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Economic Discrimination in the Process of Globalisation

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This paper speaks on economic discrimination of women in Indian labour market in terms of wage earnings in the process of globalisation. Agricultural wages of men and women are analysed and theories of wage discrimination are evaluated. It is a very comprehensive macro level study with the support of micro level studies in India.

This works clearly leads one to the conclusion that the so called less skilled jobs in the era of globalisation are relegated to rural agricultural women and paid lower wages. The conventional and social attitudes about women in India after globalisation also have paved the way for the employers to treat the women labourers as secondary labour force and, hence, they fall a prey to discriminatory practices in Indian labour markets. The constitutional safe guards could not provide adequate safety net for women in India.

INTRODUCTION

India commenced liberalisation of its market in the 1980s. The Indian Economic crisis precipitated the introduction of the New Economic Policy in 1991. This policy was based on an IMF-World Bank macroeconomic stabilisation and structural adjustment program. The IMF-World Bank loan conditionalities saw the Indian Government withdraws from the economic sphere through curtailment of government expenditure, particularly in social programmes and infrastructure and cuts to state subsidies and price support programmes. This was coupled with the rapid expansion of the market friendly, supply and demand-controlled private sector, reforms to the taxation system and in the banking and financial institutions, and increasing import and export liberalisation.

A prominent myth promulgated by supporters of unchecked globalisation- liberalisation and privatisation - in India is that globalisation processes would be good for growth and the economy, and a growth-driven economy would decrease inequalities, increase income, decrease poverty and increase employment. However, over a decade later significant indicators expose the fallacy of this link between economic growth, increased em-

ployment opportunities and poverty eradication and gender equality.

Women play a crucial role in the socio-economic development of a country. But both in the industrially developed and less developed countries, women are burdened with cumulative inequalities as a result of discriminatory socio-economic practices in India. The situation is much worse particularly in the case of rural women in India. Women not only get pushed into low wage jobs but they are even paid lower remuneration than their male counterparts. The underlying rationale behind this is the supposition that women are materially dependent on men, and therefore the issue of equal remuneration seems an aberration. Still, in agriculture, women in general, take up

only specific jobs, which the male workers usually avoid. It shows a tendency towards a system of job-segregation in the agricultural labour force. Such job segregation has several consequences. It creates a disparity in wage rates between the males and females, the reservation of high prestige and high wage jobs for men and low prestige and low-wage jobs for women workers. It brings down the bargaining power of women workers and reduces them to the state of marginal, intermittent oppressive labour, which is mostly unorganised. Hence the agricultural women labourers constitute the most exploited segment of labourers and their levels of employment and wages remain significantly below those of men in the agricultural labour market.

The three major influences, which determine wages, are (a) market forces, (b) institutional forces and (c) social forces. The market forces are nothing but the economic factors relating to demand for and supply of labour. With regard to institutional forces a person's wage will be influenced, for example, by the collective bargaining power namely trade union movement. As far as social factors are concerned, three most common social determinants of wages are (1) comparability, (2) social status of an occupation and (3) Prejudice. A person may ask for more money because he compares his or her wages to another worker doing a similar job. This appears to be a 'fair' economic judgment as society may grant respect to certain jobs and reward them accordingly. Again, a society may develop prejudices against a particular section of a community. For example, because of prejudice, female labourers may be discriminated against and hence given less than the due economic rewards. (Savita Arputna Murthy, 1990: 32).

Hence, in this paper an attempt is made to analyze wage discrimination of women in labour market in the process. Agricultural wages of men and women are analysed and theories of wage discrimination are evaluated.

LABOUR MARKET THEORIES

The changing labour force participation rates of women and the persistently lower pay they receive for their efforts are the two major topics on which economists are recently

concentrating their attention to a considerable extent. Different economists are to discuss the differentials in incomes and employments in the labour market have put forth several viewpoints. They are, in general, classified as orthodox labour market analysis, human capital theory, the economics of discrimination and segmented labour market theories.

The orthodox tradition of labour market analysis assumes that wages and employment are determined by demand and supply and that demand is determined by the marginal productivity of homogenous units of labour. There will be one wage rate at which the supply and demand for labour will be in equilibrium. It assumes that the demand of labour make no differentiation between workers other than their marginal productive activities. If at all women have been mentioned in the theory of labour market, it has been about the supply of labour. For instance, women are then assumed to make choices as individuals in a way that is different to men's choice about whether to work or not. But when this framework came to be applied to women's pay and the relative pay of men and women, it was unable to predict the scale of pay differentials found between either the sexes or the persistence of these differentials.

However, these orthodox theories suggest jobs are differentiated by the income they command and this is determined by the quality of labour. That is, jobs are differentiated on the basis of quality of labour in terms of his or her skills or productivity and consequently incomes are differentiated. The labourers possessing different skills or productivities came to be known as non-competing groups as stated by Cairness (1874) and Mill (1909) each with boundaries determined by geographical, occupational and most important institutional factors. Moreover, within the orthodox theory, the first source of explanation for persisting wage differentials would have been labour market imperfections, i.e. if monopoly elements prevent women from taking up higher paying jobs, or if they are less mobile as male workers or have less information than men about jobs, they would be expected to end up with less pay on the average.

With regard to discrimination some neoclassical theorists such as Becker (1957) and Arrow (1973) assume that discrimination, of course, exists in labour market but still under competitive conditions. Employers who discriminate make lower profits than employers who don't. According to them discrimination is attributed to tastes and predicted that it will vanish under competitive conditions.

HUMAN CAPITAL THEORY

Human capital theory has been concerned with how far the differences in wage rates can be explained by productivity difference between men and women and how far men's and women's preference for different jobs might also explain the differentials. Human capital theory has developed an elaborate supply side economic theory that is, it assumes de-

mand side to be stable and hence differences in worker productivities on the supply side will be the main source of difference in earnings. The concept of human capital was adapted from physical capital Investment Theory by Becker (1957) and Schultzl during the late 1950s and early 1960s. Accordingly to the human capital theory, an individual can make an investment in himself or herself by devoting time for education, acquiring skills and work experience. The predictions of this theory are that it would bring a higher return to the forthcoming from making a larger investment. Jobs requiring considerable educational qualifications or a long training would be expected to pay much more over a long time than those which can be done without either of them.

The application of human capital theory to the problem of women's' earnings undertaken, first by Mincer (1972) and Polachek (1975) suggest that women in general have different expectations than men and therefore, women make different investment decisions. Since women are assumed to plan to abstain themselves from work for child bearing they are expected to choose the low occupations and hence in most cases they accumulate less human capital and have lower lifetime earnings as a result. However, Polackek (1976) is also of the view that it is women's' preferences for different occupations, which in large part explain both their lower earnings and their occupations segregation.

According to him, even though, individuals assumed to choose their occupations with a view of maximizing lifetime earnings, given their level of investment in education and training. They might also consider the other advantages in any occupation hence choose to accept lower pay for improved conditions or conversely expect higher pay to compensate for dirty or dangerous work. But still, through this idea has been used considerably it does not give satisfactory explanation in terms of human capital requirements and compensation for disadvantages or sacrifice for advantages found in the occupation, but as a matter of fact, it is not so, because, in general, the occupations preferred or chosen by women are defined as less productive and less skilled and hence become less rewarding. Again, since the human capital concept depends heavily on the assumption that labour is paid equivalent to its marginal productivity and hence the problem of measuring productivity appears as in the case of orthodox theory. Moreover, measurement of worker's productivity, taking years of schooling alone into consideration, while ignoring the important quality differences tells upon the real value of workers and hence payment of salaries on the basis of number of years of schooling or training would provide a misleading conclusion. For, when one starts tc look in more details about the existence of wage or earning differentials and education or training differences between individuals or groups, the earning differences are usually far greater than the theory would lead one to expect and it could be stated that human capital theory explains only part of the earning differentials. The equation between earnings and the levels of skills thus have proved to be misleading and it, therefore suggests that differ-

ences in earnings need to be attributed to factors other than education and training. The other factors c an easily be traced out from socially based ones such as class, racial and sexual discrimination and economists have started attributing discrimination to be one of the important causes for earning differences. (Becker, 1957)

ECONOMICS OF DISCRIMINATION

Quite a few economists have suggested that discrimination is an important factor in understanding lower pay and employment of women. Economists usually define discrimination as a situation when workers of the same productivity receive different pay or when workers of dissimilar productivity are paid equally.

Gary Becker (1957) played a founding role in formulating a theory of discrimination. His desire was to analyze the economic discrimination against women and black workers in the U.S.A. His approach was innovative in that Becker introduced non-pecuniary motives into economic theory and said that discrimination is the result of "taste" and that a price could be put upon this "taste" and it became equivalent to the wage differential which could not be found to be explained by productivity differences.

Becker's fundamental work received considerable attention and criticism and a number of developments have since come up. Some regarded Becker's discriminatory concept as unrealistic and have attempted to modify it in the light of empirical work. There are others who have challenged the main predictions of Becker's theory and have also suggested alternative concepts of discrimination, which are meant to constitute more realistic assumptions as well as predictions.

Some of the main features of the alternative concepts of discrimination are given by Alexis (1973), Kruges (1963) Thurow (1969), Stiglitz (1973) and Madden (1973). According to Alexis, the motive for discrimination could be envy or malice, which he calls the economics of racism. But Kruger's opinion is that the aim of discriminations is to benefit from discrimination rather than lose from it. While Thuroco, Stiglitz and Madden have pointed out that imperfections in labour markets are responsible for wage differentials and hence discrimination is then a product of, for example trade union involvement, minimum wage legislation, monopoly power or imperfect information. However, the application of monopsony models to sex discrimination has become one of the most innovative developments.

Bergmann (1974) in her work treats discrimination in a different way. Her viewpoint is regarded quite important because it is an attempt to link earnings and occupational structure. In other words, Bergmann thinks earnings to occupational segregation or occupational "crowding". Exclusion of women from certain jobs forced women to get crowded in a few women specific jobs, ending up in lower earnings because it is believed that excess supply in certain jobs would end up in diminishing marginal productivity. However, Bergmann did

not elaborate upon the exclusion mechanism. But her contribution is regarded as an important starting point for the development of segmented or segregated labour market theories.

Thus, a shift on emphasis from sex discrimination in the form of unequal pay for equal work to occupational segregation started appearing to explain women's' low pay which, of course, is an extremely subtle way of showing discrimination against women.

THE SEGMENTED LABOUR MARKET THEORIES

The theories of segmented labour markets are initially designed to explain the problems of ghetto labour markets in the U.S.A. in the 1960 and early 1970s. They suggest that racial discrimination perpetuated the segmentation of the labour market into primary and secondary sector by restricting certain workers to the latter. That is, the blacks (or female in some cases) were not restricted because of their education or skill but because they were blacks or females. The segmented markets suggest that a dichotomy of the labour market has evolved over time into a primary and a secondary sector in which quite different rules apply. While the competitive orthodox model concerns itself mainly with the so called external labour market (outside the firm or craft - e.g. demand and supply factors) the internal labour market concerns itself with the rules made within the firm to fix wages and allocate labour among alternative uses. The initial labour market is controlled by institutional rules that are not always compatible with the assumptions of the competitive labour market. For example, worker's wage rates and occupational positions within a manufacturing firm are much more likely to be determined by seniority than by productivity even though seniority is ultimately assumed to signify greater experience leading to more productivity.

Because of the fact that such internal rules govern the relationship between workers and employers, the employer do not necessarily act as the competitive model assumes he will act. For example, the employer is not likely to cut wages in order to reduce costs nor is he likely to increase wages when the demand for labour increases.

Kerr C (1954) referred to the process of establishing institutional rules that structured labour markets as isolation or balkanization. In Kerr's analysis institutional rules (among other things) cause labour markets to be structured. Kerr conceives of markets possessing various degrees of structures that can be caused by other things as well as the institutional rules. For example, many workers have skills that restrict their employment to particular occupations in which they see work. Similarly, workers and employers form attachments for each other that are not likely broken. Therefore, these customers and attachments tend to isolate the internal labour market from the operation of external forces.

"The degree of isolation of balkanization is increased with the establishment of internal rules that limit entry into the market." In Kerr's words, once these institutional rules are established, market forces seem impersonal in the aggregate, but exceedingly personal in individual situations, give way to personal rules, which may seem exceedingly impersonal when applied to specific workers. The main purpose of these rules is, of course, to establish control over the job territory for the people who are already in the market. (Levtan and Mens hall, 1981). Reduced mobility is one of the main ways in which institutional rules isolate workers in the internal labour market from external competition.... Once a worker builds up a certain amount of seniority in a plant, his mobility is undoubtedly restricted. It might, therefore, be very difficult for the workers to find another job with comparable pay and status if he withdraws from a particular labour market.

The American and British institutionalisms who are labelled as segmented labour market theorists offer their explanation for women's' lower wages and employment. There are now a wide variety of segmented labour market models. The segmented labour market models vary mainly in the number of segments they describe and in the criteria, which characterise and identify the different segments. But the name "dual labour market" is often used to represent the segmented labour market is general even though mention must be made about the radical economists like Edwards, Reich and Gordon (1975) who have offered a much more specific theory of the development of segmented markets due to the political and economic forces of U.S. capitalism.

The labour market segmentation is defined as the historical process whereby political and economic forces encourage the division of the labour market into separate submarkets, or segments distinguished by different labour market characteristics and behavioural rules. It has been argued that labour market segmentation is intimately related to the dynamics of monopoly capitalism because it facilities the operation and perpetuation of capitalist institutions and causes inequality and lower wages in the labour market. Institutionalism reacted its fullest expression when it discussed about the question of occupational segregation by sex and women's' lower pay. Segments may cut horizontally across the occupational hierarchy as well as vertically. The three main segmentation processes are (1) segmentation into primary and secondary markets (2) segmentation by race and (3) segmentation by sex. Segmented labour markets are thus the outcome of a segmentation process.

PRIMARY AND SECONDARY SEGMENTATION:

The Primary and Secondary segments to use the technology of dual labour market model are differentiated mainly by stability characteristics. Primary jobs require and develop stable working habits; skills are often acquired on the job; wages are relatively high and

job ladders exist. Secondary jobs do not require and often discourage stable working habits; wages are low; turnover is high and job ladders are few. Secondary jobs are mainly filled up with minority workers, women and youth (Reich, Gordon & Edwards, 1973).

SEGMENTATION BY RACE:

Certain jobs are "race-typed" and segmented by prejudice and labour market institutions where prejudice beliefs become self-justifying. The minority workers segmented by their race are present in the secondary sector. In general, geographical separation plays an important role in maintaining divisions between race segments.

SEGMENTATION BY SEX:

There are certain jobs, which are generally been restricted to men, others to women. Wages in female segments are usually lower than in comparable male jobs. It becomes imperative to point out the elements of segmented labour market theories particularly from the most popularly cited Michael Piore Model.

"The basic hypothesis of the dual labour market was that the labour market is divided into two essentially distinct sectors, termed the primary and secondary sectors. The former offers jobs with relatively high wages, good working conditions, chances of advancement, equity and in due process in the administration of work rules and above all employment stability. Jobs in the secondary sector, by contrast, tend to be low paying, with poorer working conditions, little chance of advancement, a highly personalised relationship between workers and supervisors which leaves wide latitude for favouritism and is conducive to harsh and capricious work discipline" (Piore M, 1972). The dual labour market approach thus deals with discrimination mainly as a factor in labour market segmentation even though it has not provided a special theory on discrimination.

RELEVANCE OF THE LABOUR MARKET MODELS TO AGRICULTURAL LABOURERS

The various assumptions of the orthodox competitive markets are not applicable to all agricultural labour, particularly; the assumption that wages and employment are determined by demand and supply and the supply of labour being fixed, the demand for labour is determined by the marginal productivity of homogenous units of labour. As a matter of fact, the supply of agricultural labour is neither scarce nor are the units of labour homogenous unemployment and disguised unemployment are found rampart in agriculture especially among women. Apart from the inherent heterogeneous characteristics, we find distinctly apparent heterogeneity in agricultural labour markets particularly with regard to sex and age. Due to biological and physiological reasons, the skills or ability of these agricultural labourers are assumed to differ and on this basis uniform wages are not paid to all the

labourers and the problem of immeasurability of marginal productivity make it all most easy for the employers to pay different wages to men and women labourers.

The assumption of Becker and Arrow is that discrimination in labour market exists because of "tastes" of the employers and that under competitive conditions the employers who discriminate make lower profits than those who don't and hence in the long run such discrimination will vanish. But in agriculture, employers who discriminate against women make higher profits than those who don't and such type of discrimination never vanishes. This is possible because the labourer being heterogeneous, it becomes convenient for the employers to classify male agricultural labourers as the non-competing group and to meet women as either unskilled or less skilled and give them lower wages than what is paid to their male counterparts.

The application of human capital theory to agricultural labour is almost impossible since it attributes different levels of investment in human capital to be the main reason for differences in productivity, and hence, in wages. The agricultural labourers, in most cases, do not undergo any training to acquire specific skills such as ploughing, sowing and transplanting. However, since all the agricultural jobs are substitutable it goes, without saying that any special training needed to be undergone should be done both by men and women where there is scientific farming and therefore wage differentials on the basis of human capital theory is not acceptable in agriculture. Moreover in case of male labourers alone, learning a few techniques and additional productivity due to their special training cannot be accurately measured. Some of the skills required in agricultural operations especially those done by women are to be acquired not by training but by slow process of learning and experience in the field from childhood. Therefore, the possibility of wage differentials due to human capital investment among male and female agricultural labourers is ruled out and the other important socially based factor namely sexual discrimination could be pointed out as the important reason for wage differentials.

Taking theories of discrimination into consideration which explain discrimination as a situation where workers of the same productivity receive different pay or when workers of dissimilar productivity are paid equally, their application in agricultural labour is again not possible because even though it is true that agricultural operation are substitutable among men and women, all the operations are often divided into male specific and female specific jobs and different wage rates are fixed for these two types of jobs invariably paying higher wages for male specific jobs due to the assumption that male specific jobs are more stalled than the female specific. Even if the same operations are undertaken both by male and female agricultural labourers, higher wages are paid to the male labourers on the ground that the productive capacity of male labourers is greater than that of the females because of their superior physical strength. However,

there again the problem of measuring the marginal productivity of male labourers and female labour markets it impossible to measure the differing productive capacity of these two types of labour and therefore, it becomes difficult to find out how far wage differential is due to differences in productivity and how far it is due to mere sexual discrimination. It should therefore, be understood that the extremely subtle form of discrimination against agricultural women labourers is to be found in the distribution of different agricultural jobs among male and female labourers and consequently the difference between men's and women's' occupation which become on important source of wage disparity between the sexes. A shift in emphasis from sex discrimination to occupational segregation therefore becomes absolutely essential to understand women's' low wages. This job segregation is an extremely clever way of showing discrimination against agricultural women labourers because whatever jobs male labourers undertake are treated as skilled and paid high and whatever jobs are done by women are treated as either semi-skilled or unskilled and paid low.

The segmented or segregated labour market theories definitely provide a better alternative to the other type of labour market models in explaining the factors responsible for wage differentials. It becomes necessary to apply the ideas of segmented labour market theories to agricultural labourers. As already pointed out, the internal labour market is controlled by institutional rules that are not always compatible with the assumption of the competitive labour market. Just like wage rates, occupational positions are more likely to be determined by seniority than by productivity. It could be assumed that worker's wage rates and occupational positions in agricultural fields are likely to be determined more on the basis of sex than on the basis of productivity or efficiency even though it means indirectly that men are assumed to be more productive and efficient than women because of their superior muscular power.

It also happens that workers and employers form attachments for each other because of their selfish motives. The motive of male labourers is to earn better than women while employer's motive is to maximize their profits through discrimination, which is one of the means, they adopt. Such customs and attachment cannot be so easily broken and the degree of isolation or balkanization increases with the establishment of internal rules that limit entry into the market. As already seen, once these institutional rules are established even though market forces seem very much to be impersonal they became exceedingly personal in individual situations. But because of employer's discriminatory practices against women, the seemingly impersonal market forces become exceedingly personal and the employers frame rules which are much more personal instead of being impersonal in applying the rules to make and female workers in agricultural fields. For example, the employer is most cases prefer the male labourers rather than female labourers and in case he employs both male and female labourers, he gives higher

wages and more employment opportunities to males and lower wages and less employment opportunities to female. Again he discriminates against women labourers on the basis of certain institutions such as caste, religion and tradition. All these factors make it necessary for the exceedingly impersonal market forces to become highly personal in order to establish control over the job territory (specification of jobs to be done by men and by women) for the people who are already in the market. This restricts the mobility within the labour market and such mobility serves as one of the way by which institutional rules can isolate workers in the internal labour market from external competition.

In developing countries like India, most of the agricultural jobs require manual labour along with some basic tools to help to labourers. Since manual labour requires physical strength, agricultural jobs are divided into male jobs and female jobs on the basis of physical strength. Once these jobs are segmented, it becomes difficult for females to compete for male jobs and higher wages will be paid to male labourers and lower wages to the female because the performance of male labourer is assumed to be greater due to his greater physical strength. The employer with the ultimate motive for maximum profit develops taste for discrimination in favour of men and hence shows favouritism to men though adoption of capricious work discipline against women. Agricultural labourers are not in general organised and hence while the bargaining capacity of men themselves is very low, there is no need to explain the position of women in this regard. Thus the dual or the segmented labour market which is used to ex plain the discrimination of blacks in the labour market can be used to show sex discrimination in agricultural field. The agricultural employers who, to maximize profits, segment the labour market on the basis of sex, and fix higher wages for male labourers and lower wages for female labourers, the part of entry being the muscular strength.

WAGE DIFFERENTIALS IN INDIA

Discrimination against women in the payment of wages is widespread in India. Women workers are in general classified as those belonging to the "organised" and the "unorganised" sectors. The organised sector is characterised by modern relations of productions and is regulated by laws that seek to protect the security and working conditions of labour as well as the labour organization that can engage in collective bargaining. The unorganised sector, which includes agriculture, as well as certain industries and services, is characterised by the absence of all these protective measures and machinery. Information about socio-economic conditions and work opportunities for women in the unorganised sector is also exceedingly scanty. However, the economic conditions of women is quite obvious from the fact that 94 percent of them are found in unorganised sector leaving only 6 per cent in the organised sector (ICSSR, Status of Women in India, 1971-74: 63.).

AGRICULTURAL WOMEN LABOURERS IN INDIA

Out of 94 per cent of the female labourers found in the unorganised sector, nearly 80

percent belong to agriculture since India is still by and large an agricultural country. (ICSSR, 1971-74: 64). The low rates of wage for women labourers are due to the unorganised nature of employment, the case in which hired labour can be substituted by family labour; the seasonal nature of the demand for labour and the traditional classification of agricultural jobs into male and female.

Again the importance of agricultural wage problem lies in the fact that innumerable wage rates and unscientific differentials prevail in India. Any study of farm wages in India is generally handicapped by the non-existence of comparable statistics of wages and cost of living. The Royal Commission on labour recommended that collection of information regarding wages and labour statistics should be considerably improved. But still, no thorough arrangement for the collection of data on uniform lines for the country as a whole has been made. Therefore the agricultural women labourers who are handicapped by poverty, illiteracy and ignorance of the law are amongst the worst affected. Apart from wage differentials for the same jobs, assigning lower rates for jobs traditionally done by women strengthens discrimination against women agricultural labourers and higher wages are assigned to the jobs traditionally done by men.

However, the three major data sources are the decennial population census, the National Sample Survey and the various Agricultural Labour Enquiries and quite a few studies offer important insights into the condition of women in agriculture.

As far as labour force participation of women in agriculture is concerned, there has been some difficulty or the other in assessing the number of women workers, due to the fact that census concepts have been changing from decade to decade. "Earners" and "Earner dependents" have been classified differently in different census reports. For example, the 1971 Census defined workers as only those who spent the major part of their time in economic activities. Hence, all irregular, marginal and part-time workers came under the category of non-workers and unfortunately these irregular, marginal and part-time workers were assumed to be women, children and aged persons and this led to drastic fall in the data on female work participation rates compared to that of male labourers in the country. The 1981 Census data on the size and structure of workforce show a distinct improvement over the 1971 Census. Since it adopted a liberal definition of a worker, but still reports low participation rates of women compared to men in the labour force.

Since gender disparities have been found to be significant in rural labour markets the sex-wise distribution of workers in the key occupation categories viz., self-employed in agriculture (cultivators) and Agricultural Labourers is provided in Table 1 using the data from population census of 1981 and 1991. In general the broad trends coincide with those relating to household type. The share of cultivators decline among male

workers except in Rajasthan and no significant change on its share was observed in Kerala and Karnataka. A rise in share of Agricultural Labourers was on universal phenomenon; however the degree of increases varied across states.

With regard to female workers, the percentage of cultivators among total workers increased and that of Agricultural Labour declined at all India level. Both the categories improved their shares in Rajasthan and Orissa, and on the contrary West Bengal and Tamil Nadu experienced a fall in their shares. In the case of other states a mixed pattern was noticed. Data on wages for agricultural labour are found in various sources. The Rural Labour Enquiry Reports provide some idea about sex-based wage differentials.

In Table 2 the average daily earnings differential trend of Agricultural labour households is shown and the following inferences are drawn. In states like Andhra Pradesh, Bihar, Karnataka, Maharashtra and Orissa, the earnings of male and female workers were consistently lower than all-India average during the entire period i.e., 1977-78 to 1993-94. The wage pattern in Uttar Pradesh was akin to that of all India. The wage difference between males and females were gradually widening, these differences were very low in Orissa and Gujarat and also in West Bengal. In the states of Jammu and Kashmir, Kerala and Tamil Nadu, these differences were alarmingly high. In most of the states the wage rate between males and females differed by Rs 5 to 6 in 1993-94. The female daily earnings as a ratio of male earnings were lower in several states. However, they were higher in Karnataka, Madhya Pradesh and Maharashtra in 1974-75.

The rates of growth of daily earning for the period 1974-75 to 1993-94 for females were higher than those for males in many states like Bihar, Gujarat, Haryana, Himachal Pradesh, Orissa, Punjab, Uttar Pradesh and West Bengal. Thus it can be considered that gender disparities in labour market are on decline. The (nominal) wages registered a remarkable rise during 1987-88 to 1993-94. The data on cost of living indices of agricultural labour in all the states indicate a steep rise in prices (inflation) during the period. Thus the real wage expansion might be moderate during this period (K Hanumantha Rao, 2000).

However, with regard to average real wage earnings of either males or females, the situation is very much discouraging. The real wage earnings in the agricultural activities among workers in rural labour households during 1956-1988 are presented in Table 3. The following main features emerge from this table. Between 1956-57 and 1964-65 the daily real wage earnings of adult male labour from agricultural occupation increased by varying degree in Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan and Tamil Nadu and they declined in Karnataka, Punjab, Uttar Pradesh and West Bengal and remained nearly constant in Andhra Pradesh, Assam and Bihar. Real wage earnings of female labour however increased in Andhra Pradesh, Assam, Bihar, Kerala,

Orissa, Rajasthan Tamil Nadu and West Bengal. In the remaining states, namely Karnataka, Madhya Pradesh, Maharashtra, Punjab and Uttar Pradesh these earnings declined or remained practically unchanged.

During the period 1964-65 to 1977-78 daily real wage earnings of male labour increased by varying proportion again in a majority of the states. The exceptions were Assam and Orissa where they declined and Madhya Pradesh, Maharashtra and West Bengal where no big change was discernible. Earnings of female labour increased in all the states except Jammu and Kashmir and Madhya Pradesh. The raising trend in the real wage earnings of male declined in all the states, whereas for female labour it declined in a majority of the states except Andhra Pradesh, Assam, Kerala and Maharashtra where they remained either nearly unchanged or actually increased for both male and female labour.

Table 4 presents recent agricultural wage rates from the AWI data. These data do not present any all-India wage rates and the state level rates are also simple averages of the few centres for which data are available. The real wage rates of male labour in agriculture rise in most states up to 1990 and fall in 1991 and 1992. The wage rates rise in 1993 and then more or less stagnate thereafter. There are slight variations in some states; for example in Gujarat, Kerala, Rajasthan, Madhya Pradesh, the rise is observed in 1992 and stagnation thereafter. A more or less similar pattern of a dip and stagnating real agricultural wage rates is also observed for women in most states.

There was raising trend in real wage earnings during 1983 to 1987-88 in all the states as shown in the table of the real wage rates. But in the mid seventies and eighties the tendency of rising real wage is not sustained, rather, it tended to be stagnant in agriculture.

Several scholars (Jose, 1988), (Parthasarathy and Adisheshu, 1982) (Parthasarthy, 1987), (Krishnan, 1991), National Commission on Labour (NCL) study Group-I, (GOI, 1991) and (Sen 1994) studied the trends in real wages. Parthasarathy and Adisheshu (1982) conducted a study in Andhra Pradesh and covered the period (1958-59 to 1978-79). Their conclusion was that there was stagnation in real wages for the two decades. Krishnan, Sen and NCL based their finding on the result of selected years and found a rising trend. Thus, from the above analysis there was not much improvement in the employment and wage condition of agricultural labour. Parthasarthy (1996) has pointed out that high incidence of poverty among agricultural labour households is not due to large average size of the households or due to low work participation rates. The work participation rates among agricultural labour households are the highest, both for men and women but the basic problem is illiteracy, unemployment and low wages.

It is again well-known fact that female unemployment in general is higher than male unemployment. Discrimination in female agricultural employment is mainly due to the

division of labour based on sex. Bina Agarwal in her Rapporteur's Report on "Impact on Rural Development on Economic Status of Women" also points out the same fact. According to her, there is an observable social division of labour on the farm. Female labour is primarily involved in specific operations such as transplanting, weeding, harvesting and threshing. In contrast, male labour is much evenly spread across operations. This is found to be across different states and crops.

THE CONSTITUTIONAL PROVISIONS IN INDIA FOR GENDER EQUALITY

The Constitutional provisions in India aim at providing equal treatment for all. Article-15 guarantees to citizens that the state shall not discriminate on the basis of sex. The Equal Remuneration Act (TERA) passed in 1976 was the first legislation to specifically prohibit sex discrimination in India. TERA requires equal remuneration for male and female employees performing the "same work" or work of similar nature. "Same work" is defined as that requiring similar or the same skill, effort and responsibility when performed under similar conditions.

Article-39 of the Constitution supports the principle of equal pay for equal work for men and women. Except for the measures provided in the Minimum Wages Act, the state regulation of wages was achieved. Until 1957 by the conciliation and adjudication machinery created under legislation passed to settle industrial disputes. The Industrial Disputes Act of 1947 similar to that of TERA of 1976 established tribunals to deal with wages. Because of the long delays caused by the tribunals, unions and employers sought alternative ways to fix wages. The need for a natural wage policy led to the establishment of wage boards. Equal pay for the sexes has received consideration by the wage boards. Besides, the GOI ratified the International Labour Organization (ILO) principle of Equal pay for equal work. But the publicity and call for equal pay is ignored in actual practice (Andiappan, p 30-32)

The fair Wages Committee established in 1948 accepts the principle in general, but makes exceptions when fixing minimum wages. It held that when women are employed on work exclusively done by them or where they are admittedly less efficient than men, there is every justification for paying lower wages to women. According to the fair wage committee, the equal pay principle does not apply when "male work" and 'female work' is distinguished. Yet the very notion of classifying jobs by sex is discriminatory.

"Minimum wages are determined by taking into account the needs of labourers, the size of the family being an important factor. The fair wages committee suggested that the wage of female works should be calculated on the basis of a smaller family than that of male workers. The All India Industrial Tribunal explained in 1956 that lower wages for women were justified because (a) female workers generally belong to a

family group with at least one male earner as its head and (b) special amenities enjoyed by women, like maternity benefits, provision of crèches etc., should make up for the deficiency in wages earned by women as compared to men. However, the very assumption that wages should be lower because of less need or the provision of benefits discriminates against women because there are widows or run-away husbands who do not support their families (Savita, Arputhamurthy, 1990: 94). In agriculture, the situation is still worse because throughout India, the agricultural labourers are often extremely unorganised. This is particularly so in the case of women. "The only exceptions are Kerala and Thanjavur, where the Agricultural worker's Union have raised wages" (Andiappan, p 13).

Table 5 shows the average daily wage rates for agricultural occupations for Rural Areas in India. It reveals that even today there is wage differential in all types of agricultural operations between male and female. Table 6 shows the average wage earning received by casual labourers in agricultural operation; it also reveals that still wage differentials persist between male and female casual labourers.

