economic transformation in this mountainous border state. Partly as a result of the legacy of the past and the geo-strategic significance of the State, the state has played a significant role in modernizing the economy. More than anywhere else, in Arunachal Pradesh, the gradual commercialisation of the economy has been perpetuated both by the state and the market forces, often acting in close collaboration with each other (Mishra 2001). Under special constitutional provisions, the State has been receiving central funds to the tune of around 70 per cent of the State's revenue and around 50 per cent of its NSDP. One of the fall-outs of this pattern of development was that access to service sector jobs in general and government jobs in particular has had an overwhelming significance for the upward economic and social mobility of households. Even otherwise, the differential access to state owned resources has acted as the main source of economic differentiation among the indigenous population (Mishra and Upadhyay 2004). Needless to add, apart from the status and position of the households in traditional hierarchical structures, access to education has been one of the key determinants of mobility in the State.

Notwithstanding the well-known problems associated with the inadequate recognition of womens' contribution in the formal data collection exercises, which is only more acute in states like Arunachal Pradesh, an attempt will be made to analyse the gender issues in the state in terms of their work in rural areas, work participation rate and well being and survival, educational attainments, employment patterns and participation in decision-making

1.2 Statement of Problem

In the tribal region of North east India women are engaged in agriculture, cooking, housekeeping, child care, fetching fuel wood and water, collection of forest produce, care of livestock, storing grains, etc. Much of the work which is of importance for the maintenance of families is largely done by women. According to anthropologists and some historians, women were the major producer of food, textiles and handicraft throughout human history and continue to provide a major labour input, in production in the small scale subsistence sector. Women's work is mostly not visible or partially accounted for in the data on workforce participation. Their work also differs according to age, gender, income, occupational group, location, size and structure of family. As women's work is mostly for self consumption, much of the work they do is not recognized as 'work' in national income statistics. Thus the present study will address this question with the help of primary data generated by the socio-economic survey as well as the time-use survey.

A great deal of study has been undertaken throughout the world on women's work, sexual division of labour, women work participation etc. Focusing mainly on the Indian rural society, various studies reveal that Indian women, more specifically the rural women, play multifarious socio-economic role both inside as well as outside the home. Rural women in our country share abundant responsibilities and perform a wide spectrum of duties in running the household and the family (like childcare, collection of fodder fuel, cooking, washing, and sewing), as well as attending to farm activities, dairy, animal husbandry and extending a helping hand in rural artisanship and handicraft (Das, 1983; Upadhyay and Mishra, 2004; Upadhyay and Mishra, 2005; Upadhyay, 2005).

Sharma, in his analysis of women's work in Northern India found that women have agricultural expertise. He notes that Women's work in these areas is considerable and can hardly be called a side activity (Sharma, 1981). A study on economic activities and work pattern of village women

in Gujarat also shows that women are typically involved in agriculture, domestic and community related activities (Gopinath and Karla, 1985). Further, a study of predominantly landless household in village Kenda in Tamil Nadu region demonstrated that women work for long and hard hour, contributing all their income, for households' maintenance in the context of substantial poverty (Mancher, 1982).

1.3 Objectives

The study is primarily aimed at understanding Women's work in rural Arunachal Pradesh in terms of household work, workforce participation and division of labour. The major objectives of the study have been set as follows:

1. To study the inter-temporal changes and regional pattern of women's workforce participation in India and in Arunachal Pradesh since 1971.
2. To study the level and inter-district variations in the work force participation in Arunachal Pradesh.
3. To study the time spent on household work by men and women, in the surveyed villages of Arunachal Pradesh
4. To investigate the prevalence of division of labour (in SNA, extended SNA and Non-SNA work) according to sex among the people of the hill and plain regions of the state.
5. To examine the impact of back ground characteristics like age, education, socio- economic status etc on time-use pattern of women on various activities.

Research questions tested or Hypothesis

The study analyses women's work in rural Arunachal Pradesh. The specific objectives tested are as follows:

1. The Female work force participation is higher in districts having low literacy, low urbanization, high ST share in population and lower per capita district domestic product and higher levels of poverty.
2. Is it true that in Jhum cultivation women work more than men?
3. The Female work force participation is higher in the villages in the hill districts compared to villages in the plain districts.
4. Does connectivity/infrastructure at the village level brings about changes in work sharing?

5. When men join non-farm work, the work burden of the women increases in the household.
6. If women work more or have more autonomy does that mean that they have more say in decision-making?
7. The overall work burden of rural women is expected to be *higher* in villages in the hill district compared to that of the plain district.

1.4 Data Base and Methodology for the Study

The study is both empirical and qualitative in nature and is based both on primary as well as secondary data. In the first stage, the districts of Arunachal Pradesh have been classified into hill and plain districts and one hill district of West Kameng from the western side and one plain district of East Siang from the eastern side is selected. Further, three villages from each district has been selected on the basis of its remoteness from the urban centers. Physical infrastructure i.e. road connectivity, has been taken into consideration, as in the state of Arunachal Pradesh, all other infrastructure facilities are closely connected to road connectivity. After selection of the villages, (one about five kilometers from the urban center with better road connectivity and the other two relatively less well-connected and more than five kilometers away from the urban center) the households have been selected on the basis of simple random sampling. The average number of household in a village in Arunachal is around fifty. In case of small villages all the households in the villages have been covered i.e. around 50 household and in case of large villages around 60 per cent of the households have been covered. One small and two large villages in each district have been selected. In total 302 numbers of households has been covered during the survey. Further, at least two members from each household have been interviewed through a detailed socio-economic structured questionnaire method.

The data on food gathering and food producing activities, income generating activities, asset holding patterns, collection of forest produce, agricultural operations etc. has been collected at the household level. Individual members of the households have been interviewed about their time allocation pattern, on the basis of a separate questionnaire. In the time-use survey, both yesterday approach and activity approaches have been used. However, information on the time spent on different activities on a normal day in the agricultural and lean period has been collected through the recall method. The time use study has meaningfully revealed the average time spent on housework and agricultural activities by men,

women and children and has throw some light on gender division of labour in rural Arunachal Pradesh.

Focused group discussions has also been undertaken to collect information regarding cultural and institutional features of the study area and also questions relating to household work, gender division of household work and land use systems were asked. Various kind of household work, including both regular and occasional work and work performed outside the homestead were also identified. Apart from the primary data, available secondary data from the Population Census, NSSO data on employment, NFHS data, Statistical Abstract of Arunachal Pradesh, District Statistical Hand Book and other publications of the Government of Arunachal Pradesh and the Directorate of Economics and Statistics have been used.

The focus of the study is basically to understand the household work, workforce participation, division of labour and women's position in rural Arunachal Pradesh.

II. Female Work Participation: Theoretical and Empirical Issues

2.1 Gender and Work: Theory and Evidence

The proportion of population engaged in 'economically productive work' is considered to be an important indicator of effective utilization of human resources. Female labour force participation has been studied not only as an indicator of the economic contribution of female labour but also as a measure of the degree to which women are integrated into the economy. Historical evidences show, that the gender relations in the societies undergo significant changes with the economic transformation of the economy. There are different views on the effect of economic development on women. According to the *integration thesis* as economic development takes place, women's opportunity to get education, to acquire skill and enter the job market expands and they become more and more involved in the social and economic life. Further, the *marginalisation thesis* argues that inspite of being an integral part of the household production in the pre-capitalist societies, development has over all increased women's social and economic marginality. Finally, the *exploitation thesis* argues that women provide cheap labour, because, sex-segregated labour market, discriminatory hiring practices and inadequate mental preparation weakens their position within the labour market and their involvement in a capitalist system becomes more harmful than beneficial (Tiano, 1987).

The proportion of women engaged in economically productive work is considered to be an important indicator of effective utilization of human resources and reflects the economic position of women in any society (Jose, 1989). They also reflect upon the fact, as to how much, women are integrated into the economy. Mathur (1994) in his study points out that in order to increase the level of per capita income and reduce the incidence of unemployment, other things remaining the same, a higher degree of work participation of the population is needed. The female labour force participation rate can serve as a proxy for a number of factors such as the degrees of physical and economic visibility of women's work, the extent of women's familiarity with their physical environment and the likelihood of their having some practical experience in farming operations and the extent to which women can be physically mobile (Agarwal, 1994).

There is rich and emerging literature on the relationship between economic development and women's work from different theoretical stand-points: such as the neo-classical, the Marxian and the feminist perspectives.

2.2 Time Allocation Pattern as an Approach to Study Female Labour

It is often observed that through out the world women work longer hours than men and hence carry the uneven share of the burden. To a great extend women's well-being across gender depends upon the unequal distribution of work and leisure. In a comparative study on time distribution among men and women in both rural and urban areas, it was found that women on an average spent 20 percent more time than men in rural areas and nearly six per cent more in urban areas. The difference may be due to various reasons, such as greater role of women in family-owned farms, her reproductive role as well as obstacles to her entry in the urban labour market. (UNDP, 1995).

In recent years, time use studies have become increasingly popular because of its prospect of measuring and valuing unpaid but productive activities, with the ultimate goal of including the value of these activities in national income and product accounts. However, the controversies surrounding the measurement and valuation of non-market work are far from over. Time use survey is emerging as an important data set at the global level. Time use survey presents a comprehensive view of human activities and reveals the details of an individual's life with a combination of specificity and comprehensiveness not achieved in any other type of

survey. Hirway, points out that time use data help in understanding the different socio-economic problems faced by an economy (Hirway, 2009). Time use data are used to understand the total economy that consists of - System of National Accounts (SNA) and non-SNA works; for instance it provides visibility to "all form of work" performed in the economy. It also provides comprehensive information on how the people spend their time on different activities, visibility to non-SNA unpaid work which constitute household upkeep, care of children etc. Such visibility of unpaid work is important particularly for women who are predominantly engaged as informal sector workers (Hirway, 2009). TUS (Time Use Survey) is also important to understand the nature and the extent of gender inequality, valuation of unpaid work and in designing the macro-economic policies

An analysis of 31 countries shows that out of the total work performed, in low income countries, women on an average work 55 per cent more than men, while in high income countries it is 51 per cent. Whereas in high income countries men spent around 67 per cent of their total work time in paid activities and around one-third in unpaid activities. In case of women, it was just the reverse. Further, the study also highlights that in low income countries more than 75 per cent of the women work in unpaid activities. Further, in a global study conducted in Russia, USA, France and U.K. it was observed that employed women in Russia spent 6.92 hours per day on household work compared to just 3.08 hrs per day spent by employed men. While in the US women spent 5.25 hours per day on household chores and men spent just 3.03 hrs. Similar to the US, women in France also spent around 5.43 hours and men around 3.42 hrs per day on household activities, whereas in London, women spent nearly 4.92 hours in comparison to men who spent only 2.7 hours per day on household task (Rose and Hanmer, 1976). According to them, 'while the level of technology affects the total volume of housework performed, its gender distribution, (regardless of economic system) seems to be remarkably constant' (Rose and Hanmer, 1976).

Hirway (1999) in her study, using time use data, observers that in many developed countries like Japan, Australia and others it was found that women spend more time on unpaid work and much less time on paid work compared to that of men. She also observed that men spent more time on leisure, hobbies and amusement compared to that of the women folk. The unequal distribution of work and leisure, among men and women deprives women of equal opportunities for their overall development and

well-being. She further points out that, even in the developed countries, women workers do not enjoy a higher status in the labour market. A time use study on Japan, shows that women are mainly (a) part time workers (b) irregular and temporary workers (c) withdrawn from the labour market very often for domestic responsibilities, and as a result, they tend to earn lower wages, have less upward mobility and in general suffer from less favourable terms of employment (Hirway, 1999).

Through out the world time use survey is considered to be an important tool for measuring female labour participation. In Japan, two major surveys on time use has been conducted, firstly, a survey on time use and leisure activities and secondly, NHK's time use survey. Mikami (1999) in his study has analysed the difference in time allocation between men and women, by adopting the stratified random sampling in a survey on time use and leisure. The study points out that in category I, which includes sleep, personal care and meals, the total time allocation of Japanese women is longer than men and as far as activity-wise is concerned, men slept longer than women, but women spent more time on personal care and meals than men. The largest difference between men and women in Japan has been found in paid and household work i.e. in the category II activities which includes commuting to and from school or work (paid), school work, house work i.e. housekeeping, nursing, child care, and shopping. It was observed that men worked longer hours in paid work than women and spent much less time on housework related activities, whereas women spent much more hours on it. Further, in category III, which included all sorts of leisure activities like, watching T.V., listening to ratio, reading news papers and magazines, rest and relaxation, studies and researches, hobbies and amusement, sports, social activities, social life etc, men spend more time than women in Japan. As far as the age distribution of both men and women in the country was concerned, it was observed that men above sixty and below twenty spent more time in category III activities compared to women of the same age group. Whereas, men in the age group 35-39 and women in the age group of 40-44 spent the maximum time in category II activities. It was also observed that young men in the age group of 25-34 years and women in the age group 40-44 spent the least amount of time on category I activities.

In another study conducted in eight villages of Nepal on the basis of time-budget data it was observed that the total working hours of women was uniformly higher compared to that of men across ethnic groups and economic classes. Also it was observed that in the rural areas the overall

work burden of women was uniformly high. Further it was also observed that women in the hill and mountainous areas worked for longer hours compared to that of the *terai* region and also the economic status of the household made no difference to women's overall work load (Acharya and Bennett, 1981). Again in another study conducted in Nepal it was found that men spent more time in the market economy as well as in migration for employment purpose, while women spent the maximum time working in family and household farms and enterprises (Acharya and Bennett, 1983).

In a study conducted during both agricultural and non-agricultural season in Uttar Pradesh, it was found that the difference in the percentage of people participating in various activities was much higher among the males compared to that of females, across the two seasons. During the off-season the participation of male was more in household activities and child care than in the harvesting season. These variations were not observed in case of female as they continued to do their respective activities irrespective of the season. On the other hand, in activities such as handicraft, home-repair and leisure, women's participation had increased. In contrast to the belief that animal husbandry is mainly a women activity, the study found that the weekly time spent by males looking after the domestic animals was higher at around 16 hours as against 9 hours in case of females. But the leisure time enjoyed by both males and females was found to be equal. The study also highlighted the fact that women spend less time in income generating activities compared to that of men, may be because of more household responsibilities or due to lack of opportunities in the job market (Khan, 1980).

The time use survey was conducted in six states of India in order to measure the paid and unpaid work of both men and women. It provided information on time spent by individuals on a daily basis and well as on weekly basis. The time use scheduled (TUS) has classified the activities into three categories, namely, SNA, extended SNA and non-SNA. The SNA activities consist of primary production activities and secondary activities with trade, business and services, whereas, the extended-SNA activities include household maintenance, care for children, sick and elderly, while the non-SNA activities include learning, social and cultural activities, mass media, personal care and self-maintenance. While men on weekly average basis spent 42 hours in SNA activities, women on the other hand spent only 19 hours in the above said activities. But in case of extended-SNA activities women spent ten times more time than men, while in non-

SNA activities, it was men who spent about 8 hours more in comparison to females. Both in rural and urban areas there was no significant change in the time use pattern for males, while in case of female participation, in SNA activities, it was found that their participation was much lower in urban areas compared to that of rural areas. This could be due to the fact that women are more involved in the agricultural activities in the rural areas which are considered as SNA activities.

If both the SNA and extended SNA activities are combined together, it is observed that the average time spent by rural female is much higher at 56.48 hours compared to that of rural male at 46.05 hours. But in case of urban areas, the difference is marginal with male working hours at 44.5 and female working hours at 45.6, though women still continue to work for longer hours. Nonetheless, the average work of women to the total work of both male and female would be 55 per cent and if extended activities are included in the economic activities, and then the contribution of women would be higher than that of men (Narashimhan & Pandey, 1999). As regard to extended-SNA activities, it was found that females spent more time compared to that of males. Females in the age group of 60 and above spend more time than those in the age group of 6-14 and 16-59. However, there has been no significant impact of education level on such activities across the six states, although some minor differences were observed.

At a disaggregate level, if we see the time use survey conducted in the states of India during 1999, we find that the maximum time spent by rural males in SNA activities was in Meghalaya, followed by Gujarat and Madhaya Pradesh, while the minimum time spent was in the state of Orissa. Similar trend was observed for females in rural areas. On the other hand, the time spent by male in the urban areas was highest in Tamil Nadu followed by Orissa and Gujarat, while in case of urban females it was highest in the state of Meghalaya followed by Haryana and Tamil Nadu. While, in case of extended-SNA activities it was the state of Gujarat, where the rural female spent the maximum time in these activities, followed by Madhya Pradesh and Orissa. The variation observed in these activities was just marginal in case of both rural and urban females. While in case of all rural males, it was observed that the average time spent was found to be highest in Meghalaya, while in case of only participants in the activities it was the state of Gujarat which was at the top followed by Tamil Nadu and Madhya Pradesh. On the other hand, the average time spent by urban males is higher than rural males in case of participants in particular activities, in the states of Tamil Nadu, Orissa, Gujarat and Haryana. It was observed

in the study that 38 per cent of the time spent across the states on SNA activities were without any payment. The unpaid activities are more in case of females at 51 per cent compared to that of males at only 33 per cent. The visibility of unpaid activities was found to be very pronounced in all the states. The time spent in unpaid activities was found to be highest in Haryana, followed by Meghalaya and Orissa, while it was the lowest in the state of Tamil Nadu.

No significant difference was found according to age and sex, in case of time spent on personal care and self maintenance. With regard to educational level, it was observed that illiterate women spent more time on these activities compared to women with better qualification. With the rise in the educational level, the time spent on these activities is declining. In another study in Tamil Nadu it was found that men spent more time in SNA activities and paid SNA work compared to that of women. On the other hand, women spent more time in extended SNA than their male counterparts (Rajivan, 1999). While in a study in Gujarat it was found that male spent more time in non-SNA activities than females (Thakar, 1999).

One of the major findings of time use studies in all the countries is that women carry a disproportionately greater work burden including SNA and non-SNA work, than men. Since women are responsible for a large part of non-SNA work, they enter the labour market already over burdened with work. This unequal sharing of work is not reflected in conventional statistics. However, a major limitation of the time-use studies is that they do not show the contribution of women in terms of value. Thus these studies have emphasized women's work burden but have not been sufficiently successful in showing women's contribution to the economy (Krishnaraj, 2005). Often the household responsibilities of women include the collection of food, water and fodder which are basically unpaid works. Along with these works women also do certain paid activities like collection of NTFPs and collection of raw materials for self-employment etc. which reinforce them to associate with forest and nature. Thus there is a need for more inclusive and holistic approach towards measuring women's overall work burden.

III. Female Work Participation in Arunachal Pradesh

3.1 Arunachal Pradesh: Basic Demographic Features

Arunachal Pradesh situated in the eastern most corner of North East India is a heterogeneous tribal state characterized by extraordinary ethnic, cultural,

religious and linguistic diversity. This predominately hilly state with an area of 83, 743 sq.km is the largest state among the northeastern states of the country. Area wise Arunachal Pradesh is 32.83 per cent of the North East and around 6.76 per cent of India as a whole. It forms a complex hill system of Shivalik and Himalayan origin and is criss-crossed by numerous rivers and streams. The state shares a total of 1630 kms of international boundary with neighboring countries; 1030 kms with China, 160 kms with Bhutan and 440 kms with Myanmar. The McMohan line defines the international boundary between India and China. Administratively, the State is divided into sixteen districts. The Capital of the State is Itanagar in Papum Pare district. Arunachal Pradesh is a fascinating state which is inhabited by 26 major tribes[2] and more than 100 sub-tribes, each having their distinct culture, dialects and customs. As per Population Census, 2011, the population of the State was 13,826,11.

As far as Arunachal Pradesh's position in terms of Human development indicators is concerned, we find that 33.6 per cent of the rural population of the state is still below the poverty line in comparison to India's 41.8 per cent in 2004-05. In terms of Human development Index, Arunachal's HDI at 0.647 is higher than that of India's at 0.605 in 2006. The Gender Development Index, i.e. the GDI of Arunachal at 0.642 is higher than India's GDI of only 0.59 in 2006. In case of other indicators like sex ratio, literacy rate and women's literacy rate, Arunachal Pradesh is below the all India rate (Table: 3.1).

Table: 3.1
Position of Arunachal Pradesh in Human Development Parameters

Parameter	Arunachal Pradesh	India	Source
(1)	**(2)**	**(3)**	**(4)**
Proportion of rural Below Poverty Line (BPL) population	33.6% (2004-05)	41.8% (2004-05)	ExpertGrouponMethodology for Estimation of Poverty, GoI, 2009

[2] These tribes are 1) Adi, 2) Apatani, 3) Bangni 4) Bokar, 5) Bori, 6) Digam Mishmi, 7) Hill Miri, 8) Hrusso (Aka), 9) Idu Mishmi, 10) Khamti, 11)Khamba, 12) Memba, 13) Khawa, 14) Miji, 15) Miju, 16) Monpa, 17) Nishing, 18) Nocte, 19) Sherdukpen, 20) Singpho, 21) Sulung, 22) Tagin, 23) Tangsha, 24) Pallibo, 25) Ramo, 26) Wangsho.

Parameter	Arunachal Pradesh	India	Source
(1)	(2)	(3)	(4)
Human Development Index (HDI) Score	0.647 (2006)	0.605 (2006)	Gendering Human Development Indices: Recasting the Gender DevelopmentIndexandGender Empowerment Measure for India, Ministry of Women and Child Development, GOI, 2009
Gender Development Index (GDI) Score	0.642 (2006)	0.59 (2006)	Same as above
Sex Ratio	920 (2011)	940 (2011)	Census 2011; http://censusindia.gov.in/2011-prov-results/prov_rep_tables.html
Literacy Rate	66.95% (2011)	74.04% (2011)	Same as above
Female Literacy Rate	59.57% (2011)	65.46% (2011)	Same as above
Infant Mortality Rate	32 (2009)	50 (2009)	http://www.censusindia.gov.in/vital_statistics/SRS_Bulletins/SRS%20Bulletin%20-%20January%202011.pdf

Source: Upadhyay, 2013

3.2 Changes in Workforce Structure: 1971-2001

The structural transformation of the Arunachal economy is manifested through an increasing diversification of the workforce, emergence of a modern non-farm economy, rapid urbanisation and gradual integration with the regional and national economy. Infact, structural transformation is a process in which the economically active population from the primary sector gradually shifts to the secondary and tertiary sectors. According to Johnnston and Nielsen it is 'the relative decline in the agricultural sector and increasing dominant position of the secondary and tertiary sectors'. (Johnnston and Nielsen, 1966). It has been observed in various empirical studies on developed economies that there has been a shift in their basic economic structure from primary to secondary and finally to tertiary sector,

in due course of time (Clark, 1940; Kuznets, 1957). This structural shift in employment has been observed both in developed and developing countries as workers move out from the agricultural to manufacturing and service sector, thereby making it the leading sector of the economy. Similar pattern in the workforce structure has been followed in Arunachal Pradesh during 1971-2001. However, in 1981, the share of workforce in the tertiary sector declined due to the shift of agriculture and allied workers to secondary sector. Table: 3.2 represents the percentage of workforce of Arunachal Pradesh engaged in primary, secondary and tertiary sectors during 1971 to 2001. Along with the changes in the structure of production, the sectoral distribution of the workers in Arunachal Pradesh has also undergone some important changes. The share of *primary sector* workers came down from 80.40 per cent in 1971 to 62.27 per cent in 2001. The share of workers engaged in the *secondary sector* increased from a negligible 0.44 per cent to 11.41 per cent during the same period, and the share of the *tertiary sector* workers went up from 19 per cent to around 36 per cent during the same period. While changes in the distribution of workers broadly follow the direction of changes in the structure of production, the pace of changes in the employment structure is much slower. Two important aspects of this changing pattern of employment in Arunachal Pradesh are, *firstly*, the pace of transformation has been much slower in the rural than in the urban areas; and *secondly*, women in general and rural women in particular, are moving out of agriculture rather at a much slower pace. Even in 2001, for example, 74 per cent of rural workers were still engaged in the primary sector. In the case of female workers, their share in primary sector was as high as 89 per cent in rural areas and 82 per cent in all areas (Upadhyay, 2012).

It has been observed in Arunachal Pradesh that the proportion of marginal workers in total female workers is much higher compared to that of their male counterparts. According to the 2001 census, around 8.13 per cent of the total female workers were marginal workers, while in case of male it was just 4.60 per cent. It is note worthy to observe that women form a substantial portion of the total marginal work force of the State (Upadhyay, 2011). In 2001, around 61.23 per cent out of the total marginal workers were female in the state. According to the NFHS-III data, in Arunachal Pradesh, the percentage of currently married women employed in the past twelve months was as high as 76.1 per cent which was higher than that of India and as well as the other north-eastern States. But their share in jobs with cash earning was only 37.0 per cent, which was lowest in comparision to other states of the North east and India as a whole. This clearly reflects the marginal nature of the female workforce. The relatively higher proportion

of females among marginal workers possibly signifies the additional constraints faced by females in entering 'productive' work as well as the patterns of household risk management where women's labour is kept as a buffer stock for bad weather to smoothen unexpected shortfalls in consumption or earnings.

Table: 3. 2
Sectoral Distribution of Workers by Industries in Arunachal Pradesh: 1971-2001

Areas		Primary				Secondary				Tertiary			
		1971	**1981**	**1991**	**2001**	**1971**	**1981**	**1991**	**2001**	**1971**	**1981**	**1991**	**2001**
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Total	Male	68.78	63.21	54.60	51.57	0.65	13.13	12.34	14.54	30.56	23.66	33.06	33.93
	Female	97.12	95.11	89.93	81.70	0.14	2.00	2.21	5.74	2.74	2.89	7.87	12.55
	Total	80.44	75.28	67.44	62.27	0.44	8.92	8.66	11.41	19.12	15.80	23.90	26.32
Rural	Male	72.30	68.00	62.34	64.59	0.55	11.85	11.09	12.18	27.15	20.15	26.57	23.23
	Female	97.38	96.10	92.61	89.04	0.11	1.74	1.87	4.47	2.50	2.16	5.52	6.49
	Total	82.92	79.08	74.13	74.14	0.36	7.87	7.50	9.17	16.72	13.06	18.37	16.69
Urban	Male	5.39	6.75	6.72	6.70	2.58	28.25	20.10	22.63	92.03	65.00	73.18	70.64
	Female	45.99	30.60	22.46	15.40	5.75	18.93	10.69	17.22	48.26	50.47	66.85	67.39
	Total	8.01	9.25	8.86	8.40	2.78	27.27	18.82	21.57	89.21	63.47	72.32	70.03

Sources: Census of India: Arunachal Pradesh 1971, 1981, 1991 and 2001

3.3 Work Participation Rate in India and North-Eastern States: 1971-2001

The proportion of population engaged in 'economically productive work' is one of the widely used indicators of human resource use. Work force participation is studied not only as a measure of the economic contribution of the labour force but also to understand the degree to which people are integrated into the economy. According to Mathur 'A higher degree of work participation by the population, ceteris-paribus, would be expected to enhance the level of per capita income and lower the incidence of unemployment in an economy' (Mathur, 1994). The extent of work participation depends upon a number of demographic, socio-economic factors ranging over the supply and demand side determinants.

As far as the work participation rate of India and north eastern states are concerned, it is found that in 1971, the proportion of both male and female workers in Arunachal Pradesh was high, but female work participation rate was nearly five-times higher than the national average. The reasons could be the labour intensive nature of the cultivation process, as well as the prevalence of shifting cultivation and family farming in the state. Inspite of the fact, that in the State, there has been a decline in the proportion of both male and female workers in total population, but till 1991 it remained above the national average. It was observed, that in 2001, female work participation rate of the state continued to be above the national average, but the male work participation rate was lower than that of the all India work participation rate at 51.93 per cent. Among the north eastern states FWPR of Manipur, Mizoram and Nagaland were higher than that of Arunachal Pradesh in 1991 as well as in 2001. On the other hand, except for Mizoram in 1991 and Mizoram, Tripura in 2001, all other states had lower male work participation rates than that of Arunachal Pradesh (Table: 3.3).

The female work Participation rate, both in the rural and urban areas of Arunachal Pradesh were higher than the national average during 1981. In fact, in the rural areas it was more than double the national average. It was also observed in the State, that the Female Work Participation rate (FWPR) in the rural areas declined in 1991 and then marginally went up in 2001, in contrast to a consistent upward shift in urban areas. During 1991-2001 there has been a significant increase in the female work participation and it remained higher than the national average.

As regard to the work participation rates of other northeastern states, it was observed that in rural areas, during 1991 and 2001, Arunachal Pradesh had a higher female work participation rates compared to states like Assam, Meghalaya and Tripura, but lower FWPR in relation to the rest of the northeastern states. In case of urban areas, the FWPR was higher in Arunachal Pradesh compared to that of Assam and Tripura during 1991 and Assam, Tripura and Nagaland in 2001. The rest of the northeastern states seem to have a higher female work participation rate during the same period. This reflects upon the fact that the urban female workforce potential is under-exploited both in comparison to other northeastern states as well as in relation to the rural areas of the state. Inspite of the fact, that women have a significant presence in agriculture and allied activities, they still seem to lag behind in the urban job market sector.

Table: 3.3
Work Participation Rate in India and the North-Eastern States: 1971-2001
(Main+Marginal)

States	YEAR	RURAL			URBAN			TOTAL		
		Person	Male	Female	Person	Male	Female	Person	Male	Female
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	1971	36.1	53.6	15.5	29.6	48.9	7.1	34.0	52.7	13.9
India	1981	38.9	53.8	23.2	30.0	49.1	8.3	36.8	52.6	19.8
	1991	40.0	52.5	26.7	30.2	48.9	9.2	37.5	51.6	22.3
	2001	41.97	52.36	30.98	32.23	50.85	11.55	39.26	51.93	25.68
Arunachal Pradesh	1971	NA	NA	NA	NA	NA	NA	57.87	63.24	51.64
	1981	53.42	58.50	47.64	41.47	60.24	11.63	52.63	58.63	45.67
	1991	47.69	53.69	40.86	36.39	54.18	11.95	46.24	53.76	37.49
	2001	46.66	51.56	41.3	33.44	47.19	16.66	43.92	50.62	36.42
Assam	1991	36.73	49.30	23.27	30.92	50.52	7.52	36.09	49.45	21.61
	2001	36.45	49.77	22.28	31.98	51.03	10.29	35.88	49.93	20.80
Manipur	1991	45.22	47.12	43.22	34.18	40.33	27.88	42.18	45.27	38.96
	2001	46.72	50.07	43.20	38.71	45.17	32.28	44.79	48.91	40.51
Meghalaya	1991	45.04	51.02	38.85	32.3	46.01	17.22	42.67	50.07	34.93
	2001	44.58	50.09	38.92	28.74	38.19	19.15	41.47	47.76	35.02
Mizoram	1991	51.19	54.92	47.11	46.23	52.63	39.37	48.91	53.87	43.52
	2001	57.22	59.52	54.73	48.09	55.32	40.50	52.70	57.45	47.63
Nagaland	1991	44.75	46.56	42.78	32.72	48.17	12.09	42.68	46.86	37.96
	2001	45.08	47.08	42.92	31.91	45.7	14.87	42.74	46.82	38.25
Tripura	1991	31.54	47.52	14.58	28.89	47.68	9.27	31.14	47.55	13.76
	2001	37.11	50.61	22.86	32.32	51.78	12.09	36.29	50.81	21.02

Sources: Visaria (1996), Census of India 2001

As regard to the male work participation rate in the state, it was observed that it was higher than the national average both in the rural and urban areas during 1991 and 2001. Apart from Mizoram, in rural areas, all other states of the region had a lower male work force participation rate compared to that of Arunachal Pradesh in 1991. In the urban areas, the MWPR for the State of Arunachal Pradesh stood at 54.18 per cent, which was the highest among all the northeastern states during 1991. The year 2001 observed

a sharp fall in the MWPR in Aunachal Pradesh; hence most of the states apart from Nagaland, Meghalaya and Manipur were above it. As regard to the total work participation rate in Arunachal Pradesh, it was found that in the rural areas most of the states from the north east had a lower WPR compared to that of Arunachal Pradesh apart from Mizoram, which had a significantly higher WPR both during 1991 and 2001 and Manipur, which had a slightly higher WPR in 2001.

As regard to the urban total work participation, inspite of the fact that it had declined in Arunachal Pradesh during 1991-2001, still it was above the national average. Also, Arunachal's urban work participation rate was higher than the states of Tripura, Assam, Meghalaya and Nagaland during the same period. But, Manipur whose urban WPR was lower than that of Arunachal Pradesh during 1991 experienced a higher WPR in 2001.

Table: 3.4
Gender Gap and Rural-Urban Gap in WPR in India and the North-Eastern States: 1991-2001

States	Year	Gender Gap in WPR			Rural-Urban Gap in WPR		
		Rural	Urban	Total	Male	Female	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
India	1971	38.1	41.8	38.8	4.7	8.4	6.5
	1981	30.6	40.8	32.8	4.7	14.9	8.9
	1991	25.8	39.7	29.3	3.6	17.5	9.8
	2001	21.38	39.3	26.25	1.51	19.43	9.74
Arunachal Pradesh	1971	-	-	11.6	-	-	-
	1981	10.86	48.61	12.96	-1.74	36.01	11.95
	1991	12.83	42.23	16.27	-0.49	28.91	11.3
	2001	10.26	30.53	14.2	4.37	24.64	13.22
Assam	1991	26.03	43.0	27.84	-1.22	15.75	5.81
	2001	27.49	40.74	29.13	-1.26	11.99	4.47
Manipur	1991	3.9	12.45	6.31	6.79	15.34	11.04
	2001	6.87	12.89	8.4	4.9	10.92	8.01
Meghalaya	1991	12.17	28.79	15.14	5.01	21.63	12.74
	2001	11.17	19.04	12.74	11.9	19.77	15.84
Mizoram	1991	7.81	13.26	10.35	2.29	7.74	4.96

States	Year	Gender Gap in WPR			Rural-Urban Gap in WPR		
		Rural	Urban	Total	Male	Female	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	2001	4.79	14.82	9.82	4.2	14.23	9.13
Nagaland	1991	3.78	36.08	8.9	-1.61	30.69	12.03
	2001	4.16	30.83	8.57	1.38	28.05	13.17
Tripura	1991	32.94	38.41	33.79	-0.16	5.31	2.65
	2001	27.75	39.69	29.79	-1.17	10.77	4.79

Sources: Calculated from Table 3.3

Table: 3.4 reveals the gender gap, as well as rural-urban gap of male and female work participation rates. The disparity between male and female participation rates tends to be much greater in urban areas of Arunachal Pradesh than the national average in 1981. As female participation rate was much lower than male participation rate in urban areas, Gender disparity was higher in urban areas than in rural areas. The gap in the WPR in the State increased in 1991, but in the urban areas it declined, though it continued to remain below the national average. But in 2001, because of upward shift in urban female WPR in the state, gender gap had narrowed down in Arunachal Pradesh.

Among the northeastern States, it was observed that except Assam and Tripura all other States had lower gaps in rural work Participation than Arunachal Pradesh. Inspite of the fact that, gender disparities in urban WPR was higher than the rural WPR in all the states of northeast, it was highest in Arunachal Pradesh apart from Assam. The year 2001 observed an upward shift in urban FWPR in the State, thereby narrowing down the gender gap, while the states of Assam, Nagaland and Tripura had a greater gender gap than the State of Arunachal Pradesh.

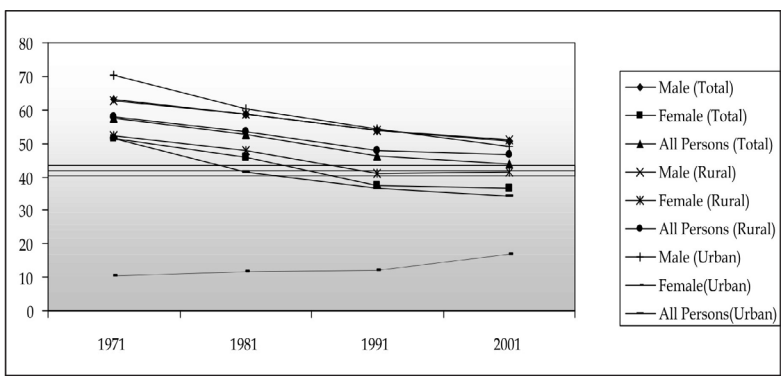
Further, in 1981, as far as the rural-urban gap in work participation was concerned, it was observed that rural FWPR was more than four times the FWPR in urban areas, whereas, the gap was more than two times the all India level. However the rural-urban gap in FWPR had steadily come down in Arunachal Pradesh, where as it has increased at the national level during 1981-2001. Apart from Nagaland, all other states of northeast India have a lower rural-urban gap in FWPR than that of Arunachal Pradesh. Whereas, the rural-urban gap in the state for male WPR was negative both in 1981 and 1991, but in 2001 it showed a positive trend and was above the national average.

3.4 Trends in Female Work Participation Rate in Arunachal Pradesh: 1971-2001

The overall work participation rate (WPR) in Arunachal Pradesh went down from around 58 per cent in 1971 to nearly 44 per cent in 2001(Figure: 3.1). The rural WPR has all along been higher than that in the urban areas. WPR in Arunachal Pradesh, during 1981-1991, for both males and females, were higher than the national average. However, the gap between the two was wider in case of female work participation rate (FWPR). In 2001, FWPR of the state was 36.45 per cent in comparison with the national average of 25.68 per cent. The gap between male and female WPRs in the state was lower than that at the national level. This can be attributed to the relatively higher percentage of ST population as well as the low levels of development in the state.

There has been a persistent decline in both male and female WPRs in rural areas, and for males in urban areas. In particular, there has been a remarkable decline in the FWPR in rural areas. The gap between male and female WPRs had been increasing during 1971-91 but in the 1990s it has declined, partly because of a sharper fall in male work participation rate during the period. As expected, gender gap in work-participation is much higher in urban than the rural areas. The FWPRs have been very low in the urban areas, although it has shown a rise from 11 per cent in 1971 to 17 per cent in 2001.

Figure: 3.1
Work Participation Rates in Arunachal Pradesh: 1971-2001



The relationship between economic development and female work participation rate has been a widely-debated issue. Often it is conceptualised in terms of a U-shaped curve. At initial stages of development a good portion of non-agricultural productive activity takes place in households where females find it easy to combine their traditional domestic responsibilities

with part-time productive endeavour. With movement to higher levels of development as the production structure gets more formalised, the scope of such informal work shrinks. A second set of arguments emphasizes the role of shrinkage in span of working age, resulting from greater consciousness of the need for learning rather than earnings in early years of life on the one hand and lowering of average exit age with the growth of organised sector on the other, in contributing to the decline of work of both males and females (Durand, 1975). At an advanced stage of development, spread of education among women, skill-acquisition as well as rising levels of living enhances the employability of women in the economy, particularly in the service sector, leading to rising work participation rates among females.

Female Work Participation Rates in Arunachal Pradesh, has always been higher than the national average (Figure: 3.2). In 2001, FWPR of the State was 36.45 per cent in comparision with the national average of 25.68 per cent. Primarily because of the greater 'productive' contribution of women, the gap between male and female work participation rates in the State was lower than that at the national level. FWPR in Arunachal Pradesh, however, has declined significantly from 51.28 per cent in 1971 to 36.45 percent in 2001, although an increase in FWPR was noticed in urban areas during 1991-2001 (Table: 3.6). The gap between male and female work participation rates, which had been increasing during 1971-91, declined during the 1990s, partly because of a sharper fall in male work participation rate during the period. As expected, gender gap in work-participation is much higher in urban than in the rural areas. In 2001, FWPR in the districts was negatively correlated with female literacy rate, while FWPR of rural women was negatively correlated with female literacy rates and positively with the share of ST population to the total population.

Figure: 3.2
FWPR in Arunachal Pradesh and India: 1971-2001

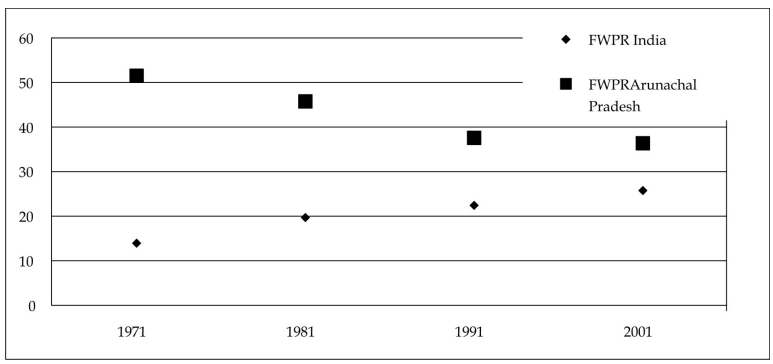


Table: 3.6
Work Participation Rates in Arunachal Pradesh and India: 1971-2001
(Percentages)

Arunachal Pradesh		**1971**	**1981**	**1991**	**2001**
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
All Populations	Male	63.14	58.63	53.76	50.69
	Female	51.28	45.67	37.49	36.45
	Total	57.65	52.63	46.24	43.97
Rural	Male	62.78	58.50	53.69	51.13
	Female	52.27	47.64	40.86	41.33
	Total	57.88	53.42	47.69	46.47
Urban	Male	70.32	60.24	54.18	48.99
	Female	10.58	11.62	11.95	16.69
	Total	51.57	41.47	36.39	34.19
India					
All Populations	Male	52.7	52.6	51.6	51.93
	Female	13.9	19.8	22.3	25.68
	Total	34.0	36.8	37.5	39.26
Rural	Male	53.6	53.8	52.5	52.36
	Female	15.5	23.2	26.7	30.98
	Total	36.1	38.9	40.0	41.97
Urban	Male	48.9	49.1	48.9	50.85
	Female	7.1	8.3	9.2	11.55
	Total	29.6	30.0	30.2	32.23

Note: (i) Work Participation Rates = {Total Workers (Main + Marginal) / Total Population} ×100

(ii) Figures for 2001 are based on provisional population totals.

Source: Census of India, 2001

Female Literacy and Female Work Participation

The inter-district variations in FWPR, to some extent can be explained through differences in levels of development. In 2001, FWPR in the districts was found to be negatively correlated with female literacy rate and the percentage of urban population to total population. In 1991 and 2001 it was found to be positively correlated with the share of ST population in total population. In fact among the ST population, FWPR was found to be higher than that among the total population, particularly in rural areas.

3.5 Inter-district Variations in Work Participation Rate: Male and Female (WPR)

As far as the inter district variation in work participation rate in the state of Arunachal Pradesh is concerned, it has been observed that wide variation exists across districts in terms of gender as well as the place of residence. The inter-district variations in work participation rates have been presented in Tables 3.7 and 3.8. In 2001, the overall WPR varied from 56.31 per cent in Tawang district to 36.32 per cent in Papum Pare district. In urban WPR the highest was recorded in Tawang, but East Siang had the lowest overall WPR. In terms of rural WPR, Tawang and Papum Pare were at the top and the bottom respectively. So far as female work participation rates are concerned, in 2001 Tawang, closely followed by Tirap had the highest FWPR, while Papum Pare the lowest. In case of urban FWPRs, which were significantly below those in rural areas in all the districts, East Kameng was at the top while Lohit had the lowest value. The rural FWPR, which shows a great deal of inter-district variations, was highest in Tirap and lowest in Papum Pare. So far as the gender gap in work participation was concerned, West Kameng had the highest and Lower Subansiri the lowest gap in overall work participation. The gender gap in work participation was considerably lower in rural than in urban areas. West Kameng, followed by Lohit, had the highest gender gap in rural WPR while Lower Subansiri and Tirap had the lowest gender gap. The gender gap in WPR was significant in urban areas - it was the highest in Tirap and Changlang and was the lowest in East Kameng and Lower Subansiri. So far as the determinants of inter-district variations in overall WPR are concerned, it is found that WPR is negatively correlated with literacy in 1991 as well as in 2001[3].

Table: 3.7
Inter-District Variations in Total WPR in Arunachal Pradesh: 1971-2001

Districts	MWPR				FWPR				TWPR			
	1971	1981	1991	2001	1971	1981	1991	2001	1971	1981	1991	2001
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Tawang	69.43	61.04	61.71	65.25	53.46	41.69	48.38	45.94	62.31	52.11	55.61	56.77
West Kameng			55.88	58.46			29.72	29.58			44.08	46.05
East Kameng		63.8	53.98	48.52		51.80	47.43	42.08		57.97	50.77	45.33

[3] The results of the regression analysis are as follows: For 1991, WPR91= 65.623 – 0.459 Lit91* (-6.030), R2 = 0.802, Adj R2 = 0.780, N= 11, and for 2001, WPR01= 67.322 – 0.420 Lit01* (-3.463), R2 = 0.522, Adj R2 = 0.478, N= 12; where * implies significance at 1 per cent level and figures within the brackets are t-values.

Papum Pare	62.61	59.03	51.78	46.6	59.62	50.77	26.31	24.74	61.17	55.15	40.22	36.24
Lower Subansiri			53.21	47.37			46.89	44.28			50.12	45.84
Upper Subansiri		56.01	51.37	44.07		52.65	42.78	36.22		54.36	47.38	40.23
West Siang	61.38	53.28	50.20	47.08	51.54	43.89	35.05	34.85	56.78	48.80	43.14	41.24
East Siang		56.56	52.42	48.70		42.17	34.99	34.56		49.95	44.35	41.97
DibangValley	64.14	68.33	56.11	52.26	40.95	47.25	32.65	34.49	54.03	59.94	45.77	44.17
Lohit		59.29	55.31	51.33		34.49	30.09	31.16		48.42	44.12	42.03
Changlang	59.87	57.38	53.15	52.77	48.29	47.04	36.71	42.41	54.44	52.58	45.53	47.85
Tirap			55.85	52.05			47.08	45.21			51.79	48.79
Arunachal Pradesh	63.24	58.64	53.76	50.62	51.64	45.67	37.49	36.42	57.87	52.63	46.24	43.92

Note: MWPR=male work participate rate; FWPR=Female work participation rate; TWPR=total work participation rate

Sources: Census of India: Arunachal Pradesh, 1971; 1981; 1991; 2001

Table: 3.8
District-Wise Combined Work Participation Rates in Arunachal Pradesh (Rural + Urban):1991-2001

Districts	1991			2001		
	Total	Male	Female	Total	Male	Female
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Tawang	55.61	61.71	48.38	56.31	64.55	45.71
West Kameng	44.08	55.88	29.72	46.09	58.40	29.69
East Kameng	50.77	53.98	47.43	45.42	48.63	42.76
Papum Pare	40.22	51.78	26.31	36.32	46.71	24.79
Lower Subansiri	50.12	53.21	46.88	46.08	47.63	44.50
Upper Subansiri	47.38	51.37	42.78	40.22	44.17	36.12
West Siang	43.14	50.20	35.05	41.30	47.07	34.95
East Siang	41.24	49.94	31.31	38.45	45.41	31.01
Upper Siang	52.41	58.64	44.83	51.30	57.34	44.17
Dibang Valley	45.77	56.11	32.65	44.31	52.53	34.51
Lohit	44.12	55.31	30.09	42.04	51.38	31.16
Changlang	45.53	53.15	36.70	47.88	52.82	42.43
Tirap	51.79	55.85	47.08	48.84	52.13	45.23
Arunachal Pradesh	46.24	53.76	37.49	43.97	50.69	36.45

Note: Work participation Rates has been calculated for total workers which includes both Main and Marginal Workers.

Source: Census of India, 2001

At a disaggregated level, in 2001 the district of Tawang, closely followed by Tirap had the highest FWPR, while Papum Pare the lowest. In case of urban female work participation rates, East Kameng is at the top while Lohit has the lowest value. The rural FWPR, which shows a great deal of inter-district variations, is highest in Tirap and lowest in Papum Pare. So far as gender gap in work participation is concerned, West Kameng has the highest and Lower Subansiri has the lowest gap in overall work participation. Gender gap in work participation is considerably lower in rural than in urban areas. West Kameng, followed by Lohit, has the highest gender gap in rural WPR while Lower Subansiri and Tirap have the lowest gender gap. Gender gap in WPR is significant in urban areas - it is highest in Tirap and Changlang and lowest in East Kameng and Lower Subansiri.

So far as the inter-temporal change in FWPR at the district level is concerned, during 1981-91, all the districts had registered a decline in FWPR with undivided Dibang Valley and Lower Subansiri registering the highest declines. During 1991-2001 FWPR declined in 10 districts, with Upper Subansiri and East Kameng showing the highest declines. Among the three districts, which have shown an increase in FWPR, the increase was highest in Changlang followed by Lohit and Dibang Valley.