It is heartening however, to understand the struggles of rural poor for better wages and employment. The rural poor compare peasants and the rapidly rising agrarian proletariat, coming from depressed castes and varied ethnic linguistic and religious faith. They also compare a vast section of women. These struggles are bound to increase and succeed as they are rooted in a situation wherein the poorer toiling classes constituting an overwhelming majority of the population are being confronted with the option either to becoming redundant and perish or struggle and revolt for bare survival. The rural poor do not want to perish. They no longer want to live a passive existence. They are awakening, rising in revolt and are deepening and widening their struggles. In this connection, it is apt to point out that women working in plantations, which have struggled, fought and achieved equal wage or the same or similar work in many parts of India through collective bargaining. The struggle for equal wage for sexes went on for a while successfully narrowing the wage gap and finally achieving equal wage. An empirical study (Velayudha Perumal, 1985) shows how through collective bargaining the wage rates for both men and women workers have become equal in Kanya Kumari district situated in Tamil Nadu.

ECONOMIC FACTOR RESPONSIBLE FOR WAGE DIFFERENTIALS IN INDIAN AGRICULTURE

Wage differentials in agriculture constitute a serious problem in India due to various factors. The most important factor is that the farm employers are extremely keen on pointing out that labour as a factor of production used in agriculture is not a standard unit and that it has different components each of which is qualitatively different from the

other and hence they say that it is certainly heterogeneous in character and therefore, deserves different wage rates.

"Agricultural Labour may mean either human labour or animal labour. The human labour is further subdivided into (a) male female and child labour and (b) family and hired labour. The subdivision of labour into different categories has implications to the use of labour power in so far as each one of these components gives leverage to the labour employing farmer to combine these different types of labour in different proportions". (Parameshwara and Aziz, 1982). However, the nature of agricultural labour is such that one type of labour could be easily substituted for another and it is particularly true with regard to male and female labour. Hence it is only quite reasonable that equal wage is given to both male and female labourers. But still, if the employer is determined to fix different rates for different jobs, then the rates should at least be determined solely on the basis of the qualities of labour required for each job. If this is done, discrimination based on sex could be avoided to a considerable extent.

Taking into consideration, 'skill' as an important determining factor in wage fixation, the type of labour use in agricultural operation can either be termed as unskilled or skilled labour depending upon the way it is defined. In agriculture, as long as one does not undergo any special training to learn the act of a particular operation, the labourer can be defined as unskilled on one hand. But on the other, it should be admitted that both male and female agricultural labourers require knowledge and skill about a particular operation through day-to-day experience and become experts in specific field of operation even though they do not undergo any special training like industrial labourers. Such experiences gained through their involvement make him expert and hence such jobs become skilled jobs. This argument was support by (K. Sevadamani and Joan P. Menches, 1981) in their study.

For example, transplanting is not only a skilled job but a very arduous because it requires bending over most of the time while standing knee deep in water and attacked by leeches. It is hazardous in the sense that women are exposed to a variety of intestinal worms, infections, splitting heals, severe pain from leech bites and ultimately the possibility of crippling ailments like rheumatic joint and arthritis.

Weeding also is in no way a less skilled job, which again is exclusively assigned to women. Thus transplanting and weeding, which exclusively women do, are skilled jobs. However if any one wishes to bring forth arguments to state that ploughing, sowing and spreading fertilizers are usually considered as male jobs, which are skilled and get a higher wage rate for doing these jobs. But the problem arises only when those arduous jobs done by women are rated as unskilled and lower wages are fixed for them and thus gross injustice is meted out to these poor womenfolk.

There are several economic factors, which lead to wage differential between male and female labourers in agriculture. These economic factors can be classified as justifiable and unjustifiable ones. (Savita Anputha Murthy, 1990)

JUSTIFIABLE ECONOMIC FACTORS

(a) When there are differences in productivity

(b) When labour is not perfectly substitutable i.e., where there is less competition and

(c) When employers aims at minimizing the cost

Though, marginal productivities cannot be measured in agriculture, it could be well maintained that productive capacity of male labourers will be greater than female labourers as far as ploughing is concerned and hence wage differential, higher wages for male and lower wages for female - is justifiable assuming that ploughing is done by female labourers also. In the same way, the productive capacity of women in transplanting and weeding will be greater than of men and so higher wages for female and lower wages for male labourers is justifiable assuming that transplanting and weeding are done by male labourers also. However, in Indian context, in most cases, male agricultural labourers usually do ploughing and hence there is no problem of differences in wage rates at all. But it is extremely clever on the part of the employers to fix different rates of wages for male and female labourers for the jobs traditionally done by women just to discriminate against women and after fixing higher wages for men and lower wages for women, the employers employ women exclusively in most cases for such activities and thus try to minimize cost and unfortunately this is an extremely hidden and subtle form of discrimination and the poor, ignorant and illiterate women are completely unaware of these kinds of exploitation.

Let us assume that it is the usual practice for the employer to employ male labourers for certain specific jobs and fix specific rates for each operation and now if it becomes necessary for the employers to substitute female labourers either due short supply of male labourers or due to some other reason, then the employers will be paying female labourers something less than the rates fixed for male labourers and is certainly justifiable because male-specific jobs imply greater efficiency of males than females in such jobs. In the same way, if for certain reasons, male labourers are to be substituted in the place of female labourers, it goes without saying that they should be paid some thing less than the rates paid to women for doing these jobs and it is economically justifiable since female-specific jobs imply greater efficiency of females in those particular jobs than males. In short, it could be stated that when substitution taken place, the substitutes should be paid less than the ones usually preferred for doing certain specific jobs.

In rice cultivation, agricultural operations such as ploughing and sowing are less competitive and hence receive higher rates of wages and this is economically justifiable. In

the same way in operations such as transplanting and weeding there is very little competitions between men and women since these two jobs are mostly done by female labourers and hence must be paid greater than male labourers. It should therefore, be carefully noted that simply because of sheer discrimination women are paid less than men in those jobs in which they excel. Such wage discrimination is not at all economically justifiable.

It is always an acceptable fact in economics that an employer's motive is maximization of profits and in order to achieve this he tries his best to minimize his cost. Hence he substitutes female labour (cheap labour) in the place of male labour and adopts his own method of fixing different wages to male and female labourers to achieve his end. The bargaining capacity of female labourers being very weak and they being extremely poverty-stricken have no other go except to accept whatever wage the employers offer. There are a few more other important but unacceptable and unjustifiable economic factors, which also cause wage differentials. These are:

(a) Male labourers showing discrimination against female labourers just to get greater income.

(b) When female labourers accept discriminated wages it is assumed that their employment prospects increase. In other words, if female labourers ask for more wage or equal wage just like male labourers their employment prospects will become bleak and

(c) The selection in and weighting of factors for job evaluation tends to undervalue those skills utilized in predominantly female jobs. For example, "tilling the soil for cultivation" or 'ploughing' are defined as "physical effort" since they are done by male labourers but "manual dexterity" or "constant bending" are not regarded as physical effort because of the obvious reasons that they are women's' jobs. In the same way emphasizing "strength" in ploughing and not "usual activity" used in weeding and transplanting in job evaluation while fixing wages leads to discrimination in wage payments.

NON-ECONOMIC FACTORS RESPONSIBLE FOR WAGE DISCRIMINATION

Historical Factors:

Historically, a women is primarily associated with the home, is expected to look after domestic chores and her typical role is that of a housewife and mother. Whether women work in the fields or factories, in mines or manufacturing industries all of them are expected to be homemakers.

The rural women's' question in India has been particularly a perennial question throughout history. These women are burdened with cumulative inequalities as a result of socio-

cultural and economic discriminatory practices. Most observes while trying to unravel this puzzle point to historical precedent. Past discrimination arose from presumptions of women's' inferiority and natural productivity to domesticity that persists till today. These women have been under the subjugation of men from time immemorial because of the sheer physical strength of men. The continuation and perpetuation of the domination of men is easily affected through economic control, the dictates of religion, the compulsion of customs and social practices. Thus, the low status of women is the direct consequence of the dominion exercised over them by men, which gave way for discriminating practices. Thus, the low status of women is the direct consequence of the dominion exercised over them by men, which gave way for discriminating practices.

As per the opinion of various economists, there are four different classes of people in agriculture. They are big landowners, small landowners, tenants and landless labourers. These landless labourers subsist entirely on hiring themselves out as labourers on a daily or seasonal basis. Particularly in a crop such as rice where female casual labour is the most important type of labour in use and women involvement in cultivation is directly task-specific which makes them all the more vulnerable due to seasonality, irregularity and casualness of their employment.

The division of labour in agriculture is a clear and self-understood among men and women. Wages in agriculture are stipulated task wise and those tasks performed by women have been customarily determined and labelled as "female-tasks' and detained as unskilled and hence paid lower wages.

Socio-Cultural Factors:

Discussion on rural women necessitates one to bear in mind the type of social stratification that exists in rural India. These are several categories of rural women based on religion, caste, education, occupation, income and so on. The economic role of women in the traditional rural society largely depends on the need for augmenting the family income and the opportunities available for participation in such economic activities.

In the sphere of employment, wages and social situation women display signs of insecurity, lack of confidence and hence feel inferior. However, the feelings of such inferiority of rural women are not inherent in them, but are results of social, economic and environmental influences, open and subtle discrimination segregation and subordination. For example, cultural practice requires women to serve men first with the best food, to keep quiet before men, not to talk back and so on. Again there has always been wide spread preference for male children. As a result of these, male superiority has been institutionalized and women are oppressed and suppressed in their families.

No wonder division of labour in agriculture took place within the framework of the above institutional values. Women are generally employed in weeding, transplanting, harvesting, winnowing and threshing and all such jobs are rated as less skilled and such division of labour gets inter-locked with difference in wage too.

CONCLUDING REMARKS

The above explanation clearly leads one to the conclusion that the so called less skilled jobs in the era of globalisation are relegated to rural agricultural women and paid lower wages. The conventional and social attitudes about women in India after globalisation have paved the way for the employers to treat women labourers as secondary labour force still and hence they fall prey to the discriminatory practices in Indian labour markets. The constitutional safe guards could not provide adequate safety net for women in India.

Table 1 : Percentage Share of Agricultural Labourers and Cultivators In Total Workers – Rural Areas

States	1981				1991			
	Males		Females		Males		Females	
Andhra Pradesh	31.3	45.2	62.0	25.7	37.3	39.1	63.2	24.6
Assam	--	--	--	--	14.2	57.7	14.1	54.0
Bihar	33.7	51.9	63.3	25.3	36.1	50.8	57.9	31.5
Gujarat	23.7	54.1	54.0	34.6	24.6	49.5	49.8	35.5
Haryana	19.1	55.5	57.5	59.4	23.5	49.8	29.0	57.2
Himachal Pradesh	3.3	65.7	1.7	92.3	4.4	62.3	2.2	40.1
Jammu&Kashmir	--	--	--	--	--	--	--	--
Karnataka	23.6	55.3	23.6	55.3	26.2	50.8	26.2	50.8
Kerala	27.1	18.6	48.4	5.5	27.3	18.0	41.7	6.7
Madhya Pradesh	20.8	64.2	42.3	50.3	21.1	64.2	39.1	54.9
Maharashtra	26.7	50.4	49.8	43.5	28.7	47.4	48.6	44.8
Orissa	24.7	56.9	57.2	26.3	25.4	54.5	57.5	27.8
Punjab	28.1	48.8	42.6	9.7	30.3	46.1	34.1	27.0
Rajasthan	6.8	70.7	16.6	72.1	9.4	73.3	19.4	74.2
Tamil Nadu	31.0	43.8	60.1	26.5	35.9	37.8	59.8	24.6
Uttar Pradesh	15.8	70.1	38.0	52.4	19.2	64.5	38.3	51.3
West Bengal	31.8	42.9	48.4	18.1	30.0	40.8	45.5	20.2
India	24.0	55.2	50.2	37.1	26.11	51.8	47.9	39.0

Source: Population Census Reports

Table 2 : Average Daily Wage Earnings of Agricultural Labour Households (Rs per day)

States	Males				Females			
	1974-75	1977-78	1987-88	1993.94	1974-75	1977-78	1987-88	1993.94
Andhra Pradesh	2.65	3.44	8.87	18.99	1.96	2.36	6.15	13.63
Assam	30.4	5.07	12.15	25.99	3.02	4.56	11.20	21.83
Bihar	3.21	3.52	9.00	16.95	2.75	3.15	7.91	14.92
Gujarat	3.24	4.10	9.28	20.30	2.52	3.62	9.13	19.42
Haryana	4.85	5.79	10.25	28.98	3.94	4.87	7.51	24.71
Himachal Pradesh	5.07	6.05	13.60	28.98	3.94	4.87	7.51	24.71
Jammu& Kashmir	5.30	6.16	11.83	35.69	-	4.46	7.50	25.56
Karnataka	2.84	3.11	8.35	19.01	3.72	2.12	6.06	14.13
Kerala	6.12	6.87	18.29	43.23	1.81	4.67	13.44	30.1
Madhya Pradesh	2.42	2.73	7.62	16.99	4.28	2.18	6.71	14.21
Maharashtra	2.64	3.17	9.13	19.41	2.74	1.99	5.99	12.09
Orissa	2.65	3.11	7.92	16.30	1.53	2.35	6.06	12.02
Punjab	8.41	7.30	16.01	41.94	2.83	4.62	9.32	35.73
Rajasthan	3.64	4.48	9.62	28.36	3.41	2.16	9.16	23.71
Tamil Nadu	3.64	3.89	9.84	25.08	2.58	3.35	6.20	15.16
Uttar Pradesh	3.43	3.59	9.08	21.43	2.32	2.64	7.04	16.38
West Bengal	3.19	4.26	11.86	23.64	2.48	3.73	10.69	20.49
India	-	3.79	9.42	21.34	2.83	2.67	7.00	15.18

Source: Labour Bureau, RLE Reports on wages and Earnings of Rural Labour Households, 1993-94, Shimla.

Table 3 : Trends in the Average Daily Real Wage Earnings per Agricultural Labour from Agricultural Occupations Major States 1956-57 to 1987-88 (Rs)

States	Males						Females					
	1956-57	1964-65	1974-75	1977-78	1983	1987-88	1956-57	1964-65	1974-75	1977-78	1983	1987-88
Andhraradesh	0.95	0.97	0.82	1.15	1.10	1.6	0.60	0.08	0.61	0.80	0.86	1.1
Assam	1.67	1.69	1.18	1.62	1.63	--	1.27	1.30	0.90	1.40	1.60	--
Bihar	0..92	0.93	0.82	1.03	0.87	1.3	0.49	0.80	0.70	0.93	0.74	1.2
Gujarat	--	1.11	1.02	1.43	1.29	1.6	--	0.98	0.79	1.22	1.02	1.5
Haryana	--	--	1.44	1.73	1.28	1.6	--	--	1.17	1.45	1.02	1.5
Jammu &Kashmir	--	1.47	1.59	1.83	1.34	--	--	1.15	1.12	1.30	1.27	--
Karnataka	0.94	0.83	0.83	1.01	0.81	1.4	0.62	0.54	0.53	0.68	0.68	1.0
Kerala	1.29	1.60	1.57	2.15	2.10	2.6	0.71	0.93	1.12	1.48	1.72	1.9
Madhya Pradesh	0.75	0.80	0.59	0.79	0.71	1.2	0.58	0.57	0.66	0.63	0.61	--
Maharashtra	0.89	0.97	0.72	0.98	0.84	1.4	0.56	0.51	0.42	0.62	0.61	0.9
Orissa	0.84	0.93	0.66	0.88	0.62	1.1	0.58	0.62	0.46	0.67	0.56	0.8
Punjab	2.00	1.53	1.90	2.20	1.90	2.3	1.23	1.04	1.01	1.38	0.94	0.9
Rajasthan	1.02	1.33	0.99	1.39	1.12	1.5	0.64	0.83	0.70	0.96	0.66	1.4
Tamil Nadu	0.86	1.01	0.90	1.26	1.08	1.3	0.49	0.62	0.57	0.76	0.60	1.0
Uttar Pradesh	0.91	0.67	0.84	1.06	0.81	1.3	0.64	0.57	0.65	0.77	0.60	1.0
West Bengal	1.43	1.33	1.03	1.32	0.97	1.8	0.98	1.00	0.84	1.15	0.91	1.6
India	0.99	1.00	0.88	1.16	0.98	1.4	0.61	0.66	0.62	0.81	0.74	1.1

Source: GOI (1994): NSS, 32 Round 1977-78, Report No.30, Employment and Unemployment

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Table 4 : Real Agricultural Wage Rates

Males								Females							
1987	1989	1990	1991	1992	1993	1994	1995	1987	1989	1990	1991	1993	1993	1994	1995
3.0	3.2	3.4	2.5	2.6	2.8	3.0	2.6	2.3	2.2	2.6	1.8	2.3	2.0	1.9	1.8
1.7	3.1	3.4	2.5	1.5	1.7	1.6	1.2	--	--	3.4	2.3	1.5	1.4	1.6	1.7
1.8	1.6	1.7	1.6	2.6	2.2	1.7	1.2	1.8	1.6	1.7	1.6	2.4	2.0	1.7	1.2
2.2	2.4	2.7	2.6	2.5	3.1	3.2	3.1	--	--	--	--	--	2.5	2.5	2.4
--	1.7	1.7	1.2	1.0	2.1	2.3	2.2	--	1.7	1.6	1.0	1.0	1.4	1.4	--
3.2	3.2	2.9	2.9	4.3	3.0	3.3	3.8	2.3	2.2	2.0	1.8	2.7	2.1	2.4	3.1
1.8	1.7	2.0	1.9	2.1	1.8	1.8	1.8	1.7	1.6	1.8	1.8	1.8	1.6	1.8	1.8
--	2.2	2.1	1.9	--	2.6	2.8	2.2	--	1.3	1.2	1.1	1.4	2.1	1.7	1.9
1.5	2.3	2.1	2.4	2.1	2.1	1.9	1.9	1.0	1.5	1.4	1.2	1.6	1.6	1.5	1.5
2.9	4.2	3.6	3.3	--	4.9	3.5	4.1	--	--	--	--	--	--	--	--
1.6	2.5	2.6	1.9	2.7	2.9	2.8	2.9	1.2	1.8	1.7	1.5	--	--	--	--
1.6	2.1	1.9	2.6	-	2.4	2.6	2.2	1.3	1.0	1.0	1.2	--	1.1	1.2	1.1
2.1	2.1	2.1	--	2.2	1.8	1.9	2.6	1.9	2.1	2.1	--	1.3	1.4	1.7	2.6
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Source: GOI, Ministry of Agriculture, Agricultural Situation in India, 1989 to 1996.

Table 5 : Average Daily Wage Rates (in Rs) for Agricultural Occupation in June 2002 for Rural Areas in India.

S.No.	Occupation	Average daily wage-June-2002	
		Female	Male
1.	Ploughing	42.76	72.50
2.	Sowing	44.27	62.77
3.	Weeding	45.11	54.28
4.	Transplanting	50.12	63.00
5.	Harvesting	50.09	58.54
6.	Winnowing	47.41	54.30
7.	Threshing	48.90	55.81
8.	Picking cotton	45.59	57.03
9.	Others	42.59	56.06

Source: Price & Wage in Rural India (New series) NSSO

Table 6 : Average Wage Earning (in Rs.) Received Per Day by Casual Labourers by Sex, Type of Operation and Industry during 1999-2000 (Rural Areas)

Category	Type of operation	Female	Male
Casual Labourers in other types of works	**(A) Manual Work in cultivation**	27.91	39.09
	1) Ploughing	32.73	41.81
	2) Sowing	28.37	38.78
	3) Transplanting	29.22	39.15
	4) Weeding	25.74	34.68
	5) Harvesting	29.24	39.21
	6) Other Cultivation activities	27.65	39.27
	(b) Manual work in other agri-cultural activities	30.65	44.84
	1) Forestry	33.34	46.45
	2) Plantation	41.30	61.59
	3)Animal husbandry	21.88	28.11
	4) Fisheries	55.73	57.74
	5) Other agricultural activities	27.96	42.64
	(C) Non-Manual Work in cultiva-tion.	29.34	42.31
	(D)Non-Manual work in activities other than cultivation	34.98	56.49
	(E) All	29.01	44.84.

Source: NSSO 55th Round (July 99 – June 2000)
Women & Men in India 2002
CSO, Ministry of Statistics & Programme Implementation, GOI.

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Labour Productivity and Wages in Indian Unorganised Manufacturing Sector

Dr. Anupama

Poverty is a major challenge for developing as well as the developed world. According to the World Employment Report (ILO, 2005), more than one billion people struggle, to survive on less than $ 1 a day. Of these, roughly half billion (550 million) are working. These working poor have poor employment conditions, low wages and lack income and social security. Countries around the world have been experiencing period of 'jobless growth' during the past decade or so, in which output expanded but formal employment has almost stagnated. As a result, informal employment has grown which represents poor quality of remunerative work. Throughout the world, under dual labour market conditions informal sector employment is a major source of employment and India is no exception in this regard.

Present paper is an attempt to explore the factors determining productivity and wages in the unorganised manufacturing sector of India by running cross-sectional OLS on NSSO data. An attempt has also been made to compare the wages (per day) in unorganised manufacturing sector with that of the '$ a Day' international poverty line.

In the initial phase of Indian planning, the strategy of growth was largely biased towards the establishment of basic and heavy industry and so, the organised manufacturing sector had a clear policy bias. But due to its capital intensive technology, this particular sector was never able to absorb ever growing labour force of Indian economy. Hence, the unorganised sector, has always been an important contributor to total employment of India. Due to slow growth of employment opportunities in the organised sector, the smaller enterprises in the unorganised sector have been playing an important role in creating employment opportunities for millions of masses. However, in academic circles, the employment in the unorganised sector has been observed as distress employment (Mukherjee, 2004) as with a natural preference for secure jobs, regular payments and social security measures of the organised sector, only those people get themselves adjusted to the unorganised sector who could not find a place in the organised sector.

Whatever may be the reason, the unorganised sector has remained a major source of

employment generation in our economy. According to rough estimates, the unorganised sector has contributed about two fifth of India's GDP and about ninety per cent of total employment in the decade of nineties. Same is the picture for unorganised manufacturing sector. According to NSSO survey (NSSO, 2002), the unorganised sector has contributed about 82 per cent of employment and about 30 per cent of value added in the total manufacturing sector. This points towards the fact that the contribution of the unorganised sector to the national income is not so appreciative vis-à-vis their role in employment generation. Due to low productivity in this sector, it cannot stand the growing competition in the liberalising and the globalising economy. But due to its significant role in employment creation and poverty alleviation, it becomes quite relevant to explore ways of enhancing productivity as well as wages in this particular sector. This very fact has induced research activities in this particular sector in the last few years, e.g., among the studies analyzing the trends in the unorganised sector before\up to 1994-95, the studies by Nagmine (1993) and Kundu and Lalitha (1998) have discussed the growth dynamics of informal sector in urban India. Mitra (1994 and 2001) has extensively discussed about the incidence of poverty in informal sector. Further, Unni (2001) discussed about wages and employment in the unorganised sector with an emphasis on unorganised workers in Ahmedabad city. She argued a case for a meaningful wage policy apart from provision of assured employment for a minimum number of days for the workers in the unorganised sector.

Wages are the central indicators of quality of employment in any economy as these are important means to the ultimate goal of reducing poverty. It is being established by many scholars that wages are largely influenced by levels of labour productivity (Heinz, 2006; Rama, 2002; Rodrik, 1999). So, there is need to improve labour productivity apart from other factors so that sustainable increase in average real earnings can be obtained (Heinz, 2006). Further, it is generally argued that the wages and earnings in the informal sector are less than that of the formal sector (Avirgan et al., 2005). However, even within informal sector itself, there is difference in average earnings due to nature of employment, gender differences, location, enterprise type etc. There are a few studies which discuss about the factors which cause wage inequalities e.g. Jose (1987) and Matta (1998) discussed about gender inequalities in wages in Asian countries, while Datta (2005) observed that type of employment, age, education, status etc. are the main causes of wage inequalities in India. But these studies have discussed the wage determination or wage inequalities in general, while the focus of this paper is on the unorganised manufacturing sector, particularly when this sector is being seen as an important source of employment generation to meet the target of creating 'Ten Million Employment Opportunities' every year (Planning Commission, 2002). Further, as productive employment is very necessary for economic development as well as poverty reduction, this paper explores the factors determining productivity of labour in unorganised manufacturing sector. This paper has four sections apart from the introductory section. Section I deals with the concept of productivity and its trends in the unorganised manufacturing sector. Section II discusses data and methodology used in this paper regarding the determinants of the wages and productivity in the unorganised manufacturing sector, and Section III explains the results of the given Models. Finally, Section IV covers the conclusions and policy implications.

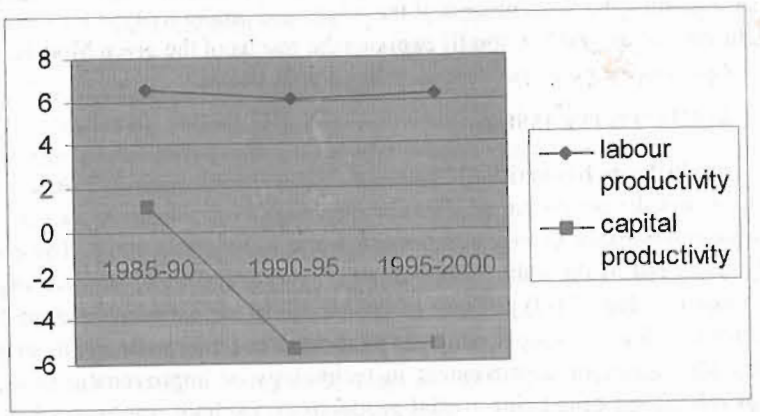
I. THE PRODUCTIVITY ISSUE:

The term productivity has various dimensions and so poses many awkward problems of definition and the measurement. Simply speaking, the productivity can be defined as a simple relationship between the outputs and individual inputs. The output is generally measured as the value added in any enterprise. Capital productivity is defined as output (value added) per unit of capital (fixed capital employed) and labour productivity is defined as output per unit of labour. But an increase in labour productivity may also mean an improvement in technology or improvement in skill. So, instead of relying on calculating partial productivity methods, the researches on Indian manufacturing have mostly relied upon total factor productivity (TFP) [Bhalotra, 1998; Goldar, 2000]. But the TFP method, too, has its limitations. An increase in TFP, does not mean the increase in both the labour productivity as well as capital productivity. A rising TFP may mean a rising capital productivity and declining labour productivity or it may have different rate of change (see Figure: 1 and Table: 1), as the growth of labour productivity could have a different direction as compared to TFP (Pulapre, 2004). The labour productivity in manufacturing has shown increasing trends during the nineties, even when TFP as well as capital productivity has been found declining (Goldar, 2000). Thus, the analysis of TFP alone will not be sufficient, particularly when we are dealing with the employment generation/ poverty alleviation aspect of the unorganised sector. Here, the calculation of labour productivity would be very important from the view point of measuring standard of living of the workers in the unorganised sector as labour productivity can also serve as an indicator of potential consumption (Pulapre op cit) via wages. Hence, though there are limitations of measuring labour productivity, an attempt has been made to look at the trends in labour productivity in the unorganised sector as, a steady rise in labour productivity is necessary for a sustained rise in the standard of living.

Table 1: Growth Rates in Labour Productivity and Capital Productivity in Unorganised Manufacturing Sector of India

Year	Labour Productivity	Capital Productivity
1985-90	6.55	1.21
1990-95	6.11	-5.31
1995-2000	6.24	-5.16

Figure 1: Growth Rates in Labour Productivity and Capital Productivity in Unorganised Manufacturing Sector of India



II. DATA AND METHODOLOGY:

This study is based on data made available by NSSO, which supplies extensive data on the unorganised manufacturing sector under three categories viz Own Account Manufacturing Enterprises (OAMEs), Non Directory Manufacturing Enterprises (NDMEs) and Directory Manufacturing Enterprises(DMEs).[1] Present study used the data on two-digit NIC classification as given by NSSO. The NSSO reports provide data on average gross value added per enterprise, average gross value added per worker, number of workers, fixed assets, number of full time workers, number of female workers, total emoluments etc. for about 23 activities. For analyzing productivity and wages in the unorganised manufacturing sector, simple cross- sectional OLS models are run on the NSSO data for 2000-01.

III. THE UNORGANISED MANUFACTURING SECTOR: WAGES AND PRODUCTIVITY

As discussed earlier, the unorganised manufacturing sector had remained a major contributor in total employment. Table 2 also shows the same fact regarding its share in total employment as well as value added of the manufacturing sector since 1984. The Table clearly depicts that the share of the unorganised sector has remained more than 80 per cent while that of the value-added is nearly 30 per cent only. So, this prompts us to analyse the productivity aspect in this particular sector comprising a variety of activities.

Table 2: Share of Unorganised Manufacturing Sector in Total Employment and Value Added of the Manufacturing Sector

Year	Rural	Urban	Total
Share in Total Manufacturing Employment			
1984	60.1	24.1	84.2
1989	57.4	25.9	83.3
1994	53.6	26.9	80.5
2000	53.2	29.1	82.3
Share in Total Manufacturing Value Added			
1984	14.2	18.1	32.3
1989	13.4	16.2	29.6
1994	9.6	13.8	23.3
2000	13.1	16.5	29.6

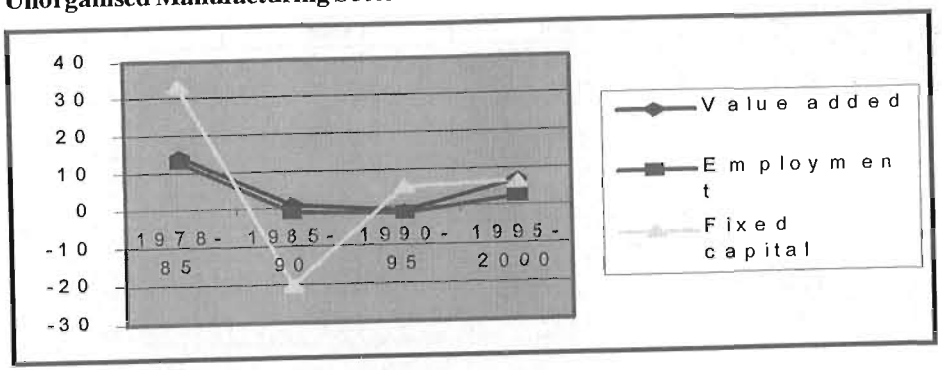
Further, Table 3 and Figure 2 shows the growth rate of employment, value-added and fixed capital in the unorganised sector. All through these years the growth of employment has remained below the growth of value added and even that of the fixed capital (except in the year 1990-95, when fixed capital declined sharply by 20.41 per cent). During 1995-2000, the value added has sharply increased by 6.92 per cent as compared to a negative growth during the initial phase of liberalisation (1990-95). It is even greater than the growth rates of employment and that of the fixed capital in this sector. Since gross value added is an important indicator of productivity in any sector, this is a positive indicator, particularly in the unorganised sector, which is being criticized for being less productive and so less competitive. Since, in the present paper we are dealing with the labour productivity and the wages, so it will be important to further explore into the partial productivities, particularly the labour productivity in the unorganised manufacturing sector in present time period.

Table 3: Growth Rates in Employment, Value Added and Fixed Capital in Unorganised Manufacturing Sector

Year	Value added	Employment	Fixed capital
1978-85	14.3	12.8	32.9
1985-90	0.99	-0.95	-20.41
1990-95	-0.99	-1.73	5.25
1995-2000	6.92	2.16	6.39

Source: Calculated from NSSO (1989, 1990, 1995, 1998, and 2002).

Figure 2: Growth Rates in Employment, Value Added and Fixed Capital in Unorganised Manufacturing Sector



As far as the productivity of labour is concerned, it is measured in terms of gross value added per worker and the following OLS is run on the given data-

Model I: $$\text{Log LPRO}_i = \hat{a}_0 + \hat{a}_1 \text{Log GVAE}_i + \hat{a}_2 \text{Log KLE}_i + \mu_i$$

Where, Log $LPRO_i$, is logarithmic value of annual average value of gross value added per worker, which indicates labour productivity in i^{th} enterprise.

Log $GVAE_i$ is log of annual average value of gross value added per enterprise. It is actually a proxy for size variable, which is expected to have a positive impact on labour productivity, as the theory suggests that with large scale of production, a firm can realize more economies of scale and hence the increasing returns. Though, traditionally the size of unorganised sector is defined by the number of employees in that particular enterprise, but here GVA is taken as a proxy for size, because the model discusses the determinants of labour productivity, which will be more appropriately defined by the output than the number of employees in that particular sector.