3.6 Sopher's Index of Disparity in Male and Female Work Participation Rate

(All workers (main+marginal), Main Workers and Marginal workers)

As far as the total work participation for all workers (main+marginal) is concerned we find that from 1971 to 1991 there has been an increase in disparity between the male and female WPR for the State of Arunachal Pradesh as a whole. But in the year 2001, we observe that the disparity in WPR has declined. At a disaggregate level we find that the disparity in WPR between male and female has increased during 1991 and 2001 in the districts of Tawang, West Kameng, East Kameng and Upper Subansiri, while in the rest of the districts there has been a decline in the disparity during the same period.(Table: 3.10). It is also observed that in the district Tawang, there has been a continuous increase in disparity since 1971 onwards (Table: 3.11)

Table: 3.10
Sopher's Index of Disparity in Work Participation Rate in Arunachal Pradesh: All Workers (main+marginal) for 1991 and 2001

District Wise Total Work Participation Rate for 2001 and 1991						
	MWPR	FWPR	Disparity Index	MWPR	FWPR	Disparity Index
Districts	2001			1991		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Tawang	65.25	45.94	0.2106	61.71	48.38	0.1457
West Kameng	58.46	29.58	0.3765	55.88	29.72	0.3466
East Kameng	48.52	42.08	0.0799	53.98	47.43	0.0752
Papum Pare	46.6	24.74	0.3328	51.78	26.31	0.3629
Lower Subansiri	47.37	44.28	0.0380	53.21	46.89	0.0732
Upper Subansiri	44.07	36.22	0.1065	51.37	42.78	0.1039
West Siang	47.08	34.85	0.1640	50.2	35.05	0.1979
East Siang	48.7	34.56	0.1878	52.42	34.99	0.2240
DibangValley	52.26	34.49	0.2298	56.11	32.65	0.3008
Lohit	51.33	31.16	0.2720	55.31	30.09	0.3342
Changlang	52.77	42.41	0.1245	53.15	36.71	0.2068
Tirap	52.05	45.21	0.0808	55.85	47.08	0.0998
Arunachal Pradesh	50.69	36.45	0.1828	53.76	37.49	0.2024

Note: i) MWPR and FWPR = Male andFemale work participation rate ii) Disparity Index is modified Sopher's Index

Source: Census of India, 2001 and 1991

Table: 3.11
Sopher's Index of Disparity in Work Participation Rate in Arunachal Pradesh: All Workers (main+marginal) for 1971 and 1981

District Wise Total Work Participation Rate for 1981 and 1971						
Districts	MWPR	FWPR	Disparity Index	MWPR	FWPR	Disparity Index
	1981			1971		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Tawang	61.04	41.69	0.2222	69.43	53.46	0.1636
West Kameng						
East Kameng	63.8	51.8	0.1272			
Papum Pare	59.03	50.77	0.0902	62.61	59.62	0.0306
Lower Subansiri						
Upper Subansiri	56.01	52.65	0.0369			

West Siang	53.28	43.89	0.1111	61.38	51.54	0.1057
East Siang	56.56	42.17	0.1690			
DibangValley	68.33	47.25	0.2247	64.14	40.95	0.2633
Lohit	59.29	34.49	0.3058			0.0000
Changlang	57.38	47.04	0.1167	59.87	48.29	0.1278
Tirap						
Arunachal Pradesh	58.63	45.67	0.1466	63.14	51.28	0.1264

Note: i) MWPR and FWPR = Male andFemale work participation rate ii) Disparity Index is modified Sopher's Index

Source: Census of India, 1971 and 1981

As regard to disparity in the total WPR of male and female main workers is concerned, we find that for the State of Arunachal the disparity has increased during the period 1991 and 2001 as well as during 1971 and 1981. But during the period 1981 and 1991 there has been a decline in the disparity. At a disaggregate level we find that in all the districts the disparity in WPR has increased during the period 1991 to 2001 among the main workers (Table: 3.12 and 3.13).

Table: 3.12
Sopher's Index of Disparity in Work Participation Rate in Arunachal Pradesh: Total Main Workers for 1991 and 2001

District Wise Total (Main) Work Participation Rate for 1991 and 2001						
Districts	**MWPR**	**FWPR**	**Disparity Index**	**MWPR**	**FWPR**	**Disparity Index**
	2001			**1991**		
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Tawang	57.25	34.38	0.2860	61.47	47.88	0.0678
West Kameng	52.80	19.98	0.5094	55.64	28.67	0.2135
East Kameng	45.92	36.14	0.1307	53.90	45.5	0.0492
Papum Pare	42.52	19.23	0.4045	51.66	25.84	0.2311
Lower Subansiri	40.82	34.18	0.0948	52.91	46.02	0.0407
Upper Subansiri	42.29	33.04	0.1319	51.34	38.54	0.0886
West Siang	42.38	27.37	0.2293	50.16	34.71	0.1172
East Siang	44.74	28.14	0.2454	52.12	33.91	0.1362
DibangValley	47.54	26.22	0.3152	55.79	32.14	0.1735
Lohit	47.56	21.41	0.4153	54.88	25.73	0.2494

Changlang	47.24	30.16	0.2409	52.93	32.56	0.1546
Tirap	47.74	38.88	0.1137	55.50	45.30	0.0585
Arunachal Pradesh	46.03	28.30	0.2585	53.52	35.56	0.1273

Note: i) MWPR and FWPR = Male andFemale work participation rate ii) Disparity Index is modified Sopher's Index

Source: Census of India, 2001 and 1991

Table: 3.13
Sopher's Index of Disparity in Work Participation Rate in Arunachal Pradesh: Total Main Workers for 1971 and 1981

District Wise Total (Main) Work Participation Rate for 1971 and 1981						
Districts	**MWPR**	**FWPR**	**Disparity Index**	**MWPR**	**FWPR**	**Disparity Index**
	1981			**1971**		
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Tawang	60.43	39.36	0.2472	67.54	56.43	0.1130
West Kameng				71.51	40.47	0.3412
East Kameng	62.78	47.47	0.1673	67.53	60.46	0.0706
Papum Pare	58.39	46.5	0.1338	60.93	53.29	0.0814
Lower Subansiri				63.08	63.08	0
Upper Subansiri	52.95	46.66	0.0731	62.72	57.99	0.0487
West Siang	52.94	43.24	0.1156	61.26	50.67	0.1143
East Siang	54.84	35.2	0.2476			
DibangValley	63.94	42.6	0.2396	67.87	56.66	0.1137
Lohit	58.32	27.56	0.4108	62.9	35.76	0.3236
Changlang	56.35	38.96	0.2099	59.55	39.4	0.2376
Tirap				60.12	54.63	0.0583
Arunachal Pradesh	57.42	40.55	0.1996	63.14	51.28	0.1264

Note: i) MWPR and FWPR = Male andFemale work participation rate ii) Disparity Index is modified Sopher's Index

Source: Census of India, 1971 and 1981

As regard to disparity in the total WPR of male and female marginal workers is concerned, we find that for the State of Arunachal the disparity has increased during the period 1981 and 1991 while there has been a slight decline during 2001. The negative value of the disparity index,

indicates that the over all female work participation has been quite high in the marginal category during 1981 to 2001compared to that of men. At a disaggregate level also, we find that nearly in all the districts the disparity in WPR has increased during the period 1981 to 2001 among the marginal workers (Table: 3.14).

Table: 3.14
Sopher's Index of Disparity in Work Participation Rate in Arunachal Pradesh: Total Marginal Workers for 1981, 1991 and 2001

District Wise Total (Marginal)Work Participation Rate for 1981, 1991 and 2001									
Districts	**MWPR**	**FWPR**	**Disparity Index**	**MWPR**	**FWPR**	**Disparity Index**	**MWPR**	**FWPR**	**Disparity Index**
	2001			**1991**			**1981**		
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**
Tawang	8	34.38	-0.6974	0.23	0.5	-0.3378	0.61	2.33	0.4093
West Kameng	5.66	19.98	-0.5810	0.25	1.04	-0.6208	0	0	
East Kameng	2.6	36.14	-1.2238	0.08	1.93	-1.3865	1.01	4.32	0.3522
Papum Pare	4.08	19.23	-0.7082	0.12	0.47	-0.5936	0.64	4.27	0.1575
Lower Subansiri	6.54	34.18	-0.7851	0.3	0.86	-0.4585	0	0	
Upper Subansiri	1.77	33.04	-1.3456	0.04	4.24	-2.0345	3.07	5.99	0.6948
West Siang	4.7	27.37	-0.8187	0.04	0.33	-0.9170	0.34	0.65	0.7170
East Siang	3.96	28.14	-0.9087	0.3	1.08	-0.5580	1.72	6.97	0.3658
DibangValley	4.72	26.22	-0.7953	0.32	0.51	-0.2028	4.39	4.65	0.9736
Lohit	3.77	21.41	-0.7951	0.44	4.35	-1.0036	0.97	6.93	0.1160
Changlang	5.52	30.16	-0.7963	0.22	4.14	-1.2831	1.03	8.08	0.0699
Tirap	4.31	38.88	-1.0396	0.35	1.78	-0.7094	0	0	
Arunachal Pradesh	4.59	28.3	-0.8461	0.24	1.92	-0.9067	1.22	5.13	0.3565

Note: i) MWPR and FWPR = Male andFemale work participation rate ii) Disparity Index is modified Sopher's Index

Source: Census of India, 1981, 1991 and 2001

3.7 Rural-Urban Gap in Female Work Participation Rate

The female WPR in all the districts of Arunachal Pradesh has always been lower in the urban areas than in rural areas of the state. The undivided district of Lower Subansiri registered the highest difference in work participation rate during 1981, where the FWPR in rural areas was 55.05 per cent and 12.9 per cent in urban areas. The lowest difference was registered in the undivided district of West Kameng, followed by West Siang. While in 1991, the FWPR was found to be highest in the district of Tirap followed by Lower Subansiri and minimum in the district of West

Kameng. The over all decline in the rural-urban gap in the percentage share of female workers was highest in West Kameng district followed by East Kameng. Further, even in 2001 it was observed that the gap in FWPR between the two segments was highest in Tirap district, while it was lowest in Papum Pare district. Apart from Dibang Valley district, all other districts have shown a decline in rural-urban gap with regard to FWPR during 1991-2001. The district of Papum Pare has experienced the maximum decline in the gap while the minimum has been experienced by the district of East Siang. The main reason has been that the decade of 1991-2001 has registered a sharp increase in the urban WPR of males compared to that of rural areas. Infact, apart from the district of Papum Pare and West Kameng, the huge differences in the rural and urban WPR continued in all the districts.

Table: 3.15
District-Wise Rural-Urban Gap in WPR: 1971-2001

Districts	**MALE**			**FEMALE**			**TOTAL**		
YEARS	**1981**	**1991**	**2001**	**1981**	**1991**	**2001**	**1981**	**1991**	**2001**
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**
Tawang			62.21	28.55	0	31.37	12.2		46.4
West Kameng	1.72	1.7	11.2		15.75	13.71		7.01	13.33
East Kameng	0		5.58			27.08			15.71
Papum Pare	-9.82	-2.48	-6.21	42.15	21.18	8.22	9.73	7.96	0.34
Lower Subansiri		1.2	3.84		37.36	26.89		16.52	14.83
Upper Subansiri			1.91			26.05			13.13
West Siang	-6.6	-3.68	-5.32	28.96	26.05	23.4	5.06	7.13	6.76
East Siang	5.2	0.54	3.31	38.71	26.38	25.93	17.98	11.08	13.89
DibangValley		6.46	4.15		24.57	26.21		12.91	13.33
Lohit	1.71	-1.73	4.47	31.11	26.99	25.34	12.32	8.76	13.59
Changlang			-0.12			31.21			13.2
Tirap		-6.53	-4.07		41.25	39.36		12.39	15.34
Arunachal Pradesh	-1.76	-0.49	4.37	36.02	28.92	24.64	11.94	11.3	13.22

Sources: Calculated from the Previous Tables.

3.8 Inter-District Variations in WPR (Correlation with other variables)

During 1971-2001, the inter-district variation in the work participation rate in the state of Arunachal Pradesh was much higher in case of females than

males for both main-plus-marginal workers as well as for main workers. While in case of marginal workers, the coefficient of variations is higher both for rural and total male work participation rates both in 1981 and 2001, whereas in 1991 the coefficient variations of MWPR for marginal workers in urban areas is higher than that of female work participation in the same year.

If coefficients of variation between 1991 and 2001 are compared it is found that Coefficient variation of MWPR in 2001 has increased for main-plus-marginal workers in rural areas of the state. Whereas, in case of FWPR, though the variations have increased in rural segment, it has gone down at the total level i.e. rural-plus-urban level. Inspite of the fact that Coefficient Variation for male main workers increased more than female work participation rate during 1991-2001, it ranged between 5 and 10 per cent in case of total and 6 to 19 per cent in case of rural areas. During the same period the variations in the FWPR is relatively high and the coefficient of variation ranged between 22 to 23 per cent for all areas and 18 to 24 per cent for rural areas. On the other hand, coefficients of variation for both male and female marginal work participation rate have come down sharply during this period in rural as well as in all areas. Further, even in 1991 and 2001 lower coefficients of variation are seen in both the rural and urban segments across the districts for male and female WPR in main-plus-marginal category and main category with the exception of rural main-plus-marginal WPR, which is higher than urban male WPR in 2001. The maximum variation in male WPR during 2001 is seen in rural areas. Thus, the reduction in the variations of FWPR for main-plus-marginal workers and very insignificant increase of it for main workers can be attributed to more absorption of females in the labour market across the districts. To sum up, the coefficient of variation for FWPR in the main-plus-marginal criterion is lower than the C.V. of main activity. Thus the inter-district disparities in female work participation have declined in the state during the period 1991-2001. Further, in 1991 coefficient of variation for ST female participation rate was 13.8 per cent, which was less than the variation in the over all female participation rate of the State. On the other hand, coefficients of variation for ST male and total participation rates were higher than the over all male and total participation rates.

Table: 3.16
Coefficients of Variations: 1971-2001

Years	Total				Rural				Urban			
	N	MWPR	FWPR	TWPR	N	MWPR	FWPR	TWPR	N	MWPR	FWPR	TWPR
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Main+ Marginal												
1971	5	5.8	13.5	6.6	-				-			
1981	9	7.6	12.8	7.5	9	7.9	11.4	6.7	5	9.3	40.4	12.45
1991	12	5.6	20.8	9.3	12	6.0	16.2	8.0	8	6.5	20.3	5.1
2001	12	11.3	18.4	11.6	12	19.9	17.6	15.1	12	18.9	23.6	13.3
Main												
1971	11	6.1	17.7	8.0	12	6.2	15.9	7.9				
1981	9	6.9	15.8	7.6	9	7.1	14.8	7.0	5	9.1	40.4	12.0
1991	12	5.5	22.2	9.6	12	5.9	18.2	8.6	8	6.7	20.7	5.6
2001	12	10.1	22.4	10.6	12	18.6	24.2	15.0	12	18.8	24.5	13.1
Marginal												
1981	9	87.9	48.4	47.2	9	85.3	49.1	46.9	5	129.6	49.8	75.7
1991	12	57.6	88.9	77.2	12	63.4	89.9	79.5	7	222.7	166.7	140.2
2001	12	36.1	33.6	32.7	12	45.0	32.5	34.9	12	49.2	69.5	56.3

Note: N= No. of districts in the respective years; MWPR=Male Work Participation Rate; FWPR=Female Work Participation rate; TWPR=Total Work Participation Rate

3.9 Female Work Participation Rate in Arunachal Pradesh: Key Findings

It has been observed that in 1981 the work participation rate of both male and female workers has been declining in the rural areas, although the female participation rate in rural areas has increased during 1991-2001. On the other hand, during the same time period the proportion of urban male workers has been consistently declining in contrast to female workers. Further, it is also observed that the FWPR in urban areas increased marginally in the first decade, but in the subsequent years is increased sharply, especially during the period 1991-2001. On the other hand, we observe that there has been a significant decline in total work participation rates both in rural and urban areas of the state. Thus we see that the over all MWPR and the FWPR has been declining during the last few decades, and the fall in the WPR has been sharper for females during

the decade 1981-91 compared to other decades. Hence we conclude by saying that the total work participation has been declining since 1971. As female work participation rate in the state is an important determinant of the total work participation rate, hence the decline is relatively sharper during the decade 1981-91.

As regard to the main activities, it was observed that both male and female work participation rate in the rural areas has been declining since 1971 and the deceleration has been more prominent during the decade 1971-81. Further, it is also seen that in urban areas of the State the male work participation rate has come down, whereas, the female work participation rate has risen and the rise is more significant during the decade 1991-2001. On the other hand, in case of main activity, the total WPR for both male and female has been decreasing and the fall is more pronounced during the decade 1971-81 and 1991-2001. This drop in work participation rate has taken place in the background of spread of education as well as urbanization in the State.

Inspite of the fact that there has been a steep fall in the proportion of rural marginal workers in the state during 1981-91, a significant upward shift of the marginal workers had been observed in 2001. The reason could be the seasonal nature of rural employment and the conceptual changes in work in the census of 2001. Even in the urban areas, the marginal work participation rate has risen, but it is less than that of the rural areas. In fact, the upward shift in the percentage of urban total workers during this period could be because of a rise in the number of casual workers in the informal sector as well as an increase in self-employed and part-time workers. Thus, the steep increase in total marginal work participation rate could be due to spread of education as well as shift of engagement in domestic activity and increase in part time jobs.

IV. Socio-Economic Profile of the Study Area

4.1 Profile of the Surveyed Villages

The present study basically highlights the working pattern of women in rural Arunachal. The study area covers two sub-division of the State, one which is a hilly area and the other which is a plain area. Based on both qualitative and quantitative techniques, household level survey is conducted in six villages from the two districts to gather information. A brief profile of the selected districts and villages is also discussed in this context.

In the first stage, the districts of Arunachal Pradesh have been classified into plain and hill districts and one hill district of West Kameng from the western side and one plain district of East Siang from the eastern side is selected. As already discussed earlier, the districts and the villages studied were selected so as to represent the diversity within the state and within the districts, in terms of geographical location, levels of infrastructural development and remoteness from the urban centres. The three villages in East Siang district are- Telam, Potte and Remi, while in West Kameng district they are Shergaon, Khellong and Barchipam respectively. In the district East Siang, Telam village under Nari block is dominated by the Galo tribe, having 52 households with a total population of 550. It is about 13 km away from the district headquarter of Pasighat. Village Potte, which is about 5 km away from the nearest town, is also inhabited by the Galo tribe. The total population of the village is 526 with 55 households. The religion practiced by majority of the population is this village is Christianity. The village Remi is inhabited by the Adi tribe – which is one of the major tribe of the State of Arunachal Pradesh. It is under Ruksin block and is about 18 km away from the nearest town. The total population of the village is 650 with 60 households. As regard to the district West Kameng, village Shergaon is about 60 km away from the district headquarter (Bomdila) and 38 km away from the nearest town Kalaktang. It has 141 household with a total population of 700, mainly inhabited by the Sherdukpen tribe – a Buddhist tribe of the State. The village Barchipam is also a Buddhist village inhabited by the Monpa tribe with a total of 100 household and having a population of about 600. Dirang is the nearest town, which is about 12 kms away from village Barchipam. The village is characterized by poor infrastructure such as no proper medical facilities, irregular supply of electricity and no proper drinking water facilities, etc. Likewise, village Khellong also lacks the basic infrastructure facilities. It is inhabited by the Miji (Sajolong) tribe having a total of 92 households with a population of 390, situated at a distance of 6.5 km away from the nearest town of Nafra. As far as the infrastructure is concerned, the villages in East Siang district are better placed compared to the villages of West Kameng district. The area is blessed with natural climatic conditions, which is favourable for agriculture and horticulture production, and thus helps in a big way to sustain the livelihoods of the people of the region (Table: 4.1).

Table: 4.1
Distribution of Sample Households

Districts	Villages/ Towns	Location (Approximate Distance From District Head Quarter In Km)	Total Number of Households	Total Households Surveyed	Percentage of Households Surveyed
(1)	(2)	(3)	(4)	(5)	(6)
East Siang (Plain District)	Telam (I)	13 Km	52	52	100
	Potte (II)	5 Km	52	45	86.54
	Remi (III)	18 Km	60	54	90
West Kameng (Hill District)	Shergaon (IV)	60 Km	141	50	35.46
	Khellong (V)	6.5 Km	92	51	56.67
	Barchipam (VI)	12 Km	100	50	50

Note: Village I = Telam, Village II = Potte, Village III = Remi, Village IV = Shergaon, Village V = Khellong and Village VI = Barchipam.

Source: Field Survey, 2011-12

4.2 Basic Demographic Characteristics of the Surveyed Villages

Table: 4.2 presents the household profile of village-I, II and III of East Siang district and of Village IV, V and VI of West Kameng district[4]. The survey was conducted in 302 households, 151 in East Siang and 151 in West Kameng districts. An attempt was made to cover more than fifty per cent of the households in all the villages. As reflected from the table, we find that the proportion of the sample households in village-I i.e. Telam, is 34.4 per cent of the total households surveyed in East Siang district, while it is 29.8 per cent for village-II, i.e. Potte and 35.8 per cent for village-III, i.e. Remi. In case of West Kameng district, the proportion of households in village-IV is 33.1 per cent of the total household surveyed in West Kameng district, while it is 33.7 per cent in case of village-V and 33.1 per cent in case of Village VI. Of the total sample households, 6.60 per cent are female headed. The collection of data on the female-headed household has been based on the conventional definition of 'headship' on which the primary responsibility of the household for the economic maintenance of the family falls. It is being argued that female-headed households are less well off than male-headed households because of their lesser control over resources, lower incomes, lower level of literacy and

[4] Village I, II, III, IV, V, VI refers to Telam, Potte, Remi, Shergaon, Khellong and Barchipam respectively.

education (Agarwal, 1986; Varghese, 1990). But some studies have found little evidence on female-headed households being significantly poorer than male-headed household (Dreze and Srinivasan, 1995). Among the two districts, the West Kameng district with 8.6 per cent has a higher percentage of female headed household compared to that of East Siang where it is 4.9 per cent. At a disaggregate level, it is village-VI with 10.0 per cent followed by village-V with 9.8 per cent, both in West Kameng district, which has the highest percentage of female headed households. While the lowest percentage of female headed household is found in East Siang district in village-III, where there are no female headed households. Thus we see, that with regard to female headed households (FHH), it was observed that apart from one village, all other villages had less than 10 percent of FHH, there by indicating that men still play a dominant role in the tribal households, of Arunachal Pradesh. The average household size has been estimated to be 5.2 for both the districts. As regard to the percentage of household having children less than 5 years, it was observed that it was less than 20 per cent for all the villages surveyed, varying from 14.9 per cent to 17.9 per cent. The percentage of household having less than five years of children has been found to be highest in village VI at 40.0 per cent, followed by Village V at 29.41 per cent. In the surveyed villages of the plain district of East Siang, it was found that in village I out of 52 households, 10 households had children less than five years, while in village II and III out of 45 and 54 households only four and six households had children less than Five years respectively. On the other hand in the hill district of West Kameng, in village IV out of 50 households, 08 households had children below five years, while in village V and VI out of 51 and 50 households, 15 and 20 households had children under five years. Various empirical studies have shown that the presence of children under 5 years of age has had a negative effect on women's work and employment.

Table: 4.2
Demographic Characteristics of the Surveyed Villages

Districts	Villages	No. of Household Surveyed	Number of Respondents	Average Household Size	Percentage of Female Headed Household	Percentage of Household Having Children less than 5 Years
(1)	(2)	(3)	(4)	(5)	(6)	(7)
East Siang (Plain District)	I	52	104	4.7	5.8	19.23
	II	45	90	5.2	8.9	8.89
	III	54	108	5.7	0.0	11.11
	Village Total	151	302	5.2	4.9	13.25

West Kameng (Hill District)	IV	50	100	5.2	6.0	16.00
	V	51	102	5.1	9.8	29.41
	VI	50	100	5.1	10.0	40.00
	Village Total	151	302	5.2	8.6	28.48
ALL		302	604	5.2	6.6	20.86

Note: Villa.ge I = Telam, Village II = Potte, Village III = Remi, Village IV = Shergaon, Village V = Khellong and Village VI = Barchipam.

Source: Field Survey, 2011-12

In terms of various infrastructural facilities, it was observed that there exist considerable inter-district as well as inter-village differences in the study area. Although there are variations across various indicators, but by and large the villages in the district of East Siang are much better off compared to the villages of West Kameng in terms of physical infrastructure, schools, bus stop, fair weather roads and primary health centers.

Table: 4.3

Selected Characteristics of the Surveyed Villages

Sl. No	**Characteristics**	**Districts**					
		East Siang			**West Kameng**		
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
1	Name of the Circle	Seren	Seren	Ruskin	Shergaon	Nafra	Dirang
2	Name of the Villages	**Village-I**	**Village-II**	**Village-III**	**Village-IV**	**Village-V**	**VillageVI**
		Telam	Potte	Remi	Shergaon	Khellong	Barchipam
3	Major Tribe	Galo	Galo	Adi	Sherdukpen	Miji	Monpa
Availability of Infrastructural Facilities							
1	Bus Stop	0	0	0	0	0	0
2	Pucca Road	Less than 1km	Less than 1 km	Semi Pucca less than 4 km	Less than 3 km	0	0
3	Fair Weather Road	0	0	0	0	0	0
4	Primary School	1	2	1	1	1	0
5	Middle School	1	1		0	0	0
6	Secondary School	0	0	1	1	0	0
7	Higher Secondary School	0	1	0	1	0	0
8	Post Office	0	0	0	0	0	0
9	Fair Price Shop	1	2	0	1	0	0
10	Market	0	0	0	0	0	0

11	Primary Health Centre	0	1	1	1	1	0
12	Community Health Worker	0	0	0	2	1	1
13	Village Level Worker	0	0	0	0	0	0
14	HH having Electricity	75%	80%	80%	100%	70%	90%

Note: Village I = Telam, Village II = Potte, Village III = Remi, Village IV = Shergaon, Village V = Khellong and Village VI = Barchipam.

Source: Field Survey, 2011-12

There were villages in West Kameng, which had very poor connectivity. But with regard to electricity, apart from one village, where 100 per cent of the households had electricity, in the other villages it varied from 70 to 90 per cent of the households. (Table: 4.3). Electricity continued to be a problem in all the surveyed villages, because inspite of the electricity connectivity, they hardly had any electricity though out the day. It was observed that for days there would be no electricity, in most of the villages. But the situation was worst in the villages of the hill district of West Kameng. The plain district of East Siang which borders Assam had comparatively better infrastructural facilities compared to the hill district of West Kameng.

4.3 Occupational Distribution of Households

The occupational distribution of an area basically represents the existing employment scenario and livelihood pattern of the people. In the last two decades it has been observed that there has been a considerable shift in the occupational distribution of workers in the state of Arunachal Pradesh. Similar trend was also observed in the study districts of the state. Further, the growing importance of non-farm sector and declining importance of farm sector has also added dynamism in the existing distribution of occupation.

Table 4.4 depicts the occupational distribution according to the first occupation of the households. Combining data from all the study villages, it is found that 53.3 per cent of households depend upon agriculture as their first occupation. The second most important occupation has been found to be services followed by business. It was observed that 27.5 per cent and 15.9 per cent of the total surveyed households depended on services and business respectively, for earning their livelihoods. Inter-district variation

exists in the relative size of occupational categories. Firstly, it was seen that 74.2 per cent of the total households in West Kameng district depended on agriculture, whereas this figure was only 32.5 per cent in East Siang district. It basically reveals that there is more concentration of non-farm activities in East Siang district as compared to West Kameng district. At the individual village level it was observed that village-II of East Siang district had the lowest number of households depending on agriculture as their first occupation.

Table: 4.4
Occupational Distributions of Households in Surveyed Village according to First Occupation

Districts	Village	First Occupation							
		Agriculture	Service	Business	Agriculture & Animal Husbandry	Agriculture & Wage Labour	Service & Agriculture	Wage Labour	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
East Siang	I	26 (50.0)	14 (26.9)	4 (7.7)	2 (3.8)	0 (0.0)	1 (1.9)	5 (9.6)	52 (100)
	II	9 (20.0)	27 (60.0)	9 (20.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	45 (100)
	III	14 (25.9)	19 (35.2)	21 (38.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	54 (100)
	Total	49 (32.5)	60 (39.7)	34 (22.5)	2 (1.3)	0 (0.0)	1 (0.7)	5 (3.3)	151 (100)
West Kameng	IV	30 (60.0)	11 (22.0)	9 (18.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	50 (100)
	V	39 (76.5)	7 (13.7)	5 (9.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	51 (100)
	VI	43 (86.0)	5 (10.0)	0 (0.0)	0 (0.0)	2 (4.0)	0 (0.0)	0 (0.0)	50 (100)
	Total	112 (74.2)	23 (15.2)	14 (9.3)	0 (0.0)	2 (1.3)	0 (0.0)	0 (0.0)	151 (100)
Combined Total		161 (53.3)	48 (27.5)	48 (15.9)	2 (0.7)	2 (0.7)	1 (0.3)	5 (1.7)	302 (100)

Note: 1. Village I = Telam, Village II = Potte, Village III = Remi, Village IV = Shergaon, Village V = Khellong and Village VI = Barchipam 2. Figures within brackets represent percentage row total

Source: Field Survey, 2011-12

Secondly, 39.7 per cent of the households depended on services in East Siang district, while only 15.2 per cent were service holders in West Kameng district. Thirdly, while 22.5 per cent of the households were doing business in East Siang district, on the other hand only 15.9 per cent

were doing business in West Kameng district. As far as other occupations were concerned, no such sharp differences existed, apart from agriculture, service and business, among the two districts.

4.4 Agriculture in the Study Villages

The economy of Arunachal Pradesh is predominantly agrarian. The rural population which constitutes about 80 per cent is largely dependent on agriculture. The situation of agriculture in the state is quite complex as it is inter- related with animal husbandry, forests and other allied activities. Inaccessibility, environmental heterogeneity and ecological fragility favour subsistence production system in this hill state. The distribution of land ownership in the sample villages of the two districts are represented in table 4.5

Table: 4.5
Distribution of Land Ownership in the Study Villages

Category of Holdings	East Siang				West Kameng				Combined Total
	I	II	III	Total	IV	V	VI	Total	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Marginal (Less than 1 hec)	8 (15.4)	2 (4.4)	5 (9.3)	15 (9.9)	2 (4.0)	12 (23.5)	49 (98.0)	63 (41.7)	78 (25.8)
Small (1.0 to 2.0 hec)	5 (9.6)	5 (11.1)	9 (16.7)	19 (12.6)	5 (10.0)	16 (31.4)	00 (00)	21 (13.9)	40 (13.2)
Semi- medium (2.0 to 4.0 hec)	10 (19.2)	12 (26.7)	16 (29.6)	38 (25.2)	31 (62.0)	22 (43.1)	1 (2.0)	54 (35.8)	92 (30.5)
Medium (4.0 to 10 hec)	23 (44.2)	18 (40.0)	20 (37.0)	61 (40.4)	12 (24.0)	1 (2.0)	00 (00)	13 (8.6)	74 (24.5)
Large (10.0 hec and above)	6 (11.5)	8 (17.8)	4 (7.4)	18 (11.9)	00 (00)	00 (00)	00 (00)	00 (00)	18 (6.0)

Note: 1. Village I = Telam, Village II = Potte, Village III = Remi, Village IV = Shergaon, Village V = Khellong and Village VI = Barchipam.

2. Figures within brackets represent percentage row total

Source: Field Survey, 2011-12

Distribution of land ownership in the sample villages is calculated by taking total land owned by the household, which includes homestead land, permanent land, jhum land, lease in and lease out, horticulture and forest land. Size class-wise land holdings possessed by sample households show that in the three villages of East Siang district, majority are (40.4 per cent) of medium sizes followed by semi-medium (25.2 per cent) and small (12.6

per cent) holdings. Further, in West Kameng district, it is the marginal holding (41per cent) which occupies the highest position followed by semi-medium (35.8 per cent) and small holdings (13.9). Thus, as far as the category of landholdings in terms of total land is concerned, significant inter district variation is found among the households across the villages (Table: 4.5).

4.5 Non-Farm Employment in the Study Villages

When the farm output of an economy is inadequate and opportunities in non-farm occupation increases, the share of the non-farm employment, workers and output also gradually increases. This is entirely true for India in general and Arunachal Pradesh in particular. Non-farm activities are those economic activities which are mainly done outside the so called farming practices. The rural industrial enterprises constitute a major part of non farm sector and comprise of both traditional and non traditional activities. Factors like locally available raw materials, traditionally developed means of production and improvements in infrastructure facilities generally influence the growth of this sector. The state of Arunachal Pradesh has experienced a relatively rapid diversification in employment structure with expansion of non-farm activities particularly since the seventies. The two districts, selected for the sample, in total have a fairly higher concentration of non farm sector (33.7 per cent), but at a disaggregate level the district of East Siang with 66.23 per cent has a higher number of household dependant on non-farm sector compared to that of West Kameng with only 24.5 per cent.

Table: 4.6
Share of Households Depending upon Non-Farm Occupations in Study Villages according to First Occupation

Districts	Villages	No of Households Depending Upon		
		Farm occupation	Non-farm occupation	Total
(1)	(2)	(3)	(4)	(5)
East Siang	I	28 (53.8)	24 (46.15)	52 (100)
	II	9 (20)	36 (80)	45 (100)
	III	14 (25.93)	40 (74.07)	54 (100)
Total		51 (33.77)	100 (66.23)	151 (100)

West Kameng	IV	30 (60)	20 (40)	50 (100)
	V	39 (76.47)	12 (23.53)	51 (100)
	VI	45 (90)	5 (10)	50 (100)
Total		114 (75.5)	37 (24.5)	151 (100)
Combined Total		165 (54.64)	102 (33.7)	302 (100)

Note: 1. Village I = Telam, Village II = Potte, Village III = Remi, Village IV = Shergaon, Village V = Khellong and Village VI = Barchipam.

2. Figures in the parenthesis show the per centage

Source: Field Survey, 2011-12

Table 4.6 depicts the share of households depending upon non-farm occupations in the study villages according to first occupation. Combining data from all the study villages, it is found that 54.64 per cent of the households depend upon farm sector as their first occupation, while 33.7 per cent of the total households depend on non farm sector for earning their livelihood. Inter district variation exists in the relative size of occupational categories. Firstly, it is seen that 75.5 per cent of the total households in West Kameng district depend on farm sector whereas this figure is only 33.77 per cent in East Siang district. It reveals more concentration of non-farm activities in East Siang district as compared to West Kameng district. At the individual village level it is observed that village-II of East Siang district has highest number of households depending on non farm sector according to first occupation. Among the villages it is village-II and village-III in East Siang district which has the highest number of household dependent on non-farm occupation. It is evident from the table that both at the district and at the village level, East Siang district has the highest number of households depending on non-farm occupation than that of West Kameng district.

4.6 Institutional Arrangement and Forest dependency in the Study Villages

In Arunachal Pradesh, the proportion of area under forest cover at 81.25 per cent is the second highest in the country. A substantial amount of forest cover exists both in West Kameng and East Siang district. The importance of forest on the livelihood of the indigenous people of the State can hardly be ignored. It has been observed that the tribal societies of Arunachal Pradesh have a strong tradition of self-governing institutions. Among all its 26 major tribes and more than 100 sub-tribes, some system

of traditional self-regulating institutions exists. There are as many types of traditional self-governing institutions in the state as there are tribes. The most prominent among them are the Kebang of the Adis, the Buliang of the Apatanis, the Nyele of the Nishings, the Mele of the Hrussos, the Tsorgan system of the Monpas, the Jung of the Sherdukpens, the Abbala of the Idu Mishmis, the Pharai of the Kaman Mishmis, the Mockchup of the Khamtis, the Ngojowa of the Wanchos and Mungphong or Nockthung of the Tangsas. It has been seen that they do not present any uniform pattern. Some of them are monarchical, while others are republics, some are democracies of a direct type, and others function through a chieftain or a small representative body. A few bodies are oligarchic in nature, limiting the choice of membership of the council to certain houses or clans. The Kebang of the Adis represent a sort of direct democracy while the Tsorgan of the Monpas or the Mele of the Hrussos are representative democracies. The Apatani Buliang or the Sherdukpen Jung provides a clan oligarchic model. The village council systems found among the Singhos, Noctes, Wanchos, Khamtis and the Tangsas can be called chieftaincies (Dutta, 2003). The oligarchic or the chieftaincy systems have some elements of democracy in them. Further, it has been seen that the constitution of all the systems are gerentocratic in character. The Monpa Tsorgan system is theocratic in nature as its elected head also acts as the religious head in the village. Most of these institutions emerged in response to needs of each tribal society. Thus, till the introduction of modern democratic institutions, Arunachal politics was intrinsically embedded in the traditional tribal political ethos (Pandey et al, 1999; Talukdar, 2002; Mishra and Upadhyay, 2004; Ghosh, Mishra and Upadhyay, 2005).

Institutional arrangements of forests in Arunachal Pradesh did not see any substantial change as a result of the introduction of the Panchayat Raj institutions, though some slight changes were observed. However, the village councils still has a large bearing on forest resources of the state. The common forests of the village have been traditionally managed by village councils. Even in the sample districts, such type of arrangements at village level was observed. It was observed in both the districts that councils were formed with headman of the village, as its chairman, some community level workers and social activists along with some citizens of the village as its members. The village council, in the first place demarcates the forest of the village in the presence of the council members of the bordering villages, in order to avoid disputes. It is then that the members of the council select the beneficiaries of the forest from within the village. Each and every

beneficiary is responsible for maintaining and avoiding any misuse of the village common forest. All the members of the village have equal right to use the resources of the forest. If people, other than those nominated by the villagers, try to encroach the forest or use its resources, then the council immediately interferes and may impose some type of penalty in the form of fine. This is still found to be prevalent in the study villages in particular and Arunachal Pradesh in general. In the study villages the traditional institutions in West Kameng were the *Jung* of the Sherdupen, *Tsorgan* of the Monpas and the *Mali* of the Miji's in West Kameng district, while it was the *Kebang* of the Adis as well as the Galos of East Siang distict.

Although Panchayati Raj has been introduced in Arunachal Pradesh, the pre-existing 'traditional' form of grassroot governance continues to have recognition in all matters of the state. The *gaon burah* remains the first contact person of the state official. As key resources such as land, water and forests are controlled by these traditional mechanisms, all developmental activities at the village level require their consent and participation. Similarly, the community laws are still being recognized by the state. While the transition to the Panchayati Raj system has been relatively smooth, the simultaneous existence of a multiplicity of institutional mechanisms – both modern and traditional – at the village level without any clear cut demarcation of their functions, has lead to 'institutional crowding out'.

V. Women's Time-Use Pattern: Insights from Field Survey

5.1 Introduction

In last few decades, it has been observed all over the world that a greater concern for women is being shown in various plans of development via social, economic and political development. Women's work in household chores, in agriculture and other such related activities is either not accounted or undervalued if counted in the conventional data system and sometimes also not considered as economically productive. The basic hurdle is lack of available information about the kind of work women generally do and how much they produce. The technique of time-use statistic is used to know about women's contribution in the economy and to compare the extent of work burden in women's lives to that of men's. It basically collects information as to how people spend their time throughout the course of a day. Unlike the traditional methods of data collection, time use survey, collects information about productive activities in the household and thus captures the unstructured work pattern (UN 1991). Thus time-use pattern

looks at the contribution of men and women to different activities in terms of amount of time spent on that activity. Essentially, it is employed for the valuations of activities which cannot be quantified in monetary terms and remain unaccounted by market analysis. It is especially useful in understanding the gendered division of labour in the household as well as studying the changes if any, in existing gender relations vis-a-via allocation of work and distribution of resources between male and female family members. In fact, time-use data are essential for policy analysis in a wide range of areas and in particular for analysing the intra-family allocation of resources and distribution of real income; Household living standards and the effects of changes in policy variables on household decisions concerning market labour supply, domestic production, consumption and savings (Apps, 2003).

This section basically deals with time use data, collected from the rural regions of the state of Arunachal Pradesh. Two districts, namely the hill district of West Kameng and the plain district of East Siang had been selected for the survey. With a detailed questionnaire, information is collected with regard to the time spent on various work throughout the day by individuals in the villages. The classification of the activities in this survey follows the same pattern as done by CSO (Central Statistical Organisation) in the year 2000. The CSO on time use survey classifies 154 activities in nine groups. These nine groups are further sub-divided into three categories, namely, SNA (System of National Accounts), ESNA (Extended System of National Accounts) and Non-SNA (Non System of National Accounts). The SNA activities is again sub-divided into three groups of activities, namely, (I) Primary Production Activities, (II) Secondary Production Activities, (III) Trade, Business and Services Activities. The ESNA activities also include three groups of activities, namely, (IV) Household Maintenance, Management and shopping for own household, (V) Care for Children, the sick, elderly and disabled of own household, (VI) Community Services and help to other household. Further, the Non-SNA activities include (VII) Learning activities, (VIII) Social and Cultural Activities, Mass Media, etc., (IX) Personal Care and self Maintenance. Further, in the study a comparative analysis is also done on the basis of geographical location i.e., (one district is in the hilly region i.e. West Kameng and the other is in the plain area i.e. East Siang), so as to highlight women's work burden on the basis of geographical location.

5.2 Time Use Pattern of Women in the Study Villages

The working patterns of rural women in hilly regions are influenced by many factors. The mountainous terrain and the migration of male members of the household to urban centres in search of gainful employment creates difficult work situation for the women in the households. Although, most of the women are engaged in work and they contribute to the economy in one form or another but, much of their work is not documented in official statistics. Women plough fields and harvest crops, weave and make handicrafts also, they are traditionally responsible for the daily household chores (e.g. cooking, fetching water, collection of woods and vegetable from forest, looking after the children and sick as well as the elderly people). Women's role in household food security may have been recognised, but there has been no measure as to how much they actually contribute towards it. In a study in Maharashtra an attempt has been made to quantify women's contribution, in the form of both 'visble' and 'invisible' work, through investigation into the time-use pattern of women's activities (Choudhary and Parthasarthy, 2007). There are various other studies which highlight the fact that women's work in subsistence economy is usually grossly undervalued and the one possible way is to measure the time women spend on activities which do not fall under the category of 'economic activities' (Bhatia, 2002; Hirway, 2002; Neetha and Palriwala, 2010; D. Mukherjee, 2012; A. Mukherjee, 2012; Devi, 2012). Therefore, the present study tries to capture the time use pattern of both male and female in various activities which is categorised as SNA, ESNA and Non-SNA in the two selected districts.

5.3 Average Weekly Time Spent by Gender (SNA, ESNA and Non-SNA Activities)

The average weekly time spent by both the sexes in SNA, Extended SNA and Non-SNA activities is reflected in the given table: 5.1. The average time spent by women in SNA activities in the sample villages of the two districts (combined) was found to be 41.6 hours whereas men spent on an average 52.41 hours in a week. While the average time put by a person (i.e. combined) in a week was 46.84 hours. Though, it was observed that women in the sample villages of the two districts together, spent lesser time in SNA activities compared to that of men, but at a disaggregated level, it was found that women in the sample villages of West Kameng district spend more time in the SNA activities than that of women in the

sample villages of East Siang district. Clearly, reflecting that women in the hill district of West Kameng work more than the women in the plain district of East Siang in SNA activities. In the Extended SNA activities, it was observed that women on an average put 26 hours more than men in a week, which means from their total time women spent more time in the Extended SNA activities compared to that of men. In Non-SNA activities women spent less hours 83.76 hours while men spent 96.72 hours of their time per week and a person spent 89.91 hours in all the villages taken together. This shows that women put less time in SNA and Non-SNA activities and more time in extended SNA activities than men. If we consider both SNA and ESNA activities together, then we find that women put in more time i.e. 82.85 hours while men spent 68.15 hours in a week. At a disaggregate level, in the sample villages it was observed that on an average women in village-VI (Barchipam) spent more hours in a week than the other five villages in SNA activities, while in all the villages men spent more time on an average in a week than women in SNA activities.

Table: 5.1
Weekly Average Time Spent by Male and Female on SNA, ESNA and Non-SNA of Surveyed Villages

Districts	Villages	Gender	Primary SNA Activities	Secondary SNA Activities	Tertiary SNA Activities	Total SNA	ESNA Activities	Non-SNA Activities
(1)	(2)	(3)	(4)	(5)	(6)	(9)	(7)	(8)
East Siang	I	Male	30.66	5.48	15.83	51.97	14.91	100.59
		Female	32.85	0.27	5.99	39.11	40.79	87.77
		Total	31.75	2.87	10.91	45.54	27.85	94.18
	II	Male	19.86	1.30	29.71	50.87	16.12	99.06
		Female	32.00	0.00	1.17	33.17	51.58	82.75
		Total	25.93	0.65	15.44	42.02	38.85	90.90
	III	Male	24.10	5.42	18.09	47.61	11.82	105.20
		Female	29.30	1.30	7.52	38.11	41.69	86.07
		Total	26.70	3.36	12.81	42.86	26.75	95.64
	Villages Total	Male	24.88	4.07	21.21	50.15	14.28	101.61
		Female	31.38	0.52	4.89	36.79	44.69	85.53
		Total	28.19	2.34	12.87	43.40	29.46	93.62

Districts	Villages	Gender	Primary SNA Activities	Secondary SNA Activities	Tertiary SNA Activities	Total SNA	ESNA Activities	Non-SNA Activities
(1)	(2)	(3)	(4)	(5)	(6)	(9)	(7)	(8)
West Kameng	IV	Male	28.49	7.84	26.74	63.07	20.65	82.95
		Female	24.22	1.89	18.76	44.87	40.85	81.55
		Total	26.36	4.87	22.75	53.97	30.75	82.25
	V	Male	28.89	6.73	11.67	47.28	14.69	100.88
		Female	36.24	2.33	4.25	42.82	40.35	84.00
		Total	32.56	4.53	7.96	45.05	27.52	92.44
	VI	Male	38.65	8.02	7.00	53.67	16.26	91.67
		Female	45.92	0.00	5.60	51.52	35.49	80.43
		Total	42.28	4.01	6.30	52.59	25.88	86.05
	Villages Total	Male	32.01	7.53	15.14	54.67	17.20	91.83
		Female	35.46	1.41	9.54	46.41	38.90	81.99
		Total	33.47	4.42	12.26	50.15	27.94	86.34
Combine Villages Total		Male	28.44	5.80	18.17	52.41	15.74	96.72
		Female	33.42	0.96	7.22	41.6	41.79	83.76
		Total	30.89	3.40	12.56	46.84	28.68	89.91

Note: 1. Village I = Telam, Village II = Potte, Village III = Remi, Village IV = Shergaon, Village V= Khellong and Village VI = Barchipam.

Source: Field Survey, 2011-12

In the Extended SNA activity, women in village-II put more hours of their time than the other five villages, while, men spend far less time on an average in a week compared to women in all the villages. However, a person on an average spends 27.85 hours in village-I, 38.85 hrs in village-II, 26.75 hrs in village-III, 30.75 hrs in village-IV, 27.52 hrs in village-V and 25.88 hours in village-VI respectively in a week on these activities. When time spent on SNA and ESNA are taken together, it is found that women in village-VI, followed by village IV put approximately 87 and 85 hours respectively in a week, much more compared to the other four villages of the sample districts. This implies that the overall burden of market activities is much higher on women in these villages than the other four villages. Once again, we observe that the work burden on women in the hill district of West Kameng is higher than that of women in the plain district of East Siang, when the time spent on both SNA and ESNA activities are combined.

In Non-SNA activities women in village I, II, III, IV, V and VI on an average spend 13 hours, 17 hours, 20 hours, 1 hours, 16 hours, and 11 hours less than that of men respectively. However we do not find much variation in the time spent by women in the villages of the two districts in these activities compared to that of men. It was observed that women in village-I put in more time than the women of the other five villages. Further, it was also found that there was vast difference in the time spent on these activities in village-III between men and women, while the gap was much less in village-IV. The table clearly reflects that a person in a week spends 89.91 hours in Non-SNA activities as compared to 94.18 hrs in village-I, 90.90 hrs in village-II, 95.64 in village-III, 82.25 hrs in village-IV, 92.44 hrs in village-V, and 86.05 hrs in village-VI. At a disaggregate level, women in village-I and III comparatively enjoy more leisure hours in comparison to the women in the other five villages i.e. the women in the plain district enjoy more leisure compared to that of women in the hill district.

Activity-Wise Weekly Average Time Spent by Gender

Activity-wise weekly average time spent by male and female in the surveyed villages is reflected in table 5.2 and 5.3, where average time spent on various SNA, Extended-SNA and Non-SNA activities of all the studied villages as well as the combined villages is presented in detail. The aggregate level data shows that in SNA activity, females spend fewer hours compared to that of their male counterparts. Thus, on an average weekly basis, the combined village figure clearly shows that females spend 40.76 hours whereas males spend 52.95 hours out of their weekly total average i.e men spend 12 hours more as compared to females. Whereas, in the study area it has been observed that in SNA primary activities females spend much more time compared to that of males. At a disaggregate level, the table also presents the figure for the various activities performed by both males and females from the different villages. It was found that women spent almost 34 hours, whereas males spent only 30 hours. In SNA secondary activity, males spent 5.79 hours and females spent only 1 hour on weekly average basis. Further, it should be noted that in the entire State, manufacturing and construction activities are lagging much behind compared to other activities. The same trend was observed in the study area also. Again in the SNA tertiary activity, it was found that males spent 17.15 hours,

whereas females spent only 6.25 hours which was nearly 10 hours less than that of male on an average weekly basis. The Extended-SNA activity figure as shown in the table reveals that in the combined villages, females spent almost 42.85 hours, while men spent only 16.74 hours on an average weekly basis, where as for both male and female the total time spent was 29.70 hours. The Non-SNA activity figures clearly shows that females spend less time compared to that of males – i.e. on weekly average basis, males spend 96.74 hours whereas females spend 83.76 hours. Thus in all the studied villages it was observed that females were left with very few hours for leisure, self care and maintenance etc.

After having a birds eye view of the time spent on an average weekly basis, for the combined village level figure, for various activities performed by both male and female, the table also presents the figures at a disaggregate level, i.e., of different villages in the two districts. In total SNA activities women in village I spent 39.11 hours, while in village II they spent 33.17 hours and in village III they spent 38.37 hours (all the three villages are in plain district), whereas in village IV women spent 43.54 hours, in village V it was 41.73 hours and in village VI it was 48.72 hours (all the three villages are in hill district). At an aggregate level, in district East Siang, women spend 37.15 hours, where as in West Kameng district they spend 44. 64 hours for total SNA activities. Thus the figures highlight the fact that women in the hilly regions have to work more in this category compared to that of women in the plain areas of rural Arunachal. While on the other hand, their male counterparts, in village I spend 52 hours in SNA activities, in village II they spend 51.85 hours, in Village III they spend 49.86 hours, (all in district East Siang)and in village IV they spend 61.25 hours, in village V they spend 48.11 hours and in village VI they spend 54.54 hours (all in West Kameng district). While for the district as a whole in East Siang men spend 51.14 hours, while in West Kameng they spend 54.96 hours on total SNA activities. (Table: 5.2 and 5.3). Therefore, it is observed that males in both the districts spend more hours on average weekly basis compared to that of females. This basically implies that females spend most of their time on unpaid household works irrespective of the geographical location in the State.