Log KLE_i is the log of ratio of market value of average fixed assets to average number of workers per enterprise. It is expected that this variable will have a positive impact on labour productivity as the theory suggests that the use of capital intensive technology favours the productivity growth of a firm.

$\hat{a}_0$, $\hat{a}_1$ and $\hat{a}_2$ are the coefficients of respective variables, μ_i is the error term and 'i' stands for the i^{th} enterprise.

The Results for Model I: The results regarding the impact of gross value added per enterprise and the capital labour ratio in that enterprise on its labour productivity are shown in the following tables. Table: 4 shows the correlation coefficients of the respective variables on labour productivity in three types of enterprises viz. OAMEs, NDMEs, DMEs and all enterprises taken together and then Table 5 shows the OLS estimates of

the Model. The correlation table shows that both the size variable (GVA) as well as the technology variable (capital labour ratio- KLE) are significantly and positively correlated with the labour productivity in every type of enterprise.

Table 4: Correlation of Labour Productivity with GVA per Enterprise and Capital Labour Ratio

Independent Variables	OAME	NDME	DME	All
Log $GVAE_i$	0.963*	0.965*	0.762*	0.968*
Log KLE_i	0.615*	0.448**	0.356**	0.760*

* significant at 1 per cent level.
** significant at 5 per cent level.
Source: Calculated from NSSO (2002).

Table 5 shows that in most of the cases, the Model has high explanatory power, with the exception of NDMEs in rural areas and DMEs in urban areas, where given independent variables explained less than 30 per cent variation in the dependent variable. This indicates that further research is needed to explore the factors determining productivity in these particular areas.

As hypothesized, the variable of gross value added per enterprise (size variable) has a very high and positive impact on labour productivity in unorganised manufacturing sector of India, in every case and in rural as well as urban areas. If we see the aggregate results of the unorganised manufacturing in India, it is observed that one per cent increase in annual gross value added per enterprise will lead to 0.94 per cent increase in labour productivity in rural areas, 1.01 per cent in urban areas and 0.95 per cent for the combined area. Thus, labour productivity is significantly positively related to the size variable.

But, interestingly enough, the technology variable i.e. Log KLE_i has very weak positive relationship with labour productivity. Actually, it is observed that it has very differentiated impact upon labour productivity. The location of an enterprise also has affected the impact of this variable on labour productivity. Strangely enough, for the enterprises located in rural areas (whether these are OAMEs, NDMEs or DMEs), it has a positive relationship with labour productivity, though it is not significant. But in urban areas, it has a negative impact on labour productivity (except in case of OAMEs). What does this signify? It may mean that urban enterprises are over capitalized or any addition to fixed assets in urban areas can raise productivity only if more of workers are employed. Viewing in this perspective, it seems that only OAMEs are appropriately using their fixed assets. As the OAMEs do not have any of the hired workers on a fairly regular basis, they must be investing as much in the fixed assets, as is required to

Table 5: OLS Estimates of Labour Productivity Determinants: Unorganised Manufacturing (2000-01)

Independent Variable	OAMEs NDMEs			DMEs			All					
	R	U	C	R	U	C	R	U	C	R	U	C
Log $GVAE_i$	0.699 (4.517)*	0.957 (12.832)*	0.935 (12.636)*	0.382 (4.9555)***	0.969 (14.743)*	0.976 (15.036)*	0.827 (7.606)*	0.559 (2.921)**	0.742 (4.783)*	0.946 (10.041)*	1.006 (14.533)*	0.950 (11.074)*
Log KLE_i	0.152 (0.982)	0.012 (0.158)	0.045 (0.612)	0.220 (1.126)	-0.053 (-0.799)	-0.022 (-0.333)	0.134 (1.231)	-0.169 (-0.884)	0.047 (0.305)	0.009 (0.100)	-0.061 (-0.886)	0.024 (0.281)
Constant	1.998 (4.364)*	0.359 (1.196)	0.165 (0.520)	3.406 (7.468)*	0.674 (2.601)**	0.420 (1.570)	0.207 (0.381)	1.045 (0.862)	—	1.012 (3.113)*	1.571 (7.915)*	1.443 (5.335)*
R - Square	0.616	0.930	0.928	0.229	0.908	0.932	0.801	0.289	0.582	0.907	0.933	0.938

R- Rural, U- Urban, C- Combined

* significant at 1 per cent level.

** significant at 5 per cent level.

*** significant at 10 per cent level.

Figures in bracket show the values of t-statistics.

Source: calculated from NSSO (2002).

absorb their family labour. On the other hand, the positive relationship with capital intensity in rural areas can be due to their inadequate access to capital to invest largely in fixed assets. The availability of capital is inadequate in rural areas mainly due to poor credit facilities and further due to incapability of the unorganised enterprises to arrange enough collateral. So, under the circumstances of dearth of capital in rural areas, any increase in capital intensity would positively influence the labour productivity. But a negative association for the urban enterprises has an important implication that there should not be over emphasis on raising the capital intensity, but towards on other innovative labour absorbing techniques in urban unorganised manufacturing enterprises, so that existing resources can be fully utilized and the 'living factor' i.e. labour could get its due reward. Moreover, the model results strictly indicate that the labour productivity is more strongly and significantly influenced by the size variable than the technology variable.

The Wages: According to the Classical Theory of Distribution, wages and labour productivity has positive association as under perfect competitive conditions, every worker will be paid according to its contribution to total output and only then the distribution is justifiable to reach the welfare optimum. But in reality, in absence of market perfections, the relationship between wages and productivity is not so simple. The workers may or may not get their due share in their productivity and there may be wide differences in labour productivity and wages, particularly in the unorganised labour market. So, in order to explore the impact of labour productivity on wages, another OLS regression model is run as follows in which the variables of percentage of full time workers and that of female workers are also included. It is generally hypothesized that female workers are low paid as compared to their male counterparts, particularly in the unorganised sector (Unni, 1999) and the full time workers get more wages as compared to the part time workers.

Model II: $\text{Log WAG}_i = b_0 + b_1 \text{ Log LPRO}_i + b_2 \text{ Log FW}_i + b_3 \text{ Log FulW}_i + \mu_i$

Log WAG_i – log of annual wages per hired worker (in Rs) in each enterprise.

Log $LPRO_i$, is logarithmic value of annual average value of gross value added per worker, which indicates labour productivity in i^{th} enterprise.

Log FW_i – log of ratio of female workers to total workers employed in the i^{th} sector.

Log $FulW_i$ – log of ratio of full time workers employed in the i^{th} sector.

b_0, b_1, b_2 and b_3 are the coefficients of respective variables, μ_i is the error term and 'i' stands for the i^{th} enterprise.

In this model we have taken the combined results and then the results excluding OAMEs, as they do not have any hired worker on a fairly regular basis

Table 6: Model Summary for the Determinants of Wages in the Unorganised Manufacturing Sector

Independent Variables	OAMEs + NDMEs + DMEs			NDMEs & DMEs
	Rural	Urban	All	
Log $LPRO_i$	0.422 (2.064)**	1.001 (2.652)**	1.258 (7.338)*	0.824 (4.279)*
Log FW_i	-0.470 (-2.359)**	0.194 (1.00)	-0.017 (-0.122)	-0.403 (-1.232)
Log $FulW_i$	-0.437 (-2.539)**	-0.040 (-0.95)	-0.571 (-2.982)**	0.312 (1.799)**
Constant	0.339 (3.755)*	1.899 (1.927)***	0.272 (0.487)	1.253 (3.23)*
R - Square	0.455	0.701	0.75	0.76

* significant at 1 per cent level.
** significant at 5 per cent level.
*** significant at 10 per cent level.
Figures in bracket show the values of t-statistics.
Source: calculated from NSSO (2002).

Model II shows the impact of various variables on total emoluments paid in the unorganised manufacturing sector of India. The model has a very high explanatory power (more than 70 per cent) in case of total unorganised manufacturing and urban unorganised manufacturing enterprises, but hardly 46 per cent in case of rural unorganised manufacturing enterprises. The summary table depicts that there is a high and significant positive relationship between the labour productivity and wages. It is observed that the wages during 2001-02, have increased more than that of the productivity changes in the total unorganised manufacturing sector, but in case of rural areas a 1 per cent increase in productivity has led to 0.42 per cent increase in wages. Interestingly enough, the model has depicted a negative relationship between full time workers and wages for all enterprises in the unorganised sector in rural as well as the urban areas. The reason of this negative relationship is that most of the full time workers are from OAMEs (see appendix for distribution of workers according to their work-time) who do not have hired workers on a fairly regular basis. In spite of having a large proportion of full-time family labour, they don't have to pay wages to them and so, we observe a negative relationship between wages and full time workers. If the category of OAMEs is dropped from the model, then there is positive and significant relationship between wages and full time workers. But, it is being observed that the ratio of female workers have a negative impact on wages in all cases, except in case of urban areas, OAMEs, NDMEs and DMEs taken together. In this particular case (i.e. in urban areas), though the relationship is positive, but it is not significant. This confirms the general trend of females being underpaid in the unorganised sector of India.

Being employed in a particular activity may not meet the expectations (regarding mini-

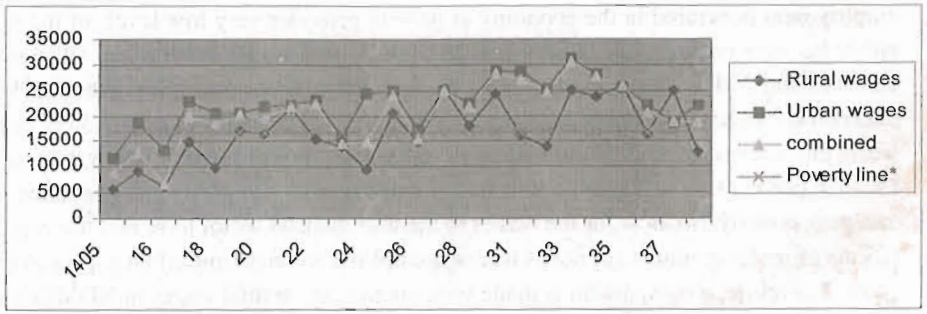
mum basic needs as well as for a comfortable life) of a human being, particularly in case of wages, because wages are the indicator of one's standard of living. A large part of the employment generated in the economy at present provides very low levels of income either because productivity is very low or because real wages are too low (Planning Commission 2001). This is evident from the fact that whereas unemployment in 1999-2000 on UPSS basis was only 2.23 per cent and on CDS basis it was only 7.3 per cent, while the percentage of total population in India living below poverty line was as high as 26.1 per cent, which shows that being employed is obviously no guarantee of escaping poverty. So, how far the wages in the unorganised sector have met the expectations of meeting minimum needs through employment is an important aspect to explore. Therefore, a comparison is made with the average annual wages in NDMEs and DMEs with the 'one dollar a day' international poverty line. It can be observed both from the figure and Table 7 that rural wages are far below the urban wages (except in case of activity code 35 and 37). So, the poverty gap is also greater in case of rural areas as compared to the urban areas. The table shows that there are hardly three activities in urban areas where wages are below poverty line, while in case of rural areas, one can observe at least thirteen such activities. This shows that in the unorganised sector, the workers engaged in rural areas lead a life far worse off as compared to their urban counterparts.

Table 7: Comparison of Per Worker Annual Emoluments in NDMEs and DMEs and '1 $ a day' Poverty Line (2000-01)

Industry Code	Rural wages	Urban wages	Combined	Poverty Line*
1405	5539#	11736#	8984#	16673.2
15	9113#	18547	13054#	16673.2
16	6033#	13282#	6609#	16673.2
17	14830#	22777	19988	16673.2
18	9863#	20384	18163	16673.2
19	16972	20409	20137	16673.2
20	16257#	21850	19628	16673.2
21	21345	21937	21888	16673.2
22	15320#	22880	22293	16673.2
23	13875#	15715#	14502#	16673.2
24	9326#	24135	14839#	16673.2
25	20508	24944	23966	16673.2
26	14902#	17429	15329#	16673.2
27	25272	24821	24946	16673.2
28	18019	22352	21619	16673.2
29	24180	28841	28413	16673.2
31	16144#	28605	27208	16673.2

* Poverty line in Rs terms at the prevailing exchange rate during 2000-01 (*Economic Survey,* 2003-04).
# Wages below poverty line.
Source: NSSO (2002)

Figure 3: Comparison of Per Worker Annual Emoluments in NDMEs and MEs and '1 $ a day' Poverty Line



IV. CONCLUSIONS AND POLICY IMPLICATIONS:

The unorganised sector had always remained the largest contributor to employment. Its importance as an employment creating sector has particularly increased in the present phase of liberalisation and globalisation, as this phase is creating an environment which is not conducive to expanding employment opportunities in the organised sector. Though this sector has a major share in total employment in the economy, yet its share in total value added is not so appreciative. This may be due to low productivity of labour or due to low capital intensity or outdated technology. Moreover, low wages and low productivity may be mutually influencing each other as low wages may mean low productivity and low productivity in turn may result in low wages. So, present paper is an attempt to find out the relationship between productivity and wages and other possible determinants of the two within the given framework of available data.

Regarding labour productivity, it is observed that the size variable has a positive and significant impact. On the other hand, it is found within the given model that the technology variable, which is the ratio of fixed assets to total workers in every enterprise, is negatively related to the labour productivity. This negative relation shows that there is excess capacity in capital in the unorganised manufacturing sector. This indicates that in order to increase labour productivity an increase in number of workers will be desirable with the given capital assets. This is a very important implication for a labour surplus economy of India. But increasing employment in an insecure sector will mean exposure of increasing masses to uncertainties, insecurities and low standard of living. So, merely depending upon the unorganised sector to achieve the target of creating 'Ten Million Employment Opportunities' would be like escaping from its duties on part of the government unless it gives appropriate protection and take effective social security measures. Only then the benefits of growth can spread to the majority of workers.

As far as wages are concerned it is found that labour productivity has a significant positive impact. Similarly, the number of full time workers also has a positive impact on wages, where the full time workers are hired. But this impact is not as effective as that of the labour productivity on wages. So, there must be emphasis on increasing labour productivity by investing in human capital. Moreover, productive employment of resources only can ensure optimum growth and with increased wages the workers will be able to share the economic progress.

The negative relation of ratio of female workers to the wages is a cause of concern and a clear denial of 'same payment for the same type of work'[2]. In this way the females in the unorganised manufacturing sector has to face the double jeopardy- for being employed in unorganised sector and for being females. This must be checked at the earliest and other benefits e.g. maternity benefits, the facilities of crèches and stipulated leaves must be strictly followed, otherwise 'this half' won't be better in the growing economy.

NOTES

1. OAMEs are the enterprises with no hired worker on a fairly regular basis; NDMEs are the enterprises with atleast one hired worker and less than six total workers while the DMEs hire atleast one worker and six or more total workers (NSSO 2002).

2. Here the reference is to the Equal Remuneration Act, 1976

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APPENDIX

Distribution of Workers in Unorganised Manufacturing Sector According to Their Work-Time (2000-01) (in lakh)

Location	Full Time	Part Time	All
Rural			
OAMEs	148.7	42.8	191.5
NDMEs	17.8	1.6	19.3
DMEs	27.7	1.4	29.1
All	194.1	45.8	239.9
Urban			
OAMEs	49.3	9.9	59.1
NDMEs	34.7	1.6	36.3
DMEs	34.5	1.1	35.5
All	118.4	12.5	131.0
Combined			
OAMEs	198.0	52.7	250.6
NDMEs	52.5	3.2	55.6
DMEs	62.1	2.4	64.6
All	312.5	58.3	370.8

Source: NSSO (2002)

Supporting the Elderly in India: Some Evidence of Gender Disparity

Aswini Kumar Nanda

Based on the National Sample Survey data, the paper analyses the support that the elderly receive in India and examines the gender differences in support systems. Taking into account the number of living sons and daughters, type of living arrangement, state of economic independence, number of dependants including spouse, children and grand children, usual activity status, retirement and pension benefits, cause of withdrawal/retirement from economic activity, ownership of financial assets and participation in their management, gender disparity is assessed and the waning support for females in old age is highlighted. As evidence of women's well-being in old age, the support profile does reflect on ongoing social transformations in India, which cover the trend towards individualisation, desire for privacy, nuclearisation of families, shrinking of multigenerational households, declining fertility, greater participation of women in the work-force outside the household, migration to urban areas, financial inadequacy, poor social safety networks, and finally diminishing values of social contract.

INTRODUCTION

Living conditions in old age cannot be imagined without support, either from one's own or from outside. The assistance one receives while growing old is intrinsically linked to the level of development, besides cultural and social orientation pertaining to the 'importance of the aged' in society, the community and the family. Economic position of the household, access to social security provisions and other community characteristics determine the quantity and quality of support in old age. In addition to this, gender is also an important predictor of help and support when one grows old. To a large degree, skewed gender relations in India manifest in constructing sex as a significant dividing line in old age empowerment, and the elderly can be grouped into two distinct categories such as men and women in terms of authority and social support. Changes in family, as part of the wider social and cultural transformation make sex divisions in the support systems in old age sharp and decisive. Hence, for a holistic understanding of the support dynamics in old age and possible policy implications, it is essential that gender aspects are examined and understood.

Viewed from the perspective of welfare in life-course, changes in the existing patterns of family and kinship in India have profound implications for the aged. Among different facets of social transformations, changes in the family, particularly those relating to the institution of joint family, have received specific attention, as joint family is considered better for social and economic support of the elderly than the nuclear family. It is often argued that the 'structural and cultural' changes in Indian family in relation to development have been influential in triggering the declining role of the community, as a major source of varying 'adaptive relation between family and the care of the aged' (Singh, 1997). In this context, Singh (1997) and Bali (2001) point to the increasing disintegration of the existing joint families and a trend towards nuclearisation in the background of intra-family sibling rivalry, changes in the value system, stress on individualism and utilitarianism in personal ideology proliferated in capitalistic mode of production, accompanied by industrialisation, occupational mobility, spread of urbanisation, migration for study, employment and marriage have resulted in newer forms of families. However, disintegration of the joint family can not be overwhelmingly correlated with the support for the elderly because, as Shah (1973 and 1994), Madan (1994) and Kolenda (1987) observe that the scale and prevalence of joint family has never been an institutional norm in rural India except for certain classes who belonged mostly to higher castes or owned land. Household groups in India undergo development and disintegration through either `progression' or `regression' (Shah, 1973: 82) or are subjected to `recurrent process of augmentation and depletion' (Madan, 1989: 51), broadening the nature of changes initially conceptualised in the 'development cycle of the domestic group' by Fortes (1949: 60). The development process of the household is also dynamic and adaptive to demographic reality set in motion by factors such as birth, adulthood, death, sex composition and the number of members besides norms of residence and interpersonal relations (Saha, 1973: 81-82). The break-up of the joint families under modernising impact of urbanisation, industrialisation, education etc. is also complex, and often misrepresented as revealed by Madan (1994: 416-434). 'Partition', though unwelcome, is a normal event in the development cycle of the household and is 'more common in the lifetime of a widowed mother than in the lifetime of a father' (Madan, 1989: 51-56) often leading to gender selective implications. Detailed analysis of the scale and prevalence of nuclear and joint family in India and the impact of social changes on family patterns although useful, yet remains outside the scope of this paper. In any case low incidence of joint family or its disintegration to other forms has profound implications for the dependents, particularly the aged.

The proportion of the elderly in the total population of India is not as high as in the developed countries of the world, but with a billion plus population, their sheer number is a cause of concern. With demographic transition gradually turning India into a long life society, the need for social, economic and emotional support in the twilight years

is appearing to be enormous in enhanced longevity. If the foundation of 'productive ageing' is to be ensured, it is essential that the support that the elderly receive in Indian society is improved, streamlined and consolidated.

OBJECTIVES

As Indians are living longer and the elderly are rising in numbers, it is necessary to understand their living conditions in old age. Some questions that emerge in this context are: What are the main sources of support that determine their status and well-being? How the support system in old age is related to gender differences in society? What are the implications of the changing social mores and perceptions on the welfare of men versus women in old age? These are significant issues from the perspective of social and economic support, because while activities of the male are recognised and valued, the role of the female inside the household is largely invisible and escapes attention. Attitudes, determining a person's 'usefulness' for existence, get stretched to the life in old age in form of a dominant 'social ideology' (Jai Prakash, 1996: 28) and influence the decision-making for support in old age, often in adverse terms, for the females.

The paper is an attempt to understand the old age support system in India, in the context of gender division. In the process of ageing, gender constitutes an important dimension. Well being in old age can also be fairly assessed by understanding gender dynamics in Indian society. The paper analyses the status of the elderly in India between the sexes and describes the contours of support that the elderly usually receive in major[1] Indian states. The nature and type of support discussed are varied, focus on the economic aspects of support and include selected characteristics, such as the living arrangement, economic independence, dependency burden, sources of support, usual activity, and ownership of assets and property. While doing so it brings to the fore gender disparity that envelope the support pattern and regional variations that are typical in the provision of economic care to the elderly. Attempt is also made to investigate the causative links and consequences of gender differences in rural and urban areas. Analysis of existing empirical evidence serves a good practical purpose by filling some gaps in the current understanding of realities in old age and aid policy planning.

Methods

The paper is based on results of a household survey on "*The Aged in India: A Socio-Economic Profile*" during July 1995-June 1996 undertaken by the National Sample Survey Organisation (NSSO), a premier source of national- and state-level socio-economic statistics in India, as part of its 52nd round of survey. The 52nd round, like the 42nd round, devoted to ageing, focuses on selected dimensions of ageing in India, such as

age-structure, marital status, children living, economic status, usual activity, retirement, physical disability, health in addition to involvement of the elderly in social and religious activity. Besides, data from the NSS, the paper also makes use of other sources, namely, the Census of India and the Sample Registration System (SRS).

Assessment of old age support is attempted across geographic regions, individual states, besides rural and urban nature of the place of residence. Limitations of the current exercise are chiefly to be seen in the context of data used for analysis. NSSO data on support are available only for the major states of, numbering 17, out of a total of 27 states and seven union territories in 2001, and are classified for each sex into rural and urban areas separately. The survey results, based on adequate sample size at all-India level, often indicate considerable variations at state-level samples. Small samples in many categories also bias estimates and in many instances, the cases not recorded in response to a particular question also appear to be high. Other usual reporting biases due to illiteracy and lack of information, varying in degree from urban to rural areas, from state to state, and from group to group also reflect data constraints, besides age reporting errors and the absence of further classification of age groups to understand how changes shift when there is a transition among the elderly from 'just old' to 'severely old' position.

Gender disparity in old age, in itself, is not enough to assess the welfare, as, in Indian situation, high gender inequality can coexist with lower or higher economic development. In a society, where changing gender roles significantly affect individual position within and outside the household, gender disparity is predisposed to be volatile and may substantially change across different stages in life-course. Unidirectional examination and interpretation of disparity in the support system leading to deprivation only of the female sex may blur the realistic assessment of conditions in old age. Specific situations, reversing disparity by making men more vulnerable than women in old age, have been recognised in theoretical frameworks analysed by Knodel and Ofstedal (2003), who plead for not leaving out men's concerns in the zeal for investigating disadvantages of women.

AGEING IN INDIA: SCALE, VARIATIONS AND SEX COMPOSITION

Transition from 'old balance' to 'new balance' has altered the age composition of the Indian society. Death rate and birth rate, falling significantly in the late 20th century, from 36.9 and 14.9 per thousand in 1971 to 25.4 and 8.4 per thousand in 2001 respectively have laid the foundation of an ageing population in India. Substantially increased life expectancy at birth, from 49.7 years in 1970-75 to 60 years in 1991-95, indicates the quantum of net gains from this transition for Indians, besides the progress towards demographic ageing. Faster growth in the size of the older (aged 60 years

and above) population than in the size of the total population is a testimony to the onset of ageing and is evident from the fact that between 1951 and 2001, the elderly population increased 2.9 times, from 19.6 million to 76.6 million as against 2.8 times growth in the size of the total population, from 361.1 million to 1028.6 million. The age structure of the elderly in India when decomposed by a 10 year age-band indicates an extraordinary high share in the 60-69 years age group (61.8 per cent) followed by 70-79 years age group (27.8 per cent), and a low share of the 80 years and above category (10.4 per cent), confirming the dominance of the 'young-old' than of the 'old-old'.

Spread of ageing has not been uniform across the country because of variations in the speed of fertility and the decline in mortality. According to the 2001 census, states like Kerala (10.5 per cent), Tamil Nadu (8.8 per cent) and Goa (8.3 per cent) in the South; Himachal Pradesh (8.8 per cent) and Punjab (8.6 per cent) in the North; Orissa (8.3 per cent) in the East, and Maharashtra (8.7 per cent) in the West have a larger share of the elderly in the total population as against the national average (7.4 per cent). In a country where 72 per cent of the total population lives in villages, the aged in rural areas (57.4 million) outnumbered the aged in urban areas (19.2 million) substantially in 2001. Moreover, gender divisions in ageing are clear with females (38.9 million) exceeding males (37.8) million) numerically in old age, and recording a higher proportion of the aged (7.8 per cent) than the males (7.1 per cent) in 2001. In the process of rising longevity, the sex specific gains at birth (in years) have been in favour of the women since 1971-75 reaching 60.9 years for females as against 59.7 years for males during 1991-95.

Given the long run trade-off between less growth and greater ageing, India's is set for sharper population ageing during 2026-51 (Dyson, 2004: 107). The new projections of the elderly using 2001 census data, when available, are going to forcefully reinforce the need for social, economic and other support. Demographic trends in India imply that more of the elderly will be in the oldest groups, most will be women, fewer will be widows, and more will have fewer children, and will retire early (Westley and Mason, 2002: 83-95). At the macro level, this implies that a relatively smaller and smaller number of working age people will have to support larger and larger number of the older persons. This increasing dependency has either to be shared by the family or the community or the government. But, with a significant erosion of family values, the traditional support base and the social security cover currently underway, finding support for such burgeoning population of the elderly will be difficult.

SUPPORT IMPLICATIONS

Greater incidence of ageing is a reflection of the enormous socio-economic development in India since independence. Nevertheless, it also points to the growing chal-

lenges of human development that demographic turnarounds pose in society, as the expanding elderly population needs diverse support in terms of nutrition, health care, family solidarity, emotional ties and recreation. Universal human values also demand concern, care and minimum material welfare for many in old age in tune with basic individual dignity. As old age adds to vulnerability, the requirements of the older persons put societies to test, the conditions of the elderly being an effective indicator of overall social progress. Arguably, examination of empirical evidence is one of the ways to describe how India, in the high league Table for ageing, measures up to the consequences of ageing.

State funded social security schemes have been extremely inadequate despite the constitutional commitment through the *Directive Principles of State Policy* to effectively provide better living conditions of the aged within the limits of economic capacity and development of the government. *Code of Criminal Procedure of 1973, Hindu Adoption and Maintenance Act, 1956*, National Policy for Older Persons (1999), and legislation in selected states, namely, Himachal Pradesh and Maharashtra, have not been able to fill the gaps between the demand for support and services and their provision in old age. The demographic pressure of ageing has outpaced the initiatives in the course of planned development causing conditions that seriously handicap the quality of life in old age, which is otherwise replete with greater problems of late-life, associated with health, lifestyles, emotions, food and nutrition and social images. Hence, old age security in India can be addressed from the support side in the household that proves crucial in earning a livelihood.

ECONOMIC SUPPORT

It is widely acknowledged that economic independence, to a large extent, holds the key to material welfare and emotional security in old age. In India, poor economic condition is a principal concern in old age. As individuals grow old they tend to depend more and more on their family. 'Dependence' is debilitating and is regarded as one of the 'five forms of poverty' in old age that must receive special attention while attempting empowerment in old age, as during dependency structures to sustain independence and respect for diverse role-playing are either ignored or taken for granted (Calleja, 1997). Moreover, the nature of economic dependence varies across age leaving considerable scope for understanding deprivation among the 'young-old' and the 'old-old'. But exploration of such difference is not possible in the current work, as the NSSO does not provide age-data either on single-year basis or on group basis for the aged. Instead, it simply merges the entire elderly into one chronological age category, 60 years and above.

FINANCIAL INDEPENDENCE

Sex divisions in the state of economic conditions of the elderly in India are clear and wide, as revealed by the indicator of independence, which considers a person economically independent if he or she does not require financial help from others in leading a normal life. Both in rural and urban India, males are economically much better off when compared with the females in old age (Table A1, Annex). *National Sample Survey* records a higher degree of total as well as partial economic independence among the males than among the females. Nearly half the elderly males (48.5 per cent in the rural and 51.5 in the urban areas) reported to be totally independent in financial terms as against approximately one-eighth of the females (12.1 per cent in the rural areas and 11.5 per cent in the urban areas). Similarly, partial economic independence is also higher among the males than the females (respective percentages being 18.0 and 14.6 in the rural areas and 16.9 and 11.0 in the urban areas). The fact that 71-76 per cent of the old women in the entire country, depending on whether they stay in villages or towns or cities, tend to be dependent on others for a living, is a sad commentary on the prevalent system of old age care in India. It signifies the day-to-day problems women face while maintaining a livelihood in the household in normal circumstances. It is difficult to find how these dependent elderly women and their families which support them, cope with old-age situations which create abnormal needs in case of accidents, illness and other situations.

Sex composition of disparity in economic conditions points to an overwhelming disadvantage that women experience in relation to men in old age (Table 1). Variations in the state of economic independence are wide across the country. Elderly urban women tend to be more prone to dependence on others as compared to the elderly rural women in India because of employment and work participation profiles. Larger numbers of women are able to obtain wage and other remunerative jobs in the labour market in the rural sector unlike women in the urban areas. Not only a higher proportion of women in the urban areas (76 per cent) as against the rural areas (71 per cent) report dependence, but also the female-male ratio of dependence is greater in the urban (2.55) areas than in the rural areas (2.26). In the rural sector, Jammu and Kashmir along with Bihar, and in the urban sector, Jammu and Kashmir, Assam, Himachal Pradesh, and West Bengal exhibit very high levels of gender gap among the dependent elderly that is unfavourable to females. On the contrary, low male-female disparity is recorded in the rural areas of Karnataka, Andhra Pradesh and Madhya Pradesh and urban areas of Kerala, Orissa, and Karnataka. It is difficult to trace the causes of such uneven disparity at the state level, as correlation with other related selected background characteristics such as the type of living arrangement, incidence of widowhood, literacy, and poverty do not offer any explanation.

Table 1 Female-Male Disparity (F/M) Among the Elderly by State of Economic Independence, India and Major States

Region/ State	Rural			Urban		
	Dependency load			Dependency load		
	Male	Female	F/M disparity	Male	Female	F/M disparity
South						
Andhra Pradesh	75.1	76.6	1.02	77.7	72.9	0.94
Karnataka	72.1	84.9	1.18	85.1	70.6	0.83
Kerala	83.2	72.9	0.88	83.7	72.0	0.86
Tamil Nadu	80.6	78.2	0.97	74.9	64.7	0.86
North						
Haryana	69.9	58.9	0.84	55.8	51.0	0.91
Himachal Pradesh	87.3	79.0	0.90	82.1	64.3	0.78
Jammu and Kashmir	87.4	72.8	0.83	91.5	68.3	0.75
Punjab	66.9	64.8	0.97	72.0	62.4	0.87
Rajasthan	83.0	77.4	0.93	76.1	62.4	0.82
East						
Bihar	71.8	63.8	0.89	65.7	56.5	0.86
Orissa	86.7	76.6	0.88	83.9	77.4	0.92
West Bengal	79.1	75.8	0.96	69.8	71.4	1.02
North-East						
Assam	92.5	88.7	0.96	88.0	85.7	0.97
West						
Gujarat	82.6	74.4	0.90	79.1	73.8	0.93
Maharashtra	67.7	73.3	1.08	80.3	71.1	0.89
Central						
Uttar Pradesh	61.1	55.6	0.91	69.8	61.4	0.88
Madhya Pradesh	70.6	70.1	0.99	67.8	68.7	0.01
INDIA	73.2	69.9	0.95	76.5	67.9	0.89

DEPENDENCY BURDEN

The fact that in old age females tend to be more dependent on others in economic terms, should not shadow another aspect of their contribution. When economically independent, females in old age do care for others in the household and bear the burden of supporting others who depend on them. Data show that when fully independent in old age, males have more dependents than females, yet a substantial section of older females support families and are a source of livelihood in India (Table A3 and A4, Annex). Among the economically fully independent old females, approximately half have one or more dependents as against a whopping one-fourth of the male elders. On the positive side, greater responsibility on the financially independent elders, irrespective of their sex, means stronger family ties, better community integration, effective authority, availability of physical help on demand, and fostering of mutual respect. On the negative side, it indicates responsibility after retirement, and sharing of resources, which may not be adequate for

even one's own existence. For each sex of financially independent elders, the dependency burden does not vary between rural and urban areas nationally (Table 2). In old age, a large chunk of females shoulder the burden of dependency in the rural areas of Jammu and Kashmir, Punjab, Madhya Pradesh, and in the urban areas of Assam, Uttar Pradesh, Jammu and Kashmir, and Himachal Pradesh. Similarly, old males in rural Jammu and Kashmir, Kerala, Assam and West Bengal and in urban Jammu and Kashmir, Haryana and Uttar Pradesh share greater burden of supporting the dependents when financially self-governing. Higher dependency burden in Jammu and Kashmir in the north, and Assam in the north-east, needs more exploration. However, when it comes to sex divisions in supporting the dependents in old age, the states where the females comparatively bear less burden than the males in both urban as well as rural areas are Gujarat, West Bengal, Orissa, Tamil Nadu and Kerala. In the urban areas of both Punjab and Haryana economically independent old females have a comparatively insignificant number of dependents as compared with the males. The fact that in old age men and women share responsibility and take up actively the task of supporting others must allay the common notion that old age is all about dependence, consumption and parting with financial resources. More need to be understood about the circumstances and the way in which the elderly bear the burden of others.