Over the decade it has been observed that women's share in labour force is increasing all over the world, but it does not imply that there is any

reduction in women's work burden in household chores, rather they still have to take the responsibility of home and family care, resulting in sacrificing their time on leisure and personal care (Bhatia, 2002). In the studied villages at a disaggregate level, women do spend much of their time in household chores. In village I on weekly average basis women spend 32.85 hours in Primary SNA activity, which was more than that of men. Even in village II it was observed that women were contributing more than men (32 hours for female and 21 hours for male), while in village III it was 30.07 hours for female and 26.35 hours for male. At an aggregate level for the district as a whole i.e. in East Siang females spend 31.59 hours while men spend 26.13 hours. The same pattern with regard to time spent by both male and female is observed in the hilly areas also, where female spend much of their time in SNA primary activities, i.e., 24.22 hours in village IV, 36.24 hours in village V, and 45.92 hours in village VI. And at an aggregate level in West Kameng district females spend 35.46 hours while men spend 34.10 hours for primary SNA activities. It is also to be noted that except in village IV, women in village V and VI spend more of their time in SNA primary activities on a weekly average basis. The SNA Secondary activities like construction and manufacturing, contributes less to the State Domestic Product and thus in the surveyed villages also both male and female spend negligible amount of their time on this category of work, rather only few hours were spent on these activities on a weekly average basis. Women in particular, contribute very less time on these activities, which ranges from one hour to two and half hours, while on the other hand in regard to the male, it ranges from two hours to eight hours on an average weekly basis. In SNA tertiary activities which includes trade & business and services (both govt as well as private in this case) women spend much less time compared to that of male in all the studied villages. Further, while males spend 15.83 hours on a weekly average basis, on the other hand, at a disaggregate level women spend only 6 hours in village I, 1.17 hours in village II, 7 hours in village III, 17.43 hours in village IV, 3.16 hours in village V and 2.8 hours in village VI. For the district as a whole, in East Siang, male spend 20.83 hours while females spend 4.99 hours, while in district West Kameng men spend 13.29 hours while women spend 7.76 hours for SNA tertiary activities. It is observed that females in the hill district work for more hours in SNA tertiary activities than in the plain district.

The Extended-SNA activities which is considered to be the main work of women, like household maintenance, management and shopping for own household, care for children and elderly people etc., female have to spend much of their time in these activities. Thus the table highlights the fact that on a weekly average basis, women in the study area spend much more time in ESNA activities compared to that of males. At a disaggregate level in East Siang district in village I, females spend 40.79 hours in household chores, while males spend only 14.91 hours on a weekly average basis. In village II also females spend 51.58 hours, whereas males spend only 16.28 hours, while in village III it is 42.21 hours for female and 11.82 hours for male. While for the district as a whole women spend 44.8 hours while men spend 14.12 hours. In West Kameng district, in village IV females spend 42.18 hours in household chores, whereas males spend 22.47 hours, on the other hand, in village V females spend 41.45 hours while males spend only 18.25 hours and finally in village VI women spend 38.29 hours while males spend only 16.84 hours. While for the whole district, females spend 38.91 hours and males spend 17.31 hours for these activities. Thus, in all the studied villages it is found that females spend much more time on ESNA work, which implies that the time left for personal care and self-maintenance is very less. The Non-SNA activity figures in the table also highlights the same trend. It is observed that males spend a little over 100 hours of their total weekly average time on these activities whereas, females on the other hand spend only 87 hours in village I, while in village II also it was found that females spend 82 hours, while males spend around 100 hours for doing non-SNA activities. In Village III also females spend 86 hours while males spend 105 hours in non-SNA work. For the district of East Siang as a whole females spend 86 hours while men spend around 102 hours on these activities. On the other hand in village IV females spend 81.55 hours while the men spend 83 hours, while in village V females spend 84 hours while men spend nearly 101 hours and finally in village VI women spend 80 hours while men spend 91.67 hours on non-SNA activities. For the district of West Kameng as a whole females spend 83.75 hours while men spend 94.55 hours weekly for non-SNA activities. At an aggregate level when all the villages are combined together, we find that women spend 83.76 hours while men spend 96.74 hours in non-SNA work.

Table: 5. 2
Activity-Wise Weekly Average Time Spent by Male and Female in East Siang District

Activity	East Siang											
	Village-I			Village-II			Village-III			Villages Total		
	M	F	T	M	F	T	M	F	T	M	F	T
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
11	15.98	24.10	20.29	8.47	25.25	16.76	9.11	21.91	15.57	11.14	23.63	17.51
12	3.58	2.56	3.04	2.93	1.17	2.06	0.92	0.39	0.65	2.39	1.37	1.87
13	4.87	2.02	3.36	2.60	0.42	1.52	5.35	0.45	2.88	4.36	0.99	2.64
14	6.24	4.17	5.14	5.86	4.50	5.19	7.92	2.46	5.17	6.75	3.64	5.17
15	0.00	0.00	0.00	0.00	0.67	0.33	0.79	4.08	2.45	0.30	1.68	1.00
16	0.00	0.00	0.00	1.14	0.00	0.58	2.25	0.78	1.50	1.18	0.28	0.72
SNA Pry	30.66	32.85	31.82	21.00	32.00	26.44	26.35	30.07	28.23	26.13	31.59	28.92
21	4.41	0.27	2.21	1.30	0.00	0.66	3.17	0.13	1.64	3.01	0.14	1.54
22	1.07	0.00	0.50	0.00	0.00	0.00	2.25	1.17	1.70	1.18	0.43	0.80
SNA Sec	5.48	0.27	2.71	1.30	0.00	0.66	5.42	1.30	3.34	4.19	0.57	2.34
31	6.39	0.00	3.00	12.86	0.00	6.51	14.13	3.24	8.64	11.24	1.18	6.11
32	9.43	5.99	7.61	16.69	1.17	9.02	3.96	3.76	3.86	9.59	3.81	6.64
SNA Ter	15.83	5.99	10.61	29.55	1.17	15.52	18.09	7.00	12.50	20.83	4.99	12.74
Total SNA	51.97	39.11	45.14	51.85	33.17	42.62	49.86	38.37	44.06	51.14	37.15	44.00
41	0.00	10.90	5.79	0.00	14.75	7.29	0.00	11.21	5.66	0.00	12.11	6.18
42	0.91	5.45	3.32	1.95	8.42	5.15	0.13	5.12	2.65	0.94	6.17	3.61
422	0.08	5.25	2.82	0.33	5.50	2.88	0.00	3.09	1.56	0.12	4.53	2.37
431	0.15	1.62	0.93	0.00	1.92	0.95	0.00	2.27	1.14	0.05	1.94	1.01
441	0.30	0.00	0.14	0.33	0.17	0.25	0.13	0.26	0.20	0.25	0.14	0.19
47	0.61	3.70	2.25	0.98	3.83	2.39	0.86	3.28	2.08	0.81	3.59	2.23
481	0.30	0.34	0.32	0.41	0.58	0.49	0.79	0.52	0.65	0.52	0.47	0.49
511	0.15	2.56	1.43	0.33	3.33	1.81	0.00	2.85	1.44	0.15	2.89	1.54
521	1.98	2.22	2.11	0.33	1.83	1.07	0.13	0.52	0.33	0.79	1.49	1.15
53	0.76	0.20	0.46	0.00	0.00	0.00	0.26	0.00	0.13	0.35	0.07	0.21

Activity	East Siang											
	Village-I			Village-II			Village-III			Villages Total		
	M	F	T	M	F	T	M	F	T	M	F	T
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
54	0.00	0.81	0.43	0.00	0.67	0.33	0.00	1.56	0.79	0.00	1.04	0.53
58	1.22	1.48	1.36	3.26	0.33	1.81	3.17	0.00	1.57	2.56	0.61	1.57
572	0.46	0.27	0.36	0.81	0.33	0.58	0.26	0.13	0.20	0.49	0.24	0.36
59	3.58	5.86	4.79	4.97	7.75	6.34	1.19	7.00	4.12	3.11	6.81	5.00
61	0.00	0.00	0.00	0.16	0.00	0.08	0.00	0.52	0.26	0.05	0.19	0.12
67	3.35	0.13	1.64	2.44	2.17	2.31	4.49	3.37	3.93	3.50	1.89	2.68
65	1.07	0.00	0.50	0.00	0.00	0.00	0.40	0.52	0.46	0.49	0.19	0.34
ESNA	14.91	40.79	27.85	16.28	51.58	33.72	11.82	42.21	27.16	14.12	44.18	29.46
81	1.90	0.00	0.89	0.49	2.17	1.32	2.84	3.31	3.07	1.82	1.82	1.82
82	2.13	1.35	1.71	0.33	1.50	0.91	0.53	1.30	0.92	0.99	1.37	1.18
84	0.30	0.00	0.14	0.00	0.00	0.00	0.53	0.39	0.46	0.30	0.14	0.22
83	4.57	2.83	3.64	7.16	2.25	4.74	10.04	3.11	6.54	7.39	2.77	5.03
87	0.76	0.00	0.36	0.49	0.00	0.25	0.00	0.00	0.00	0.39	0.00	0.19
88	0.91	0.00	0.43	0.16	0.00	0.08	0.00	0.00	0.00	0.35	0.00	0.17
92	12.48	14.20	13.39	11.56	9.17	10.38	11.89	9.27	10.57	11.98	10.97	11.47
93	1.07	1.08	1.07	1.63	0.33	0.99	2.38	0.26	1.31	1.73	0.57	1.13
01	46.49	45.16	45.79	45.42	44.25	44.84	45.57	43.75	44.65	45.82	44.39	45.09
02	11.18	9.83	10.46	11.88	10.67	11.28	8.06	8.23	8.14	10.23	9.48	9.85
922	5.33	0.67	2.86	6.59	1.00	3.83	8.25	2.01	5.10	6.80	1.25	3.97
03	0.99	1.62	1.32	1.22	2.00	1.61	1.92	2.92	2.42	1.40	2.20	1.81
932	0.00	0.00	0.00	0.16	0.00	0.08	0.13	0.13	0.13	0.10	0.05	0.07
04	0.30	0.00	0.14	0.00	0.17	0.08	0.00	0.13	0.07	0.10	0.09	0.10
942	0.30	0.00	0.14	0.00	0.00	0.00	0.26	0.00	0.13	0.20	0.00	0.10
951	3.88	5.52	4.75	4.80	2.83	3.83	6.08	5.06	5.56	4.98	4.59	4.78
05	5.55	3.77	4.61	5.13	4.42	4.78	5.68	5.19	5.43	5.47	4.47	4.96
06	0.46	0.27	0.36	0.24	0.33	0.29	0.07	0.26	0.16	0.25	0.28	0.27

Activity	East Siang											
	Village-I			Village-II			Village-III			Villages Total		
	M	F	T	M	F	T	M	F	T	M	F	T
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
981	1.67	1.21	1.43	1.14	0.83	0.99	0.99	0.78	0.88	1.26	0.95	1.10
982	0.00	0.27	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.05
09	0.30	0.00	0.14	0.65	0.83	0.74	0.00	0.00	0.00	0.30	0.24	0.27
Non-SNA	100.59	87.77	94.18	99.06	82.75	91.00	105.20	86.07	95.55	101.89	85.92	93.74

Note: Village I = Telam, Village II = Potte, Village III = Remi,

Source: Field Survey, 2011- 12

Activity 11-crop farming, kitchen gardening, etc, 12- Animal Husbandry, 13- Fishing, forestry, horticulture, gardening, 14- collection of water, fodder, fuel, fruits, etc, hunting. 15- Processing and storage, 16- Mining quarrying, digging, cutting, etc. 21- construction activities, 22- Manufacturing. 31- Trade and Business. 32- Services. 41- Cooking food items, beverages and serving. 42- Cleaning and upkeeps of dwelling and surroundings. 422- Cleaning of utensils. 43- Caring of Textiles, sorting, mending, washing, ironing and goods, household appliances, equipments, food and various households' goods. 441- shopping of goods. 47- Care of Pets. 481- Travel related to household maintenance, management and shopping. 511- Physical care of children, washing, dressing, feeding. 521- teaching, training and instruction of own children. 53-accompanying children to places, school, sports lessons, etc./PHC/doctor. 54-physical care of sick, disabled, elderly household members: washing, dressing, feeding, and helping. 58- Travel related to care and children. 572- Travel related to care of adults and others. 59- Care of guest. 61- Community organised construction and repairs. 67- Informal help to other households. 65- Participation in the meetings of local and informal groups/ caste etc. 81- Participation in social events: wedding, funeral, birth and other celebrations. 82- Participating in religious activities; church services, religious ceremonies, practices, kirtans , singing, etc. 84- participating in functions in music, dance, etc. 83-socializing at home and outside home. 87- Games and other past time activities. 88- Spectator to sports, exhibition etc. 92- watching television and video. 93- Listening to music/radio. 01- Sleep and related activities. 02- Eating and drinking. 922- Smoking, drinking alcohol& other intoxicants. 03- Personal hygiene and health. 932- Walking exercise mining, jogging and yoga, etc. 04- receiving medical and personal care from professional. 942- Receiving medical and personal care from household members. 951- Talking, gossiping & quarrelling. 05- Doing nothing, rest and relaxation. 06- Individual religious practice and medication. 981- other Activities. 982- resting/convalescing due to physical unwell persons. 09- Travel related to personal care and self maintenance.

Table: 5.3
Activity-Wise Weekly Average Time Spent by Male and Female in West Kameng District

Activity	West Kameng											
	Village-IV			Village-V			Village-VI			Villages Total		
	M	F	T	M	F	T	M	F	T	M	F	T
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
11	9.17	16.73	12.95	14.14	23.88	19.01	25.16	32.13	20.03	16.13	24.25	20.23
12	2.59	2.59	2.59	1.72	0.69	1.2	1.9	0.35	1.62	2.08	1.21	1.64
13	11.48	1.82	6.65	5.28	1.78	3.53	4.81	3.22	4.69	7.26	2.27	4.74
14	4.27	0.91	2.59	5.56	6.45	6	3.43	3.15	3.95	4.47	3.52	3.99
15	0.98	2.17	1.58	2.2	3.43	2.81	3.35	7.07	3.18	2.18	4.22	3.21
16	0	0	0	4.39	0	2.2	1.46	0	0.97	1.99	0.00	0.98
SNA Pry	28.49	24.22	26.36	33.28	36.24	34.76	40.1	45.92	34.44	34.10	35.46	34.79
21	7.42	1.89	4.66	6.73	2.33	4.53	8.02	0	4.35	7.43	1.41	4.39
22	0.42	0	0.21	0	0	0	0	0	0.07	0.14	0.00	0.07
SNA Sec	7.84	1.89	4.87	6.73	2.33	4.53	8.02	0	4.42	7.57	1.41	4.46
31	6.16	6.09	6.13	2.75	1.1	1.92	1.17	2.8	3.33	3.41	3.31	3.36
32	18.76	11.34	15.05	5.35	2.06	3.71	5.25	0	7.07	9.89	4.45	7.14
SNA Ter	24.92	17.43	21.18	8.1	3.16	5.63	6.42	2.8	10.4	13.29	7.76	10.50
Total SNA	61.25	43.54	52.4	48.11	41.73	44.92	54.54	48.72	49.26	54.96	44.64	49.75
41	0.56	7.63	4.1	0.41	8.58	4.5	0.22	10.92	4.72	0.40	9.04	4.76
42	1.12	3.15	2.14	0.69	2.75	1.72	0.44	2.03	1.69	0.76	2.64	1.71
422	0.14	3.68	1.91	0.14	3.36	1.75	0	3.36	1.78	0.09	3.47	1.80
431	0.14	4.27	2.21	0.14	2.95	1.54	0	1.82	1.55	0.09	3.01	1.57
441	0.21	1.19	0.7	0.69	0.55	0.62	1.6	0.77	0.82	0.83	0.83	0.83
47	0.21	0.07	0.14	0.41	0.75	0.58	0.36	0.28	0.35	0.33	0.37	0.35
481	3.99	0.77	2.38	2.2	0.82	1.51	2.63	1.4	1.95	2.96	1.00	1.97
511	0.21	3.78	2	0.55	3.02	1.78	0.29	3.64	1.91	0.35	3.48	1.93
521	2.52	3.01	2.77	1.51	1.65	1.58	1.02	0.84	1.75	1.70	1.83	1.77
53	1.26	1.05	1.16	0.69	1.78	1.24	1.24	1.61	1.26	1.06	1.48	1.28

Activity	West Kameng											
	Village-IV			Village-V			Village-VI			Villages Total		
	M	F	T	M	F	T	M	F	T	M	F	T
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
54	2.24	1.33	1.79	0.55	2.47	1.51	0.58	1.19	1.39	1.14	1.67	1.40
58	0.56	3.22	1.89	1.37	1.37	1.37	0	0.98	1.25	0.66	1.85	1.26
572	1.26	0.98	1.12	2.33	3.29	2.81	1.46	1.54	1.81	1.70	1.95	1.83
59	1.54	4.55	3.05	1.78	2.88	2.33	2.33	3.43	2.74	1.89	3.62	2.76
61	1.82	1.33	1.58	3.57	1.1	2.33	0.58	2.8	1.87	2.03	1.74	1.88
67	3.64	2.03	2.84	0.55	3.84	2.2	3.79	1.68	2.56	2.65	2.53	2.59
65	1.05	0.14	0.6	0.69	0.27	0.48	0.29	0	0.41	0.69	0.14	0.41
ESNA	22.47	42.18	32.33	18.25	41.45	29.85	16.84	38.29	29.8	17.31	38.91	28.22
81	2.8	5.04	3.92	12.08	8.78	10.43	2.63	3.43	5.81	5.96	5.77	5.86
82	0.42	2.1	1.26	0.55	1.3	0.93	0.36	2.1	1.14	0.45	1.83	1.15
84	0.28	0.56	0.42	0	0	0	0	0	0.14	0.09	0.19	0.14
83	1.26	2.24	1.75	1.78	1.78	1.78	1.17	0.56	1.46	1.42	1.53	1.47
87	2.17	0.14	1.16	1.85	0	0.93	3.5	0	1.25	2.51	0.05	1.26
88	0.7	0	0.35	0	0	0	0	0	0.12	0.24	0.00	0.12
92	5.25	6.44	5.85	1.37	2.88	2.13	5.61	3.64	4.15	4.07	4.31	4.19
93	0.98	0.07	0.53	0.27	0.27	0.27	0.22	0.35	0.36	0.50	0.23	0.36
01	49.28	47.6	48.44	53.67	47.49	50.58	51.63	48.93	49.43	51.89	48.00	49.92
02	5.88	4.76	5.32	8.44	8.03	8.24	8.43	8.05	7.22	7.63	6.95	7.29
922	2.59	0.14	1.37	4.25	1.51	2.88	2.11	0.14	1.78	3.03	0.60	1.80
03	0.77	1.26	1.02	0	0.27	0.14	0.15	0.14	0.43	0.31	0.56	0.43
932	1.19	0.56	0.88	0.48	0.14	0.31	0.15	0.07	0.43	0.61	0.25	0.43
04	0.42	0.14	0.28	0.41	0.27	0.34	0	0.07	0.22	0.28	0.16	0.22
942	0.21	0.49	0.35	0.82	0.27	0.55	0.07	0.42	0.38	0.38	0.39	0.39
951	2.73	2.31	2.52	2.61	2.88	2.75	2.33	1.54	2.39	2.58	2.25	2.41
05	2.8	4.06	3.43	6.86	3.29	5.08	6.85	6.09	4.95	5.53	4.47	5.00
06	0.7	0.77	0.74	0.21	0.69	0.45	1.36	1.19	0.81	0.75	0.88	0.81

Activity	West Kameng											
	Village-IV			Village-V			Village-VI			Villages Total		
	M	F	T	M	F	T	M	F	T	M	F	T
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
981	1.05	1.26	1.16	2.33	0.96	1.65	2.77	1.05	1.55	2.06	1.09	1.57
982	1.05	1.05	1.05	1.24	3.02	2.13	1.9	1.96	1.69	1.40	2.02	1.71
09	0.42	0.56	0.49	1.65	0.14	0.89	0.44	0.7	0.65	0.85	0.46	0.66
Non-SNA	82.95	81.55	82.25	100.88	84	92.44	91.67	80.43	86.34	94.55	83.75	89.09

Note: Village -IV = Shergaon, Village-V = Khellong and Village-VI = Barchipam

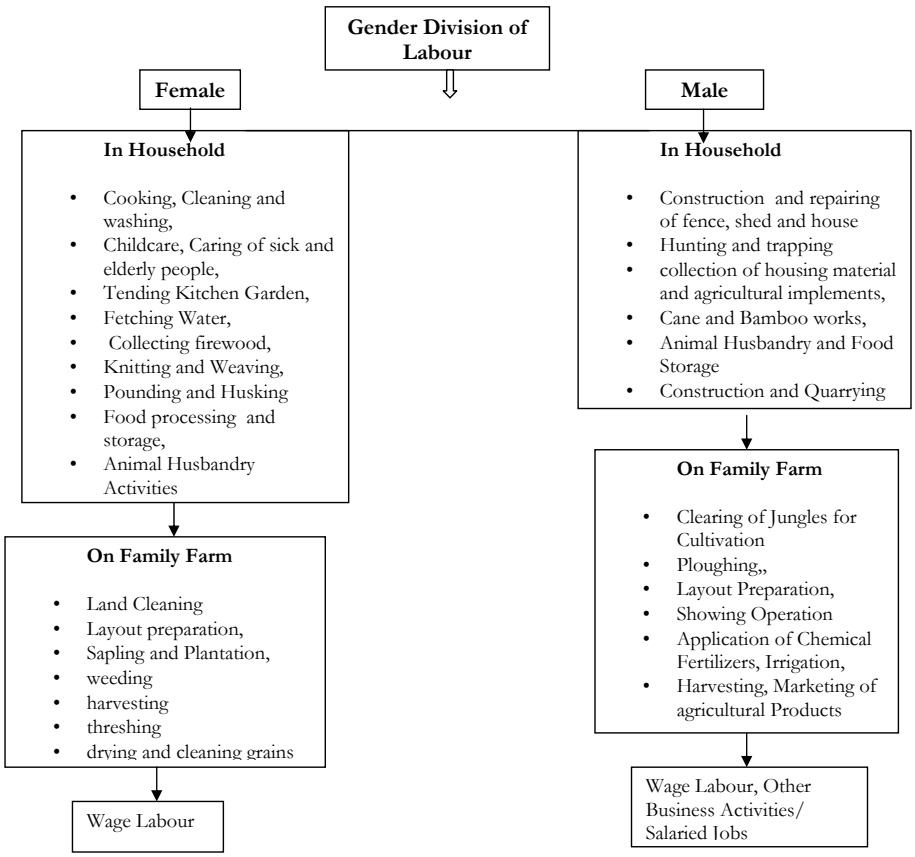
Source: Field Survey, 2011-12

Activity 11-crop farming, kitchen gardening, etc, 12- Animal Husbandry, 13- Fishing, forestry, horticulture, gardening, 14-collection of water, fodder, fuel, fruits, etc, hunting. 15- Processing and storage, 16- Mining quarrying, digging, cutting, etc. 21- construction activities, 22- Manufacturing. 31- Trade and Business. 32- Services. 41- Cooking food items, beverages and serving. 42- Cleaning and upkeeps of dwelling and surroundings. 422- Cleaning of utensils. 43- Caring of Textiles, sorting, mending, washing, ironing and goods, household appliances, equipments, food and various households' goods. 441- shopping of goods. 47- Care of Pets. 481- Travel related to household maintenance, management and shopping. 511- Physical care of children, washing, dressing, feeding. 521- teaching, training and instruction of own children. 53-accompanying children to places, school, sports lessons, etc./PHC/doctor. 54-physical care of sick, disabled, elderly household members: washing, dressing, feeding, and helping. 58- Travel related to care and children. 572- Travel related to care of adults and others. 59-Care of guest. 61- Community organised construction and repairs. 67- Informal help to other households. 65- Participation in the meetings of local and informal groups/ caste etc. 81- Participation in social events: wedding, funeral, birth and other celebrations. 82- Participating in religious activities; church services, religious ceremonies, practices, kirtans , singing, etc. 84- participating in functions in music, dance, etc. 83-socializing at home and outside home. 87- Games and other past time activities. 88- Spectator to sports, exhibition etc. 92- watching television and video. 93- Listening to music/radio. 01- Sleep and related activities. 02- Eating and drinking. 922- Smoking, drinking alcohol& other intoxicants. 03- Personal hygiene and health. 932- Walking exercise mining, jogging and yoga, etc. 04- receiving medical and personal care from professional. 942-Receiving medical and personal care from household members. 951- Talking, gossiping & quarrelling. 05- Doing nothing, rest and relaxation. 06- Individual religious practice and medication. 981- other Activities. 982- resting/convalescing due to physical unwell persons. 09- Travel related to personal care and self maintenance.

5.4 Proportional Contribution by Gender

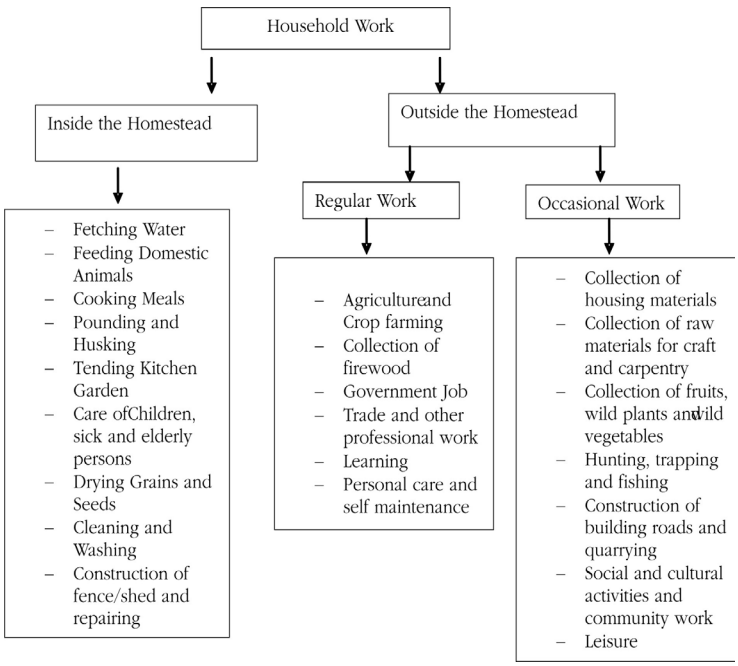
The Box: 5.1 clearly shows the gender division of Labour in rural Arunachal Pradesh in terms of household work and family farm work.