Table 2 : Female-Male disparity (F/M) in Dependency Load among Fully Independent Elderly, India and Major States

Region/ State	Rural			Urban		
	Dependency load			Dependency load		
	Male	Female	F/M disparity	Male	Female	F/M disparity
South						
Andhra Pradesh	90.4	63.0	0.70	87.1	60.7	0.70
Karnataka	77.4	46.4	0.60	87.2	55.0	0.63
Kerala	95.6	49.4	0.52	88.5	57.8	0.65
Tamil Nadu	90.1	43.4	0.48	83.9	44.2	0.53
North						
Haryana	82.2	57.1	0.69	92.8	9.6	0.10
Himachal Pradesh	84.5	52.3	0.62	83.9	73.2	0.87
Jammu and Kashmir	97.2	89.1	0.92	97.8	74.1	0.76
Punjab	74.4	68.6	0.92	68.5	6.6	0.10
Rajasthan	71.8	25.6	0.36	74.4	40.5	0.54
East						
Bihar	77.6	39.7	0.51	76.6	28.8	0.38
Orissa	82.2	46.3	0.56	87.2	51.4	0.59
West Bengal	92.1	32.1	0.35	83.8	41.2	0.49
North-East						
Assam	92.5	40.0	0.43	90.9	80.5	0.89
West						
Gujarat	61.6	14.8	0.24	67.8	13.7	0.20
Maharashtra	75.7	44.6	0.59	86.3	59.4	0.69
Central						
Uttar Pradesh	84.2	58.1	0.69	91.5	74.2	0.81
Madhya Pradesh	82.5	65.7	0.80	83.1	58.4	0.70
INDIA	82.7	49.5	0.60	82.3	49.0	0.60

FAMILY BASED SUPPORT

The importance of the family, as the main institution of support and care in old age, is widely recognised in Asian societies. In India, this is reflected in the data from the NSS on economic support to the elderly. Sources of support in old age, classified by four distinct sources, such as, the spouse, own children, grand children, and others indicate that the main source is within the family than outside it (Table A5 and A6, Annex). The family is the main economic support provider and its members look after a substantial majority of the elderly financially, which does not vary in urban and rural areas; the respective share being 91 per cent and 90 per cent. Though there are other sources of support in old age to Indians including those coming from non-relations, they are extremely meagre, and available only to about seven per cent of the elderly in the rural areas and to six per cent of elderly in the urban areas. Among different members of family rendering such support, the most prominent are the children of the aged, who, in rural areas, cater to 73 per cent of the elderly males and 70 per cent of the elderly females, and in the urban areas, to 77 per cent of elderly males and 78 per cent of the elderly females (Table 3). Next to own children, spouses are also a source of enormous support in old age, particularly for the females. The fact that roughly one-tenth of the elderly men depend on their wives, in the urban as well as in the rural areas, is a pointer to their meaningful contribution in eliminating deprivation in the later stage of life and negation of the stereotype that women are always dependents. It reinforces the argument that women are natural caregivers in the family (Bali, 2001: 102). Support by the spouse, observed to be widespread in India, also reflects the universality of marriage, besides a low rate of divorce and separation[2]. Any fall in marriage stability due to social changes, may prove harmful to old age support in India. The role the grandchildren play, as providers of basic support, are also noteworthy in the Indian context, though it is comparatively less replicated. It is worth investigating how the support system by the spouse, children and grandchildren is changing with time, in the context of changes in the wake of modernisation.

Table 3: Female-Male Disparity (F/M) in Own Children as Source of Support Among Elderly, India and Major States

Region/ State	Rural			Urban		
	Male	Female	F/M disparity	Male	Female	F/M disparity
South						
Andhra Pradesh	75.1	76.6	1.02	77.7	72.9	0.94
Karnataka	72.1	84.9	1.18	85.1	70.6	0.83
Kerala	83.2	72.9	0.88	83.7	72.0	0.86
Tamil Nadu	80.6	78.2	0.97	74.9	64.7	0.86
North						
Haryana	69.9	58.9	0.84	55.8	51.0	0.91
Himachal Pradesh	87.3	79.0	0.90	82.1	64.3	0.78
Jammu and Kashmir	87.4	72.8	0.83	91.5	68.3	0.75
Punjab	66.9	64.8	0.97	72.0	62.4	0.87
Rajasthan	83.0	77.4	0.93	76.1	62.4	0.82

(contd.)

(contd.)

East						
Bihar	71.8	63.8	0.89	65.7	56.5	0.86
Orissa	86.7	76.6	0.88	83.9	77.4	0.92
West Bengal	79.1	75.8	0.96	69.8	71.4	1.02
North-East						
Assam	92.5	88.7	0.96	88.0	85.7	0.97
West						
Gujarat	82.6	74.4	0.90	79.1	73.8	0.93
Maharashtra	67.7	73.3	1.08	80.3	71.1	0.89
Central						
Uttar Pradesh	61.1	55.6	0.91	69.8	61.4	0.88
Madhya Pradesh	70.6	70.1	0.99	67.8	68.7	0.01
INDIA	73.2	69.9	0.95	76.5	67.9	0.89

The pattern of economic support in old age does not vary much among the states. All parts of India show dominance of family based maintenance, particularly by own children, who, on an average tend to support the father more frequently than the mother. This is because wives who live longer than husbands are more likely to be supported by the husband. In old age, females are more dependent on their own children than their male members in the rural areas of Karnataka, Maharashtra, and Andhra Pradesh and the urban areas of West Bengal, and Madhya Pradesh. Similarly, relatively less dependence of elderly females on children is observed in the rural areas of Kerala, Orissa and Bihar, and the urban areas of Karnataka, Rajasthan, Kerala, Tamil Nadu and Bihar. Extreme female-male disparity for Haryana and Jammu and Kashmir indicate effects of a smaller sample. Excessive reliance on children in old age reflects a 'two-way transaction' of children with the elders, both men and women, as Wilson (2000: 89) suggests. Support dynamics from children is also seen in relation to the economic and cultural status of the household. For example, in North Indian kinship pattern, there is considerable cultural prohibition to seek material support from the daughter in old age, whether she is unmarried or married.

The elders expect support from their own children, and in many cases the youngsters respond positively for a variety of reasons. Family support in old age also needs to be looked into closely and individuals within the family who look after the aged need to be identified in terms of motivation. Moreover, it needs to be examined if the generational family support system, characterised by three main players such as spouse, children and grand children, is adequate. With co-residence rates, of elderly people living with their adult children, declining in India, the traditional financial and non-financial support from children, grandchildren and others to the elderly is also shrinking. Economic stress also reduces support from own children. So measures to supplement the family income and old age support need to be put in place.

'Other sources' of support, which include institutional and non-institutional categories of help (Table A5 and A6, Annex), are not substantial in India. Dependence on children

and grand children in old age is the natural outcome of the absence of a public funded social security programme, widespread poverty, and lack of gainful employment in working age. In such situations women usually tend to be more disadvantaged than men. To specify, employment in the organised sector in India has been mostly male oriented and women's employment in this sector has remained consistently lower[3], indicating undesirable consequences in the later stages of life. Extreme poverty[4] also adds to the problems of living a dignified life in old age.

Economic dependence in old age needs to be viewed in relation to the living arrangements for the elderly in India. Data reveal that most of the older men and women stay among their nearest kin, either with spouse and other members of the family or without spouse but with children (Table A7 and A8, Annex). In such a situation of social cohesion where cultural values make children feel obliged to take care of their ageing parents, it is natural that greater material support should come from children to the elder members in the new stage of life. A stage in an individual's life, which is typified by mounting reliance on outside physical help and often financial dependence, inter-generational support of the nature as documented in India serves as an essential pillar of survival that needs to be encouraged and strengthened. Since women tend to live longer than men, they are more likely to live with children than men in old age, in both rural and urban areas; 48 and 51 per cent of the women as against 18 per cent of the men each respectively. Those who live alone, either in an old age home or outside an old age home, constitute a small share of the elderly. But, their sex composition, showing women are twice likely to live alone than men, is a reflection of greater vulnerability of women (Table A7 and A8, Annex), particularly when they stay alone outside old age homes. With the changing social structure in the country, it is natural that this form of assistance should be affected.

WORK PARTICIPATION

Participation in work in old age is another component of economic status in old age and adds to the support the elderly receive in the household. Dependence in old age is also strongly linked with the 'usual activity status', activity during a reference period of 365 days preceding the date of the survey. Time spent by individuals on activities which may be economically gainful or not, along with availability for work indicate the elderly who are employed, unemployed and out of the labour force. Though age of superannuation in the organised sector brings a halt to 'usual activity' and changes the activity status in old age, yet, in the Indian context, age of retirement has lesser impact. Since most of the workforce remains outside such organised sector employment, the usual activity status of adulthood is normally carried over to the old age, as long as possible. However, much of the transition in old age concerning usual activity is determined by purely individual circumstances. Data on usual activity provide some insights into these situations (Table A9 and A10, Annex).

Considering the usual activity rates in agricultural as well as in non-agricultural sectors along with those in regular employment, it can be observed that the work participation rate (WPR) tends to be high in old age in India. Distribution of workers by activity also suggests a pronounced male-female difference in work participation; 60 per cent of the males and 17 per cent of the females in the rural areas and 35 per cent of the males and 8 per cent of the females in the urban areas. Higher work participation rates in the rural areas among the males can be seen in the context of the sector and status of employment. The urban areas have better employment opportunities in the organised sector, which offer regular and wage employment and prescribe an age for retirement. In the rural areas it is mostly self-employment without such fixed age for withdrawal from work. In old age, the males are mostly self-employed, in agriculture in the rural areas and in non-agricultural activities in the urban areas, where the females are completely involved in domestic duties, whether in rural or urban areas. In fact, the urban areas report a greater participation in domestic chores, perhaps, mostly due to fewer opportunities of alternative work. In the rural areas, the females also devote considerable time to agriculture in self-employment category and as casual labour. Casualisation of labour is more widespread in agriculture than in non-agricultural activities and among men than among women as observed from the old age activity data. This conforms to the broad labour market dynamics in a developing economy like India where agriculture is the main source of living[5]. Greater casualisation means greater instability of employment and more insecurity in income earnings. Regular employment is not a prominent activity in old age, though engagement in regular employment is much higher in towns and cities than in the villages and among elderly men than among elderly women. Unemployment rates in old age are low, but certainly the elderly seeking work is a pointer to the need for more support.

Table 4 : Female-Male (F/M) Disparity in Usual Activity Status of Elderly, India and Major States

Region/ State	Rural			Urban		
	Male	Female	F/M disparity	Male	Female	F/M disparity
South						
Andhra Pradesh	75.1	76.6	1.02	77.7	72.9	0.94
Karnataka	72.1	84.9	1.18	85.1	70.6	0.83
Kerala	83.2	72.9	0.88	83.7	72.0	0.86
Tamil Nadu	80.6	78.2	0.97	74.9	64.7	0.86
North						
Haryana	69.9	58.9	0.84	55.8	51.0	0.91
Himachal Pradesh	87.3	79.0	0.90	82.1	64.3	0.78
Jammu and Kashmir	87.4	72.8	0.83	91.5	68.3	0.75
Punjab	66.9	64.8	0.97	72.0	62.4	0.87
Rajasthan	83.0	77.4	0.93	76.1	62.4	0.82
East						
Bihar	71.8	63.8	0.89	65.7	56.5	0.86
Orissa	86.7	76.6	0.88	83.9	77.4	0.92
West Bengal	79.1	75.8	0.96	69.8	71.4	1.02
North-East						
Assam	92.5	88.7	0.96	88.0	85.7	0.97
West						
Gujarat	82.6	74.4	0.90	79.1	73.8	0.93
Maharashtra	67.7	73.3	1.08	80.3	71.1	0.89
Central						
Uttar Pradesh	61.1	55.6	0.91	69.8	61.4	0.88
Madhya Pradesh	70.6	70.1	0.99	67.8	68.7	0.01
INDIA	73.2	69.9	0.95	76.5	67.9	0.89

(contd.)

Inter-state variations in usual status activity indicate that in almost all states, women were less involved in gainful activities, which is largely due to their excessive involvement in managing the home, even in old age. Data (Table 4) on female-disparity affirm that women tend to share more responsibility, when it comes to discharging household duties. Outside the domestic sphere, women report very high participation in economically gainful activities in Himachal Pradesh, Tamil Nadu, Maharashtra, Karnataka and Andhra Pradesh. At the national level, these states are less poor, have higher values of Human Development Index (HDI), and a female work participation rate that is higher than the national average. Factors that keep women's activity rate high in old age vary. In Himachal Pradesh tourism and horticulture continue to attract old-age labour, whereas in Tamil Nadu, Maharashtra, Andhra Pradesh and Karnataka, poverty may be forcing women out for work. In the poorest state of Orissa, the maximum percentage in the category of 'other' suggests diversified gainful activities. There is need for more information to understand the old age working patterns in depth.

FINANCIAL SECURITY

Much of the wellbeing in old age depends on the financial position of the elderly in the household. It is also an effective way to have an idea of poverty in old age, which affects living conditions of the elderly significantly. The 52nd NSS data on financial position are based on two indicators: a) ownership and management of financial assets and b) ownership and management of property. Financial assets include company shares, government securities, bank and other deposits, saving certificates, etc., whereas property covers land and buildings, etc. Management means involvement in decision- making to change the portfolio of the assets held or convert its form. The data on assets and property have their own limitations, as they do not tell much about the nature of the property, its value and how the elderly benefit from it. Yet, in the absence of old-age related social security schemes, they serve to highlight the economic support the elderly have in the Indian society, mostly through income accruals.

Figures on assets and properties indicate that ownership is not common in old age and a substantial section is deprived of income yielding assets and properties. In the rural areas 37 per cent of the elderly do not own any kind of property and 46 per cent do not have any financial assets as against 42 per cent and 46 per cent in the urban areas

respectively. The higher possession rate of property in the rural areas can be directly related to ownership of land, a prime commodity of livelihood and identity in rural India. Among the elderly in rural areas, 80 per cent of the males and 46 per cent of the females had properties as against 74 per cent of the males and 38 per cent of the females in the urban areas (Table A11 and A12, Annex). Similarly, 70 per cent of the males and 39 per cent of the females in the rural areas as against 70 per cent of the males and 37 per cent of the females in the urban areas also own financial assets in old age.

At the state level there are wide variations. If ownership is any indicator, then elderly men are better placed in the rural areas of Himachal Pradesh, Jammu and Kashmir, West Bengal, Assam, Haryana and in the urban areas of Himachal Pradesh, Haryana, Uttar Pradesh and Rajasthan. Similarly, elderly females have a higher ownership rate of property and financial assets in the rural areas of Himachal Pradesh, and Jammu and Kashmir, and in the urban areas of Himachal Pradesh and Haryana. Elderly males and females appear to be poor in three southern states of Andhra Pradesh (10.14 per cent), Kerala (8.38 per cent) and Tamil Nadu (15.15 per cent), which can be attributed to higher landlessness in relation to the national average (8.14 per cent), according to the 48th round of NSS statistics (1991-92). In two poorest states of India, Orissa and Bihar, men and women in old age, have a higher rate of possession of financial assets and property. Bihar, unlike Orissa, has an extremely low percentage of landlessness among the households (2.86 and 12.55 per cent respectively). Access to financial assets and land, in old age, depends mostly on land, which is the precipitator of economic empowerment in the Indian situation. As 72 per cent of the rural households, according to the 48th round of NSS, have less than one hectare of land, rigorous implementation of land ceiling and acquisition laws is expected to bring relief to the old. Growth rates in agricultural wages also influence the economic position of the elderly who work. It is a paradox to note that interstate poverty ratios do not correspond to the inter-state financial asset and property ownership rankings. This may indicate that there is considerable dynamism in the financial position of individuals, which changes in the course of life.

In the later stage of life, men more frequently own both, financial assets as well as properties, than women in the rural and urban areas, though this male-female gap is smaller in the urban than in the rural areas (Table 5). The national pattern of gender discrepancy is echoed in the states of each region, though the degree of such male-female difference varies amply as per the state-specific gender disparity index (Table 8). Himachal Pradesh in the North and Orissa in the East, record greater parity in resource distribution between the two sexes in old age. Concentration of two important resources, such as financial assets and property seem to be less in favour of the aged females in the rural areas of Haryana, Punjab, Rajasthan, Gujarat, Maharashtra, Karnataka and West Bengal along with the urban areas of Punjab, Rajasthan, Andhra

Pradesh, Karnataka, Madhya Pradesh and West Bengal. The low status of women is a major explanation in many of these states. For example, the North-west, consisting of a contiguous belt from Haryana in the North to Maharashtra in the West covers many of these states. These are also the states that have been the focus of declining sex ratios (females per 1000 males) in India for long.

Not only the ownership, but also the management of financial assets is less widespread among the females in old age (Table A15 and A16, Annex). That the rural areas record a marginally better participation of older women in the rural areas in asset and property management than in the urban areas is surprising (Table 8). Is it because of the out-migration of male members of the household to urban areas or some other reason is not clear.

This pattern of ownership and management in both productive resources reveals a clear gender related cleavage that is highly favourable to elderly males. The roots of this bias are inherent in the Indian social system, where the allocation and transfer of property and other related rights are usually male-centric in most parts, in spite of the legal provisions of sex-based equality. In some parts of India, there is traditional emphasis on renunciation in old age, leading to mass transfer of property and other assets from older men to the heirs, usually the sons. This is done to avoid cumbersome and cost intensive process of legal transfer after death. Men do not transfer assets to their wives in old age, who may live longer, as they presume that the son(s), in exchange of ancestral property, will look after the widowed mother. If sons fail to honour this informal agreement of reciprocity, the only binding force is moral sanction from the community. Moreover, gainful employment and savings in adulthood, being favourable to men also cause a skewed ownership between the sexes in old age. It is worth investigating how sex specific differences in economic activity contribute to sex specific differences in financial asset possession at the inter-state level.

What is the impact of resource sharing emerging from this pattern of ownership? How do elderly women view and adjust to this type of ownership? Does the fact that women own relatively less as compared to men in old age always prove harmful to the females alone? Does it signal greater vulnerability of the females? Are there informal as well as formal arrangements within the family that take care of lop-sided ownership? If so, what are the mechanisms? How do women adjust to these? To what extent the asymmetry results in deprivation of housing, food and clothing, medical care, and other needs of the females who usually live longer than the elderly males merits closer investigation. In a society where women encounter larger burden of responsibility in terms of home and family care, the consequences of disparity in ownership need to be examined for remedial policy prescriptions.

RETIREMENT BENEFIT

Retirement benefits are an important source of support in old age. The value and diversity of reward depend of the nature and sector of employment in which the individual worked before withdrawing. In India, organised sector (government and non-government) benefits are somewhat better and in many vases, the unorganised sector has little to offer after one withdraws from work. The old age pension schemes of the government offer a nominal financial help on the basis of means test. For most, post-retirement benefits are minimal because of the dominance of the unorganised sector in the rural and urban areas.

The NSS data from the 52nd round for the aged persons who were ever engaged in either wage, salaried jobs or as casual labour show that retirement benefits are not extensive (Table A13 and A14, Annex) and vary significantly between the males and females and between the rural and urban areas. In the rural areas, 54 per cent of the males and 74 per cent of the females had no retirement benefit of any kind after they withdrew from work. The corresponding figures for the urban areas are 20 per cent of the males and 51 per cent of the females. The presence of a larger share of casual labourers among the workers in the rural sector as well as among the women explains poor availability of such post-retirement benefits, as in casual employment the employee is not entitled to benefits. When analysed for three kinds of benefits, namely, pension without other benefits, pension with other benefits, and other benefits alone without pension after withdrawal from work, the elderly males are better off than the elderly females in the rural and urban areas. Their returns are superior and more guaranteed, as seen from the proportion of those getting pension plus other benefits. In the urban areas, a little more than one-fourth of the males get these benefits as against a little more than one-tenth of the females, when they stop work. Likewise, in rural areas, 12.5 per cent of the males admit availability of pension and other benefits as against a nominal 1.4 per cent of the females.

Table 5 : Female-Male Disparity (F/M) in Ownership and Management of Financial Assets and Property Among the Elderly, India and Major States

Region/State	Rural				Urban			
	Ownership of		Management of		Ownership of		Management of	
	Financial Assets	Property	Financial Assets	Property	Financial Assets	Property	Financial Assets	Property
South								
Andhra Pradesh	0.57	0.52	0.63	0.65	0.37	0.47	0.60	0.63
Karnataka	0.44	0.45	0.42	0.44	0.47	0.51	0.58	0.58
Kerala	0.55	0.59	0.55	0.56	0.47	0.72	0.47	0.53
Tamil Nadu	0.62	0.56	0.55	0.55	0.50	0.50	0.73	0.77
North								
Haryana	0.49	0.53	0.56	0.49	0.70	0.62	0.63	0.57
Himachal Pradesh	0.71	0.78	0.83	0.83	0.95	0.82	0.86	0.75
Jammu and Kashmir	0.68	0.69	0.71	0.73	0.65	0.90	0.40	0.42
Punjab	0.45	0.45	0.56	0.60	0.44	0.46	0.71	0.61
Rajasthan	0.42	0.44	0.46	0.44	0.49	0.49	0.59	0.59
East								
Bihar	0.68	0.67	0.53	0.52	0.73	0.74	0.47	0.50
Orissa	0.71	0.69	0.53	0.52	0.64	0.62	0.63	0.60
West Bengal	0.48	0.50	0.33	0.30	0.48	0.48	0.53	0.52
North-East								
Assam	0.69	0.61	0.24	0.22	0.47	0.59	0.11	0.22
West								
Gujarat	0.50	0.55	0.48	0.50	0.58	0.58	0.56	0.57
Maharashtra	0.53	0.54	0.51	0.55	0.51	0.54	0.54	0.56
Central								
Uttar Pradesh	0.58	0.59	0.64	0.65	0.61	0.64	0.68	0.68
Madhya Pradesh	0.60	0.60	0.65	0.63	0.46	0.46	0.67	0.69
INDIA	0.56	0.57	0.55	0.56	0.52	0.51	0.50	0.48

(contd.)

The female-male divisions in all types of benefits indicate dispossession that women encounter with regard to any kind of retirement related financial benefit when they stop working (Table 6). More than anything else, it points at employment opportunities and nature of work for women in relation to men in the economy. As men dominate the organised sector employment in both private and public undertakings they are better beneficiaries in old age, since many of the organised sector jobs carry post-retirement benefits. For a variety of reasons including lack of independent mobility, family pressure, marriage, childbearing and related circumstances, women usually seek work in the informal sector, which has absolutely no provision of retirement related benefits for the employees. Creating more opportunities of employment for women, particularly in the organised sector, and encouraging the organised sector to have more worker-friendly social security benefits can substantially enhance the access of women to benefits when they withdraw from work.

The consequences of the absence of post-work benefits are tremendous in old age and are widely felt in many aspects of living namely housing, health, food, clothing, leisure, and social relations. Adequate benefits reduce self-esteem and dignity by lessening dependence on others. Lower satisfaction can be reversed through a reorganisation of wider extension of benefits that are due when men and women retire from work. Encouragement to organised sector employment in agriculture and construction, income-generating activities, more work related social security benefits, support from the private sector and participation of the community in generation and management of old-age benefit programmes are necessary.

CONCLUSION

The paper examines the old age living conditions of 76.6 million elderly Indians,

whose support systems have been profoundly affected by social transformations in the wake of modernisation. Changes in the social structure, particularly involving the family as a unit, have a strong bearing on the care of the individuals when they grow old. The traditional rationale and arrangements for the support of the elderly, primarily from the family, are fast disappearing, and compensation from non-family and institutional sources have not been rising in an equal measure, in spite of the fundamental differences in the nature of support from the community and the government. These have led to inadequate support systems and difficult situations. Difficulties of old age are enormous in India in view of widespread poverty, unemployment and the absence of social security provisions. Both, males and females, suffer in old age due to disabilities of various kinds, yet, social, cultural, economic and other contextual positions affect each sex differently, often making the females increasingly vulnerable to disadvantages. Though male disadvantages cannot be ruled out, greater longevity and faster ageing, added to lower social status, less control over productive resources, interaction outside the household, widowhood, and exclusion from capability building interventions, loneliness, etc. expose women more than men to risks. With 38.9 million women in the age group of 60 years and above in 2001, there is a need for examining ageing from the women's perspective for providing better support in old age. Moreover, in development discourse, gender classification is an important aspect of studying welfare at the household level, which is usually not fully captured by class, income, occupations, caste, and other variables.

Based on data from the 52nd round of NSS, the exercise examines the challenges of ageing from the perspective of support. The paper finds that men are financially more independent than women in old age. Elderly women require financial help from others for even leading a normal life and this reveals their vulnerability. Urban women, in spite of being better placed in many respects are surprisingly not financially more independent than rural women who increasingly participate in the agricultural sector to earn their livelihood, mostly as casual labour. Data on dependency load of economically independent aged reveal that the main burden of dependency is on men. When financially independent, women nonetheless make significant contributions in providing support to others and share the dependency load. This is an enormous responsibility in old age from which very few elderly men compared to elderly women are free. It also signifies family bonds and the kind of sharing, help, and authority available to both the sexes in old age. Supporting others in old age may reflect positively on social cohesion and generate further support in the family. It may also result in further loss of welfare in old age by sharing of limited resources. The primacy of the family as a basic unit of caregiver is well established in India. Spouses, own children and grandchildren are the main support providers in the family. What encourages economic support in old age is participation in gainful activity. The elderly in India have a high work participation rate, and this may be due to poor financial condition and the dominance of agriculture. Agriculture makes it easy to find work; however less rewarding it may be, while bad financial condition provides the motive. While elderly males are mainly self-employed in agricultural activities in the rural areas, in the urban areas, they take up non-agricultural self-employment. Elderly females are mostly domestic workers in the urban areas, and in the rural areas they take up considerably casual labour assignments. Elderly males have better ownership of property and financial assets ownership rates than elderly women, which shows poor inheritance practices. When men withdraw from work they find better chances getting support from retirement benefits, but this is not so in the case of women. This can be explained by the fact that men are preferred in the organised sector.

Considerable heterogeneity is recorded among the states in India in terms of support profile. Sets of economic, social and cultural factors operate to decide the male-female disparity that is documented in the working of support systems in old age. Overall development, agrarian conditions, out-migration, poverty, employment in the organised and unorganised sectors determine work participation in gainful activity and if the individual in old age can earn a livelihood on his or her own. Inter-state differences in the economic support profile reflect directly or indirectly state specific economic and social changes. If the marginalisation of the rising elderly population is to be prevented in India, then the support system in old age needs to be addressed through enactment of 'social security laws' that focus on greater provision of financial, housing, clothing, health, companionship, etc. requirements with gender sensitive approach.

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Table A1 : Per cent Distribution of Elderly by State of Economic Independence for each Sex, India and Major States (Rural)

Region/ State	Male			Female		
	Independent	Partially independent	Dependent	Independent	Partially independent	Dependent
South						
Andhra Pradesh	44.1	14.0	39.1	16.9	12.9	68.6
Karnataka	43.8	12.5	42.7	10.7	14.7	72.2
Kerala	49.7	14.8	32.5	9.2	13.7	73.6
Tamil Nadu	44.6	20.1	33.5	18.9	14.4	64.1
North						
Haryana	49.3	16.7	33.4	8.7	9.5	80.1
Himachal Pradesh	56.9	18.3	21.6	23.6	26.3	48.7
Jammu and Kashmir	55.3	23.3	21.2	10.6	16.5	71.7
Punjab	44.5	14.5	38.5	1.5	8.2	87.5
Rajasthan	54.6	14.9	29.6	11.7	21.5	64.3
East						
Bihar	57.6	18.3	21.2	16.7	14.5	65.0
Orissa	44.6	20.2	33.2	11.6	15.6	70.8
West Bengal	49.9	15.4	34.0	2.2	4.8	88.3
North-East						
Assam	34.9	25.8	37.2	2.9	10.7	84.0
West						
Gujarat	43.1	16.9	36.4	10.4	11.4	74.9
Maharashtra	50.9	19.5	28.1	14.8	18.2	65.5
Central						
Uttar Pradesh	47.8	22.2	27.4	9.8	16.6	71.2
Madhya Pradesh	51.4	11.3	34.8	18.1	14.7	64.1
INDIA	48.5	18.0	31.3	12.1	14.6	70.6

Table A2 : Per cent Distribution of Elderly by State of Economic Independence for each Sex, India and Major States (Urban)

Region/ State	Male			Female		
	Independent	Partially independent	Dependent	Independent	Partially independent	Dependent
South						
Andhra Pradesh	61.5	13.3	23.7	16.3	11.9	70.2
Karnataka	49.6	12.8	35.0	3.5	15.2	77.3
Kerala	44.9	14.2	38.1	11.2	12.0	76.0
Tamil Nadu	48.8	19.7	29.2	17.3	12.4	67.6
North						
Haryana	47.7	19.6	28.7	16.5	8.3	75.1
Himachal Pradesh	61.0	23.4	14.7	38.9	12.4	48.7
Jammu and Kashmir	51.2	26.6	21.6	5.2	5.4	87.0

Punjab	51.4	12.2	34.5	7.2	8.2	83.1
Rajasthan	53.5	13.8	28.7	11.0	13.0	72.5
East						
Bihar	49.8	14.0	31.0	8.0	12.6	72.3
Orissa	40.0	20.3	32.9	10.4	16.8	67.6
West Bengal	53.0	18.7	27.0	7.5	6.0	85.1
North-East						
Assam	38.4	33.0	25.5	1.2	7.6	90.5
West						
Gujarat	44.3	22.8	30.9	5.9	10.9	82.2
Maharashtra	50.6	18.6	30.8	13.5	11.9	74.0
Central						
Uttar Pradesh	48.7	19.5	30.9	7.1	12.4	79.4
Madhya Pradesh	56.6	12.8	29.5	13.5	8.0	76.3
INDIA	51.5	16.9	29.7	11.5	11.0	75.7

Table A3 : Per cent Distribution of Fully Independent Elderly by Dependency Burden for each Sex, India and Major States (Rural)

Region/ State	Male						Female					
	Number of dependants						Number of dependants					
	0	1	2	3	4	5+	0	1	2	3	4	5+
South												
Andhra Pradesh	0.9	37.9	17.2	10.5	5.7	19.1	10.1	23.9	1.3	1.3	6.5	30.0
Karnataka	7.0	24.4	15.4	10.8	5.9	20.9	-	4.6	5.9	3.5	4.7	27.7
Kerala	1.2	41.2	23.5	12.5	11.1	7.3	6.8	20.9	5.3	8.4	6.8	8.0
Tamil Nadu	2.3	31.8	13.5	13.1	12.5	19.2	15.5	18.6	4.4	2.1	2.4	15.9
North												
Haryana	-	42.0	4.4	16.2	2.0	17.6	-	25.3	-	12.0	-	19.8
Himachal Pradesh	1.5	38.2	15.7	6.3	7.7	16.6	12.6	17.5	2.4	1.2	0.1	31.1
Jammu and Kashmir	-	20.4	10.9	21.5	11.3	33.1	8.6	8.6	7.3	27.1	-	46.1
Punjab	1.1	43.9	9.4	4.6	5.4	11.1	6.1	20.3	13.6	27.1	5.1	2.5
Rajasthan	2.2	28.3	6.8	3.5	8.8	24.4	14.3	5.1	1.5	-	0.8	18.2
East												
Bihar	3.2	27.0	9.6	6.5	5.5	29.0	8.3	8.3	7.1	1.6	3.8	18.9
Orissa	11.3	26.1	18.3	14.4	10.4	13.0	38.6	14.1	5.2	19.8	4.7	2.5
West Bengal	0.9	32.3	12.4	15.5	6.1	25.8	54.7	5.7	2.2	8.0	11.9	4.3
North-East												
Assam	1.6	16.5	20.9	8.7	14.6	31.8	-	-	22.4	16.1	1.5	-
West												
Gujarat	4.5	29.0	13.3	2.8	5.4	11.1	11.4	8.2	0.6	2.3	-	3.7
Maharashtra	2.1	31.4	13.7	10.2	9.9	10.5	4.1	17.6	0.4	4.1	4.3	18.2
Central												
Uttar Pradesh	2.5	27.1	10.9	11.7	5.3	29.2	1.2	11.1	11.2	5.6	0.7	29.5
Madhya Pradesh	5.6	24.4	12.7	7.6	7.7	30.1	11.8	15.5	13.2	2.7	4.3	30.0
INDIA	3.0	29.8	12.9	10.4	7.4	22.2	9.2	14.2	6.0	4.4	3.3	21.6

Note : 1. The total does not add up to 100 as the non-recorded cases are excluded from the Table.
2. '-' indicates no individual in the sub-sample.

Source : Survey results on ***The Aged in India: A Socio-Economic Profile***, National Sample Survey (NSS), 52nd Round, July 1995-June 1996.

Table A4 : Per cent Distribution of Fully Independent Elderly by Dependency Burden for each Sex, India and Major States (Urban)

Region/ State	Male						Female					
	Number of dependants						Number of dependants					
	0	1	2	3	4	5+	0	1	2	3	4	5+
South												
Andhra Pradesh	1.1	36.8	16.3	11.2	7.2	15.6	4.7	19.4	0.2	4.4	1.2	35.5
Karnataka	2.9	30.5	18.6	9.3	4.4	24.4	-	9.1	23.1	2.4	-	20.4
Kerala	1.7	38.0	16.2	13.1	7.9	13.3	113	21.3	21.0	-	0.8	14.7
Tamil Nadu	4.6	40.4	15.5	8.8	5.4	13.8	19.9	21.1	3.8	4.6	-	14.7
North												
Haryana	3.1	58.2	9.0	10.8	0.8	14	-	5.4	2.5	-	-	1.7
Himachal Pradesh	-	40.0	19.5	4.5	3.2	16.7	-	16.5	-	10.2	-	46.5
Jammu and Kashmir	-	51.2	16.4	11.1	3.9	15:2	-	63.4	-	-	-	10.7
Punjab	7.4	30.3	8.9	3.4	8.6	17.3	47.7	-	6.6	-	-	-
Rajasthan	2.2	39.9	6.0	4.4	2.3	21.8	4.4	-	4.4	-	46	86.7
East												
Bihar	2.3	19.8	17.7	7.6	11.4	20.1	18.0	-	3.0	1.0	6.0	18.8
Orissa	9.0	34.4	14.9	9.9	13.7	14.3	39.0	42.7	-	-	7.5	1.2
West Bengal	3.4	35.1	17.2	8.1	9.6	13.8	14.3	18.1	3.1	1.0	1.3	17.7
North-East												
Assam	7.6	7.9	25.3	28.8	18.8	10.1	-	-	25.4	-	-	55.1
West												
Gujarat	6.2	36.6	10.1	4.1	8.8	8.2	3.1	8.3	-	-	-	5.4
Maharashtra	0.9	43.2	21.3	7.5	4.7	9.6	2.7	22.9	8.8	2.6	-	25.1
Central												
Uttar Pradesh	5.5	38.7	9.9	6.9	4.1	31.9	-	10.1	5.4	5.7	5.2	47.8
Madhya Pradesh	3.5	24.9	16.5	10.9	9.2	21.6	3	12.8	14.5	12.8	3.9	14.4
INDIA	2.7	36.9	15.4	8.3	6.4	15.3	10.4	18.0	6.0	3.2	1.4	20.4

Note : 1. The total does not add up to 100 as the non-recorded cases are excluded from the Table. 2. '-' indicates no individual in the sub-sample.

Source : Survey results on ***The Aged in India: A Socio-Economic Profile***, National Sample Survey (NSS), 52nd Round, July 1995-June 1996.

Table A5 : Per cent Distribution of Economically Dependent Elderly by Source of Support for each Sex, India and Major States (Rural)

Region/ State	Male				Female			
	Spouse	Own children	Grand children	Others	Spouse	Own children	Grand children	Others
South								
Andhra Pradesh	15.3	75.1	2.3	3.3	8.1	76.6	5.4	9.4
Karnataka	7.2	72.1	1.9	3.3	5.4	84.9	3.5	5.6
Kerala	7.9	83.2	1.5	4.5	15.5	72.9	4.0	5.7
Tamil Nadu	10.6	80.6	1.2	3.4	10.9	78.2	1.0	7.6
North								
Haryana	19.1	69.9	2.9	6.1	36.7	58.9	-	3.4
Himachal Pradesh	3.0	87.3	2.6	3.7	8.1	79.0	3.6	6.8

Jammu and Kashmir	1.8	87.4	1.8	3.8	18.0	72.8	3.9	2.1
Punjab	15.4	66.9	4.4	9.9	25.7	64.8	4.2	4.0
Rajasthan	7.2	83.0	4.7	2.9	13.4	77.4	4.3	3.0
East								
Bihar	10.8	71.8	7.9	3.3	21.8	63.8	5.2	4.6
Orissa	5.0	86.7	2.6	4.2	14.6	76.6	4.2	3.1
West Bengal	11.9	79.1	1.4	4.9	8.9	75.8	4.1	9.1
North-East								
Assam	2.8	92.5	1.2	0.2	3.8	88.7	2.4	2.8
West								
Gujarat	7.5	82.6	5.0	1.6	10.5	74.4	7.4	6.4
Maharashtra	18.9	67.7	5.5	7.4	8.8	73.3	6.8	8.2
Central								
Uttar Pradesh	9.6	61.1	9.5	14.8	24.8	55.6	6.9	8.6
Madhya Pradesh	12.2	70.6	4.8	6.7	11.1	70.1	5.9	9.7
INDIA	10.8	73.2	4.8	6.8	15.5	69.9	5.1	7.0

Note : 1. The total does not add up to 100 as the non-recorded cases are excluded from the Table. 2. '-' indicates no individual in the sub-sample.
Source : Survey results on *The Aged in India: A Socio-Economic Profile*, National Sample Survey (NSS), 52nd Round, July 1995-June 1996.

Table A6 : Per cent Distribution of Economically Dependent Elderly by Source of Support for each Sex, India and Major States (Urban)

Region/ State	Male				Female			
	Spouse	Own children	Grand children	Others	Spouse	Own children	Grand children	Others
South								
Andhra Pradesh	13.0	77.7	3.2	3.5	12.4	72.9	6.8	6.4
Karnataka	6.2	85.1	3.9	4.0	16.8	70.6	3.3	8.0
Kerala	5.7	83.7	2.0	4.2	11.7	72.0	3.7	11.1
Tamil Nadu	13.2	74.9	2.1	7.4	16.7	64.7	6.1	9.6
North								
Haryana	35.0	55.8	7.4	1.3	40.3	51.0	6.1	2.3
Himachal Pradesh	9.1	82.1	4.2	4.5	16.4	64.3	5.7	9.6
Jammu and Kashmir	2.1	91.5	7	4.2	26.0	68.3	1.4	2.5
Punjab	16.7	72.0	4.4	5.5	27.6	62.4	2.8	5.6
Rajasthan	5.1	76.1	8.9	9.2	16.7	62.4	7.8	8.9
East								
Bihar	11.9	65.7	4.7	5.4	17.6	56.5	13.6	5.6
Orissa	9.7	83.9	5.0	1.4	13.4	77.4	5.3	2.0
West Bengal	7.4	69.8	1.1	7.4	15.0	71.4	4.6	6.8
North-East								
Assam	8.6	88.0	-	1.7	4.6	85.7	-	5.3
West								
Gujarat	10.0	79.1	3.0	5.7	14.8	73.8	3.2	4.8
Maharashtra	11.1	80.3	4.9	2.8	16.8	71.1	4.7	5.6
Central								
Uttar Pradesh	4.8	69.8	15 1	5.1	21.7	61.4	8.5	5.5
Madhya Pradesh	16.2	67.8	8.7	2.6	20.9	68.7	2.0	5.4
INDIA	10.1	76.5	5.2	4.8	17.8	67.9	5.5	6.5

Note : 1. The total does not add up to 100 as the non-recorded cases are excluded from the Table.
2. '-' indicates no individual in the sub-sample.
Source : Survey results on ***The Aged in India: A Socio-Economic Profile***, National Sample Survey (NSS), 52nd Round, July 1995-June 1996.

Table A7 : Per cent Distribution of Elderly by Type of Main Living Arrangement for each Sex, India and Major States (Rural)

Region/ State	Male					Female				
	Alone	Only spouse	Spouse and others	Only children	Other relatives	Alone	Only spouse	Spouse and others	Only children	Other relatives
South										
Andhra Pradesh	1.7	27.9	48.1	17.2	2.6	9.5	8.1	14.0	54.5	11.0
Karnataka	2.5	9.7	67.7	17.9	1.0	5.5	4.0	22.2	62.4	4.9
Kerala	0.8	10.2	74.4	11.5	1.5	4.7	4.7	27.2	57.4	5.0
Tamil Nadu	3.4	26.0	52.6	16.0	1.9	18.0	15.1	19.5	39.8	6.1
North										
Haryana	1.3	6.6	70.0	19.5	2.3	1.5	5.7	47.9	39.2	3.9
Himachal Pradesh	5.2	14.4	62.9	18.3	2.1	7.7	8.4	24.4	54.0	3.1
Jammu and Kashmir	1.9	2.7	77.1	16.6	1.3	2.4	0.4	45.5	50.3	1.3
Punjab	2.4	9.9	60.7	16.5	7.3	2.6	8.6	41.9	44.1	1.7
Rajasthan	3.3	15.1	56.3	22.7	2.1	3.7	9.1	26.3	56.7	2.1
East										
Bihar	1.3	11.5	62.0	22.7	1.9	4.6	8.8	41.6	39.0	3.9
Orissa	2.7	13.1	65.8	15.9	1.5	5.7	10.3	36.7	42.5	2.6
West Bengal	1.7	14.3	65.9	16.2	1.5	3.2	3.6	21.8	63.2	7.3
North-East										
Assam	0.4	4.9	70.1	24.1	0.0	1.9	4.8	24.5	66.0	2.0
West										
Gujarat	4.5	15.2	54.7	22.1	3.1	7.0	7.6	26.3	53.1	5.9
Maharashtra	2.6	18.5	60.4	12.8	4.3	7.2	8.8	24.1	48.9	9.9
Central										
Uttar Pradesh	3.5	9.2	61.0	18.8	6.4	4.6	8.2	42.9	39.2	4.0
Madhya Pradesh	3.2	11.1	62.3	16.7	4.2	5.9	6.4	34.0	46.5	6.3
INDIA	2.5	13.7	61.3	17.9	3.4	6.1	7.7	31.3	48.1	5.5

Note : The total does not add up to 100 as those living with non-relations and the non-recorded cases are excluded from the Table.
*Source: **Survey results on The Aged in India: A Socio-Economic Profile, National Sample Survey (NSS), 52nd Round, July 1995-June 1996.***

Table A8 : Per cent Distribution of Elderly by Type of Main Living Arrangement in India and Major States (Urban

Region/ State	Male					Female				
	Alone	Only spouse	Spouse and others	Only children	Other relatives	Alone	Only spouse	Spouse and others	Only children	Other relatives
South										
Andhra Pradesh	4.4	12.8	62.2	17.0	3.0	6.0	6.5	16.9	58.1	11.7
Karnataka	2.1	8.1	67.8	17.8	4.0	5.6	1.9	30.5	53.2	8.2
Kerala	1.5	7.7	80.6	7.1	3.2	3.4	2.7	34.7	49.4	8.1
Tamil Nadu	3.0	17.6	59.5	15.5	3.3	12.1	6.8	24.2	46.9	6.4
North										
Haryana	2.4	12.5	60.5	24.1	0.3	11.9	9.4	33.1	43.8	-
Himachal Pradesh	0.2	16.1	62.0	21.7	-	1.2	1.6	38.9	39.0	19.3
Jammu and Kashmir	0.4	4.8	81.5	10.7	1.3	1.9	0.8	59.3	34.8	1.2
Punjab	3.4	12.4	59.0	21.5	1.0	4.7	12.8	38.1	40.4	2.6
Rajasthan	5.3	12.3	55.0	23.7	2.1	6.9	9.2	34.0	43.7	4.4
East										

Bihar	2.3	6.2	68.2	17.4	2.0	2.3	3.7	44.5	44.0	3.9
Orissa	3.2	10.5	69.0	15.3	-	3.1	5.6	36.5	46.5	5.8
West Bengal	3.6	5.4	63.9	19.1	6.3	3.9	2.2	21.8	61.2	9.3
North-East										
Assam	2.9	4.1	70.3	19.3	1.0	3.1	3.9	23.3	63.9	5.3
West										
Gujarat	3.3	9.6	63.5	19.7	3.9	4.9	3.7	24.8	61.2	5.2
Maharashtra	2.1	10.6	66.4	17.1	2.8	5.5	5.2	30.2	54.2	4.5
Central										
Uttar Pradesh	3.4	11.8	61.2	20.6	2.6	5.7	8.9	33.2	47.3	4.4
Madhya Pradesh	3.2	8.9	62.3	21.6	2.2	5.2	6.3	30.4	53.2	1.9
INDIA	3.0	10.3	64.8	17.8	3.0	6.0	5.7	29.7	51.2	5.9

Note : 1. The total does not add up to 100 as those living with non-relations and the non-recorded cases are excluded from the Table. 2. '-' indicates no individual in the sub-sample.

Source: **Survey results on *The Aged in India: A Socio-Economic Profile*, National Sample Survey (NSS), 52nd Round, July 1995-June 1996.**

Table A9 : Per cent Distribution of Elderly by Usual Principal Activity Status for each Sex, India and Major States (Rural)

Region/ State	Male						Female					
	Self emp	Regular emp.	Casual labour	Unemp.	Domestic duties	Others	Self emp	Regular emp.	Casual labour	Unemp.	Domestic duties	Others
South												
Andhra Pradesh	37.8	2.1	16.6	-	0.5	43.1	13.8	-	10.6	-	31.2	44.5
Kamataka	36.8	-	14.8	-	0.9	47.5	11.4	5.2	7.5	0.2	38.3	37.3
Kerala	35.8	1.5	13.5	-	2.6	46.7	5.4	0.4	4.6	-	46.1	43.4
Tamil Nadu	41.2	0.5	15.9	0.1	1.1	41.2	10.4	0.3	17.3	0.1	30.3	41.6
North												
Haryana	36.8	0.2	7.4	1.0	1.9	52.8	2.4	-	1.0	-	51.4	45.3
Himachal Pradesh	63.0	-	3.2	0.6	1.7	31.2	37.5	-	0.3	1.6	23.0	37.6
Jammu and Kashmir	63.8	-	3.3	-	3.1	29.7	7.5	-	0.2	0.6	54.4	37.3
Punjab	33.6	0.2	12.2	-	2.1	51.9	0.3	-	1.0	-	55.2	43.5
Rajasthan	59.7	-	2.8	-	0.5	37.0	18.2	-	0.2	-	41.0	40.7
East												
Bihar	52.7	0.7	16.8	-	3.7	26.1	6.2	0.1	6.9	-	49.3	37.5
Orissa	43.9	-	14.4	-	1.8	40.0	5.7	-	7.2	-	32.6	54.5
West Bengal	52.0	0.7	10.0	-	4.6	32.7	3.2	2.2	0.7	-	52.2	41.8
North-East												
Assam	41.3	2.1	8.4	1.0	5.3	41.9	1.0	-	0.5	-	46.4	52.1
West												
Gujarat	39.3	1.2	13.8	0.1	4.3	41.4	8.9	-	7.3	-	41.6	42.2
Maharashtra	42.1	0.3	19.9	0.4	1.1	36.1	14.5	0.0	12.1	0.2	26.4	46.9
Central												
Uttar Pradesh	56.1	0.6	10.0	-	1.8	31.7	11.1	0.0	3.7	0.1	47.7	37.4
Madhya Pradesh	43.0	0.9	14.4	0.2	3.0	38.4	16.4	0.7	8.5	0.1	21.6	52.8
INDIA	46.6	0.7	13.0	0.1	2.2	37.3	10.4	0.5	6.4	0.1	40.0	42.6

Note : '-' indicates no individual in the sub-sample.

Source: Survey results on ***The Aged in India: A Socio-Economic Profile***, National Sample Survey (NSS), 52nd Round, July 1995-June 1996

Table A10 : Per cent Distribution of Elderly by Usual Principal Activity Status for each Sex, India and Major States (Urban)

Region/ State	Male						Female					
	Self emp.	Regular emp.	Casual labour	Unemp.	Domestic duties	Others	Self emp.	Regular emp.	Casual labour	Une-mp.	Domestic duties	Others
South												
Andhra Pradesh	30.7	6.7	7.1	-	0.3	55.2	6.8	1.3	3.3	-	30.3	58.4
Kamataka	28.6	3.2	3.2	-	1.1	64.0	7.0	2.0	1.9	0.2	44.9	44.2
Kerala	13.5	2.9	4.3	-	3.6	65.7	1.5	0.8	1.5	-	51.9	44.5
Tamil Nadu	24.6	10.3	5.3	0.4	1.3	58.1	8.4	3.8	5.0	-	49.3	33.5
North												
Haryana	35.0	2.0	1.4	-	0.8	60.7	-	-	0.9	-	51.9	47.2
Himachal Pradesh	40.9	-	-	-	-	59.1	9.6	-	-	-	39.7	50.8
Jammu and Kashmir	29.6	0.6	3.8	0.9	0.4	64.7	1.1	0.3	-	-	53.8	44.9
Punjab	29.1	3.9	4.5	5.0	1.6	55.8	0.5	0.7	0.2	1.2	68.8	28.6
Rajasthan	24.0	3.1	2.5	-	9.7	60.7	6.6	0.4	0.5	-	46.6	45.9
East												
Bihar	38.3	2.8	7.2	0.1	5.3	46.4	5.7	0.1	1.9	-	44.7	47.5
Orissa	33.3	1.2	8.1	-	0.7	56.7	9.3	0.4	4.8	-	39.4	46.2
West Bengal	24.1	5.8	1.6	0.4	4.2	63.9	0.6	0.6	0.8	-	63.7	34.4
North-East												
Assam	36.3	6.4	-	-	9.7	47.5	3.9	-	-	-	41.6	55.4
West												
Gujarat	26.5	4.3	2.9	-	4.5	61.7	4.6	-	0.8	-	47.0	47.6
Maharashtra	21.1	5.4	3.8	0.1	3.4	66.0	4.4	1.5	4.2	-	54.5	35.5
Central												
Uttar Pradesh	28.8	3.8	3.9	-	2.7	60.8	2.9	1.1	1.3	-	51.6	43.1
Madhya Pradesh	25.2	5.4	4.7	-	0.9	63.7	5.8	1.1	3.6	-	37.9	51.7
INDIA	26.2	5.2	3.9	0.3	2.9	61.4	4.4	1.2	2.3	0.0	50.0	42.1

Note : '-' indicates no individual in the sub-sample.

Source: Survey results on *The Aged in India: A Socio-Economic Profile*, National Sample Survey (NSS), 52nd Round, July 1995-June 1996.

Table A11 : Per cent Distribution of Elderly by Ownership and Management of Financial Assets and Property for each Sex, India and Major States (Rural)

Region/State	Male				Female			
	Financial assets		Property		Financial assets		Property	
	Owner-ship	Management	Owner-ship	Management	Owner-ship	Management	Owner-ship	Management
South								
Andhra Pradesh	43.0	74.9	60.7	73.3	24.7	47.4	31.7	47.9
Kamataka	61.1	80.0	71.5	73.3	27.1	33.9	32.2	32.6
Kerala	42.2	82.2	75.9	81.4	23.1	45.5	44.6	45.3
Tamil Nadu	47.4	73.0	73.7	72.9	29.3	39.9	41.2	39.8
North								
Haryana	82.9	85.0	86.0	85.1	40.6	47.3	45.2	42.0
Himachal Pradesh	91.8	91.1	94.8	84.9	65.4	75.2	73.7	70.4
Jammu and Kashmir	93.1	87.4	94.3	87.5	63.5	61.7	65.5	64.1
Punjab	70.6	81.6	81.9	76.8	31.5	45.4	36.6	46.4
Rajasthan	79.7	85.1	86.3	83.9	33.8	38.8	38.1	37.3
East								
Bihar	79.7	87.8	86.0	86.5	53.9	46.2	57.7	45.1
Orissa	78.6	67.0	86.0	65.0	55.7	35.4	59.1	33.5
West Bengal	76.3	82.8	89.5	83.4	36.9	27.1	44.6	24.7

North-East								
Assam	70.7	74.8	89.6	73.2	48.8	17.6	55.1	16.2
West								
Gujarat	68.4	85.1	74.7	82.7	34.0	40.9	40.9	41.3
Maharashtra	67.5	86.4	78.3	84.9	36.1	44.0	42.2	46.9
Central								
Uttar Pradesh	78.4	83.0	85.1	84.0	45.1	53.2	50.6	54.9
Madhya Pradesh	73.1	80.0	76.0	83.2	43.8	51.8	45.8	52.2
INDIA	69.5	81.9	80.4	81.0	39.1	45.3	45.6	45.2

Note : The total does not add up to 100 as those living with non-relations and the non-recorded cases are excluded in the Table.

Source: Survey results on *The Aged in India: A Socio-Economic Profile*, National Sample Survey (NSS), 52nd Round, July 1995-June 1996.

Table A12 : Per cent Distribution of Elderly by Ownership and Management of Financial Assets and Property for each Sex, India and Major States (Urban)

Region/State	Male				Female			
	Financial asset		Property		Financial asset		Property	
	Owner-ship	Management	Owner-ship	Management	Owner-ship	Management	Owner-ship	Management
South								
Andhra Pradesh	54.7	78.8	63.7	75.8	20.1	47.3	30.1	47.5
Karnataka	65.7	74.3	66.1	75.6	31.1	43.4	33.8	43.8
Kerala	52.3	79.3	66.4	80.6	24.6	37.4	47.5	42.7
Tamil Nadu	55.8	83.5	62.6	78.0	27.9	61.3	31.6	60.1
North								
Haryana	88.3	78.9	90.0	78.2	62.1	49.8	55.6	44.2
Himachal Pradesh	89.8	98.3	98.2	98.7	85.4	84.9	80.6	74.1
Jammu and Kashmir	67.9	91.3	56.3	87.7	43.9	36.7	50.9	36.9
Punjab	68.9	93.6	74.4	93.3	30.4	66.5	34.4	56.7
Rajasthan	80.6	81.8	80.9	82.3	39.5	48.6	39.7	48.9
East								
Bihar	83.5	78.4	82.9	80.0	61.0	36.7	61.3	39.8
Orissa	65.1	75.3	77.9	73.4	41.6	47.6	45.1	44.1
West Bengal	75.9	78.8	79.0	76.2	36.5	41.6	37.6	39.4
North-East								
Assam	63.1	67.8	82.1	66.4	29.9	7.6	48.3	14.3
West								
Gujarat	78.1	82.8	82.1	83.2	45.5	46.2	47.7	47.4
Maharashtra	68.7	84.1	74.1	83.4	34.7	45.5	40.2	46.8
Central								
Uttar Pradesh	84.1	89.3	84.8	88.4	51.6	60.7	53.9	59.7
Madhya Pradesh	75.6	86.0	77.3	86.0	34.4	57.3	35.6	59.3
INDIA	70.2	82.8	74.2	81.5	36.5	41.6	37.6	39.4

Note : The total does not add up to 100 as those living with non-relations and the non-recorded cases are excluded in the Table.

Source: Survey results on *The Aged in India: A Socio-Economic Profile*, National Sample Survey (NSS), 52nd Round, July 1995-June 1996.

Table A13 : Per cent Distribution of Elderly Ever Engaged in Wage/Salaried Job or as Casual Labour but not Employed preceding the Date of Survey by type of Retirement Benefits for each Sex, India and Major States (Rural)

Region/ State	Male					Female				
	Pension only	Pension with other benefits	No pension but other benefits	No benefits	Not recorded	Pension only	Pension with other benefits	No pension but other benefits	No benefits	Not recorded
South										
Andhra pradesh	0.6	1.9	4.0	72.4	21.1	-	3.0	3.0	74.1	19.9
Karnataka	4.9	3.5	-	44.8	46.9	1.7	-	-	62.5	35.8
Kerala	6.5	7.5	5.0	68.8	12.2	7.9	4.5	2.0	74.2	11.4
Tamil Nadu	8.2	7.7	6.7	61.2	16.3	-	0.7	3.3	78.4	17.6
North										
Haryana	1.3	39.7	1.1	56.2	1.7	-	9.9	-	79.1	10.9
Himachal Pradesh	37.6	14.1	2.4	35.8	10.1	-	19.4	-	80.6	-
Jammu and Kashmir	-	0.2	16.4	20.3	63.1	-	-	-	48.3	51.7
Punjab	0.1	2.2	2.6	65.4	29.7	-	-	-	19.6	80.4
Rajasthan	-	12.2	-	38.5	49.3	-	2.7	6.7	17.6	73.0
East										
Bihar	12.3	18.6	3.6	39.9	25.6	16.6	0.5	-	50.6	32.3
Orissa	10.0	18.9	5.0	57.9	12.8	-	7	11.8	61.7	25.8
West Bengal	5.8	10.3	13.2	47.4	23.3	-	7.9	12.7	65.9	13.4
North-East										
Assam	4.9	24.0	4.1	54.7	12.3	-	2.0	81.9	16.1	-
West										
Gujarat	12.5	13.0	10.2	56.6	7.7	5.0	-	-	85.8	9.2
Maharashtra	1.2	23.6	3.3	49.3	22.7	-	0.3	-	87.5	12.2
Central										
Uttar Pradesh	25.5	14.3	13.5	35.0	11.6	-	0.5	-	86.8	12.7
Madhya Pradesh	3.0	9.8	-	66.0	21.3					
INDIA	7.9	12.5	5.5	53.7	20.4	2.1	1.4	2.2	73.7	20.6

Table A14 : Per cent Distribution of Elderly Ever Engaged in Wage/Salaried Job or as Casual Labour but not Employed preceding the Date of Survey by type of Retirement Benefits for each Sex, India and Major States (Urban)

Region/ State	Male					Female				
	Pension only	Pension with other benefits	No pension but other benefits	No benefits	Not recorded	Pension only	Pension with other benefits	No pension but other benefits	No benefits	Not recorded
South										
Andhra Pradesh	0.6	1.9	4.0	72.4	21.1	-	3.0	3.0	74.1	19.9
Karnataka	4.9	3.5	-	44.8	46.9	1.7	-	-	62.5	35.8
Kerala	6.5	7.5	5.0	68.8	12.2	7.9	4.5	2.0	74.2	11.4
Tamil Nadu	8.2	7.7	6.7	61.2	16.3	-	0.7	3.3	78.4	17.6
North										
Haryana	1.3	39.7	1.1	56.2	1.7	-	9.9	-	79.1	10.9
Himachal Pradesh	37.6	14.1	2.4	35.8	10.1	-	19.4	-	80.6	-
Jammu and Kashmir	-	0.2	16.4	20.3	63.1	-	-	-	48.3	51.7
Punjab	0.1	2.2	2.6	65.4	29.7	-	-	-	19.6	80.4
Rajasthan	-	12.2	-	38.5	49.3	-	2.7	6.7	17.6	73.0
East										
Bihar	12.3	18.6	3.6	39.9	25.6	16.6	0.5	-	50.6	32.3
Orissa	10.0	18.9	5.0	57.9	12.8	-	7	11.8	61.7	25.8
West Bengal	5.8	10.3	13.2	47.4	23.3	-	7.9	12.7	65.9	13.4
North-East										
Assam	4.9	24.0	4.1	54.7	12.3	-	2.0	81.9	16.1	-
West										
Gujarat	12.5	13.0	10.2	56.6	7.7	5.0	-	-	85.8	9.2
Maharashtra	1.2	23.6	3.3	49.3	22.7	-	0.3	-	87.5	12.2
Central										
Uttar Pradesh	25.5	14.3	13.5	35.0	11.6	-	0.5	-	86.8	12.7
Madhya Pradesh	3.0	9.8	-	66.0	21.3					
INDIA	7.9	12.5	5.5	53.7	20.4	2.1	1.4	2.2	73.7	20.6

[1] Total population of the state is one of the indicators, usually considered, to classify if a state in Indian Union is major or not.

[2] Among the elderly in India, the proportion never married is rising and proportion divorced and separated declining consistently. For country as a whole, the 1991 census puts the share of never married as 3.45 per cent for males and 1.39 per cent for females, and the share of divorced and separated as 0.36 per cent for males and 0.40 per cent for females.

[3] Employment in organised sector (private and public sector added together) in India is mostly male oriented. The share of women's employment in organised sector is low and has risen slowly from 11.0 per cent in 1971 to 17.8 per cent in 2000.

[4] The state-specific poverty estimates by the Planning Commission indicate that at all-India level, 27 per cent of total rural population and 24 per cent of the total urban population are poor. For the country as a whole, it records a substantial decline in the percentage of population below the 'Poverty line' from 54.9 per cent in 1973-74 to 26.1 per cent in 1999-2000. It also focuses on the sharp variation among the states in the respective poverty ratios.

[5] With 26.9 per cent contribution to the Gross Domestic Product (GDP), agriculture provides employment to 56.7 per cent of country's workforce and is the single largest private sector occupation in India. It is also the source of livelihood to two-thirds of country's population (*Sectoral Policies and Programmes*, p. 513, Tenth Five Year Plan Document).

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The 'Village' in Postcolonial Development Discourse: India as a Case Study

Shibsankar Jena

The end of Second World War and beginning of the reconstruction of postcolonial societies in the period of 1950s has a significant landmark in the field of development studies. Birth of modern development discourse with the principle of science, rationality and homogeneity under the umbrella of modernization theory has created a friendship bond between postcolonial state and the western product of scientific knowledge. In a very 'orientalistic' fashion, this western modernity (in the sense of material culture) and development created a grand theory and false dichotomy between tradition vs. modernity, nature vs. culture, man vs. woman, and civilized vs. uncivilized in which the west became as a role model by recognizing itself as most developed and modern civilization through developing certain kind of knowledge system (science and rationality) and exercising power on the rest of the world as a most superior culture of the world. An analysis of post independent India's Rural Development policies reflects the western categorisation of binary opposition in which 'village' has been recognised as traditional, superstitious, backward and closed society. Due to the lack of dynamism in rural society, the planners emphasised on exogenous factors to bring Indian villages into the process of change. Without recognising the significance of rural people and their knowledge, the Indian planners has adopted a top to bottom approach of development policy through bureaucratic process. Perhaps this is the major factor for the failure of India's major development programmes in achieving the expected goal.

I think economic growth is a good thing. It pleases me to see it achieved, it depress me to witness its failure, especially when the failure is due to misdirected policies. I can see little sense in the romantic argument that happy people in poor countries ought to be left alone. Whether they are happy is irrelevant, for the drive for economic development that causes such turmoil in the poor country is led for the most part by the elites of those countries themselves. The drive for modernisation is a fact; these seem to be no turning back." (Gayl D. Ness, 1967: ix)

I

INTRODUCTION

The complex nature of reality has always thrown up varied perceptions and theoretical statements about human society. These varied perceptions do not, however, necessarily reflect mirror of the realities they claim to represent. As Berger argues, 'words describe the realities of society but words also have the power to create and shape reality' (Berger, 1974: 9). One major limitation in social interpretation is that the facts presented tend to reflect more the ideas and biases of the people who formulate them than the qualities and attributes of the phenomena under observation. This study concern itself with the implications of these biases in received programmes of Rural Development and change in postcolonial India.