Box: 5.1
GENDER DIVISION OF LABOUR IN RURAL ARUNACHAL PRADESH



While Box: 5.2 shows the household works which are performed in rural Arunachal Pradesh.

Box: 5.2
HOUSEHOLD WORKS IN RURAL ARUNACHAL PRADESH



Proportionate Share of Weekly Time Spent by Gender

Table 5.4 and 5.5 shows the proportionate share of time spent by both male and female in the studied area on various activities, which help us to understand women's work burden. The more is the women's contribution to a particular activity than that of men, the more is the work burden on her. The combined village level data shows that in SNA primary activities, women spend more than 50 per cent of their time whereas men spend 47 per cent of their time. It is also to be noted that a very high percentage of women's time is spent on crop farming, kitchen gardening etc., which is 63.7 per cent; while on the other hand, males spend only 36.2 per cent in same activity when we take the combined village figure. In processing and storage activity the contribution of female stands at 70.4 per cent while that of male is only 29.6 per cent. But in SNA secondary activities which include manufacturing and construction activities, women's share is only 14.2 per cent whereas men's share is 85.8 per cent, which clearly reflects that women are generally excluded from such

activity. In SNA tertiary activity too women's share is much lower than that of male. The total SNA activity figure clearly shows that women contribute less in comparison to male i.e., 56.5 per cent for male and 43.5 per cent for female. The ESNA activity figures of the combined villages show, that 71.9 per cent of the total time is spent by female, whereas males spend only 28.1 per cent of their time. Thus in ESNA the work burden for female is high in both the districts there by leaving less time for women for their self care and maintenance. The figure in Non-SNA shows that women are left with less than 50 per cent of their time for these activities i.e., 46.4 per cent.

In the village level figure for both the districts, the proportion of time spent is more or less similar to the combined village level figure. For East Siang district as a whole (Table: 5.4) females spend 54.74 per cent of their time in Primary SNA activities, while men spend only 42.56 per cent. At a disaggregate level, in village I women spend 51 per cent of their time while of men spend 48.3 per cent in SNA primary activities. Further, at a more disaggregated level, women's contribution in crop farming, gardening etc, stands at 60 per cent whereas the male figure is only 40 per cent. In village II also women's contribution is 60 per cent and male's contribution is just 39.6 per cent. While in village III women contribute 53.3 per cent, while men contribute much less at 46.7 per cent. For the district West Kameng as a whole, (Table: 5.5) we find that women spend 51 per cent of their time, while men spend 49 per cent of their time in primary SNA activities. At a disaggregate level, in the villages IV, V, VI women are contributing much of their time compared to their male counterpart, except in village IV where female is contributing eight percentage points less compared to that of male. But inspite of this, in the same village, at more disaggregate level women are contributing more than 64 per cent of their time in crop farming as is found in other villages too, which is much more than their male counterpart in the village. In SNA secondary activities females contribution is far less in almost all the villages. Whereas in village I male's contribution to SNA secondary activities stands at 95.4 per cent against the female at only 4.6 per cent. Further, in village II male's contribution was found to be 100 per cent, while it was 80.7 per cent in village III. On the other hand, females spend only 19.3 per cent of their time in these activities in village III. It was observed that women were totally excluded from these activities in general. As regard to the SNA tertiary activities which includes trade & business and services, - women's contribution was found to be very marginal. In all the villages, the proportion of women's contribution to this category of work varied from 3 per cent to 41 per cent. Thus the village level figure shows that in village I females contribution to SNA tertiary activity was 27.5 per cent, while in village II it was only 3.8 per cent and in village III their contribution was 27.9 per cent.

In the villages of the hill district, the contribution of women to SNA tertiary activities varied from 28 per cent to 41 per cent. The total SNA figure clearly reflects that women in the hill districts contribute much more than women in the plain districts. The SNA total figures shows that women's contribution to that of male is low in all the villages of two districts, but if we compare the contribution of women in SNA total, it is found that in the hill district women are contributing more than that of women in the plain district.

It is a well known fact that care plays a fundamental role in development of human capabilities and women play a very significant role, as well as share major responsibility of providing these services to the society, which is without remuneration and recognition. The ESNA activities which include care of children, the sick elderly people of own household, community services etc., female are contributing substantially in these activities compared to that of male. The data shows that women in all the villages, of the studied area contribute more than 40 per cent more of their time compared to that of males in same village on ESNA activities. It was found that in village I, while females' contribution was 73.2 per cent, males' contribution was only 26.8 per cent. Even in village II we find that females' contribution at 76 per cent was much higher than their male counterparts' contribution at only 24 per cent, in ESNA activities. Again in village III we observe the same trend and find that female contribution at 78.1 per cent is much more than that of male at only 21.9 per cent. The data from the villages of the hill district also reveals the same trend, where the contribution of female in these activities was more than 50 per cent. The contribution of female in village IV was 65.2 per cent whereas male contribution was 34.8 per cent. In village V and VI female contribution was 69.4 per cent and that of male was found to be 30.6 per cent in both the villages. Thus, the data shows that women in the studied area are contributing almost 70 per cent of their time in ESNA activities besides working in the agriculture field. If we compare the contribution of women in hill and plain districts for ESNA activities, we observe that the women in the plain district are ahead of women in hill district but the difference is just marginal.

The non-SNA activity figures in all the villages of the hill as well as the plain district shows that women have less time to spend on these activities. Besides sleep related activities and personal hygiene & health, women spend less time on other activities in the non-SNA category. The data clearly shows that in all the villages where women spend less than 50 per cent of their time in non-SNA activities, men spend more than 50 per cent of their time in these activities. As far as the time spent by women in the plain and hill district on non-SNA activity is concerned, we find there is just a marginal difference. In fact they spend nearly equal amount of time for these activities.

Table: 5.4
Proportionate Share of Weekly Average Time Spent in SNA, ESNA and Non-SNA Activities in East Siang

East Siang												
	Village-I			Village-II			Village-III			Village Total		
Activity	Male	Female	Women Work Burden compared to Men	Male	Female	Women Work Burden compared to Men	Male	Female	Women Work Burden compared to Men	Male	Female	Women Work Burden compared to Men
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
11	39.9	60.1	20.3	25.1	74.9	49.8	29.4	70.6	41.2	32.05	67.95	35.91
12	58.3	41.7	-16.6	71.5	28.5	-43.0	70.4	29.6	-40.8	63.54	36.46	-27.09
13	70.8	29.3	-41.4	86.2	13.8	-72.4	92.2	7.8	-84.4	81.46	18.54	-62.91
14	59.9	40.1	-19.8	56.6	43.4	-13.1	76.3	23.7	-52.6	64.97	35.03	-29.93
15	0.0	0.0	0.0	0.0	100.0	100.0	16.3	83.7	67.5	14.98	85.02	70.05
16	0.0	0.0	0.0	100.0	0.0	-100.0	74.3	25.7	-48.5	80.65	19.35	-61.31
SNA Pry	48.3	51.7	3.4	39.6	60.4	20.8	46.7	53.3	6.6	45.26	54.74	9.47
21	94.3	5.8	-88.5	100.0	0.0	-100.0	96.1	3.9	-92.1	95.49	4.51	-90.99
22	100.0	0.0	-100.0	0.0	0.0	0.0	65.8	34.2	-31.6	73.54	26.46	-47.08
SNA Sec	95.4	4.8	-90.7	100.0	0.0	-100.0	80.7	19.3	-61.4	88.07	11.93	-76.14
31	100.0	0.0	-100.0	100.0	0.0	-100.0	81.3	18.7	-62.7	90.48	9.52	-80.96
32	61.2	38.8	-22.3	93.5	6.5	-86.9	51.3	48.7	-2.6	71.58	28.42	-43.15
SNA Ter	72.5	27.5	-45.1	96.2	3.8	-92.4	72.1	27.9	-44.2	80.67	19.33	-61.34
Total SNA	57.1	42.9	-14.1	61.0	39.0	-22.0	56.5	43.5	-13.0	57.92	42.08	-15.85
41	0.0	100.0	100.0	0.0	100.0	100.0	0.0	100.0	100.0	0.00	100.00	100.00
42	14.3	85.7	71.3	18.8	81.2	62.3	2.5	97.5	95.0	13.18	86.82	73.65
422	1.4	98.6	97.1	5.6	94.4	88.8	0.0	100.0	100.0	2.65	97.35	94.70
431	8.6	91.4	82.8	0.0	100.0	100.0	0.0	100.0	100.0	2.48	97.52	95.04

441	100.0	0.0	-100.0	66.1	33.9	-32.3	33.8	66.3	32.5	63.46	36.54	-26.93
47	14.1	85.9	71.8	20.3	79.7	59.4	20.7	79.3	58.5	18.49	81.51	63.02
481	47.5	52.5	5.0	41.1	58.9	17.8	60.4	39.6	-20.9	52.25	47.75	-4.51
511	5.6	94.4	88.8	8.9	91.1	82.2	0.0	100.0	100.0	4.88	95.12	90.25
521	47.1	52.9	5.8	15.1	84.9	69.8	20.3	79.7	59.4	34.61	65.39	30.77
53	79.0	21.0	-58.1	0.0	0.0	0.0	100.0	0.0	-100.0	82.95	17.05	-65.89
54	0.0	100.0	100.0	0.0	100.0	100.0	0.0	100.0	100.0	0.00	100.00	100.00
58	45.1	54.9	9.8	90.7	9.3	-81.4	100.0	0.0	-100.0	80.65	19.35	-61.31
572	62.9	37.1	-25.8	70.9	29.1	-41.9	67.1	32.9	-34.2	67.58	32.42	-35.16
59	37.9	62.1	24.2	39.0	61.0	21.9	14.5	85.5	71.0	31.32	68.68	37.36
61	0.0	0.0	0.0	100.0	0.0	-100.0	0.0	100.0	100.0	20.67	79.33	58.66
67	96.1	3.9	-92.3	53.0	47.0	-6.0	57.1	42.9	-14.3	64.91	35.09	-29.82
65	100.0	0.0	-100.0	0.0	0.0	0.0	43.3	56.7	13.4	72.27	27.73	-44.53
ESNA	26.8	73.2	46.5	24.0	76.0	52.0	21.9	78.1	56.2	24.22	75.78	51.55
81	100.0	0.0	-100.0	18.4	81.6	63.2	46.2	53.8	7.6	50.04	49.96	-0.08
82	61.3	38.7	-22.6	17.8	82.2	64.3	29.0	71.0	42.1	41.82	58.18	16.36
84	100.0	0.0	-100.0	0.0	0.0	0.0	57.6	42.4	-15.2	67.58	32.42	-35.16
83	61.8	38.2	-23.5	76.1	23.9	-52.2	76.3	23.7	-52.7	72.77	27.23	-45.54
87	100.0	0.0	-100.0	100.0	0.0	-100.0	0.0	0.0	0.0	100.00	0.00	-100.00
88	100.0	0.0	-100.0	100.0	0.0	-100.0	0.0	0.0	0.0	100.00	0.00	-100.00
92	46.8	53.2	6.5	55.8	44.2	-11.5	56.2	43.8	-12.4	52.19	47.81	-4.38
93	49.7	50.3	0.5	83.0	17.0	-66.0	90.2	9.8	-80.3	75.25	24.75	-50.49
01	50.7	49.3	-1.4	50.7	49.3	-1.3	51.0	49.0	-2.0	50.79	49.21	-1.59
02	53.2	46.8	-6.5	52.7	47.3	-5.4	49.5	50.5	1.1	51.89	48.11	-3.78
922	88.8	11.2	-77.6	86.8	13.2	-73.7	80.4	19.6	-60.8	84.44	15.56	-68.88
03	38.0	62.0	24.0	37.9	62.1	24.2	39.6	60.4	20.7	38.98	61.02	22.04
932	0.0	0.0	0.0	100.0	0.0	-100.0	50.5	49.5	-0.9	67.58	32.42	-35.16

04	100.0	0.0	-100.0	0.0	100.0	100.0	0.0	100.0	100.0	51.03	48.97	-2.07
942	100.0	0.0	-100.0	0.0	0.0	0.0	100.0	0.0	-100.0	100.00	0.00	-100.00
951	41.3	58.7	17.4	62.9	37.1	-25.8	54.6	45.4	-9.2	52.04	47.96	-4.09
05	59.6	40.4	-19.1	53.7	46.3	-7.5	52.3	47.7	-4.5	55.04	44.96	-10.08
06	62.9	37.1	-25.8	42.3	57.7	15.4	20.3	79.7	59.4	46.48	53.52	7.04
981	58.0	42.0	-16.0	57.8	42.2	-15.5	56.0	44.0	-12.0	57.06	42.94	-14.12
982	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	100.00	100.00
09	100.0	0.0	-100.0	43.9	56.1	12.3	0.0	0.0	0.0	55.57	44.43	-11.14
Non-SNA	53.4	46.6	-6.8	54.5	45.5	-9.0	55.0	45.0	-10.0	54.25	45.75	-8.51

Note: Village I- Telam, Village II- Potte, Village III- Remi

Source: Field Survey, 2011-12

Activity 11-crop farming, kitchen gardening, etc, 12- Animal Husbandry, 13- Fishing, forestry, horticulture, gardening, 14- collection of water, fodder, fuel, fruits, etc, hunting. 15- Processing and storage, 16- Mining quarrying, digging, cutting, etc. 21- construction activities, 22- Manufacturing. 31- Trade and Business. 32- Services. 41- Cooking food items, beverages and serving. 42- Cleaning and upkeeps of dwelling and surroundings. 422- Cleaning of utensils. 43- Caring of Textiles, sorting, mending, washing, ironing and goods, household appliances, equipments, food and various households' goods. 441- shopping of goods. 47- Care of Pets. 481- Travel related to household maintenance, management and shopping. 511- Physical care of children, washing, dressing, feeding. 521- Teaching, training and instruction of own children. 53-accompanying children to places, school, sports lessons, etc./PHC/doctor. 54-physical care of sick, disabled, elderly household members: washing, dressing, feeding, and helping. 58- Travel related to care and children. 572- Travel related to care of adults and others. 59- Care of guest. 61- Community organized construction and repairs. 67- Informal help to other households. 65- Participation in the meetings of local and informal groups/ caste etc. 81- Participation in social events: wedding, funeral, birth and other celebrations. 82- Participating in religious activities; church services, religious ceremonies, practices, kirtans , singing, etc. 84- participating in functions in music, dance, etc. 83-socializing at home and outside home. 87- Games and other past time activities. 88- Spectator to sports, exhibition etc. 92- watching television and video. 93- Listening to music/radio. 01- Sleep and related activities. 02- Eating and drinking. 922- Smoking, drinking alcohol& other intoxicants. 03- Personal hygiene and health. 932- Walking exercise mining, jogging and yoga, etc. 04- receiving medical and personal care from professional. 942- Receiving medical and personal care from household members. 951- Talking, gossiping & quarrelling. 05- Doing nothing, rest and relaxation. 06- Individual religious practice and medication. 981- Other Activities. 982- resting/ convalescing due to physical unwell persons. 09-Travel related to personal care and self-maintenance.

Table: 5.5

Proportionate Share of Weekly Average Time Spent in SNA, ESNA and Non-SNA Activities in West Kameng

West Kameng												
Activity	Village-IV			Village-V			Village-VI			Village Total		
	Male	Female	Women Work Burden compared to Men	Male	Female	Women Work Burden compared to Men	Male	Female	Women Work Burden compared to Men	Male	Female	Women Work Burden compared to Men
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
11	35.4	64.6	29.2	37.2	62.8	25.6	43.9	56.1	12.2	39.95	60.05	20.10
12	50.0	50.0	0.0	71.4	28.6	-42.9	84.4	15.6	-68.8	63.32	36.68	-26.65
13	86.3	13.7	-72.6	74.8	25.2	-49.5	59.9	40.1	-19.8	76.17	23.83	-52.34
14	82.4	17.6	-64.8	46.3	53.7	7.4	52.1	47.9	-4.2	55.91	44.09	-11.83
15	31.1	68.9	37.8	39.0	61.0	22.0	32.2	67.8	35.6	34.03	65.97	31.95
16	0.0	0.0	0.0	100.0	0.0	-100.0	100.0	0.0	-100.0	100.00	0.00	-100.00
SNA Pry	54.0	46.0	-8.1	47.9	52.1	4.2	46.6	53.4	6.8	49.02	50.98	1.96
21	79.7	20.3	-59.4	74.2	25.8	-48.5	100.0	0.0	-100.0	84.00	16.00	-68.01
22	100.0	0.0	-100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.00	0.00	-100.00
SNA Sec	80.6	19.4	-61.2	74.2	25.8	-48.5	100.0	0.0	-100.0	84.26	15.74	-68.52
31	50.3	49.7	-0.6	71.4	28.6	-42.9	29.4	70.6	41.2	50.68	49.32	-1.35
32	62.3	37.7	-24.7	72.2	27.8	-44.4	100.0	0.0	-100.0	68.96	31.04	-37.91
SNA Ter	58.8	41.2	-17.7	72.0	28.0	-43.9	69.6	30.4	-39.2	63.12	36.88	-26.24
Total SNA	58.5	41.5	-16.9	53.6	46.4	-7.1	52.8	47.2	-5.6	55.18	44.82	-10.36
41	6.8	93.2	86.3	4.6	95.4	90.8	2.0	98.0	96.1	4.26	95.74	91.48
42	26.2	73.8	47.5	20.0	80.0	60.0	17.7	82.3	64.5	22.26	77.74	55.47
422	3.7	96.3	92.7	3.9	96.1	92.2	0.0	100.0	100.0	2.66	97.34	94.69

431	3.2	96.8	93.7	4.4	95.6	91.1	0.0	100.0	100.0	3.04	96.96	93.91
441	15.0	85.0	70.0	55.6	44.4	-11.1	67.6	32.4	-35.1	49.80	50.20	0.41
47	75.0	25.0	-50.0	35.3	64.7	29.4	56.6	43.4	-13.1	47.17	52.83	5.67
481	83.8	16.2	-67.6	72.7	27.3	-45.5	65.2	34.8	-30.4	74.79	25.21	-49.57
511	5.3	94.7	89.5	15.4	84.6	69.2	7.4	92.6	85.2	9.26	90.74	81.48
521	45.6	54.4	8.9	47.8	52.2	4.3	54.9	45.1	-9.7	48.18	51.82	3.63
53	54.5	45.5	-9.1	27.8	72.2	44.4	43.5	56.5	13.0	41.77	58.23	16.46
54	62.7	37.3	-25.5	18.2	81.8	63.6	32.9	67.1	34.2	40.48	59.52	19.03
58	14.8	85.2	70.4	50.0	50.0	0.0	0.0	100.0	100.0	26.31	73.69	47.37
572	56.3	43.8	-12.5	41.5	58.5	17.1	48.6	51.4	2.7	46.65	53.35	6.69
59	25.3	74.7	49.4	38.2	61.8	23.5	40.5	59.5	19.0	34.35	65.65	31.30
61	57.8	42.2	-15.6	76.5	23.5	-52.9	17.2	82.8	65.5	53.92	46.08	-7.83
67	64.2	35.8	-28.4	12.5	87.5	75.0	69.3	30.7	-38.6	51.18	48.82	-2.36
65	88.2	11.8	-76.5	71.4	28.6	-42.9	100.0	0.0	-100.0	83.14	16.86	-66.28
ESNA	34.8	65.2	30.5	30.6	69.4	38.9	30.6	69.4	38.9	30.79	69.21	38.42
81	35.7	64.3	28.6	57.9	42.1	-15.8	43.4	56.6	13.3	50.80	49.20	-1.60
82	16.7	83.3	66.7	29.6	70.4	40.7	14.8	85.2	70.4	19.70	80.30	60.59
84	33.3	66.7	33.3	0.0	0.0	0.0	0.0	0.0	0.0	33.78	66.22	32.44
83	36.0	64.0	28.0	50.0	50.0	0.0	67.6	32.4	-35.1	48.12	51.88	3.76
87	93.9	6.1	-87.9	100.0	0.0	-100.0	100.0	0.0	-100.0	98.18	1.82	-96.37
88	100.0	0.0	-100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.00	0.00	-100.00
92	44.9	55.1	10.2	32.3	67.7	35.5	60.7	39.3	-21.3	48.55	51.45	2.91
93	93.3	6.7	-86.7	50.0	50.0	0.0	38.5	61.5	23.1	68.18	31.82	-36.36
01	50.9	49.1	-1.7	53.1	46.9	-6.1	51.3	48.7	-2.7	51.94	48.06	-3.89
02	55.3	44.7	-10.5	51.3	48.8	-2.5	51.2	48.8	-2.3	52.32	47.68	-4.63
922	94.9	5.1	-89.7	73.8	26.2	-47.6	93.8	6.2	-87.6	83.40	16.60	-66.79
03	37.9	62.1	24.1	0.0	100.0	100.0	51.0	49.0	-2.0	35.59	64.41	28.81

932	68.0	32.0	-36.0	77.8	22.2	-55.6	67.6	32.4	-35.1	70.69	29.31	-41.38
04	75.0	25.0	-50.0	60.0	40.0	-20.0	0.0	100.0	100.0	63.62	36.38	-27.25
942	30.0	70.0	40.0	75.0	25.0	-50.0	14.8	85.2	70.4	48.99	51.01	2.03
951	54.2	45.8	-8.3	47.5	52.5	5.0	60.2	39.8	-20.5	53.41	46.59	-6.82
05	40.8	59.2	18.4	67.6	32.4	-35.1	53.0	47.0	-5.9	55.30	44.70	-10.60
06	47.6	52.4	4.8	23.1	76.9	53.8	53.3	46.7	-6.5	45.90	54.10	8.20
981	45.5	54.5	9.1	70.8	29.2	-41.7	72.5	27.5	-45.0	65.38	34.62	-30.76
982	50.0	50.0	0.0	29.0	71.0	41.9	49.2	50.8	1.7	40.90	59.10	18.21
09	42.9	57.1	14.3	92.3	7.7	-84.6	38.5	61.5	23.1	64.75	35.25	-29.49
Non-SNA	50.4	49.6	-0.9	54.6	45.4	-9.1	53.3	46.7	-6.5	53.03	46.97	-6.06

Note: Village IV- Shergaon, Village V- Khellong, Village VI- Barchipam.

Source: Field Survey, 2011-12

Activity 11-crop farming, kitchen gardening, etc, 12- Animal Husbandry, 13- Fishing, forestry, horticulture, gardening, 14- collection of water, fodder, fuel, fruits, etc, hunting. 15- Processing and storage, 16- Mining quarrying, digging, cutting, etc. 21- construction activities, 22- Manufacturing. 31- Trade and Business. 32- Services. 41- Cooking food items, beverages and serving. 42- Cleaning and upkeeps of dwelling and surroundings. 422- Cleaning of utensils. 43- Caring of Textiles, sorting, mending, washing, ironing and goods, household appliances, equipments, food and various households' goods. 441- shopping of goods. 47- Care of Pets. 481- Travel related to household maintenance, management and shopping. 511- Physical care of children, washing, dressing, feeding. 521- Teaching, training and instruction of own children. 53-accompanying children to places, school, sports lessons, etc./PHC/doctor. 54-physical care of sick, disabled, elderly household members: washing, dressing, feeding, and helping. 58- Travel related to care and children. 572- Travel related to care of adults and others. 59- Care of guest. 61- Community organized construction and repairs. 67- Informal help to other households. 65- Participation in the meetings of local and informal groups/ caste etc. 81- Participation in social events: wedding, funeral, birth and other celebrations. 82- Participating in religious activities; church services, religious ceremonies, practices, kirtans , singing, etc. 84- participating in functions in music, dance, etc. 83-socializing at home and outside home. 87- Games and other past time activities. 88- Spectator to sports, exhibition etc. 92- watching television and video. 93- Listening to music/radio. 01- Sleep and related activities. 02- Eating and drinking. 922- Smoking, drinking alcohol& other intoxicants. 03- Personal hygiene and health. 932- Walking exercise mining, jogging and yoga, etc. 04- receiving medical and personal care from professional. 942- Receiving medical and personal care from household members. 951- Talking, gossiping & quarrelling. 05- Doing nothing, rest and relaxation. 06- Individual religious practice and medication. 981- Other Activities. 982- resting/ convalescing due to physical unwell persons. 09- Travel related to personal care and self maintenance.

5. 5 Gender Disparity Index (GDI)

Table 5.6 shows the absolute difference in the average time spent by men and women in a week as well as the gender disparity in all the SNA, Extended SNA and Non-SNA activities. It is observed that in all the six villages of the two districts, the gender disparities in Extended SNA activities are much higher compared to non-SNA activities, where disparity is comparatively lower. It was found that in the villages of both the plain and hill district i.e. in village I, II, III and IV, V and VI the gender disparity favours women in extended activities. In SNA activities highest gender disparity index was observed in one of the village of the hill district i.e. in village IV. In SNA primary activities village II from the plain district and village VI from the hill district shows high disparity indices. On the other hand, the remaining villages show low level of disparity in SNA primary activities. But activity-wise disparity indices figures reveal something different. In activities like crop farming, kitchen gardening etc., very high level of disparity is observed in all the six surveyed villages. In other activities such as horticulture, gardening etc. women are contributing much of their time compared to that of men in both hill and plain districts. The disparity indices figure varies from 0.25 to 0.37 in plain district and 0.17 to 1.00 in hill district. Taking the combined figure of all villages, it is found that the women in the hill district spend more time compared to that of the plain district in work related activities. In other words, the disparity is high in the hill district compared to that of plain, in activities like horticulture, gardening etc. As far as activities like collection of water, fodder, fuel, fruit etc., is concerned, disparity exists in all the villages of the plain districts, while in case of hill district it exists only in village IV.