The independence from colonial rule in 1947 marked the beginning of new phase in the history of Indian development and nation building process. Colonialism left two historical legacies: the absence of socio-structural dynamism on the one hand, and on the other hand the consequent emergent of political forces aimed not only at the creation of sovereign states, but also at remedying the absence of this dynamism. Like other Third World countries, with the absence of this socio-cultural dynamism combined with colonialism, India became 'under developed' (Kohli, 1987:25). In this context, after getting independence state has emerged as a major player in improving the social, economic and political sphere of Indian society through planned social change. The Indian state also took over the task of supervising the transformation of its stagnant and backward economy to make sure that the benefits of economic growth were not monopolised entirely by a particular section of society. It is with this background that 'development' emerged as a strategy of economic change and an ideology of a new regime. Through the planned social change, the state promised to reform Indian society; untouchability was to be eradicated; illiteracy and want were to be banished; complete equality was to prevail; the human potential was to be liberated and nurtured. In order to realise these goals, the era was begun for planned development through adopting five years plans model for the overall development of the nation. A Planning Commission[1] was set up in March 1950 three months after the constitution became fully operative. In doing so, the state became the major player in determining the major features of development policies and programmes through the centralised planning system in India's development process since her independence and continues despite numerous efforts at decentralisation and privatisation of significant areas of country's economic sector.

The five and a half decades experience of planning and development presents a mixed record. During these decades with the planned development, the country's economy has

been modernised and now liberalised and made self-reliant. The government took on the role of "Provider" making services available to the 'target group' with the noble objective of raising living standard of these groups and finally we have broken the vicious circle of the "Hindu rate of growth"[2] of our GDP growth rate.

Yet the irony remains. Poverty among plenty, still more than 30 per cent of the population is living below poverty line. Evidence shows that, various major rural development policies that India has adopted with the hope of eradicating rural poverty, have failed to achieve desired goal. In analysing the trend of India's development process, Rudolph and Rudolph argues that, India's development trend has shown both rich and poor qualities.[3] Myrdal, while making an inquiry into the poverty of India asserted that, 'low average income, inequality of social status is not only made more rigid and permanent by low levels of income, but also itself tends to perpetuate its major cause'. The massive development programmes for rural areas, particularly those of community development programme, national extension service, and green revolution are the elitist bias despite their professed intent in favour of the weaker sections. But it is also important to note that, there was no growth, it was 'growth with poverty' (Myrdal, 1968).

In this context, this paper deals with a sociological analysis of the major rural development programmes that post-independent India has adopted through her fifty five years of planned social change. The sociological analysis of India's planned development and change claims that, social inequality and social development have moved hand-in-hand. It seems that the very nature of our social system and the inadequate planning system, which is responsible for the failure of rural development programmes to achieve targets. The sociological evaluation of planning and rural development is based on some basic questions like; what are the effects of planning, specifically the various rural development programmes introduced by the government? Which categories of people benefit through these programmes? Is it the same class/ caste as had dominated the system in the pre-independence day? Is class now the basis for determining agrarian relationships? (Oommen, 1984)

II

RURAL DEVELOPMENT IN POSTCOLONIAL INDIA

Although India has some evidence of rural development programme in her colonial period but the villages were not directly administered by the state.[4] It is only in postcolonial period the state has been taking an active interest in the welfare and development of the rural society through the centralised planning system. This has led to a change in the conception of the role of state. The state has come to be seen as a positive

agency of welfare and social change rather than an evil necessity. Through a plethora of welfare policies and developmental programmes, state aims to change the social structure of the village. The Indian state through its various Five-year plan introduced different policies and programmes in order to make village India developed and modern. A brief over view on the post-independent India's various developmental programmes through Five-year plans have given below.

Table-1

Plan	Period	Rural Development Policy
I Plan	1951-1956	Community development as method and national extension service as the agency
II Plan	1956-1961	Cooperative farming with local participation.
III Plan	1961-1966	Panchayati Raj- three-tier model of democratic decentralisation.
IV Plan	1969-1974	Area based programme
V Plan	1974-1978	Introducing the concept of Minimum Needs Programmes.
VI Plan	1980-1985	Emphasis on strengthening the socio-economic infrastructure in rural areas, alleviating disparities-inter integrated rural development programmes.
VII Plan	1985-1990	Emphasis on creating new employment opportunities, special programmes for income generation, through Assets, Endowments, Land Reforms, and participation of people at the grassroots level.
VIII Plan	1992-1997	Emphasis on building up of rural infrastructure. Priority for rural roads, especially in tribal, hill and desert areas, minor irrigation, soil conservation, social forestry and participation of people in Rural Development Programmes.
IX Plan	1997-2002	Emphasis on to encourage and develop the mass participation institutions like the Panchayati Raj Institutions, co-operatives and voluntary sections; to create sufficient productive employment and give priority to the development of agriculture and villages for eradicating poverty; to provide the basic minimum services like clean drinking water, primary health care facility, universal primary education; emphasis on weaker section's participation on development and social change.
X Plan	2002-2007	Emphasis on development of small industry and other industries suited for rural areas to provide non-farm employment in rural areas; emphasis on to strengthen the economy of the marginal and small farmers, forest produce gatherers, artisans and unskilled workers; special focus on rural infrastructure development etc.

III

MAJOR DEVELOPMENT POLICIES

Community Development Programme (CDP):

On achieving independence, India launched Community Development Programme on October 2, 1952, as a part of Five-year plan to address the rural problems through an integrated and comprehensive approach. The Etawah[5] project provided the stimulus to launch it in a large scale on the fourth anniversary of Gandhi's death, partly in deference to the Gandhian vision, which was considerably at variance with the modernist aims of these programmes. The fundamental premises behind launching this programme was that change cannot be brought about in isolated and fragmented manner; that it must be integrated involving all aspects of life and the whole community. CDP was multi- purpose in nature including provision of social services, development of industry as well as agricultural and non-agricultural activities and performing local government functions in rural areas (Griffin, 1968: 165). In recognising these objectives, the Planning Commission in their first Five-Year plan have described the Community Development Projects 'as a method through which Five Year Plan seeks to initiate a process of transformation of the social and economic life of the villages' (Desai, 1969: 611).

Land Reforms: Land to the Tiller

The colonialism left India as a semi-feudal agrarian system.[6] In the years immediately following India's independence, a conscious process of nation building looked upon problems of land with a pressing urgency. While there was a general agreement that the prevailing agrarian structure, marked by absentee landlordism and the semi-feudal mode of production needed to be recognized, two extreme positions were taken on the following crucial questions: 'what kind of agrarian reform are required and which would work the best?' and 'is there an economic logic behind land reforms?' The competing answers to these questions came to be known as the 'the firm size productivity' debate.[7]

However, the Indian government introduced land reforms in her first Five-Year plan with the logic that, without land reform the overall rural development cannot be possible, because it is the land which determines the power structure in rural India. Unequal power structure leads to the unequal distribution of wealth and the manipulation of all developmental programmes by the land owning minority. Thus, it is necessary to distribute surplus land among the rural poor for equal accessibility of the entire rural development programme by all the villagers. The major steps that India has taken through her various Five-Year plans for land reforms are: (a) Abolition of intermediary tenures between the state and the cultivators; (b) Conferment of ownership of rights on the tillers of the land, security of tenure, regulation of rent; (c) Fixation and implementa-

tion of land ceiling legislation and distribution of surplus land; (d) Consolidation of holdings; (e) Compilation and updating of land records.

Rural Cooperatives: Development through Collective Mobilisation

After getting independence, Cooperatives were established with great enthusiasm in India. Expectations of their performance have been high, and in many cases, disappointment at their actual results has been correspondingly better (Attawood and Baviskar, 1988: 1). In 1959, the Congress Party issued a resolution which declared that 'the future agrarian pattern should be that of cooperative joint farming in which land shall be pooled for joint cultivation. In this respect, Cooperatives have been expected to achieve a number of economic and social goals. In addition to increasing production and mobilizing underutilized resources, they have also been expected to increase social justice and equality of opportunity, to reinforce social solidarity, and to rebuild communities supposedly fragmented by the impact of colonial regimes, market expansion and new technologies (Vyas, 1980). Cooperatives thus became one of the instruments of rural development through the state intervention.[8]

Green Revolution: The Modernisation of Indian Agriculture

The period between 1947 (when India became independent) and 1965 saw two major evolutionary steps in agricultural planning and development in India. In the first phase, 1947-60 considerable emphases have placed on the development of infrastructure through CDP. But at the end of First Five-year Plan period, it was realized that the CDP was not providing the necessary impetus to the one major national objective, which was increased food production. Thus, from the position of giving equal importance to all aspects of rural development, as in First Plan, the Indian government chose to give a higher priority to the development of agriculture in her second Five-Year Plan period. This also meant a change in the administrative and organizational structure of the CDP through whose network it was hoped to achieve higher agricultural production. As a result, in 1964, the planners announced a "fresh consideration of the assumptions method and techniques as well as the machinery of planning and plan implementation in the field of agriculture". Hence, the second phase (1960-65) saw the introduction of Intensive Agricultural District Programme (IADP), which was designed to introduce a package of practices such as the cultivation of improved varieties and application of fertilizer and pesticides in areas with assured irrigation.

In taking a 'production first' decision, the Indian planners introduced the process of modernization in Indian agriculture by accepting the U.S sponsored technological package for agricultural development. It was hoped that improved farm production would not only be a lasting solution to the perpetual problems of rural poverty and hunger, but would also generate a new resource base- a launching pad for rural reconstruction that

would create new employment opportunities and would improve the quality of life at the grass roots to an appreciable measure. A team of agricultural personnel from the Ford Foundation recommended a strategy of growth to the Indian government, which has provided a basic policy framework for the agricultural development. The thrust of recommendation was the use of new technology of high yielding varieties of seeds (HYV) for higher productivity. The characteristics of the new programme were the application of a number of complementary inputs of seeds, fertilizer, controlled irrigation, pesticides and so on. This strategy of growth was based on the assumption that as all farmers are economically rational, agricultural growth will occur if the needed technology, information, credit and marketing channels are made available to them along with assurance of a 'fair' return on this investment. Because resources were scarce, it was recommended that they be directed first to those areas and farmers who already were in the best position to use them, those with more land, irrigation, and existing tradition of high productivity. The additional resources generated by the 'progressive' farmers could be used to help others further down the road. Green revolution signaled the beginning of a transformation of agriculture from an impoverished 'way of life' to a profitable business occupation (Frankel, 1971: 197). The principal logic behind is that, modern science and technology can break through India's long closed circle of poverty to spearhead on agricultural "take-off" that will provide the missing momentum in rural resources and demand for rapid industrialization (Frankel, 1971: 8). As M.S Swaminathan put forth, that, 'the Green revolution in developing counties essentially has been a public sector enterprise, though it predominantly a private sector enterprise in developed world' (Swaminathan, 1966: 144).

It would, however, be erroneous to equate the green revolution with HYV alone. Green revolution has to be understood as a broader ideology of rural transformation, whereas programmes such as HYV, the Integrated Rural Development Programme (IRDP) and the like are specific institutionalized measures for translating green revolution ideology into practice (Dhanagare, 1988: 2-13). In short, green revolution as package (ideology and programme) is to be defined as the large-scale application of modern science and technology to agriculture.

Social Justice with Economic Growth: The Special Programmes

The split of Congress Party in 1969 marked the beginning of a new era in the field of rural development in India. This period was also recognized as a new period in the Indian political scenario in which the idea of "populism" started as a new ideology in the Indian politics by using the famous slogan like "*Garibi Hotao*".[9] This change of political ideology shifted the emphasis of rural development to special programmes for weaker sections. It facilitated a re-examination of many past policies. Distortion introduced during the past decade was officially acknowledged and 'corrective' actions

initiated. Accordingly, the Small Farmers Development Agency (SFDA), Marginal Farmers and Agricultural Labourers (MFAL) and Drought Prone Area Programme (DPAP) were initiated.[10] The main objectives of these schemes have taken the benefit of agricultural development to the numerically large but economically poor sections of the rural community (Rao, 1978).

The government of India launched another special scheme, 'Food for work' programme in April 1977. This programme aimed at the eradication of hunger and unemployment and the creation of the community assets in rural areas. In 1989 two other programs, the National Rural Employment Programme and the Rural Landless Employment Guarantee Programme, were merged into a single program called the Jawahar Employment Plan (Jawahar Rozgar Yojana). The Integrated Rural Development Programme in India launched in fifth Five Year plan and extended throughout India by sixth Five Year plan, is a self-employment program intended to raise the income-generation capacity of target groups among the poor.

With a strategy of growth with social justice, the sixth plan saw IRDP a location-specific more meaningful strategy of promoting the development of target groups comprising small and marginal farmers, agricultural labourers and rural artisans. The philosophy underlying this programme originates from the imperative that the main attack on rural poverty has to be by endowing the poor with productive assets and skills so that they are assured of a stream of income that raises them above the poverty line. The thrust of the programme is in making the rural poor households economically viable by giving them self-employment oriented productive schemes. These schemes either provide assets to the assetless (and even to the low asset based) poor households, or raise the productivity of their asset base by providing technology, upgrading skills and improving their access to credit, input and output markets.

Liberalisation and Rural Development

The 1990s India is fundamentally different from the proceeding decades of post-independent phase of Indian development. India adopted policies of globalisation, liberalisation and market economy in the wake of serious economic crisis in the middle of 1991. The immediate reason was a serious balance of payment crisis owing to steady decline in exports, negative growth rates in industry and agriculture, and 0.3 percent decline in the domestic production of crude oil (Jain, 1996). This necessitated the introduction of economic reforms with emphasis on liberalisation and globalisation of Indian economy and allowing a larger role to market. Through this process, the agenda of western governments, intellectuals along with the World Bank and IMF has become the dominant agenda in India's planning process through structural adjustment programme.

This change in 1990s onwards has been claimed to be a change in both content of development strategy and the methodology of planning under the impact of global trends. As

for the former, it is a major shift from a static perspective, which gave a greater weightage to the endogenous factor to an open and outright corporatist perspective with pronounced prominence of the exogenous factors. This became possible on the basis of understandable broad measure of support from the indigenous major corporate players, who acclaim their changes as a paradigm shift from state to market friendly neo-liberalism. As a result, the role and methodology of planning also undergo a major transformation. The redefinition of the development strategy regime has been described as liberalisation, new economic policy, structural adjustment etc. The planning system under the market friendly, globalised, privatized and deregulated policy regime has been described as indicative, flexible, integrative framework planning. In this background, India launched her eighth five-year plan with the view that, "it is a plan for the managing of change, managing the transition from centrally planned economy to market-led economy without tearing out socio-cultural fabric". At the same time, it was felt that by adopting market oriented and globally competitive restructuring policies, the Indian economy could grow much faster and become more self-reliant in managing its balance of payment and could at the same time speedily accelerate, including freedom from hunger, disease, ignorance, unemployment etc.

In this context, it is very important to analyze India's strategy towards rural development under the liberalisation policy. The India's agriculture has been demonstrating during the post-liberalisation period, an altogether new trends like diversification in cropping pattern in favour of export orientation, growth of agribusiness, corporatisation of agriculture and free entry of foreign ventures. The following reforms are initiated so far in the agriculture sector of the country: (a) Reduction of fertilizer subsidy; (b) Removal of domestic restrictions on the movement of agricultural commodities; (c) Diversification of cropping pattern in favor of the export orientation; (d) Bringing agriculture under GATT agreement.[11]

IV

A SOCIOLOGICAL ANALYSIS

Large number of literatures is now available by the scholars from various disciplines on both failure and the success of these above mentioned India's rural development programmes and policies. Among them, a major portion of scholars notices the failure of programmes in achieving their expected goal. A number of evaluation reports on CDP demonstrate that the program.me was largely a failure in terms of its objectives. Various studies by the scholars have made it amply clear that due to unequal village power structure, the backward classes and the other under-privileged sections of the society which constitute a significant proportion of population to whom this programme was made for, have not received much benefits (Mandelbaum, 1998; Dube, 1967; Krishnan 1993).[12]

One of the major factors behind the failure of CDP is that it was assumed by the Indian planners that all people are equal (Desai, 1979; Beteille, 1980; Dhanagare, 1984). It was implicitly also assumed that they will be equally mobile. The government then went about setting up a structure of rural development institutions expecting that they will be equally accessible to all the people. When this expected pattern is viewed against the reality it became clear that the rural people are not equal, that the mobility of the rural people is influenced by their socio-economic status, and therefore, the people tend to have differential mobility to the same set of services. Further, the services themselves are not adequately distributed and the socio-economic disadvantage distance from such services together can prevent the services being used by all people.

Similarly, various literatures reflect the failure of high-expected Cooperatives in rural development process. Although some scholars have highlighted some successive story of Cooperative in modernizing the rural agriculture[13] (Bhaviskar, 1980) but majority of scholars argues that Cooperatives in India has failed to achieve the desired goal (Thorner, 1964; Myrdal, 1968; Dumont, 1973; Mathur, 1971; Batra, 1988). The various reasons for failure of Cooperatives offered by the different authors fall into the categories like; organizational,[14] economic,[15] political[16] and sociological.[17]

Though the intention of the land reform laws passed in India soon after its independence was quite progressive and ever radical, the actual results were different from the stated intention (Joshi, 1971). The policies of land to the tiller and protection of tenants were not sufficiently realized. The concentration of land ownership continued, because, at the initial phase of land reform, there was no provision of ceiling of holdings. The result was that the major advantages of land reform accrued to those erstwhile landlords (who are allowed to retain land under self-cultivation which was used as a pretext to evict a large number of tenants) and the intermediate class, consisting of the upper layer of the tenants (ibid.). The smaller tenants and other weaker sections of the rural society did not gain much. This phase of land reforms helped the rich peasantry to emerge as the dominant group in rural society. They were not only the major landowning class but also had a superior social status and controlled the local political institutions (Panchayats, cooperatives, and the local administration) as well. As Daniel Thorner maintains that a small group of people are used to running the village, economically, socially, and politically. The members of this group have both a sense of power and the means of exercising its. The overall trends of agrarian change following land reforms in India have been aptly summed up by P.C Joshi: (a) land reforms, especially in India, has been characterized at the *ideological* level by agrarian radicalism, giving rise to great expectations on the part of the rural poor. At the *programmatic* level, however, land reforms have only tended to promote and consolidate the interests of the intermediate class big peasants and the medium landlords. (b) The land reform programmes, thus, has a *dual* impact. Benefiting

mainly the intermediate classes, it has left unsatisfied the vast expectations of the rural poor. The farmers have been upgraded and pushed into prominence in the land and power structure. The latter have, in contrast, lost even the limited security, which they enjoyed under the old system without yet a tangible gain in any other form (ibid.).

While land reforms provided the major impetus for agrarian change in India immediately after independence, the emphasis shifted to technological change since the mid-sixties. Thus it can be said that the initial enthusiasm for land reforms has lost much of its steam in recent years. The introduction of Green revolution has helped those who derived the maximum benefits from land reforms to further consolidate their power. According to Joshi, available empirical evidence tends to suggest that technological force have not only reinforced but also accelerated the *dual* tendencies of agrarian change (viz. economic impetus for the big peasants and the economic insecurity for small peasants), which followed the introduction of land reforms.

Since 1960 when HYV seeds programmes was introduced in India, much has been written for and against the green revolution. A number of studies have also been conducted by various scholars on the socio-economic consequences of this programme. There was also an interesting debate going on among both certain number of Indian and foreign intellectuals revolving around the existing mode of production[18] in Indian agriculture in post green revolution period. In both theory and practice, the green revolution has been the dominant, much discussed orientation for rural development programme in India since its introduction. The statistics shows that the impact of green revolution was apparent in food-grain production, which has increased in India in the post green revolution period (1965-73) by 19.1 per cent over the pre-green revolution period (1961-65). This increase was 87.2 per cent in Punjab, and 64.9 per cent in Haryana were the gains in production performance were impressive (Dhanagare, 1988). In view of the widespread use of these varieties and marked increased in the yield and output of grains, it became a real possibility to become not only self-sufficient in respect of food but also to export the food grain for earning foreign exchange. The new varieties were, therefore, seen as setting off a 'green revolution' or a 'seed fertilizer revolution'. The speed with which these varieties were adopted by farmers and the extent of production gains made in the initial years made the ministry of Agriculture, Government of India to declare 1967-68 as the year of "Green Revolution".

However, this rosy picture of green revolution was not endorsed even by its staunch protagonists. By analysing the impact of green revolution on farm output per acre, on wages, on total household incomes of different categories of farmers, on consumption patterns, and rural poverty alleviation, many scholars argue that the new agricultural technology was accessible only to the large-scale farmers, and the prosperity unleashed by the green revolution was distributed differently to the various categories of farmers,

putting the small-scale and marginal farmers at a relative disadvantage.

Although the green revolution measures were considered to 'scale-neutral',[19] but in reality it became its opposite. The agricultural development bureaucracy working at the grass root has had a different perception. Their understanding rarely conformed to the notion of scale-neutrality, and their actions almost always reflected a tacit pro-rich policy of rural development (Mencher, 1978).

Poor peasant who had appeared resigned to their handicaps under the existing agrarian structure as long as the prospect for material improvement was relatively limited, had became increasingly resentful of institutional arrangements which deprived them of "their legitimate share" in the greatly increased production now possible with modern technology (Frankel, 1971; Deva, 1980). Byres article on the impact of green revolution on class structure in India demonstrates that the rich peasants are not merely influential actors in the countryside, but, in fact, they play a determining role in the state apparatus and mould the development strategies in their favour. Byres build up his analysis on the basis of Marx's distinction between 'class-in-itself' and 'class-for-itself'.[20] He argues that 'class-for-itself' on the part of the rich has been very evident. He states that, "Rich peasants are now organized very effectively as a class: aggressively, cleverly, and extensively constituted as a class-for-itself, capable of pursuing its interests with skill, ruthlessness, and success....the rich peasantry has exercised its class power, with great success, to avoid taxation, to maintain high agriculture prices and inter-sectoral terms of trade favorable to themselves, to subvert attempts, to nationalize the grain trade, to prevent further land reform in India, this kulak (if we may use that word) has marched boldly through the door of politics and is very much a force to be reckoned with in the Indian polity. The Indian state power has been exercised on his behalf. One cannot understand the nature of the Indian state –its class basis-unless one recognizes this. It may be too much to say that the rich peasantry has captured the state power in India. But it most certainly exerts immense influence upon the Indian state- an influence that the 'new technology' has magnified" (Byres, 1981). Thus, according to Byres, when the new technology was made available in the mid-60s, it was the rich peasants who effectively appropriated that technology for themselves and thereby increased their economic strength.

Harris observes that there might be a 'compulsive involvement' of the small peasants because of the apparent profitability of HYV cultivation. In that case, they tend to borrow money from moneylenders to meet production costs or, because of debt, they sell all or a large part of their products immediately after harvest at a lower price at a time when they have no real surplus at all (Harris, 1987: 232). Jodhka[21] has made similar kind of observation.

With the substantial increase in the yield as a result of the use of new seed-fertilizer

technology, land rent tended to rise substantially, almost in proportion to the profitability. The increase in yield and profitability from farming would severely affect owner-tenant relations; the former would like to create conditions so as to evacuate tenants and resume land for self-cultivation leading to the displacement and unemployment of tenants and swelling of the rank of the farm laborers. This led to the starting of proletarianisation in Indian agriculture (Frankel, 1971; Dhanagare, 1988; Bhalla, 1983). The green revolution has not only quickened the process of economic polarization in rural areas, but it has also contributed to increasing social antagonism between landlords and tenants, and landowners and laborers. This class antagonism in rural India replaces the customary patron-client relationships in the recruitment of farm labour, old ideas of reciprocal (albeit unequal) obligation gives way to new notion of opposing economic or class interests (Frankel, 1971: 197). Thus, from a sociological perspective, one can say the introduction of green revolution India has produced a dualism[22] and proletarianisation in Indian agriculture led to the emergence of agrarian tensions and conflicts and made the agrarian relations more explosive. It is feared in some quarters that the green revolution may not remain green in view of the culmination of social tensions and conflicts among different agrarian classes.

The entire structural adjustment policy has very serious implications for the people and, more so, to the working class and the urban and rural poor as quite a number of industries may have to close down due to inefficiency and being incapable of surviving competition. The state under liberalisation policy is imposing massive cuts on subsidies, which include welfare programmes. The effect can be seen on the most vital sectors of welfare-health, education, women and child development, nutrition, etc. which are main components of Human Resource Development. There is an overall decline in the allocation of rural development, small and agro-industries, and labor welfare. These trends are alarming and have serious implications for the future of social justice.

Liberalisation and globalisation has led to the shifting of power from the nation-state to the transnational corporation. The present process of liberalisation has a negative impact on agricultural policy. It is undermining ecological security by removing all limits on concentration of ownership of natural resources for exploration of short-term projects (Shiva, 1998) and it produces several consequences like farmer suicide.

V

SUMMARY: THE 'VILLAGE' IN POSTCOLONIAL DEVELOPMENT DISCOURSE

Development as a discourse is complex and elusive, although important in understanding social change. A minimal definition of development would be a 'change for better'. The immediate question in this regard is 'better from whose point of view?' The answer to this question lies within the origin of the discourse of development itself,

which reflects how the west has conceptualised Third World countries. By using discursive analytic approach of Michel Foucault,[23] poststructuralist Escobar argues that, development as discourse means to understand why so many countries started to see themselves as underdeveloped in the early post World War II period, how to develop became for them a fundamental problem and how, finally, whole fields of knowledge and endless strategies were devoted to this task. In short, how they brought into this fairy tale of development that promised abundance and happiness for all, and how, in doing so embarked upon the task of un-under developing by subjecting their societies to systematic and minute observations and inventions that would allow them to discover and eventually eradicate their problems once and for all.

It has done so through the systematic elaboration of fields of knowledge and institutions which made possible the establishment in the third world of forms of power through which individuals, government officials and some times, whole communities recognised themselves as underdeveloped, as unfinished manifestation of a European deal. These fields of knowledge covered entire domains related to third world economies, societies and culture- from countries economy, agriculture to demography, health, education, planning, natural resources and so forth. They constituted a system for organising the production of truth about the third world. The knowledge so produced made possible the exercise of power in novel ways. Conversely, once third world countries became the target of new mechanism of power, their economies, societies and cultures were offered upon a new object of knowledge. In sum, Escobar argues 'Development colonised reality, it became reality' (Escober, 1992).

Thus the West has invented some modest form of cultural difference after decolonisation period. Instead of the earlier terminology of 'civilised' and 'uncivilised', a new set of terms ('developed' and 'underdeveloped') was invented to differentiate the west from rest of the world. According to this new terminology, a high degree of urbanisation, industrialisation, education, mechanisation of agriculture, and values of individual orientation and rationality are the characteristic features of 'developed' or the west. The lack of these characteristics would place a society in the category of 'underdeveloped' or the third world. As post-developmentalists argue, the non-western countries or the post-colonial countries are first labelled as poor by the west and then advised to develop. It is the western conceptualisation of the third world as they are poor because their societies and their knowledge are traditional and irrational. Thus, they need western scientific form of knowledge for their progress.

The discourse of rural development in India after its independence can be seen in the same manner as west has seen the Third World. The Planners of India have constructed the Indian village reality as a traditional, closed society. It is a homogenous entity, which has no relation with outside. Their knowledge is traditional, irrational and

resistance to change. Thus it needs some external influence to bring village India into the process of change It is the Indian planner who first conceptualised the Indian rural society and prescribed for the change through a top-down strategy where the village people were treated as recipient of development and not as a participant of their own development projects. On this background, India adopted planned intervention for rural reconstruction in which intervention consisted of developing some kind of material or organisational input or "package" from outside which was designed to stimulate the emergence of certain 'internal' activities geared towards the achievement of higher level of production, income generation, economic 'efficiency' or the better utilisation of existing resources and the human factor of rural society.

With this notion, the Indian state introduced Community Development Programme as first village development programme in post-colonial India. The framers of Community Development Programme presumed that an Indian village community is a homogeneous entity with a harmonious relationship. Hence, in its very conception the Community Development Programme visualized the development of a village or a locality as 'community as whole'.

The analysis of development programmes reflects of its both formulation and implementation with top to bottom approaches. Although, India from her CDP, recognizes the merits and importance of community or people participation, but the truth behind this idea was to fulfill only the government's objectives. The philosophy behind this kind of participation is one dimensional where people were recognized as participator and not as equal partner in policy formulation.

Thus, the sociological insight on the rural development and planned social change analyses development should not be one-way traffic. From the above analysis, it can be said, by conceptualizing rural society as homogenous, lack of dynamism and based on traditional knowledge; the government of India formulated various plans and policies from the above. Through this, planner has adopted the *Paternalistic* approach in which the state became as "guide, philosopher and friend" of the villagers and was expected to familiarize them with modern and scientific ideas about agricultural and rural development with the presumption that whatever, if any thing, they knew about farming was outmoded and needed to be discarded. The planners and government tended to treat village people like dough in their hands. The fact that people had resources of their own, physical, intellectual and moral, and that they could use them to their advantage, was not recognized by those in power. By doing so, the village has been neglected by the Indian planner as a source of feedback in their development planning. Perhaps this is the major factor for the failures of India's rural development programmes to achieve the desired ends. The rural development policies in post-colonial period have facilitated the incorporation of village into the state. This is not to say that village contest and redefine the state:

'the state is not only present in the village but the village also penetrates into the state'. In other words the dynamics between the state and the village is not unidirectional.

It is evident from the above discussion that the rural people are treated as 'object' rather than 'subject' of the development plan. And development is conceptualized as evolutionary process rather than as a dialogical process. Thus rural development administration fought with numerous problems and its bureaucratic organization suffered from inherent weaknesses. The analysis reflects the failure of top to bottom approach of poverty reduction and rural development. Without people's voice, the formulation of policy at the upper level and its implementation through bureaucracy is meaningless. Because it is true that the local people have their own knowledge about their own environment, about their own problem and without noticing this local knowledge development is an illusion. Whether it is development of rural capitalism or development of rural collectivism, one thing is certain- that is, it is the "people" who have to be set in the centre of development. There is a need to evolve a system that empowers people to participate in their own developmental project and give them an incentive to change. Without this, investment and technology has no meaning for rural people.

END NOTES

[1] According to the Indian constitution, the major task of the planning commission is to formulate a plan for the most effective and balanced utilisation of countries resources; to make an assessment of the material, capital and human resources of the country, including technical personnel, and investigate the possibilities of augmenting such of these resources as are found to be deficient in relation to the nation's progress; to indicate factors which are tending to retard economic development, and determine the conditions which, in view of the current social and political situation, should be established for the successful execution of plan; and to determine the nature of the machinery, which will be necessary for securing the successful implementation of each stage of the plan in all aspects (Taylor, 1965: 9)

[2] The first three decades after independence, India's GDP grew at an average rate of 3.5 per cent annually. This stagnant nature of India's GDP growth rate was recognised by the economist Rajkrishnan as "Hindu rate of growth".

[3] According Rudolph, there is a paradox in both political and economic development of India. The Indian development shows both rich-poor performance. India shares features of the 'Northern' rich industrial states in that it is an industrial country with a large GNP and out of 154 countries in the world it ranks 15th in industrial production and twelfth in GNP. Yet poor side of India's paradoxical condition clearly places it in the ranks of south. Due to the high percentage of population under poverty line, 67-percentage work force in agriculture sector ranks India as 'southern' state in the world. (Rudolph and Rudolph, 1987: 9-10).

[4] Rural development in India has a long history of its own. Its origin can be traced to the colonial period. The famines, food riots and the concerns over land alienation as well as continuing concern with tenancy legislation constituted the core of the rural development in British India. Securing better rights for tenants, protecting small tenants from moneylenders, irrigation works, recommendation of cooperative society etc. were part of British legislative activities. However, barring sporadic welfare and relief activities supported by periodic grants, the British colonial state could not launch any major programmes for rural development. Also, historically British had no worthwhile experience of rural development in its own country that could be use to work. In the beginning the colonial India did not have any rural development programme rather it had various welfare programme.

[5]The Community Development Programme was evolved on the results of a pilot project named as "Etawah" which introduced community development in sixty-four villages in Etawah District of U.P state in 1948. Alfred Meyer, the leader of this pilot project, identified certain principles for an effective Community Development Programme. These are; (1) to assess local situation by beginning with 'felt needs' and gradually moving to 'induced needs', (2) the pace of development depends on the ability to absorb, which again requires a realistic setting of targets and priorities, (3) an emphasis on participation, team work and face-to-face communication, and (4) to involve local people and use local resources.

[6] During colonialism, India's traditional land ownership and land use patterns were changed to ease acquisition of land at low prices by British entrepreneurs for mines plantations etc. The introduction of the institution of private property de-legitimised community ownership systems of Indian rural societies. Moreover, with the introduction of the land tax under the Permanent Settlement Act 1793, the British popularised the zamindari system at the cost of the jajmani relationship that the landless shared with the land owning class. Through this process the colonial rulers interposed a class intermediaries between the state and the cultivators and the zamindars were created as class of big landowners who could be relied to act as the pillars of British rule in India. Though Ryotwari and Mahalwari system were other forms of land management, leasing out of land by owners was a universal practice. In short, the British created a parasitic class of intermediaries, and the actual tillers did not enjoy any ownership rights over the land, which they cultivated.

[7] There are two schools of thought that emerged in this debate. The first school known as 'institutionalist' argues that the land distribution not only democratizes the villagers, but also increases the productivity of land. Thus, this led to the slogan like 'land to the tiller'. In contrast, the second school of thought argues that the modernization of Indian agriculture cannot be possible in a small land holding. It required landlord reorientation. They needed to be motivated to cultivate their own land with wage labour and using modern

technology. The land reform, according to them, would only divide the land into 'unviable holdings', rendering them unfeasible for the use of modern technology (Jodhka, 2003).

[8] Oommen remarks that "in a society characterised by widespread poverty, illiteracy and ignorance, the initiative to form formal organisations rarely comes from the masses. When the government in such a society is wedded to planned economic development, organisational innovations are frequently attempted to bring about social change" (Oommen, 1976: 177-78). Thus, Co-operatives is one of the organisational innovations by the Indian government to change the rural society in a desirable direction.

[9]The *Garibi Hotao* slogan has been introduced by Indira Gandhi into the Indian politics which has largely been recognised by the scholars as the emergence of 'redistributive politics and populism' in the Indian politics. The strategy of incorporating the popular classes by appealing distributive goals and social justice has been as the distinctive features of populist politics. Therefore, consideration of "populism" may help us shed some light on the peculiar ideological formation forged by Indira Gandhi in the wake of the demise of traditional congress politics, which has based on distributive favours to supporters in the classic pattern of pyramidal machine politics. The details of the concept of "populism" and its incorporation into Indian politics can be found from Akhil Gupta 1998.

[10] During the fourth plan, the SFDA projects were started in eighty-seven project areas and MFAL projects in another eighty-one areas. During the fifth plan, the two schemes were merged into one and thus continued to operate in 168 project areas concerning 1,818 blocks all over the country.

[11] The original General Agreement on Tariffs and Trade (GATT) 1947 applied to trade in agriculture. It allowed countries to use export subsidies on primary agricultural products but prohibited export subsidies on industrial products. The GATT rules also allowed countries to resort to import restrictions (i.e. import quotas) in the agriculture sector under certain conditions to enforce measures to effectively limit domestic production. This resulted in a proliferation of impediments to world agriculture trade including by means of import bans, quotas setting the maximum level of imports, minimum import prices, non-tariff measures maintained by state-trading enterprises, etc. (Mishra, 2003: 3-12).

[12] An evaluation of the impact of CDP by S.C Dube in 1958 points out that 'nearly 70 percent of its benefits went to the elite group and to the more affluent and influential agriculturalist'. The gains to poor agriculturalist were considerably smaller. For the economic development of this group, as well as for that of rural artisans and agricultural labourers, no programme was initiated by the project (Dube, 1967: 82-83). Similar kind of view has also expressed by Mandelbaum. According to him, 'the lowest castes, those who are mainly landless labourers, often gain nothing. They have nothing to

begin with, nothing which can be improved, no means of getting an economic start, and so they remain economically as well as socially disadvantaged. The gap between them and other villagers frequently widens rather than diminishes on account of development projects' (Mandelbaum, 1998: 157).

[13] Although vast literature is now available on the failure of cooperatives, but there are also some successful stories of cooperatives that have been highlighted by some scholars. For example, in Gujarat (diary cooperatives) and in Maharashtra (sugar cooperative) the cooperative was a genuine people's movement. Elsewhere, there was too much interference from bureaucracy.

[14] Organisational factors refers to the weakness and the causes for the failure of the Cooperatives lies in the organisational drawbacks-which gives a better management and organisational network through which Co-operative can be successful.

[15] The economic factor refers to the lack of resources that is being poured into the Cooperatives by the sate or/and the poor monetary rewards/incentives or injudicious spending of the resources as being the factors for the failure Co-operatives.

[16] The political factor emphasises on the over dependency of the Cooperatives on the state; lack of political will to take decisions which will hurt to the rich, or/ and the politicians themselves use them as tools to further their own ends under the garbs of the Co-operatives.

[17] The sociological factor explores the existing socio-economic inequalities in rural society as the major hydrants to the success of Co-operatives.

[18] There is a famous debate on the subject of mode of production based on the dynamic nature of post independent Indian agriculture. The major theme of the debate is based on 'whether Indian agriculture is marching towards the spirit of capitalism or it is still in semi-feudal mode or it is dual mode of production articulating both capitalism and semi-feudalism'. Some scholars argue in favour of capitalism where the other argues that India is still under the feudal mode of production.

[19] Initially the green revolution measures were considered to be 'scale-neutral'. It was therefore expected that, whether it is HYV seeds, pesticides insecticides, and fertilisers, or whether it is lift irrigation, mechanisation of farm operations and other farm subsidies, small landholders would benefit as much if not more than large landowners would.

[20] 'Class-in-itself' is objectively determined by a common relationship to the means of production and a common relationship to the appropriation of surplus product. These relationship give rise to an objectively given common set of economic interests' vis-à-vis other

classes. 'Class-for-itself' entails a perception of these economic interests, and a willingness to pursue them through conscious, organised and collective class action. (Byres, 1981).

[21] According to Jodhka, while bigger farmers had enough surplus of their own to invest in the new capital-intensive farming, for smaller landowners it meant additional dependence on borrowing, generally from informal sector. His study of three villages in a green revolution district of Haryana showed that their average outstanding debt from informal sources was highest even in absolute terms when compared with the other categories of farmers. In order to clear the debts, they have no choice but to sell the farm yield in the market even when they needed to keep it for their own consumption. They sold their farm yield immediately after harvesting when prices were relatively low, and bought later in the year for consumption when prices were higher. Thus although the small farmers adopted the new technologies, the fact that their resources were limited meant that these technologies ushered in a new set of dependencies. On the other hand, it has definitely strengthened the economic and political position of rich farmers (Jodhka, 2003).

[22] In green revolution affected region, production has greatly increased because of a fuller utilization of the potential in the better sectors of agriculture, i.e. the better irrigated lands and the large farms. It is an undisputable fact that the rural upper class benefited much from the green revolution because the existing service structure sufficed to meet their needs while the necessary services were not available for smaller farms. The prosperity of the large farmers and the given incentive structure with emphasis on private enterprise and development of capitalistic agriculture caused a dualism in the agricultural sector with larger farms developing more and more, while small farms remained more or less stagnant, thus widening the gap. This dualism, which has serious social and political consequences, has the biased organization of rural service structure as one of its main causes.

[23] This approach looks at development as a historically and culturally specific form of rationality that is inseparable from related regimes of practices and configurations of power. It implies that 'practices do not exist without a certain regime of rationality; that this regime of rationality is historically rooted; and that it works as a structure of knowledge, allowing, at any particular time, certain events and pattern of agency. Discourse works as a structure external to individual or collective actors, and to a large extent unacknowledged. In so far as it invests actions and objects with meaning, and is bestows people with morally charged identities, discourse is a form of power. It is power that precedes and encompasses agency: power produces; it produces reality. It produces domains of objects and rituals of truth. The individual and the knowledge that may be gained of him belong to this production (Foucault, 1970: 194).

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Prevalence of Anaemia Among Women: A Comparative View of Scheduled Tribes and Others in Six Major States of India

Sibabrata Das

Although iron deficiency anaemia has been recognised as a public health problem for many years, little progress has been reported and the prevalence of anaemia remains unacceptably high in India. But one of the disturbing aspects is that, there are substantial differences in the level of anaemia across regions and socio-economic groups. In this context, this paper aims to explore the level of anaemia among scheduled tribe women, compared with scheduled castes, other backward classes and 'other' castes in the six states in the mid-Indian tribal belts inhabited by substantial proportion of scheduled castes and scheduled tribes. It also tries see if there are variations in anaemia among women across social groups after taking socio-economic and other factors into account. For this purpose this study utilises the National Family Health Survey-2(NFHS-2), 1998-99, data. The findings show that the rate of prevalence of anaemia among scheduled tribe women is substantially higher compared to other social groups. Logistic regression models reveals that scheduled tribe women are more likely to be anaemic compared to 'other' castes even after controlling for other socio-economic and demographic factors.

Despite substantial improvement in health and well-being since the country's independence, anaemia remains widely prevalent in India. It manifests in diverse forms and contributes to mortality and diseases (Girma *et al.*, 2002: 1). Women in the reproductive age group are most vulnerable to anaemia. In India more than 50 per cent of women in the reproductive age are known to be anaemic. Besides, large variations in the prevalence of iron deficiency anaemia among women across states and socio-economic groups have been reported (National Family Health Survey, 2000). Some of the recent studies have found nutrition inequalities in terms of education, status of women, place of residence; standard of living etc (Bentley *et al.*, 2003). In India, another important dimension is the social backwardness. Those belonging to traditionally oppressed sections of the society called scheduled castes and scheduled tribes (SC and ST), face more health problems than others. The Other Backward Class (OBC) in India are group of castes officially recognised as being traditionally socially backward while still having better status than scheduled castes and scheduled tribes. Other

caste ('others') population seem to have better health condition compared to SC, ST population. However, malnutrition in India has been perceived as a serious problem for the tribal population living in relative isolation. This deprivation in terms of nutritional and health status can also be varied across states. So it calls for an analysis of variations in prevalence of anaemia among women belonging to different social groups in different states of India. In particular, there is a need to see whether the scheduled tribes are more deprived than the other section of the population. It is recognised that scheduled tribes suffer disadvantages in many socio-economic aspects; education, level of living etc. Besides, the tribes tend to be more concentrated in rural areas than the other sections. It is likely that these disadvantages adversely influence the nutritional status of the scheduled tribe population. However, it is also possible that being a member of scheduled tribe, the relative isolation and associated factors aggravates the situation for scheduled tribes. Therefore, it is necessary to see if the scheduled tribe women suffer on account of socio-economic backwardness or of being scheduled tribe.

THE STUDY AREA:

The study area is comprised of eastern (Bihar including Jharkhand, West Bengal, Orissa), central (Madhya Pradesh including Chattisgarh) and western (Gujarat and Maharashtra) parts of India. The population of the study area is 45.5 million, which constitute about 44.2 per cent of the total population of India. Among the states, Bihar has the highest population (10.9million) followed by Maharashtra (9.7m), Madhya Pradesh (8.1m), West Bengal (8.0m) and Orissa (3.7 m). On an average the proportion of SC and ST population in this area is 14.4 per cent and 11.9 per cent respectively. But it varies within the region. However, every state in the study area has substantial per centage of scheduled caste and scheduled tribe population. The proportion of tribal population in Bihar, Orissa, West Bengal, Madhya Pradesh, Maharashtra and Gujarat are 7.1 per cent, 22.1 per cent, 5.5 per cent, 23.2 per cent, 8.9 per cent, and 14.8 per cent respectively. These states together have 6.8 million persons belonging to scheduled tribes and also accounts for about 66 per cent of the scheduled tribe population of India. Scheduled caste populations are also substantial in the states that fall in the study area. The study area accounts for the 40 per cent scheduled caste population of India. The proportion of scheduled caste population in Bihar, Orissa, West Bengal, Madhya Pradesh, Maharashtra and Gujarat are14.7 per cent, 16.5 per cent, 23 per cent, 14.2 per cent, 20.2 per cent, and 7.9 per cent respectively. These states not only have high proportion of disadvantaged (scheduled castes and scheduled tribes) population but also have substantial proportion of 'other' populations. Though northeastern states comprise a high proportion of tribal population, populations in other categories are not substantial. Thus, it is not possible to examine the relative deprivation of STs in

the northeastern states. Therefore the present analysis covers only the six states that have large scheduled tribe, scheduled caste and other populations.

In socio-economic aspect Bihar, Orissa, and Madhya Pradesh are backward in comparison to other states. Besides, these states lag others in demographic transition as well. Total fertility rate (TFR) is high in Bihar (3.5) and Madhya Pradesh (3.3). In Orissa, in spite of low TFR, Infant Mortality Rate is very high. However, NFHS-2 survey reveals infant, and child mortality rates are substantially higher in these states. Analysis of Table-1 reveals that Maharashtra and Gujarat are at socio-economically and demographically better position than those states. So the study area comprises both backward as well as developed states.

Table 1 : Socio-Economic and Demographic Backgrounds of the Study Area

CHARACTERISTICS	BIHAR (including Jharkhand)	ORISSA	WESTBENGAL	MADHYA PRADESH (including Chattishgarh)	MAHARA SHTRA	GUJARAT
population (in million)*	10.9	3.7	8.0	8.1	9.7	5.0
%To national population*	8.1	3.1	7.8	5.9	9.0	4.9
%0-6 population*	19.76	14.6	14.2	17.63	14.1	14.9
Sex ratio (female per thousand male)*	924	972	934	936	922	920
%Urban population*	13	15	28	25	42	57
Area (in sq. km)*	173877	155707	88752	443436	307713	196024
Population density*	632	236	903	182	315	258
Scheduled caste Population(in million)	1.6	0.6	1.8	1.1	0.9	0.3
Scheduled tribe population (in million)	0.8	0.8	0.4	1.8	0.8	0.7
%SC population*	14.7	16.5	23.0	14.2	20.2	7.9
%ST population*	7.1	22.1	5.5	23.2	8.9	14.8
Literacy rate*	50.0	63.1	68.6	64.0	76.9	69.1
Female literacy rate*	36	50.5	59.4	48.0	67.0	57.8
Poverty***	42.6	47.1	27.0	37.4	25.0	14.0
Infant mortality rate**	72.9	81.0	48.7	86.1	43.7	62.6
Child mortality rate**	34.7	25.5	19.9	56.4	15.0	24
Median birth interval**	32.3	32.9	33.6	30.2	29.0	29
Female singulate age at marriage**	18.8	21.2	19.6	18.9	19.8	20.2
Median age at first marriage**	14.9	17.5	16.8	14.7	16.4	17.0
Total fertility rate**	3.5	2.5	2.3	3.3	2.5	2.7

* Census, 2001: Registrar General, India, 2004. Census of India, 2001, "Population Profiles (India, State and Union Territories)", New Delhi

** NFHS-2: International Institute of Population Sciences and ORC Macro. 2000. "National Family Health Survey (NFHS-2)", 1998-99.

*** NSSO, 1998-99: National Sample Survey Organization. 2003., Government of India, the

NSSO Report no. 466.

OBJECTIVES

- To assess the extent of variation in the prevalence of anaemia across social groups in the states under study.
- To explore how far caste/tribe variations in the degree of anaemia remain, once socio-economic differences have been controlled.

CONCEPTUAL FRAMEWORK

There has been a common understanding that income is the most important factor affecting health and nutritional status of the population. But there are other factors like education, caste/tribe status, work status, place of residence etc. which seems to have bearing on nutritional status. In this context it can be argued that capability to be well-nourished depends not only on income but also on a persons command over both food and various non food commodities such as health care and education. It also depends on the conversions of such commodities into nutrition related capacities such as the capacity to avoid escapable morbidity, preventable mortality and to be adequately nourished. It is well known that tribes face severe health problems compared to other sections of population so one may argue that tribal women are undernourished because they are economically poor. But other factors like low level of education, lack of health care facilities etc may affect directly or indirectly their nutritional status. Besides, their traditional culture particularly health culture (including dietary habits, personal hygiene, health seeking behaviour etc) may affect their nutritional status. Being a member of tribal society, each individual follows the culture and social norms of the society. So it can be posited that membership to the tribal society (tribal status) and associated factors like availability of medical facilities, safe drinking water etc affect the nutritional status of women. In this context, a situation may arise wherein tribal women would be undernourished than other women even at same level of socio-economic condition.

METHODS AND MATERIALS

Database

The study uses data from the National Family Health Survey-2 (NFHS-2), which is the second in a series of demographic health surveys carried out in India in the 1990's. The UNICEF provided additional funding for the nutritional components for the survey in India. It was conducted in 1998-99, by the ORC Macro and International Institute for Population Sciences, Mumbai and collected information from nationally representative sample of 92,486 households and more than 90,000 ever married women of age 15-49. The National Family Health Survey (NFHS-2) covers 99 per cent of India's population

living in all 26 states (IIPS and ORC MACRO, 2001). The relevance of the NFHS data for the present study lies in the fact that it gives data on degree of anaemia in women and also the determinant variables such as caste/tribe, religion, education and standard of living etc which gives opportunity to examine the social inequality in health status. The Homo cue system was used to estimate the concentration of haemoglobin in capillary blood (IIPS and ORC Macro, 2000). A single drop of blood was taken from a finger prick after removing the first two drops of blood to ensure that the sample was based on fresh capillary measurement (Bentley *et al.*, 2003). Women are classified as mild, moderate and severe anaemia based upon their haemoglobin status (WHO, 1992). A haemoglobin concentration of less than 70 g/l was used to define severe anaemia, 70-99.99 g/l for moderate anaemia, and 100-109.99 g/l to correspond to mild anaemia in pregnant anaemia and 100-119.99 g/l for non –pregnant women. The prevalence of iron deficiency in a particular population is therefore a statistical than a physiological concepts, although it reflects that the proportion of the population that has iron deficiency.

Methodology

Since the objective of the present is to observe the effects of socio-economic factors and scheduled tribe membership on the prevalence of the women, a logistic regression model has been evolved.

The basic form of the logistic function is

$$\mathbf{Logit}(r)=\ln[p/(1-p)] = z \quad \ldots\ldots(1)$$

Where p=probability of occurrence of an event and

$Z=b_0 +b_1X_1 +b_2X_2+b_3X_3+\ldots b_kX_K$ is a vector of parameters and predictor variables b_0, b_1, b_2, b_3…….b_k and predictor variables $X_1 X_2 X_3 \ldots\ldots X_K$

If y is the response, then y=1: occurrence of the event, p=probability (y=1).

Thus equation 1 postulates that the probability of occurrence of the event is influenced by a set of predictor variables in the manner specified with b_0, b_1, b_2, b_3…. b_k as the logistic regression co-efficient.

The equation can be expressed as

$$P=\exp.[Z/(1+\exp(z)] \quad \ldots\ldots(2)$$

The quantity p/(1-p) is called the odds, hence the quantifying ln [p/(1-p)] is called the log odds or the logit of p. Logistic regression can also be used if one or more of the explanatory variables are categorized. In this case, a category needs to be designated as 'reference category'. The logit regression coefficient for a category of variable is inter-

preted in relation to the reference category; exp. (coefficient of a category) gives the "odds ratio", ratio for the odds for the specified category to the odds of reference category. This technique will be used to determine the predictors for nutritional status with dichotomous dependant variable. In such cases, the ratio term exp (b_k) for a particular category k is the odds ratio, that is, the ratio of odds for the category k to the odds for the reference category.

VARIABLES

Dependent Variable

Primary outcome variables in the analysis are created from level of haemoglobin. Dichotomous dependant variable was created which assumes the value 0 if the woman is not suffering from moderate or severe degree of anaemia (<109.99 g/dl) and 1 otherwise (>109.99 g/dl). There may be no symptoms if anaemia is mild. It is found that the risks of mortality and disease are higher in the cases of moderate or severe anaemia. So here non anaemic and mild anaemic women are clubbed into one category. At the same time, severely anaemic women are clubbed with the women having moderate degree of anaemia to form the second category as the prevalence of severe category is very small. The factors responsible for obtaining response in measurement of anaemia have been studied by means of personal characteristics of respondents.

Explanatory Variables

For this study different socio-economic variables which are available in National Family Health Survey-2 are taken into consideration. These include caste/tribe, religion, place of residence, standard of living of the household, educational attainment, work status of the woman, decision making autonomy about health care, exposure to television, household size, birth in last five years, age and current pregnancy status of the woman. These factors affect degree of anaemia in many ways which are discussed as follows.

Economic status which is generally assessed by income is an important predictor variable of anaemia among women. But NFHS-2 did not collect data on household income or expenditure. So in NFHS a simple index of standard of living, a proxy for income/expenditure, is calculated on the basis of household and economic characteristics: type of house, toilet facility, source of drinking water, main fuel for cooking, separate room for kitchen, ownership of house, ownership of irrigated land, ownership of livestock, and consumer durable goods. The standard of living of household is an indicator of access to adequate food supplies, use of health services, availability of improved water resources and sanitation facilities, which are prime determinants of child's nutritional status (UNICEF, 1990). Standard of Living is generally categorized as low, medium and high.

Education of the woman has been used as an independent variable and the categories used here are Illiterate, Literate but up to middle school, Middle school completed, High school completed and above. Education is regarded as the engine of the process of development. In recent years, especially women's level of education is accepted as an important indicator to measure the level of development in the society. It gives the power of decision making to achieve autonomy. Education gives more awareness about the society, health and also makes women financially sound. It possibly influences nutritional status since higher educated persons owing to their to exposure to outside world, are more aware of personal hygiene and on issues of preventive, promotive and curative health care than uneducated or less educated person. Decision making autonomy of the woman is used as independent variable as it affects the use of health care. The categories used in the analysis are: woman involved in decision making solely or jointly with husband/other and woman not involved in the decision making in regard to avail health care.

Employment may increase woman's status, power and may bolster a woman's preference to spend her earning on health and nutrition. So, work status of the women is used as a control variable and categories used are working and not working. Place of residence, whether urban and rural, is included in the analysis because it has great effect on ones life. Norms and practices vary within rural and urban areas. It plays an important role in health and nutrition related information and accessibility to health care. It also affects the exposure towards the surrounding environment and society.

In India, the caste/tribe represents the traditional ascribed framework of life conditions, values and social choices. Scheduled castes and schedule tribes are oppressed sections of the society. Scheduled castes were treated as untouchables in the past and denied access to health care facilities. Scheduled tribes generally live in inaccessible, remote areas and so health facilities are rarely available. As they have little exposure to outside world, they generally stick to their traditional beliefs, way of living etc. Food preparation methods and other things related to food habits etc are also found to be different from the other groups. Caste/tribe is categorised as Scheduled castes, Scheduled tribes, other back ward classes, and 'others'.

Religion is an important cultural variable. The major religious communities in India are Hindus, Muslims, Christians, Sikhs, Buddhist and Jains. Religion strongly influences social institutions. Each and every religion has own customs and norms that ultimately affect nutritional status. For example, cultural practices of food habits, hygiene, feeding practices, child bearing and health seeking behaviour vary across religion. Evidence shows that Sikh women have higher body mass index in comparison to the women belonging to other religion. Categories of the religion included in the analysis are Hindu and non- Hindu. Religions other than Hindu are categorised into

one because of very small proportions of those in the study area.

Exposure to mass media is believed to have profound impact on health behaviour of women. Often media content deals with programmes intended to make the people aware about the problems that we are facing. Programmes like, universal education particularly girls education, family welfare, maternal and child care etc also have a bearing on the nutrition status. It is because of the fact that, these media contents brings ideational change surrounding health care and nutrition. Media is likely to have an effect on practices of child care i.e., child feeding and rearing. It enables women to learn the proper way of utilizing existing resources for the optimal use for children. In this analysis, exposure to television is used as an independent variable, the categories of which are whether exposed to television at least once in a week (Yes or no)?

The age of women is considered as one of the important biological factors. Age is categorized into 3 groups, viz. 15-19, 20-34 and 35-39. Births in last five years show the current rate of child bearing of the woman. Repetitive child bearing affects the biological endowment of women, which ultimately affect the health status. It is assumed that women who gave less number of births will be healthier than others with more children. The categories are 1, 1+ and no birth. The problem of anaemia during pregnancy, especially in the developing world, has received much attention during recent decades. During this time woman need more iron for herself and for the growth of her child in the womb. Anaemic pregnant women are at a greater risk of death than non anaemic pregnant women. So whether a woman is currently pregnant is used as a predictor variable. Household size have an ambiguous affect on nutritional status as it depends on the relative strength of scale economies in the consumption of various household goods against the diminishing returns to scale in food and care availability. Categories of the household size included in the analysis are1-4, 5-7 and 7+.

SOCIO-ECONOMIC DIFFERENTIALS IN THE LEVEL OF ANAEMIA

Do some socio-economic groups have higher percentage of undernourished women than others? In this section, an attempt has been made to see if there are any differences in level of moderate or severe anaemia among women belonging different socio-economic groups in the area under study.

Table 2 shows that substantial differences exist in the prevalence of undernutrition in terms of iron deficiency anaemia among women across social groups. The level of moderate or severe anaemia among women is found to be the highest among scheduled tribes followed by scheduled castes. The situation in other backward classes is little better than that in scheduled castes and scheduled tribes. The risk of anaemia is the lowest in the omnibus category of 'others' (non SC/ST/OBC). This type of social gradient in undernutrition is not always gradual. In some states, undernutrition levels

are fairly similar for women belonging to other backward classes and 'others' (Madhya Pradesh and Maharashtra); while elsewhere there is a greater similarity between undernutrition rate among women belonging to other backward classes and scheduled caste. However, differences in levels of undernutrition are substantial between scheduled tribes and 'other' women and scheduled castes and 'other' women. Particularly, difference in the level of anaemia between scheduled tribe and 'other' women is substantial in Bihar, West Bengal, Orissa and Madhya Pradesh. Another important point to be noted is the regional variations in these differences within the study area.

The decline in the level of anaemia with increasing education is not always gradual in all the states under study. In Bihar, Orissa and Gujarat, it is observed that higher the level of education the lower the percentage of women classified as having moderate or severe anaemia. In West Bengal and Madhya Pradesh, higher percentages of women with high school or higher education are classified as moderately or severely anaemic than that of middle school complete counterpart. Similarly in Maharashtra, the rate of anaemia is higher among who completed their middle school education than illiterate women and women with primary school education and among the illiterate women the level is lower than those who were literate but not completed middle school.

Table 2 : Proportion of Moderate/Severely Anaemic Women (15-49 years) in Various Socio-economic Classes, 1998-99

SOCIO-ECONOMIC CLASS	BIHAR	ORISSA	WEST BENGAL	MADHYA PRADESH	MAHARA SHTRA	GUJARAT	INDIA
CASTE/TRIBE							
Scheduled castes	23.1	21.0	20.4	12.8	18.7	15.4	18.8
Scheduled tribes	38.8	25.1	35.9	23.7	20.5	21.6	23.7
Other backward class	18.6	16.6	18.1	15.4	16.6	18.3	16.5
'Other'	14.6	12.2	14.1	14.4	16.2	14.3	14.4
EDUCATION							
Illiterate	21.3	19.7	19.5	16.8	14.1	16.6	19.1
Literate,<middle school	13.4	13.2	13.4	15.4	15.3	13.9	15.7
Middle school complete	13.0	9.6	10.6	10.2	15.6	11.2	13.9
High school complete and above	8.6	7.3	11.3	11.2	11.3	10.8	10.6
PLACE OF RESIDENCE							
Urban	15.2	11.9	12.9	11.5	14.0	11.0	13.7
Rural	19.4	16.9	16.9	17.0	14.2	16.8	17.8
STANDARD OF LIVING							
Low	23.4	18.9	19.8	18.9	14.0	20.5	21.3
Medium	15.4	15.2	14.1	15.3	14.8	14.4	15.8
High	9.4	7.8	9.6	12.5	13.0	10.3	11.8
STATE AVERAGE	20.5	18.0	17.4	16.6	17.0	16.9	16.7

There are consistent marked differences in the level of anaemia among women belonging to urban and rural areas: anaemia is more common in rural areas in all states under study. The urban-rural differences in level of anaemia among women are fairly similar in all the

states (ranging between 4-6 percentage points), except Maharashtra, where the difference is negligible. The level of anaemia among women belonging to low standard of living household was highest followed by the women in that of moderate and high levels. The only exception to this pattern is Maharashtra, where there are no marked differences in the level of anaemia among women belonging to these three categories of household.

Anaemia among women in the states under study cuts across social groups, place of residence, and other factors that normally discriminate health status. Rich or poor, urban or rural, scheduled caste or 'others', scheduled tribe or 'others'- the prevalence of undernutrition is high among women in all these groups and differences are only relative. By and large, women and children are at the highest nutritional risk among Scheduled tribe, followed by scheduled caste, other backward class, and last, 'other' category in all six states under study.

In this context, one thing obviously comes to mind is that higher rates of anaemia among women belonging to particular caste/tribe may be attributed to the membership factors per se. But then there are certain differences in characteristics such as educational level, place of residence, standard of living etc associated with caste and tribe that influence the level of undernutrition. It is also seen that the level of undernutrition varies by socio-economic characteristics. Therefore, some or all of the social group differentials in rates of undernutrition could be on account of differentials in one or more of the factors. For example, high level of undernutrition among women from scheduled tribe household may be due to their low economic condition. If there is an effect of caste-tribe after controlling for the effects of factors such as education, standard of living, place of residence, it could be called a *direct effect*. Hence, an attempt was made to see if the direct effect persists after statistically controlling for the effects of other variables through logistic regression technique.

RESULTS FROM BINARY LOGISTIC REGRESSION ANALYSIS

Logistic results, when all the states are pooled together show that caste/tribe membership, standard of living, education status, decision making autonomy to obtain health care, pregnancy status, births in last five years, state of residence were found to be determinants of variations in prevalence of anaemia among women. However, age of the woman, work status of the woman, and household size do not have statistically significant net effects on variation of anaemia among women. Women belonging to the scheduled castes (odds ratio 1.108) and scheduled tribes (odds ratio1.669 i.e., 67 per cent times more than others) are significantly more likely to be moderately or severely anaemic than women belonging to 'other' communities while other variables were controlled.

Table 3 also shows the regional variation in anaemia among women. By controlling other variables, it is noticed that, women belonging to other five states are less likely to be anaemic than those who reside in Bihar. But the effect is significant only for Orissa and Madhya Pradesh. Another way of stating this is at the same socio-economic and demographic condition, women from Madhya Pradesh and Orissa would have lower level of anaemia compared to women from Bihar. It is seen that the risk of being anaemic varies across states falling in the study area. The socio-economic differentials in the level of anaemia are also found to be varying across states. These findings compel us to think that causative factors affecting anaemia may vary across states. In order to examine this proposition, logistic regression analyses were performed for each state separately (Table 4).

It is seen that the effect of scheduled tribe membership varies across the states. In Bihar and West Bengal, scheduled tribes are very adversely placed as the high odds ratios indicate. The risk of anaemia is much higher among ST women than others in these states even after the influences of other factors are taken into account. To a smaller extent, this is true in Orissa and Madhya Pradesh as well. However, in Maharashtra and Gujarat, this disadvantage does not seem to be large; the regression coefficients are insignificant.

Standard of living is found to be a determinant of anaemia in three states; West Bengal, Bihar and Gujarat. In these states, belonging to medium and high standard of living household reduces the probability of a woman being anaemic, compared to women living in low standard of living household. But, it is not significant in Maharashtra, Orissa and Madhya Pradesh. It is observed that there is no significant net effect of place of residence in the states except Gujarat. The effect of the household size on the prevalence of anaemia in women is not very clear. As expected, education is found to be a significant factor influencing anaemia in Orissa, Bihar, Madhya Pradesh and West Bengal, but not in Maharashtra and Gujarat. Gujarat is the only state, where women having decision making autonomy in obtaining health care are less likely to be anaemic than who do not have this autonomy.