In SNA secondary activities, the figures reveal that women have to work more in hill districts than in plain districts. In all the three villages of the hill district the disparity is very high, which ranges from 0.60 to 1.00 in activity such as construction and manufacturing. But in the plain district, only in village I disparity is found in the SNA secondary activity. Thus, women in the hill districts, also spend much of their time in construction and manufacturing activities compared to that of women in the plain district. At more disaggregate level, both in hill and plain district, in activity like construction, disparity is found but the comparative picture reveals that hill districts have a high level of disparity. In case of manufacturing activity, disparity is found only in the plain district and it is too high in village I.

In activities such as Trade and business, the disparity is very high in all the three villages of plain district ranging from 0.76 in village I to 0.85 in village II and III respectively. The combine figure of disparity in the plain district is

also high at 0.79. While, in activities like services disparity is found only in village I of the plain district. On the other hand, reverse is the case in the hill district, where the disparity is very high in activities such as services, which ranges from 0.27 in village V to 0.76 in village IV and 0.64 in village VI. The disparity for the combined villages in the hill district stands at 0.66. And in case of activity like business and trade in the hill district, the disparity figure ranges from 0.09 to 0.18. The aggregate figure of SNA tertiary activity shows very high level of disparity in all the six villages except in village VI, in the hill district of West Kameng.

The absolute difference of time in extended SNA represents the disparity in household activities. The figures from the surveyed villages reveal high level of disparity in activities like cooking food items and serving etc. whereas, in activities like clearing and upkeep of dwelling etc., the disparity figure varies from village to villages and also from plain region to hilly region. In plain areas in village I the disparity indices is 0.41, while in village II the figure is 0.44 and in village III it is 0.43. As regard to the villages of the hilly area, disparity indices varies from 0.15 in village VI to 0.24 and 0.27 in village V and village IV respectively for activities like cleaning and upkeep of dwelling. The combine figure of the hill and plain villages show little variance. Thus, it is found that is plain districts the disparity is slightly higher in these activities compared to that of hill district. Likewise, same result is found in activities such as cleaning of utensils, caring of textiles, sorting, mending, washing, ironing etc.,. whereas in some other activities like shopping of goods and caring of pets, low level of disparity is found in both hill and plain districts. Finally, the overall disparity in ESNA activities figure shows high disparity in all the six villages of both the districts.

In case of non-SNA activities, we observe disparity in time available to both men and women for personal care and self maintenance etc. A mixed picture appears from the disparity index table of the surveyed villages. Whereas in some activity, disparity is high while in some it is low. For instance, in social and cultural activities, disparity is found to be more or less high in both the hill and the plain districts. It is very interesting to note that in the hill district women have to work from dawn to dusk and are left with very few hours for sleep and leisure related activities. Thus we observe a high level of disparity in this activity which ranges from 0.67 to 1.00 in the hill district and in the plain district it varies from 0.19 to 0.28. The combine village figure in the same activity also shows a very high level of disparity. Thus the overall figures of ESNA activities for both the hill and plain district shows that the disparity is very high in the hill region as compared to women in the plain region.

Table: 5.6
Measure of Gender Disparity

Activity	Absolute Difference between Male and Female Weekly Average Hours									Disparity Indices								
	East Siang West Kameng									East Siang West Kameng								
	I	II	III	All villages	IV	V	VI	All villages	Combine Villages Total	I	II	III	All villages	IV	V	VI	All villages	Combine villages Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(19)	(20)
11	8.12	16.78	12.79	12.48	7.56	9.75	6.97	8.12	10.33	1.00	1.00	1.00	1.00	0.77	1.00	0.87	1.00	1.00
12	1.02	1.76	0.54	1.02	0.00	1.03	1.55	0.88	0.98	0.00	0.03	0.03	0.02	0.00	0.02	0.16	0.11	0.00
13	2.85	2.19	4.90	3.37	9.66	3.50	1.59	4.99	4.11	0.25	0.37	0.37	0.22	1.00	0.29	0.17	0.50	0.33
14	2.07	1.36	5.46	3.11	3.36	0.89	0.28	0.95	1.94	0.14	0.42	0.42	0.20	0.32	0.00	0.00	0.10	0.10
15	0.00	0.67	3.29	1.38	1.19	1.24	3.72	2.04	1.68	0.00	0.25	0.25	0.05	0.08	0.04	0.45	0.14	0.07
16	0.00	1.14	1.47	0.90	0.00	4.39	1.46	1.99	1.41	0.00	0.10	0.10	0.01	0.00	0.40	0.15	0.23	0.05
SNA Pry	2.18	11.00	3.73	5.47	4.27	2.95	5.82	1.36	3.57	0.00	0.59	0.00	0.15	0.00	0.00	0.46	0.00	0.00
21	4.14	1.30	3.04	2.87	5.53	4.39	8.02	6.01	4.41	0.44	0.23	0.23	0.18	0.55	0.40	1.00	0.73	0.37
22	1.07	0.00	1.08	0.76	0.42	0.00	0.00	0.14	0.43	0.93	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00
SNA Sec	5.21	1.30	4.12	3.62	5.95	4.39	8.02	6.15	4.83	0.40	0.00	0.05	0.00	0.60	0.72	1.00	1.00	0.17
31	6.39	12.86	10.89	10.06	0.07	1.65	1.63	0.09	5.04	0.76	0.85	0.85	0.79	0.00	0.09	0.18	0.00	0.43
32	3.44	15.52	0.20	5.78	7.42	3.29	5.25	5.43	5.86	0.34	0.00	0.00	0.42	0.76	0.27	0.64	0.66	0.52
SNA Ter	9.84	28.38	11.09	15.84	7.49	4.94	3.62	5.53	10.90	0.40	1.00	1.00	1.00	1.00	1.00	0.00	0.87	1.00
Total SNA	12.86	18.68	11.49	13.99	17.71	6.38	5.82	10.32	12.19	0.00	0.12	0.00	0.00	0.76	0.00	0.00	0.00	0.00
41	10.90	14.75	11.21	12.11	7.07	8.17	10.70	8.64	10.56	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
42	4.54	6.46	4.99	5.24	2.03	2.06	1.59	1.89	3.62	0.41	0.43	0.44	0.37	0.27	0.24	0.15	0.21	0.34
422	5.17	5.17	3.09	4.41	3.54	3.23	3.36	3.37	3.93	0.46	0.34	0.27	0.36	0.49	0.38	0.31	0.39	0.37

431	1.46	1.92	2.27	1.89	4.13	2.81	1.82	2.92	2.40	0.12	0.12	0.19	0.15	0.58	0.33	0.17	0.34	0.22
441	0.30	0.16	0.13	0.10	0.98	0.14	0.83	0.01	0.05	0.01	0.00	0.00	0.00	0.12	0.00	0.08	0.00	0.00
47	3.09	2.86	2.42	2.77	0.14	0.34	0.08	0.04	1.42	0.25	0.18	0.21	0.22	0.00	0.03	0.01	0.00	0.13
481	0.03	0.18	0.27	0.04	3.22	1.37	1.23	1.96	0.98	0.00	0.00	0.01	0.00	0.44	0.15	0.11	0.22	0.09
511	2.41	3.01	2.85	2.74	3.57	2.47	3.35	3.12	2.95	0.21	0.20	0.25	0.22	0.49	0.29	0.31	0.36	0.28
521	0.24	1.51	0.39	0.70	0.49	0.14	0.18	0.13	0.43	0.00	0.09	0.02	0.05	0.05	0.00	0.02	0.01	0.04
53	0.56	0.00	0.26	0.27	0.21	1.10	0.37	0.42	0.07	0.03	0.00	0.01	0.01	0.01	0.12	0.03	0.04	0.00
54	0.81	0.67	1.56	1.04	0.91	1.92	0.61	0.53	0.78	0.06	0.03	0.13	0.08	0.11	0.22	0.06	0.06	0.07
58	0.26	2.92	3.17	1.95	2.66	0.00	0.98	1.19	0.37	0.27	0.19	0.28	0.15	0.36	0.00	0.09	0.13	0.03
572	0.19	0.48	0.13	0.26	0.28	0.96	0.08	0.24	0.01	0.00	0.02	0.00	0.01	0.02	0.10	0.01	0.02	0.00
59	2.28	2.78	5.81	3.71	3.01	1.10	1.10	1.72	2.68	0.21	0.18	0.51	0.30	0.41	0.12	0.10	0.20	0.25
61	0.00	0.16	0.52	0.14	0.49	2.47	2.22	0.30	0.06	0.00	0.00	0.04	0.00	0.05	0.29	0.21	0.03	0.00
67	3.21	0.28	1.12	1.61	1.61	3.29	2.11	0.12	0.84	0.28	0.01	0.09	0.13	0.21	0.39	0.20	0.01	0.07
65	1.07	0.00	0.12	0.30	0.91	0.41	0.29	0.55	0.42	0.08	0.00	0.00	0.02	0.11	0.03	0.03	0.06	0.03
ESNA	25.88	35.30	30.39	30.06	19.71	23.20	21.45	21.60	26.11	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
81	1.90	1.68	0.47	0.00	2.24	3.29	0.81	0.19	0.00	0.41	0.28	0.05	0.33	0.91	0.52	0.21	0.01	0.00
82	0.78	1.17	0.77	0.39	1.68	0.75	1.74	1.38	0.89	0.17	0.19	0.09	0.00	0.67	0.10	0.47	0.35	0.22
84	0.30	0.00	0.14	0.15	0.28	0.00	0.00	0.09	0.03	0.06	0.00	0.00	0.06	0.06	0.00	0.00	0.00	0.00
83	1.74	4.91	6.93	4.63	0.98	0.00	0.61	0.11	2.20	0.37	0.88	1.00	0.83	0.36	0.00	0.15	0.02	0.55
87	0.76	0.49	0.00	0.39	2.03	1.85	3.50	2.46	1.44	0.16	0.06	0.00	0.06	0.82	0.28	1.00	0.63	0.36
88	0.91	0.16	0.00	0.35	0.70	0.00	0.00	0.24	0.30	0.19	0.00	0.00	0.05	0.24	0.00	0.00	0.06	0.07
92	1.72	2.39	2.62	1.01	1.19	1.51	1.97	0.24	0.43	0.37	0.41	0.36	0.17	0.45	0.23	0.54	0.06	0.10
93	0.01	1.29	2.12	1.16	0.91	0.00	0.13	0.26	0.70	0.00	0.21	0.29	0.20	0.33	0.00	0.02	0.06	0.17
01	1.33	1.17	1.82	1.43	1.68	6.18	2.69	3.88	2.47	0.28	0.19	0.25	0.25	0.67	1.00	0.74	1.00	0.62
02	1.36	1.22	0.17	0.75	1.12	0.41	0.38	0.68	0.72	0.29	0.19	0.01	0.12	0.42	0.04	0.09	0.17	0.18
922	4.65	5.59	6.25	5.55	2.45	2.75	1.97	2.42	3.95	1.00	1.00	0.90	1.00	1.00	0.43	0.54	0.62	1.00

03	0.63	0.78	1.00	0.79	0.49	0.27	0.01	0.25	0.53	0.13	0.11	0.13	0.13	0.15	0.02	0.00	0.05	0.13
932	0.00	0.16	0.00	0.05	0.63	0.34	0.08	0.36	0.20	0.00	0.00	0.00	0.00	0.21	0.03	0.00	0.08	0.04
04	0.30	0.17	0.13	0.00	0.28	0.14	0.07	0.12	0.06	0.06	0.00	0.00	0.00	0.06	0.00	0.00	0.02	0.01
942	0.30	0.00	0.26	0.20	0.28	0.55	0.35	0.02	0.08	0.06	0.00	0.02	0.02	0.06	0.07	0.08	0.00	0.01
951	1.64	1.97	1.02	0.39	0.42	0.27	0.79	0.33	0.38	0.35	0.33	0.13	0.06	0.12	0.02	0.21	0.00	0.09
05	1.79	0.71	0.49	1.00	1.26	3.57	0.76	1.06	1.01	0.38	0.10	0.05	0.17	0.48	0.57	0.20	0.26	0.25
06	0.19	0.09	0.19	0.04	0.07	0.48	0.17	0.13	0.08	0.04	0.00	0.01	0.00	0.00	0.06	0.03	0.01	0.01
981	0.46	0.31	0.21	0.31	0.21	1.37	1.72	0.97	0.64	0.10	0.03	0.01	0.04	0.03	0.20	0.47	0.24	0.16
982	0.27	0.00	0.00	0.09	0.00	1.78	0.06	0.62	0.35	0.06	0.00	0.00	0.00	0.00	0.27	0.00	0.15	0.08
09	0.30	0.18	0.00	0.06	0.14	1.51	0.26	0.39	0.21	0.06	0.00	0.00	0.00	0.00	0.23	0.06	0.08	0.05
Non-SNA	12.82	16.31	19.12	15.98	1.40	16.88	11.24	10.81	12.98	0.00	0.00	0.25	0.06	0.00	0.62	0.34	0.50	0.06

Note: 1.Village I is Telam, Village II is Potte, Village III is Remi, Village IV is Shergaon, VillageV is Khellong and Village VI is Barchipam

Source: Field Survey, 2011-12

Activity 11-crop farming, kitchen gardening, etc, 12- Animal Husbandry, 13- Fishing, forestry, horticulture, gardening, 14- collection of water, fodder, fuel, fruits, etc, hunting. 15- Processing and storage, 16- Mining quarrying, digging, cutting, etc. 21- construction activities, 22- Manufacturing. 31- Trade and Business. 32- Services. 41- Cooking food items, beverages and serving. 42- Cleaning and upkeeps of dwelling and surroundings. 422- Cleaning of utensils. 43- Caring of Textiles, sorting, mending, washing, ironing and goods, household appliances, equipments, food and various households' goods. 441- shopping of goods. 47- Care of Pets. 481- Travel related to household maintenance, management and shopping. 511- Physical care of children, washing, dressing, feeding. 521- Teaching, training and instruction of own children. 53-accompanying children to places, school, sports lessons, etc./PHC/doctor. 54-physical care of sick, disabled, elderly household members: washing, dressing, feeding, and helping. 58- Travel related to care and children. 572- Travel related to care of adults and others. 59- Care of guest. 61- Community organized construction and repairs. 67- Informal help to other households. 65- Participation in the meetings of local and informal groups/ caste etc. 81- Participation in social events: wedding, funeral, birth and other celebrations. 82- Participating in religious activities; church services, religious ceremonies, practices, kirtans , singing, etc. 84- participating in functions in music, dance, etc. 83-socializing at home and outside home. 87- Games and other past time activities. 88- Spectator to sports, exhibition etc. 92- watching television and video. 93- Listening to music/radio. 01- Sleep and related activities. 02- Eating and drinking. 922- Smoking, drinking alcohol& other intoxicants. 03- Personal hygiene and health. 932- Walking exercise mining, jogging and yoga, etc. 04- receiving medical and personal care from professional. 942- Receiving medical and personal care from household members. 951- Talking, gossiping & quarrelling. 05- Doing nothing, rest and relaxation. 06- Individual religious practice and medication. 981- Other Activities. 982- resting/ convalescing due to physical unwell persons. 09- Travel related to personal care and self maintenance

5.6 Women's Work Burden

It has been observed in both the districts that the work burden on women is far more compared to that of men. There are many factors which have an impact on women's work burden. Total work burden is defined as the percentage of the total time devoted to work, which includes both economic activities and household work (that is, SNA plus extended SNA). Table 5.7 clearly reflects that irrespective of the geographical location of the district the work burden on women in much more than men in all the villages. Both in the plain and hills districts there is substantial difference in the magnitude of total work burden.

Table: 5.7
Women's Work Burden

Districts	Villages	Gender	Total Work Burden
(1)	(2)	(3)	(4)
East Siang	I	Male	39.81
		Female	47.56
	II	Male	40.55
		Female	50.45
	III	Male	36.71
		Female	47.96
	Villages Total	Male	38.85
		Female	48.41
West Kameng	IV	Male	49.83
		Female	51.02
	V	Male	39.5
		Female	49.51
	VI	Male	42.49
		Female	51.79
	Villages Total	Male	43.02
		Female	49.73
Combine Villages Total		Male	41.48
		Female	49.77

Note: Village I is Telam, Village II is Potte, Village III is Remi, Village IV is Shergaon, VillageV is Khellong and Village VI is Barchipam

Source: Field Survey, 2011-12

VI. Concluding Observations and Policy Implications

Arunachal Pradesh has undergone remarkable economic changes within a comparatively short period of time. The State's economy has not only

experienced a remarkable growth over the past decades, it has diversified from a localized, nature-based subsistence economy into a thoroughly integrated market economy, notwithstanding the continuing significance of some of the traditional economic institutions. The predominantly barter economy has been almost completely transformed into a monetized economy. The market institutions are still underdeveloped in many respects, and there is a great deal of regional variations in the degree of integration with the market economy. A remarkable feature of the transformation process is the way the ecological, historical and policy-induced specificities of the state have shaped the trajectories of economic change. The manifold implications of the economic transformation of the state for the changing gender relations is an important but relatively neglected aspect of the changing socio-economic conditions in contemporary Arunachal Pradesh (Mishra and Upadhyay, 2007; Harriss-White et al, 2009).

It is extremely difficult to make generalizations regarding the position of women in Arunachal Pradesh and the changes in it, primarily because of two reasons: firstly, given the extraordinary diversity in the socio-economic conditions, institutional arrangements and cultural ethos of the different tribes and sub-tribes of the state, and the paucity of in-depth studies on various aspects of gender relations at the community level, it is very difficult to arrive at valid conclusions on the basis of just a few variables for which reliable estimates are available; and secondly, in the absence of earlier bench-marks it is difficult to understand the magnitude and the processes of change. The development process has created such conditions, in which women have not only been able to participate and utilize the emerging opportunities, but also face new hurdles in various spheres of the rapidly changing socio-economic milieu.

The following analysis, based largely on the available secondary data as well as primary data generated through a household level survey, and a time use survey, is far from exhaustive, but it is intended to provide an insight into the complexities of the transition process in terms of its relationship with gender relations in the State. It focuses on the work participation and time-use pattern of rural women in Arunachal Pradesh and also as to how women's work is being transformed in numerous ways. The study makes an attempt to compare the outcome of the transformation process on women's work at various levels: (a) there is inter-district comparisons (i.e. between the hill district and the plain district); (b) inter-village comparisons (between slightly remote

and moderately remote villages from the urban centers within the hill and the plain districts); and (c) comparison between men and women in the different villages across the two districts.

In order to understand the changing nature of female work participation, a detailed analysis was undertaken using the population census data. Work Participation Rates in Arunachal Pradesh, during 1981-1991, for both males and females, tend to be higher than the national average. However, the gap between the two was wider in case of female work participation rate (FWPR). In 2001, FWPR of the state was 36.45 per cent in comparison with the national average of 25.68 per cent. Primarily because of the greater 'productive' contribution of women, the gap between male and female work participation rates in the State was lower than that at the national level. This can also be attributed to the relatively higher percentage of ST population as well as the low levels of development in the state.

FWPR in Arunachal Pradesh, however, has declined significantly from 51.28 per cent in 1971 to 36.45 per cent in 2001, although an increase in FWPR was noticed in urban areas during 1991-2001. The gap between male and female work participation rates, which had been increasing during 1971-91, declined during the 1990s, partly because of a sharper fall in male work participation rate during the period. As expected, gender gap in work-participation is much higher in urban than in the rural areas. In 2001, FWPR in the districts was negatively correlated with female literacy rate, while FWPR of rural women was negatively correlated with female literacy rates and positively with the share of ST population to the total population.

The study clearly shows that in Arunachal Pradesh wide inter-district variations in the work participation rate exists across the districts in terms of gender as well as the place of residence. As far as the combined work participation rate in the state is concerned, it was found that in 2001, the total work participation rate in the hill district of West Kameng (46.09 per cent) was not only much more than the work participation rate of the plain district of East Siang (38.45), but also more than the States (43.97 per cent) work participation rate. At a disaggregate level, the male work participation rate of the hill district of West Kameng (58.40 per cent) was much higher than the MWPR of the State (50.69 per cent) as well as that of the plain district of East Siang (45.41 per cent). Further, as regard to female work participation rate it was found that the work participation rate in

the hill district was marginally lower than that of the plain district, but the States female work participation rate (36.45 per cent) was higher than that of both the plain (31.01 per cent) and the hill district (29.69 per cent).

According to the place of residence in 2001 we find that in urban areas also the total work participation in the hill district of West Kameng (33.96 per cent) was more than that of the plain district of East Siang (30.59 per cent), but the States work participation rate (34.16 per cent) was marginally higher than the hill districts WPR. Both the male (48.15 per cent) and female (17.26 per cent) work participation rate of the hill district of West Kameng was higher than the male (45.93 per cent) and female (13.30 per cent) work participation rate of the plain district of East Siang. While, even in the rural areas we find that the total work participation rate in the hill district of West Kameng (47.29 per cent) was higher than the work participation rate of the plain district of East Siang (41.09 per cent) and also marginally higher than the States (46.47) work participation rate.

During 1971-2001, the inter-district variation in the work participation rate in the state of Arunachal Pradesh was much higher in case of females than males for both main-plus-marginal workers as well as for main workers. While in case of marginal workers, the coefficient of variations is higher both for rural and total male work participation rates both in 1981 and 2001, whereas in 1991 the coefficient variations of MWPR for marginal workers in urban areas is higher than that of female work participation in the same year.

Contrary to the popular perception of more egalitarian gender relations in tribal areas, it was found in the study villages that the intra-family division of work burden was heavily skewed towards women. In fact, it was observed that women in the villages of the hill district were more burdened with work compared to that of women in the plain district. Further, it was also observed that as women were predominately responsible for the primary-SNA and non SNA work that was very much critical for household survival, they tend to suffer more in terms of work burden, if the households are primarily dependant on *jhum* cultivation and are away from the urban centers as well as the forests i.e. there is lack of physical infrastructure and road connectivity and the forest is far away from the villages. In the hill district, the majority of the households were dependant on agriculture, while in the plain district they depended on non-farm occupation. It was observed that women in the villages of the hill district performed all the work in the family farm, collected vegetables,

grasses, fruits and leaves for manure from the near by forests. They even performed those work, like clearing of the jungles in the *jhum* fields which was traditionally performed by the men, as the men folk move-out to work as daily wage labourers in the construction sites where roads and bridges are being built. It was further found that the women folk also worked as daily wage labourers at the construction sites in the hill district of West Kameng. This was not to be found in the plain district of East Siang.

Further, it was observed that degradation of forest had led to a situation where women in the hill as well as in the plain districts had to walk greater distance to collect firewood, tubers, leafy vegetables, leaves and medicinal plants and spend more of their time in collection of these items. The degradation of forest has led to an increase in women's work burden in the state (Upadhyay, 2011; Mishra and Mishra, 2012). It was observed that the degradation of the forest was much more in the plain district of East Siang, where timber was being commercially exploited to be sold in the bordering state of Assam, despite a Supreme Court ban on felling of trees for commercial use. Further, in the villages of the plain district it was observed that as men moved out and joined the non-farm sector the work burden on the women folk increased manifold. In both the hill and plain districts it was observed that inspite of the fact that the work burden of the women were much more than their male counterparts, they did not have much say in important decision-making. All important decisions in the household were being taken by the men of the household in all the six villages of the two districts. The secondary as well as the primary data clearly reflects that the female work participation rate is higher in the villages of the hill district compared to that of the plain district. Women in the hill district have higher work burden, as they work in the jhum fields, which is very labour-intensive and also because of the difficult hilly terrain and lack of road connectivity.

Further, it was also observed that there is an inverse relationship with the literacy level and work participation rate. In 2011, the literacy level in the hill district of West Kameng (69.40 per cent) was lower than the literacy level of the plain district of East Siang (73.54 per cent), while the work participation rate was higher in the hill district of West Kameng (46.09 per cent) and lower in the plain district of East Siang (38.45 per cent). Thus we see that the work participation is higher in the districts having low literacy level. Further, we also observe that low levels of urbanization have led to a situation where the work participation rate is high. We find that in the hill district of West Kameng there is less urbanization compared to that of the

plain district of East Siang and the work participation rate for both males and females tend to be higher in the hill district than in the plain district of East Siang.

Access to employment and earnings is vital for having control over resources as well as for participation in decision-making processes, both within and outside the household. One of the fundamental aspects of gender discrimination, in almost all parts of the world, is the unequal access of women to gainful employment opportunities. A substantial section of women remain outside the job market and when they enter the job market they typically have less access to the well-paid, secure jobs. A majority of women work in the informal sector with low levels of earnings and in pitiable working conditions. While the underlying causes of such differences in access to employment are complex and diverse, unequal opportunities for learning and education, socially constructed barriers, along with patriarchal ideologies have been found to be responsible for women's unequal participation in income generating employment opportunities.

To carry forward the analysis, a household level primary survey was conducted in the six villages of Arunachal Pradesh, both from the plain and hill district. The villages were selected on the basis of its remoteness from the urban centers, so as to represent the diversity within the district in terms of levels of infrastructure development. The agrarian structure of the study villages was by and large characterized by the preponderance of small and marginal farmers.

There has been a considerable shift in the occupational distribution of workers in the state of Arunachal Pradesh. Similar trend was also observed in the study districts of the state. Further, the growing importance of non-farm sector and declining importance of farm sector has also added dynamism in the existing distribution of occupation. In the study villages, it was found that 53.3 per cent of households depended upon agriculture as their first occupation. The second most important occupation was found to be services, followed by business. Inter-district variation existed in the relative size of occupational categories. Firstly, it was observed that 74.2 per cent of the total households in West Kameng, the hill district depended on agriculture, whereas it was only 32.5 per cent in East Siang, the plain district. It basically reveals that there is more concentration of non-farm activities in East Siang district as compared to West Kameng district. Secondly, 39.7 per cent of the households were dependent on services in

East Siang district, while only 15.2 per cent were service holder in West Kameng district. Thirdly, while 22.5 per cent of the households were doing business in East Siang district, on the other hand only 15.9 per cent were doing business in West Kameng district. As far as other occupations were concerned, no such sharp differences existed, between the two districts, apart from agriculture, service and business.

Generally in rural areas it was found that people are not confined to a single occupation, rather they engage themselves in other activities simultaneously. While 13.9 per cent of the households had no second occupation in East Siang district, all the households of West Kameng district had different types of second occupation. It basically shows that in the district of West Kameng, people have more alternate occupations than that of East Siang. Again, it was observed that the share of 'agriculture and animal husbandry' in East Siang district and 'agriculture and wage labour' in West Kameng district had greater significance as second and third occupation respectively than as the first occupation. The share of 'agriculture and wage labour' was less than 1 per cent in East Siang district while it was 37.7 per cent in West Kameng district. It clearly shows that non-farm activities have a greater presence in the district of West Kameng as compared to East Siang.

As regard to the main activities, it was observed that both male and female work participation rate in the rural areas has been declining since 1971 and the deceleration has been more prominent during the decade 1971-81. Further, it is also seen that in urban areas of the State the male work participation rate has come down, whereas, the female work participation rate has risen and the rise is more significant during the decade 1991-2001. On the other hand, in case of main activity, the total WPR for both male and female has been decreasing and the fall is more pronounced during the decade 1971-81 and 1991-2001. This drop in work participation rate has taken place in the background of spread of education as well as urbanization in the State.

Inspite of the fact that there has been a steep fall in the proportion of rural marginal workers in the state during 1981-91, a significant upward shift of the marginal workers had been observed in 2001. The reason could be the seasonal nature of rural employment and the conceptual changes in work in the census of 2001. Even in the urban areas, the marginal work participation rate has risen, but it is less than that of the rural areas. In fact, the upward shift in the percentage of urban total workers during

this period could be because of a rise in the number of casual workers in the informal sector as well as an increase in self-employed and part-time workers. Thus, the steep increase in total marginal work participation rate could be due to spread of education as well as shift of engagement in domestic activity and increase in part time jobs.

The economic contribution of women, for a variety of reasons, remains systematically under-reported in the official data systems. The conceptual problems associated with valuation of unpaid and unaccounted work, perceptions of the interviewers, the social conditioning of the respondents as well as the social construction of work, along with other factors, have contributed to the underestimation of women's work. In case of Arunachal Pradesh, given the relative importance of subsistence production, and low levels of commercialisation of the economy, the problems of underestimation of women's work are expected to be far more serious.

To find out the total work burden of women, a time-use survey was undertaken in the six villages by interviewing one male and one female adult member of the household in both the districts of the State. It was found that in 'economic activities' men put in more hours of work compared to that of women. The survey reveals that on an average in SNA activities men worked for longer hours compared to that of women. While in SNA extended activities, which includes unpaid work like household maintenance and care of children and old people, women put in more hours of work than men. In non-SNA activities we find that in terms of leisure and entertainment, women put less hours than men.

In order to bring out the difference in the time spent by males and females a Gender disparity index was constructed. It was found that in all the six villages of the two districts, the gender disparities in Extended SNA activities are much higher compared to non-SNA activities, where disparity was found to be comparatively lower. It was observed that in the villages of both the plain and hill district i.e. in village I, II, III and IV, V and VI the gender disparity favours women in extended activities. In SNA activities highest gender disparity index was observed in one of the villages of the hill district i.e. in village IV. In SNA primary activities, village II in the plain district and village VI in the hill district shows higher disparity indices. On the other hand, the remaining villages show low level of disparity in SNA primary activities. In activities like crop farming, kitchen gardening etc., very high level of disparity is observed in all the six surveyed villages. In other activities such as horticulture, gardening etc. women were found

contributing much of their time compared to that of men in both hill and plain districts. The disparity indices figure varies from 0.25 to 0.37 in plain district and 0.17 to 1.00 in hill district. Thus it is found that the women in the hill district spend more time compared to that of the plain district in work related activities. In other words, the disparity is high in the hill district compared to that of plain, in activities like horticulture, gardening etc. As far as activities like collection of water, fodder, fuel, fruit etc., is concerned, disparity exists in all the villages of the plain districts, while in case of hill district it exists only in village IV.

In SNA secondary activities, the figures reveal that women have to work more in hill districts than in plain districts. In all the three villages of the hill district the disparity was very high in activities such as construction and manufacturing. But in the plain district, only in village I disparity was found in the SNA secondary activity. Thus, women in the hill districts, also spend much of their time in construction and manufacturing activities compared to that of women in the plain district. At a more disaggregate level, both in hill and plain district, in activities like construction, disparity was found but the comparative picture revealed that the hill districts had a high level of disparity. In case of manufacturing activity, disparity was found only in the plain district and it was too high in village I.

In activities such as trade and business, the disparity is very high in all the three villages of plain district. The overall disparity in the plain district is also high. While, in activities like services disparity is found only in village I of the plain district. On the other hand, reverse is the case in the hill district, where the disparity is very high in activities such as services, in all the three villages of the district where the study was conducted. And in case of activity like business and trade in the hill district, the disparity figure is less than the plain district. The aggregate figure of SNA tertiary activity shows very high level of disparity in all the six villages except in village VI in the hill district of West Kameng.

The absolute difference of time in extended SNA represents the disparity in household activities. The figures from the surveyed villages reveal high level of disparity in activities like cooking food items and serving etc. whereas, in activities like clearing and upkeep of dwelling etc., the disparity figure varies from village to village and also from plain region to hilly region. The combine figure of the hill and plain villages show little variance. Thus, it is found that is plain districts the disparity is slightly higher in these activities compared to that of hill district. Likewise, same

result is found in activities such as cleaning of utensils, caring of textiles, sorting, mending, washing, ironing etc., whereas in some other activities like shopping of goods and caring of pets, low level of disparity is found in both hill and plain districts. Finally, the overall disparity in ESNA activities figure shows high disparity in all the six villages of both the districts.

In case of non-SNA activities, we observe disparity in time available to both men and women for personal care and self maintenance etc. A mixed picture appears from the disparity index table of the surveyed villages. Whereas, in some activity disparity is high while in some it is low. For instance, in social and cultural activities, disparity is found to be more or less high in both the hill and the plain districts. It is very interesting to note that in the hill district women have to work from dawn to dusk and are left with very few hours for sleep and leisure related activities. Thus we observe a high level of disparity in these activities in the hill district while in the plain district the disparity is comparatively low. The combine figure of all the villages, in the same activity shows a very high level of disparity. Thus the overall figures of ESNA activities for both the hill and plain district shows that disparity is very high in the hill region as compared to women in the plain region.

Thus it is observed that the work burden of the women in the hill district is much more compared to that of the plain district. There are many factors which have an impact on women's work burden. Total work burden which is defined as the percentage of the total time devoted to work, which includes both economic activities and household work (that is, SNA plus extended SNA). It is observed that the dependence of household on jhum and animal husbandry increases women's work burden substantially. The distance of the agriculture field from the house also has an impact on their work burden. Education of female worker decreases the work burden, but the coefficient is not very significant. The relatively lower levels of participation in paid-work, however, do not mean that women have lesser work burden. Typically women shoulder a disproportionately higher share of reproductive responsibilities, including child-rearing, caring and other types of domestic work. They also contribute substantially towards meeting the consumption and survival needs of the household members, thereby contributing to the household food security. Although women perform some of the most onerous and tedious tasks and spend a considerable time and energy in doing unpaid domestic work along with a host of 'productive' and income-generating activities, their contribution remains undervalued and unrecognised. In much of the developed and developing

world, women's employment is constrained by a number of structural inequalities such as, relatively lower wage rates and fewer hours of paid work for females, sex-segregation in the job market, sex-stereotyping of jobs resulting in designation of women's jobs as unskilled, explicit barriers to entry for women in some segments of the job market, etc. Any policy design for rural development in general and that for empowerment of women in particular needs to take into account these aspects of women's work. What is clear of course is that in the study districts at least the over all work burden of women is higher than that of males, but their participation in 'gainful economic activities' is less than that of men. So steps have to be taken to count the works which are performed by the female members of the household in the 'unpaid' category as economic activities.

The key question that needs to be addressed in the context of economic transformation of Arunachal Pradesh is the changing patterns of gender division of labour and the underlying changes in social attitudes and stereotypes. In her pioneering work on the economic role of women during the process of economic development, Ester Boserup has shown that as a result of increasing population density and consequently, intensification of agriculture, shifting cultivation systems with collective ownership over land are usually transformed into a system of peasant production with private ownership of land with use of animals for cultivation and transport. These changes are usually accompanied by significant changes in women's position (Boserup, 1970). Generally, privatisation leads to transfer of lands to males and marginalisation of women in production activities, which in turn lead to their marginalisation in society and in the household as well. 'Although there is no matriarchy in NEFA', noted Verrier Elwin in his Philosophy for NEFA, 'women hold a high and honourable position. They work on equal terms with the men in Jhums and make their influence felt in the tribal councils' (Elwin, 1957/99:28). However, the state of Arunachal Pradesh has undergone a significant and multi-layered transition in past decades and gender roles within and outside the household are being redefined throughout this on-going transition. Across the state there is a great deal of diversity in the pace, direction and nature of changes in gender roles. While improvements in the levels of education, greater facilities for learning and skill formation along with improvements in infrastructure have opened up new employment opportunities for a section of women in the state, the gender gap in access to new opportunities continues to remain a cause of concern.

References

Acharya, M (1993), 'The Household Economy and Women's Work in Nepal', in S Raju et al. (eds), *Women and Work in South Asia: Regional Patterns and Perspective*, Routledge, London.

Acharya, M and L Bennet (1983), 'Women and the Subsistence Sector: Economic Participation and Household Decision-making in Nepal', *World Bank Staff Working Paper*, No. 562.

Acharya, M and L Benett (1981), *The Rural Women of Nepal: An Aggregate Analysis Summary of Eight Villages Studies* (The Status of Women in Nepal), 9 (Part-II), Tribhuvan University, CEDA: Kathmandu.

Agarwal, Bina. (1994), *A Field of One's Own: Gender and Land Rights in South Asia,* (Indian Reprint 1996) New Delhi: Cambridge University Press.

Agarwal, B (1997), 'Environmental Action, Gender Equity and Women's Participation', *Development and Change*, Vol 28, pp 1-44.

Agrawal, Hema (1988), 'Contribution of Farm Women in Animal Husbandry Enterprise', in T.M Dak (ed), *Women and Work in Indian Society*, Discovery Publishing house, Delhi.

Ambannavar, J P (1975), 'Changes in Economic Activity of Males and Females in India, 1911-1961', *Demography India*, Vol 4, No 2, December.

Amsden, Alice H. (1980), 'Introduction' in Alice H. Amsden (ed), The *Economics of Women and Work*, St. Martin's Press, New York, pp 11-35.

Apps, P. (2003), 'Gender, Time Use and Models of the Household. IZA DP No. 796. IZA, Bonn.

Bhatia, Rajesh (2002), 'Measuring Gender Disparity Using Time Use Statistics', *Economic and Political Weekly,* Vol. 37, No. 33, pp. 3464-3469.

Becker, Gary (1965), 'A Theory of Allocation of Time', *The Economic Journal*, Vol 80, No 200, pp 493-517.

Boserup, E (1970), *Women's Role in Economic Development*, George Allen and Unwin Ltd., London.

Choudhary, N. and D. Parthasarathy (2007), 'Gender work and Household Food Security', Economic and Political Weekly', Vol. 42, No. 6, pp. 523-531.

Clark, C (1940), *The Conditions of Economic Progress*, MacMillan, London.

Dak, T.M (1988), 'Women and Work in Indian Society', in T.M Dak (ed), Women and Work in Indian Society, Discovery Publishing house, Delhi.

Despande, S (2003), 'Changing Employment Structure in Large State of India: What do the NSSO Data Show?' *The Indian Journal of Labour Economics*, Vol 46, No 4, pp 811-844.

Devi, Mayanglambam Sarda (2012), 'Valuation of Manipuri Tribal Women's Work', *The Indian Journal of Labour Economics,* Volume 55, No. 3, 2012, pp.449-464.

Dholakia, B and R H Dholakia (1978), 'Inter State Variations in Female Labour Force Participation Rates in India', *Indian Journal of Labour Economics*, Vol 20, No 4.

Dreze, J. And Srinivasan, P.V. (1995), "Widowhood and Poverty in Rural India: Some Inferences from Household Survey Data," Discussion Paper No. 125, November 1995, IGIDR, Bombay.

Durand, J D (1975), *The Labour Force in Economic Development*, Princeton University Press, NJ.

Dutta, P.C. (2003), *Tribal Chieftanship*, Himalayan Publishers, Itanagar and New Delhi.

Ellis, Frank (1998), 'Households Strategies and Rural Livelihood Diversification', *Journal of Development Studies*, Vol. 35, No. 1, pp.1-35

Elwin, V (1959), *A Philosophy for NEFA (Arunachal Pradesh)*, Directorate of Reasearch, Government of Arunachal Pradesh, Itanagar (Reprint: 1991).

Ghosh, Partha, Deepak K Mishra and Vandana Upadhyay (2005), 'Electoral Politics in Arunachal Pradesh: An Analysis of the 14th Loksabha Elections', Project Report, Omeo Kumar Das Institute of Social Change and Development, Guwahati

Gopinath, C. and A.H. Kalra, (1985), 'India: Gujarat Medium Irrigation Project', C.Anderson, K.M Cloud, and Auston, J.(eds.), *Gender Roles in Development Project*, Kumarian Press, West Hartfurd. pp. 203-307.

Goswami, Atul (2002), *Traditional Self-Governing Institutions among the Hill Tribes of North East India*, Akansha, NewDelhi.

Government of Arunachal Pradesh (2006), Arunachal *Pradesh Human Development Report 2005*, Department of Planning, Government of Arunachal Pradesh, Itanagar.

Gulati, L (1975a), 'Female Work Participation: A Study of Inter-State Differences', *Economic and Political Weekly*, Vol 10, No 15, pp 35-42.

Gulati, L (1975b), 'Occupational Distribution of Working Women: An Inter-state Comparison', *Economic and Political Weekly*, Vol 10, No 43, pp 1692-1704.

Harriss-White, Barbara, Deepak K Mishra and Vandana Upadhyay. (2009), 'Institutional Diversity and Capitalist Transition: The Political Economy of Agrarian Change in Arunachal Pradesh, India, *Journal of Agrarian Change*, Vol. 9, No. 4, pp.512-547.

Hirway, I (1999), 'Conceptual and Methodological Issues of Time Use Studies', *Proceedings of the International Seminar on Time Use Studies*, CSO, Government of India, New Delhi.

Hirway, I (2002), 'Employment and Unemployment Situation in 1990s: How Good are the NSS Data?', *Economic and Political Weekly*, Vol. 37, No. 21 pp.2027-2036.

Hirway, I.(2009), 'Mainstreaming Time Use Surveys in National Statistical System in India', *Economic and Political Weekly*, Vol.XLIV, No. 49, pp56-65.

International Institute for Population Sciences (IIPS) and Macro International (2009), *National Family Health Survey* (NFHS-3), India, 2005-06: Arunachal Pradesh. Mumbai: IIPS.

Johnston, B F and S T Nielsen (1966), 'Agricultural and Structural Transformation in a Developing Economy', *Economic Development and Cultural Change*, Vol 14, No 3.

Jose, A V (ed) (1989), *Limited Options: Women Workers in Rural India.* ARTEP, ILO, New Delhi.

Kalpagam, U (1999), 'Women, Work and Domestic Duties: Income Planning for Housewives', *Indian Journal of labour Economics*, Vol 42 No 4, pp 568-80.

Khan, M E (1980), 'Study of Inter-relationship between Status of Women, and Demographic Change in U.P., India: A Proposal', *Working Paper*, No1, Operations Research Group, New Delhi.

Krishnaraj, M (2005), 'Research in Women's Studies: Need for a Critical Appraisal', *Economic and Political Weekly*, Vol 40, No 28.

Krishna, Sumi (2001), 'Gender, Tribe and Community controls of Natural Resources in North East India', *Indian Journal of Gender Studies*, Vol. 8, No. 2, pp. 307-321.

Kuznets, Simon (1957), 'Quantitative Aspects of the Economic Growth of Nations: II. Industrial Distribution of Product and Labour Force', *Economic Development and Cultural Change*, Vol 5.

Mancher, J. (1982), 'Women's Work and Poverty: Their Contribution to Household Maintenance in Southern Indian states', Paper presented in the conference on 'Women and Income Control in the Third World', Columbia University, New York.

Mathur, A (1994), 'Work Participation, Gender and Economic Development: A quantitative Anatomy of Indian Scenario'. *The Journal of Development Studies*, Vol. 30, No. 2, pp. 466-504.

Mikami, H (1999), 'Time Use Survey in Japan, *Proceedings of the International Seminar on Time Use Studies*, CSO, Government of India, New Delhi.

Mishra, Deepak K (2001), 'Political Economy of Agrarian Change in Arunachal' *Man and Development,* Vol 23, No 3, pp 40-50.

Mishra, Deepak K (2003), 'Gender and Agrarian Relation in Arunachal Pradesh: A study on West Kameng District'. *Assam Economic Journal*, Vol. 16, pp 71-81.

Mishra, Deepak k and Vandana Upadhyay (2004), 'Governance and Development in Arunachal Pradesh: The Emerging Challenges', *Dialogue Quarterly*, Vo.5, No.4, pp.73-96.

Mishra, Deepak K. (2007), 'Gender, Forests and Livelihoods: A Note on the Political Economy of Transition in North-East India', *Social Change*, Vol.37, No. 4, pp. 65-90.

Mishra, A. and D. K. Mishra (2012), 'Deforestration and Women's Work Burden in the Eastern Himalayas, India: Insights from a Field Survey', *Gender, Technology and Development,* Vol. 16, No. 3, pp. 299-328.

Mishra, Deepak K. and Vandana Upadhyay (2007), 'In the Name of the Community: Gender, Development and Governance in Arunachal Pradesh', in Sumi Krishna (ed.), *Women's Livelihood Rights: Recasting Citizenship for Development*, pp. 167-208. New Delhi: Sage.

Mishra, Deepak K. and Vandana Upadhyay (2012), 'The Difficult Transition: Economic Development and Gender Relations in Arunachal Pradesh', *Indian Journal of Gender Studies*, Volume 19, No. 1, 2012, pp.93-126.

Mitra, A (1979), *Status of Women Literacy and Employment*, Allied Publishers Pvt Ltd., New Delhi.

Mitra, Amitava (1996), 'Female Labour Participation: A District Level Study in Arunachal Pradesh' in K Medhi (ed), *Status of Women and Social Change*, Women's Studies Research Centre, Gauhati University, pp 90-101.

Mukherjee, Avanti (2012), 'Exploring Inter-State Variations of rural Women's Paid and Unpaid Work in India', *The Indian Journal of Labour Economics,* Volume 55, No. 3, 2012, pp.371-392.

Mukherjee, Dipa (2012), 'Women in the Workplace: Status, Disparity and Discrimination', *The Indian Journal of Labour Economics,* Volume 55, No. 3, 2012, pp.431-448.

Munjal, S, Snagwan,V and Grover,I (1988), 'Women Participation and Time Allocation Pattern among Rural Women', in T.M.Dak (ed), *Women and Work in Indian Society*, Discovery Publishing house, Delhi.

N. Neetha and R. Palriwala (2010), 'Unpaid Care Work: Analysis of the Indian Time Use Data', In D. Budlender (ed.) *Time Use Studies and Unpaid Care Work*. New York and Abingdon: Routledge.

Narsimhan, R L and R N Pandey (1999), 'Some Main Results of the Time Use Survey in India and their Policy Implications', *Proceedings of the International Seminar on Time Use Studies*, CSO, Government of India, New Delhi.

Nath, K (1970), 'Female Work Participation and Economic Development: A Regional Analysis', *Economic and Political Weekly*, Vol 5, No 21, pp 846-49.

Nirmala V and Bhat K Sham (1999), 'Female Work Participation in Emerging Labour Market', *Indian Journal of Labour Economics*, Vol.42, No.4.

Pandey, B B, Dr D K Duarah and N Sarkar (eds) (1999), *Tribal Village Councils of Arunachal Pradesh*, Directorate of Research, Govt. of Arunachal Pradesh, Itanagar.

Pandey,B.B.(ed) (1997), *Status of Women in Tribal Society: Arunachal Pradesh,* Directorate of Research, Government of Arunachal Pradesh, Itanagar.

Rajivan, A (1999), 'Policy Implications for Gender Equity Emerging from the Results of the Indian (Pilot) Time Use Survey' *Proceedings of the International Seminar on Time Use Studies*, CSO, Government of India, New Delhi.

Rose, H and J Hanmer (1976), 'Women's Liberation: Reproduction and the Techological Fix', in H Rose and S Rose (eds), *The Political Economy of Science*, Macmillan, London.

Rustagi, Preet. 2000, 'Identifying Gender Backward Districts Using Selected Indicators', *Economic and Political Weekly*, Vol. 35, No. 48, pp. 4276-4286.

Sharma, U. (1981), '*Women Work and Poverty in North-West India*, Tovistock Publication, London.

Shimray, U (2004), 'Women's Work in Naga Society: Household Work Workforce Participation and Division of Labour', *Economic and Political Weekly*, Vol 39, No 17, pp. 1698-1711.

Talukdar, A C (2002), 'Traditional Self-Governing Institutions Among the Tribes of Arunachal Pradesh' in Atul Goswami (ed) *Traditional Self-Governing Institutions Among the Hill Tribes of North East India*, Akansha, New Delhi.

Thakar, P H (1999), 'State Level papers India: Gujarat, *Proceedings of the International Seminar on Time Use Studies*', CSO, Government of India, New Delhi.

Tiano, S (1987), 'Gender, Work and World Capitalism' in B B Hess and M Marx Ferree (eds), *Analyzing Gender: A Handbook of Social Science Research*, Sage, Newbury Park.

United Nations Development Programme (1995), *Human Development Report, 1995*: *Gender and Human Development*, Oxford University Press, Delhi

UNESCO (2002), *Gender, Environment and Poverty*, HRDC, United Nations Development Programme.

Upadhyay, Vandana and Deepak K. Mishra, (2004), 'Micro enterprises in Hill Economies: The Case of Arunachal Pradesh', *The Indian Journal of Labour Economics*, Vol. 47, No.4, pp.1027-1037.

Upadhyay, Vandana and Deepak K. Mishra (2005), *A Situational Analysis Women and Girls in of Arunachal Pradesh,* National Commission for Women, New Delhi, pp 57-74.

Upadhyay, Vandana and Deepak K. Mishra, (2012), 'Gender and the Political Economy of Development in Arunachal Pradesh', in *Governance Issues and Gender Aspects in Development: A North East India Perspective*, Edited by Mrinal Kanti Dutta and Saundarjya Borbora, Papyrus Books and Beyond, Guwahati, pp. 195-217

Upadhyay, Vandana. (2005), 'Women as Micro-Entrepreneurs: Towards an Alternative Strategy of Poverty Reduction in Arunachal Pradesh', *Rajiv Gandhi University Research Journal,* Vol. 8, No. 2, pp. 41-54.

Upadhyay, Vandana and Deepak K. Mishra, (2011), 'Environmental Degradation and Gender Relations in North East India: A Case Study of Arunachal Pradesh', *Journal of Economic and Social Development'*, Volume 7, No. 2, 2011, pp. 25-47.

Upadhyay, Vandana (2012), 'The Employment-Unemployment Situation in Arunachal Pradesh: Implications for Policy', *Indian Journal of Regional Science'*, Volume 45, No. 1, 2012, PP. 24-32.

Upadhyay, Vandana (2013), 'The State of Panchayati Raj in India 2010-11 (Arunachal Pradesh State Report)', Ministry of Panchayati Raj, Government of India, New Delhi.

Varghese, N V (1990), 'Women and Work: An Examination of the Female Marginalization Hypothesis in the Indian Context', *The Indian Journal of Labour Economics*, Vol. 34, No 3.

Visaria, P (1996), 'Structure of the Indian Workforce, 1961-1994', *Indian Journal of Labour Economics,* Vol. 39, No.4, pp. 725-740.

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