DISCUSSION

Findings in this paper demonstrate that women from lower socio-economic groups are more likely to have moderate or severe anaemia. It is also observed that the rate of moderate/severe form of anaemia is substantially higher among scheduled tribes women compared to other castes. More importantly, this paper answers the question: whether caste/tribe differentials remain once socio-economic and other factors are taken into account. It is found that though differentials between SC, ST, OBC women and women in 'others' category are partly due to difference in socio-economic conditions but in

some states differentials persist even after controlling the effect of socio-economic factors. Once the socio-economic variables are taken into consideration (that is, women with similar socio-economic condition) there are not much differentials in the degree of anaemia by caste/tribe in Maharashtra and Gujarat. These two states are comparatively better-off in socio-economic terms than other states taken into the analysis. The independent significant effect of tribal status is found in Madhya Pradesh, West Bengal, Bihar and Orissa, which have very high proportion of scheduled tribe women and scheduled tribes are generally the most disadvantaged group in terms of socio-economic condition. This membership effect can be partially attributed to health culture, which is generally believed to have an effect on health and nutritional status through factors like health-related behaviours and beliefs (diet, feeding practices, concepts of health, lay theories of illness, etc.), or the organisation of family and kinship (affecting child rearing, gender roles and patterns of social support), or language and communication (mainly affecting health service use). The findings also indicate that women often experience higher degree of anaemia than other women primarily because they are disadvantaged in terms of other variables, such as educational status, household standard of living (a proxy for income), rather than because of their household's social group affiliation per se. It is also well known that scheduled tribes are economically and educationally backward compared to other castes. So, all these states require socio-economic development with special focus on scheduled tribe category. But a sudden change in their economic status and education may not help in changing their way of life and nutrition status in a short period of time. Urgent implementation of poverty reduction strategies and programmes designed by Government of India may serve as a long-term solution to the problem. In short term, combined food and iron supplementation programmes would be most effective to address anaemia. To this effect, it is important to develop community based interventions giving priority to very disadvantaged households as a short term solution. Providing health education messages and interventions for women in the groups on healthy diets and healthy lifestyles might be effective in reducing the incidence of anaemia in these groups. All major reports on health promotion in recent decades have emphasised on the importance of community participation programs for successful health promotion programs (WHO, 1981, 1986, 1997). It is likely that community participation to promote health varies across regions and social groups. Community participation may increase access to local services. It may also promote rapid transmission of health information, adoption of health behaviour norms and social control over deviant health related behaviour. Besides, available modern health care facilities are grossly inadequate for tribal areas. Shortage of doctors and qualified nurses in these areas has long been felt. At the same time, existing medical staffs are not much interested to work in tribal belts, may be due to the lack of general infrastructure like better schools for their children, safe drinking water, electricity, transport and communication facilities etc. So there is a need to provide health care

facilities along with other infrastructure and basic amenities in the tribal areas in order to improve health status of the tribal population.

CONCLUSION

This paper reveals that scheduled tribe women are more likely to suffer from iron deficiency anaemia compared to other castes. It is also observed that the degree of deprivation varies across states under study. These differential degrees of deprivation call for state-specific nutrition programs. As the scheduled tribes are concentrated in particular areas and they are not homogenous group, area and culture specific nutritional interventional programmes would be more appropriate for the improvement in the nutritional status of tribal women.

A limitation of the study is that many lifestyle factors could not be explored. It is therefore necessary to undertake further research on these groups of women (especially tribal) that involves their behaviour, feeding, work load and health care practices. The other way of putting this is that one needs within-group study for further detailed analysis of causative factors across the caste/tribe groups.

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Conceptualising Sustainable Farm-livelihood Systems in the Era of Globalisation: A Study of Rubber Integrated Farm Livelihood Systems in North East India

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Growing empirical evidences demonstrate that globalisation causes tremendous transformation even in the most traditional mountainous agrarian societies practising shifting cultivation. The new farming systems are considered as dynamic responses and coping mechanisms towards the nascent free trade regime, as the traditional swidden oriented farming systems have increasingly been proven to be less resilient, less efficient, less market responsive and economically unsustainable. Placed in the broad perspective of the emerging dynamic farming systems particularly in the mountainous regions of the world as a response to globalisation, the paper discusses the rationale, scope and the need for evolving a conceptual framework for cash crop based sustainable farm livelihood systems for the mountainous societies in particular. For empirical testing of the conceptual framework, the paper uses farm household level data from about 300 rubber smallholders from the hills of Assam, Meghalaya and Tripura in North East India. In particular, the paper develops indicators for assessment of livelihood assets of the rubber smallholders following the sustainable farm livelihood systems approach.

INTRODUCTION

Of late, the shifting cultivation dominant mountainous societies in the South and South East Asian region have been undergoing significant socio-economic transformation by adapting themselves to the changing environments in the face of the crisis in livelihoods ensuing from the onset of the free trade regime in the era of globalisation (Kuniyasu, 2002; Malik, 2003; Midmore and Jansen, 2003; Lee, 2004; Abiziad and Koomes, 2004; Sikor, 2004; Dendi, *et al.*, 2005). The emerging agrarian systems are more dynamic in terms of diversified land use/ farming systems. Various development interventions by the state in country-specific contexts aimed at sedentarisation of the pastoralists and shifting cultivators (Melnyk, 1993; Baxtor, 1994; Hansen, 1995; Hung, 1995; Fratkin, 1997; Zahir, 2000; Dyer, 2001) have also stimulated the process of agrarian transformation in many of these regions.

However, despite such dynamic agrarian transformation, the livelihoods of the mountainous communities are at stake and highly vulnerable especially in the era of globalisation in the absence or failure of effective institutional mechanisms covering the broad spectrum of farm production systems. Seemingly, the policies and programmes aimed at sedentarisation of the pastoral communities and sustainable development of the mountainous regions have been designed not in conformity with the needs and aspirations of the communities in the local contexts. The result being that the hill communities remain alienated and physically detached from the mainstream development process.

By and large, researchers have tried to understand and explain the process of development of rubber farming systems in mainland as well as mountainous regions in terms of rubber agroforestry perspectives and accordingly characterised the prominent typologies. Empirical evidences from the major rubber producing countries of Indonesia and Malaysia reveal the growing prominence of rubber integrated farm livelihood and agroforestry systems. These evidences suggest the economic dynamism imparted by rubber based agroforestry systems in the traditional shifting agriculture dominant societies in Indonesia. Dove (1993) suggests that rubber was well integrated into the Bornean systems of swidden agriculture in Indonesia. While rubber occupied a distinct niche in the farm economy and catered the need for market goods, the swidden agriculture fulfilled the subsistence requirements. The 'jungle rubber' as widely prevalent in Indonesia (Gouyon *et al.*, 1993; Angelsen, 1995; Penot and Wibawa, 1997; Joshi *et al.*, 2002) is yet another example of the rubber agroforestry integration. Rubber agroforestry systems in Malaysia, have been integrated with fruit trees, bamboo, poultry, vegetables and other short-term crops as well as animal rearing (Arshad, 2000). Studies also indicate that by planting rubber in a swidden system, the tribal communities have been able to secure property rights and tenurial security over land (Barlow and Muharminto, 1982; Cramb, 1988; Shepherd, 1991; Suyanto *et al.*, 2001) as well as to overcome the economic consequences arising from harvest failure/ harvest shortfalls in the swidden system (Ward and Ward, 1974; Chin, 1982; King, 1988). Studies from Bangladesh also report that the adoption of diversified cropping systems along with innovative elements of modern rubber farming systems have been beneficial and rewarding as the previously shifting cultivator farmers have tended to be less dependent on forests and other CPRs for eking their livelihood (Dendi *et al.*, 2005; Nath, *et al.*, 2005). From Thailand, Somboonsuke *et al.* (2001) reported the emergence of four main rubber integrated farming systems as farmer adjustment strategies to overcome the adverse effects of the financial crisis in 1997. The important rubber integrated farming systems identified are: a) rubber intercrop farming system; b) rubber-rice farming system; c) rubber-fruit tree farming system; and d) rubber-livestock farming system.

OBJECTIVES AND DATA

However, while the literature is replete in terms of identification and characterization

of rubber integrated farming systems, there remains a clear vacuum of empirical understanding as regards the dynamics of rubber integrated farming systems and their likely impact on the livelihoods of the smallholder communities in the mountainous regions in particular, within a livelihood systems analytical framework. The present paper is an attempt in this direction and tries to understand the dynamics of the smallholder rubber integrated farming systems in the three hill states of Assam, Meghalaya and Tripura in North East India. The basic objectives of the paper are to:

a) examine the socio-economic and institutional contexts within which rubber farming systems become relevant in the NE region;

b) understand the sustainable livelihood outcomes of the rubber and rubber integrated farming systems in the three NE states; and

c) bring out the institutional responses towards scaling up and promotion of sustainable rubber integrated farm livelihood systems in the region.

The empirical analysis in this paper is based on a farm household survey undertaken during April – June 2005 in the rubber growing villages in the three NE Indian states of Assam, Meghalaya and Tripura covering 309 rubber growers. Apart from the key informant survey administered through a structured schedule, interactions/ discussions with the other stakeholders (following PRA method) and development and extension agents were also carried out to supplement and validate the information gathered. In Assam, the sample growers have been selected from the districts of Goalpara and Kamrup districts, as these two districts occupy more than 70 per cent of the rubber planted area in the state. In Meghalaya, the sample holders have been selected from the East Garo Hills and Ri Bhoi districts, as these two districts have relatively higher concentration of mature rubber holdings. In Tripura, the samples have been collected from West Tripura and South Tripura as these two districts together occupy 87 per cent of the rubber tapped area.

Rest of the paper is organised into four sections. Section 1 briefly discusses on the conceptual framework of the paper based on a theoretical review of the empirical literature on the dynamic interface between household diversification strategies (pluriactivism) and the sustainable livelihood outcomes in diverse contexts. Section 2 elaborates on the socio-economic contexts and institutional processes underlying the development and expansion of rubber smallholder system in the NE states. Section 3 makes a comparative economic assessment of the rubber monoculture *vs* rubber integrated farm livelihood systems and its impact on livelihoods of the tribal smallholder communities. Section 4 concludes the paper by reflecting upon the imperative of strengthening the institutional contexts for scaling up of rubber integrated sustainable farm livelihood systems in the region along with its agro-ecological integrity and diversity.

1. SUSTAINABLE FARM LIVELIHOOD SYSTEMS: CONCEPTUAL FRAMEWORK

The dynamic interface between household economic diversification and sustainable

livelihood systems has received greater academic attention in recent times especially since the path breaking study by Chambers and Conway (1992). To Chambers and Conway (1992), "a livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base". Following this, there has been a surge in both theoretical and empirical literature dealing with the causality between household diversification and sustainable livelihoods across countries and regions with much of the research assuming interdisciplinary perspectives. Of particular relevance in this regard are the studies by Carney (1998, 1999); Scoones (1998); and Ashley and Carney (1999), which have been instrumental in developing the DFID framework for sustainable livelihoods analysis1 (SLA).

The DFID framework has since then been widely replicated by researchers to analyse the household strategies in diversification of sustainable livelihood systems in heterogeneous socio-economic and agro-ecological contexts both in the rural and urban environments (Tacoli, 1998; Singh and Gilman, 1999). Ellis (1998; 2000) argue that livelihood diversification or construction of diverse portfolio of activities have become imperative as farming on its own rarely provides a sufficient asset and resource base for the rural farm households. Extending the DFID framework to the analysis of peasant viability, Bebbington (1999) considers that the rural livelihoods needs to be understood in terms of peoples' access to five types of capital assets, *viz.* a) natural capital; b) human capital; c) physical capital; d) economic or financial capital; and e) social capital.

Capital assets as widely understood and reflected by researchers include the broad array of factors that enhances livelihood diversity by making land and labour assets more productive and/ or by injecting resources to facilitate investments in new enterprises. Natural capital refers to natural resource stocks (land, water, air, genetic resources, etc) and environmental services (hydrological cycle, pollution sinks, etc) from which resources flows and services useful for livelihoods are derived. Human capital includes skills, knowledge, ability to labour and good health and physical capabilities. Physical capital refers to basic infrastructure such as roads and access to other services. Economic or financial capital includes cash, credit/ savings, income from farm and off-farm activities and other sources such as rental income and remittances, etc. Social capital implies social resources (networks, social claims, social relations, affiliations, associations) upon which people draw when pursuing different livelihood strategies requiring coordinated actions (For more, see Scoons, 1998; Perz, 2005).

Given the critical role of the five types of capital assets in shaping or building sustainable livelihood systems2 in diverse contexts, much of the empirical literature are also grounded on these perspectives. For instance, studies indicate that resorting to 'pluriactivism' or

diversification of activities into off-farm sources at times of crisis had significant effect on smallholder livelihoods in rural Africa (Barrett *et al.*, 2001) and Malwi (Orr and Mwale, 2001). More recently, the studies by Niehof (2004) and Haan and Zoomers (2005) highlighted that the access to livelihood opportunities is governed by social relations, institutions and organisations3 and that power is an important (but sometimes overlooked) explanatory variable in determining sustainable livelihoods.

Though the above studies have used the DFID framework to explain the positive impact of household diversification on the sustainable livelihoods in heterogeneous contexts, they do not attempt to provide a holistic view of sustainable farm livelihood systems in terms of measurement of the important livelihood assets. As a matter of fact, this perceptible gap in theoretical and empirical research on measurement of diversity in household assets and its impact on sustainable livelihoods is a cause for serious concern especially in the current context, as livelihoods in diverse contexts face serious threats and challenges following global policy changes. In this regard, some of the empirical analyses by Zhen and Routray (2003); Shrestha and Shivakoti (2003); Perz (2005); Shivakoti and Shrestha (2005 a & b); VanLoon *et al.* (2005); and Chowdhury *et al.*, (2006) have tried to develop and use various indicators/ scales to measure the degree(s) of sustainability4 of the parameters representing various livelihood assets.

Particularly, the studies by Shivakoti and Shrestha (2005a and b) and Chowdhury *et al.*, (2006) provide a comprehensive analytical framework for assessing the livelihood systems in terms of access to the five capital assets. Using the livelihood asset pentagon approach, Shivakoti and Shrestha (2005a and b) analyses the livelihood effects relating to the performance of Farmer Managed Irrigation Systems (FMIS) in Nepal.

Thus, the brief review of the theoretical and empirical literature brings out the linkages between household diversification and asset levels and its cumulative effect on sustainability of livelihood systems in diverse socio-economic and agro-ecological environments. However, the review also points to the virtual absence of empirical analysis of sustainable livelihoods of smallholder farming systems in general and mountainous systems in particular, using the conceptual framework as discussed above. The present study attempts to fill this gap in empirical analysis by making a case study of rubber integrated farm livelihood systems in mountainous regions in NE India. The study makes an empirical exploration on the conceptual framework as discussed in Shivakoti and Shrestha (2005a and b) and Choudhury *et al.*, (2005) with considerable medications to suit the specific context of rubber farming systems in the mountainous regions. The modified conceptual framework as used in the present study is presented in Figure 1.

Figure 1 shows the interrelationship between the five types of livelihood assets and their integral components broadly indicating the strengths and weaknesses of the

tribal smallholder households with respect to their access to and control over livelihood support systems and resources. The figure denotes that higher the values of the assets (points of score in a scale of values ranging from 0 to 1) greater will be the sustainability outcomes of the livelihoods of the individual households. Sustainability of the livelihood systems may be assessed based on a hypothetical ranking of sustainability into four value scores on a scale of 0 to 1, *viz.*, a) highly sustainable (0.8-1.00); b) moderately sustainable (0.6 - 0.79); c) less sustainable (0.40 - 0.59); and d) unsustainable (<0.40) as discussed in Choudhury *et al.* (2005)5 .

1 The Department for International Development (DFID) has developed the sustainable livelihood framework in order to improve development activity through systematic – but manageable – analysis of poverty and its causes; taking a wider and better informed view of the opportunities for development activity, their impact and 'fit' with livelihood priorities; and placing people and priorities they define firmly at the centre of analysis and objective setting (Ashley and Carney, 1999: 6). The SLA approach has been defined by Ashley and Carney (1999) as a way of thinking about the objectives, scope and priorities for development, so as to make a dent in poverty elimination programmes. The sustainable livelihoods framework group particular components of the rural livelihood: their capital assets, their vulnerability/ opportunity context and the institutional structures and processes that may transform livelihoods (Clayton, *et al.*, 2003: 14).

2 Bebbington (1999) observe that where people have not been able to improve their livelihoods, the principal reasons seem to derive from a failure or inability to defend their existing assets; identify and secure opportunities to turn assets into livelihoods; or protect existing ways of turning assets into livelihoods (Bebbington, 1999: 2028).

3 This conceptualization largely draws from Ellis (2000), who views social relations as composed of gender, caste, class, age, ethnicity and religion; institutions as composed of both formal rules and conventions and informal codes of behaviour, laws, property rights and markets. Further, organizations are groups of individuals bound by the purpose of achieving certain objectives, such as government agencies, NGOs, associations and private companies (Ellis, 2000: 38, quoting from North, 1990: 3-6).

4 Particularly, the studies by Zhen and Routray (2003) and VanLoon et al., (2005) have attempted at measuring agricultural sustainability. Zhen and Routray (2003) identified three dimensions of agricultural sustainability, *viz.*, a) economic sustainability; b) social sustainability; and c) ecological sustainability, which are also referred to as the 'sustainability tripod' to agriculture. The study by VanLoon *et al.*, (2005) examines the concept of agricultural sustainability in terms of six indicators, *viz.*, productivity, stability, efficiency, durability, compatibility and equity. Perz (2005) examined the interrelationship between household asset diversity and livelihood diversity and the welfare outcomes among the small farm colonists in the Amazon. The study showed that household assets leading to greater agricultural income diversity are largely distinct from assets important to non-agricultural income sources, and

suggested that households specifically combining these assets could achieve high overall livelihood diversity (Perz, 2005: 1216).

5 Choudhury *et al.* (2005) provides a conceptual framework to determine the sustainability, defined in terms of the three dimensions of environmental, economic and socio-cultural sustainability concepts. Seemingly, this analogy largely follows the triple bottom line approach representing society, economy and the environment as discussed in Elkington (1997) and the sustainability tripod concept as discussed in VanLoon *et al.*, (2005).

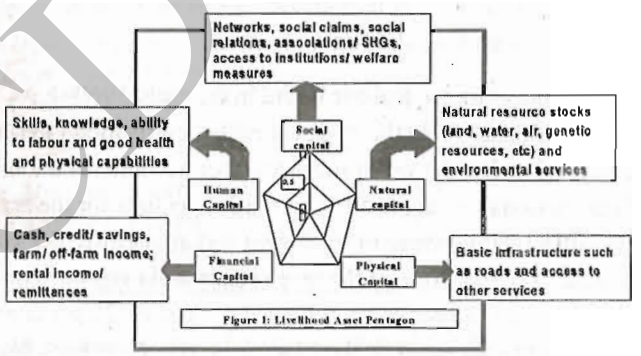


Figure 1: Livelihood Asset Pentagon

The human capital signifies the active labour stock (both male and female) available for wage work with qualitative dimensions denoted by literacy, better health, etc. Natural capital refers to the tribal smallholders' access to land, particularly for growing rubber and other subsistence/ food crops, as also access to land for undertaking jhum cultivation. Natural capital also relates to access to water, particularly, drinking water, availability of fish ponds for growing fishery as a source of supplementing the household income. Physical capital is represented in terms of access to infrastructure facilities, like roads, rubber and other agriculture markets, rubber processing facilities, access to post-harvest technology in the case of crops other than rubber, etc. Financial capital relates to income from rubber cultivation, off-farm activities like fishery, livestock, poultry, wage work, salary, sales of minor forest produce, etc. Social capital is made up of the smallholders' access to institutional support provided by the governmental agencies for growing rubber, technology, R&D facilities, training in tapping, skill formation in crop processing, extension services, help from SHGs, rubber grower co-operatives, social relations, networking, gender equality, access to information, collective processes, etc.

2. RUBBER DEVELOPMENT AND THE INSTITUTIONAL PROCESSES

In India, though rubber was first introduced in southern states of Kerala, Tamilnadu and Karnataka as early as 1902 by the colonial powers, the expansion of rubber to-

wards the North Eastern region (comprising the seven states, *viz.*, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura) was initiated only in the late 1980s by the Government of India mediated through the institutional interventions by the Rubber Board. Apparently, two important considerations justify the expansion rubber cultivation in the NER. First, the ever growing industrial demand for natural rubber make it imperative to go in for area expansion in the NER, as the traditional rubber growing regions have already reached the extensive margin. Second, the promotion of rubber cultivation in the NER is viewed by the nation as an effective measure from a socio-economic development angle to wean the tribal communities away from pursuit of shifting cultivation.

The exploratory surveys by the Rubber Board in the early 1960s have identified a vast potential of about 450,000 ha in the NER for rubber cultivation (Krishnakumar, *et al.*, 1999). However, currently, the seven states together account for a total planted area of 51500 ha. At the national level, the NER currently accounts for the second largest area under rubber with a relative share of 9 per cent and about three per cent of the rubber production during 2003-04. Among the seven states in the region, Tripura accounts for the highest share in area (56 per cent), followed by Assam (26 per cent), Meghalaya (9 per cent) and the rest (9 per cent) by the four states, *viz.*, Nagaland, Manipur, Mizoram and Arunachal Pradesh. Since the three states of Tripura, Assam and Meghalaya account for 91 per cent of the total rubber planted area and 96 per cent of the rubber production in the NE region, the present study was confined to these states. Altogether there are about 25,000 rubber smallholders spread over the three states, with Tripura accounting for 61 percent, Assam (24 per cent) and Meghalaya (15 per cent). The average rubber holding size as per the historical trends in rubber planted area shows a relatively higher size of farm holdings in Tripura (1.18 ha), followed by Assam (0.85 ha) and Meghalaya (0.56 ha).

2.1. PROFILE OF THE RUBBER SMALLHOLDERS

The study covered cross sectional data from 309 rubber smallholders (predominantly tribal) from the states of Tripura (127), Assam (94) and Meghalaya (88). While in Tripura 54 per cent of the sample growers belonged to tribal communities, in Assam the proportion was 62 per cent and in Meghalaya the proportion was the highest at 74 per cent. Majority of the tribal growers in Assam belonged to clans such as Rabha and Boro, while in Meghalaya, the growers belonged to Marak, Sangma and Momin. A summary of the demographic and socio-economic profile of the rubber smallholders in the three states is provided in Table 1.

Table 1: Profile of Rubber Smallholders in NE India

Farm household Characteristics	*Tripura (n=127)*	*Assam (n = 94)*	*Meghalaya (n=88)*
Male headed households (%)	93	91	92
Average age of the smallholder (years)	46.08	40.37	41.15
Experience in rubber farming (years)	12.95	10.68	10.20
Average family size (no.)	5.92	6.28	6.09
Male family members (%)	53	47	54
Children studying (%)	25	36	34
Economically active population (%)	63	57	59
Farmers growing rice	71	77	77
Farmers practicing jhum cultivation	23	28	44
. Farmers growing other crops	82	89	86
. Average holding size (ha)	2.67	2.29	2.35
. Average rubber area (ha)	1.81	1.52	1.49
. Average rice area (ha)	0.34	0.46	0.37
. Households growing fishery (%)	48	46	57
. Households growing piggery (%)	26	54	64
. Households growing poultry (%)	59	69	66
. Households growing livestock (%)	65	64	70

The table shows, that an overwhelming majority of the households are male headed with an average age ranging from 40 to 46 in the three states. Given that rubber development on a commercial scale has been introduced in the region since the late 1980s, the rubber farming experience hovers in the range of 10-13 years. Importance attached to educating children is almost similar between Assam and Meghalaya with more than 30 per cent of the children are doing education compared to only 25 per cent in Tripura. The proportion of economically active population is reported at higher levels in Tripura (63 per cent), followed by Meghalaya (59 er cent) and Assam (57 per cent). The average family size is the highest in Assam (6.28 members per family), followed by Meghalaya (6.09) and Tripura (5.92). The pursuit of farming related activities other than rubber cultivation mainly include rice cultivation either in plains or hills, growing of food and cash crops and vegetables and practice of jhum with different degrees of intensity. While rice cultivation is predominant activity across the three states (71-77 per cent), practice of *Jhuming* differed with the highest intensity reported from Meghalaya (44 per cent), followed by Assam (28 per cent) and Tripura (23 per cent). The average size of holdings including possession of rubber area is over 2 ha in all the states and this signifies the strength of the smallholders in terms of access to and control over natural capital, which is the mainstay of their livelihoods. An overwhelming majority of the households hold more than one rubber plot, the proportion of which was the highest in Meghalaya (64 per cent), followed by Tripura (56 per cent) and Assam (45 per cent).

The extent of household diversification into activities other than rubber and other farming practices is an important indicator determining the sustainability of livelihoods of the smallholders. In this regard, the table shows that all the three study regions have a diversified farm livelihood system as majority of the households are engaged in pluriactivism. The multiple household activities include fishery, livestock, piggery and poultry. However, it is important to note that the tribal communities have been pursuing such diverse combinations of activities from historic times within a '*full belly*' or '*subsistence production*' framework1 rather than in a '*vent for surplus*' framework2 .

2.2. INSTITUTIONAL PROCESSES IN RUBBER DEVELOPMENT

The expansion of rubber cultivation in NE states is facilitated through the institutional support mechanisms provided by the Rubber Board (Government of India). The institutional support comprise an array of R&D, extension and financial support which broadly include: a) newplanting and replanting grant of Rs. 20000 per ha (US$ 444) for holdings up to 5 ha and Rs. 16000 per ha (US$ 355) above 5 ha up to 20 ha; b) integrated village level rubber development; c) supply of farm inputs: fertilizers, high yielding planting materials, rubber rollers for processing rubber, smoke house, etc; d) demonstration of agro-management practices; e) human resources development through educational campaigns, farmers training in tapping and processing, formation of rubber growers' societies, women self help groups, etc; f) quality upgradation activities including scientific post harvest processing of latex into marketable forms of rubber, etc (Rubber Board, 2005). The rubber development programmes are designed under three major schemes, *viz.*, a) block planting scheme (BPS); b) group planting scheme (GPS); and c) individual planting scheme (IPS). It is envisaged that the tribal communities taking up rubber cultivation work initially as wage workers in the holdings and earn their livelihood till the plantations start yielding (say 5-8 years). Once the plantations mature, the farms are transferred to the tribal farmers for permanent cultivation and taking the benefits thereon.

The economic life of a rubber plantation is expected to last for 20-25 years, which sustains the livelihood of smallholders (Krishnakumar and Meenattoor, 1999; Mohanan *et al.*, 2003).

The institutional support also covers R&D, extension and marketing facilities. The rubber marketing system is institutionalized through the licensing system regulated by the Rubber Board. There are about 119 licensed rubber dealers in Tripura, followed by 24 dealers in Assam and 15 dealers in Meghalaya (Rubber Board, 2004). There are also numerous unlicensed private rubber dealers at the village level who act as middlemen between the rubber growers and the dealers/ traders at the sub-district or district levels. Being the sole promotional agency for expansion of rubber cultivation, the Rubber

Board by itself is also very active in the market through numerous rubber producers/ growers' societies3 (RPS/ RGS) and rubber marketing societies. Under such institutional arrangements, rubber smallholders sell their produce (mostly in sheet form) to any of the above three sources depending on the price situation or proximity to such sources. The extension services are provided to the rubber growers through field officers stationed at various locations who give advice on farm management practices. Supply of inputs such as planting materials, fertilizers, etc are also carried out through such field offices.

The institutional arrangements facilitating access to land for growing rubber are still in the formative stages with the absence of a formal mechanism. The land based property rights systems in NER though vary across tribes and regions are primarily characterised by the prevalence of communal property rights over village commons, especially in Meghalaya and Assam. The village commons remain under the ownership of the *Nokma* (*Gaon Bura*), the village head, who distributes the land for rubber cultivation to individuals based on working hands in each tribal household (Viswanathan and Shivakoti, 2006).

3. RUBBER VS RUBBER INTEGRATED FARMING SYSTEMS

This section makes a comparative assessment of the rubber monoculture *vs* rubber integrated farm livelihood systems in the study regions based on the conceptual framework as discussed in section I. The assessment is made so as to evolve perspectives on the socio-economic viability and sustainability of the existing rubber farming system along with the co-existing farm livelihood practices. The analysis is based on the empirical data on crop output, costs and returns from rubber farming and other farm livelihood systems, household expenditure, asset base, etc.

The analysis is organised in such a way as to give an overview of the synergies and contrasts of the socio-economic and environmental conditions prevail in the study regions. It then attempts at the assessment of comparative performance of rubber monoculture systems *vs* rubber integrated farm livelihood systems. A life cycle analysis based on the discounted cash flow approach is used to determine the financial worthiness of rubber monoculture systems. This is followed by a discussion on the comparative economics of rubber monoculture *vs* other farm livelihood systems. Finally, the effect of the existing farming systems on the sustainable livelihood outcomes of the rubber farm households is attempted in terms of constructing the livelihood asset pentagon for the two country contexts.

3.1. RUBBER FARMING ENVIRONMENTS IN THE STUDY REGIONS

The existing land use pattern in the study regions indicates that rubber occupies the

dominant position in terms of area in Tripura (67 per cent), Assam (66 per cent) and Meghalaya (63 per cent). Rice occupies the second position as a single crop with a relative share of 20 per cent in Assam, 16 per cent in Meghalaya and 13 per cent in Tripura. The involvement of family labour is an important aspect of rubber farming systems in the study regions. The labour use pattern reveals the higher extent of family labour use for rubber and other farming operations in all the regions with the highest ratio reported in Meghalaya (76 per cent), followed by Assam (74 per cent) and Tripura (67 per cent). By and large, family labour engage in routine agro-management practices, like annual weeding, fertilizer/ manure application and rubber tapping. The use of hired labour for tapping is found the highest in Tripura (26 per cent), followed by Assam (23 per cent) and Meghalaya (18 per cent). The tapping wages are paid on a monthly basis and it ranges between Rs 1200 and Rs 1800 per month (US$ 40-44). Status of gender work participation demonstrates that women family members engage in rubber farming including tapping with the percentage ranging from 38 per cent in Meghalaya to 29 per cent in Assam and 25 per cent in Tripura. Gender roles mostly confine to rubber tapping, collecting and carrying the rubber latex and thereby assist their mail counterparts to complete tapping task.

The topography of rubber holdings differ in the study regions, with most of the holdings located in a hill plain interface (30-36 per cent), followed by holdings in undulating terrains (16-32 per cent) and gentle slopes (15-22 per cent). The study regions also differ in terms of access to property rights. While majority of the rubber smallholders have secure land titles in Tripura; in Assam and Meghalaya land is allotted by the *Nokma* for undertaking rubber cultivation. The proportion of rubber holdings operated on such insecure property rights regime in as high as 68 per cent in Meghalaya and 60 per cent in Assam.

The study regions show similar pattern with respect to the adoption of high yielding rubber clones as majority of the holdings are planted with a mix of high yielding rubber clones of RRIM 600, GT1 and PB 235. Particularly in Tripura, around 90 per cent of the holdings are RRIM 600 and GT1 mixed plantings. Application of farm inputs is an important4 yield augmenting factor as high yielding rubber clones are highly sensitive to chemical fertilizer. However, considerable differences observed with respect to application of inorganic fertilizers as majority of the smallholders in the NE states are yet to come to terms with the modern farm management practices as applicable to rubber including the use of fertilizer application5 . The percentage of smallholders applying inorganic fertilizer is as low as 35 per cent in Meghalaya, compared to 44 per cent in Assam and 52 per cent in Tripura.

1 Das Gupta (1999, 2002) in her analysis of shifting cultivation in Tripura in the 19th century clearly demonstrated that the swiddeners in Tripura were following the 'full belly' production system. In the 'full belly' type of models, the shifting cultivator household's objective was to fulfill a fixed target level consumption while minimising

work effort or maximizing leisure. This fixed target level of consumption is taken to be equal to the minimum amount of output that ensures just the adequate amount of nutrition for the family to sustain its full productive and reproductive activities at their current level, and also meet its social and ceremonial requirements (Das Gupta, 2002: 3556).

2 Mynt (1965) based on the experience of the South East Asia demonstrated how peasants responded vigorously to market incentives in opening new lands for cultivation of export cash crops while maintaining subsistence food crop production. For a detailed discussion on the *vent for surplus* theory and the *staples theory*, see Findlay and Lundahl (1994).

3 The Rubber Producers Societies (RPS) was registered as small voluntary associations of small growers registered under the Charitable Societies Act called the Rubber Producers' Societies (RPS) in 1986. This concept has got wider acceptance among the rubber grower communities in the entire country and at present there over 2200 RPS in the country. RPS function as self help groups at village level (each RPS with a coverage of 2-5 kms) under the guidance of the Rubber Board. RPS acts as a mediator among the rubber growers by providing extension services, technology transfer, raising nurseries for supply of high yielding planting materials, processing and marketing of rubber, input and cash subsidies for new planting and replanting, availing of bank finance, welfare measures extended by the Rubber Board, etc (Rubber Board, 2005).

4 Krishnakumar and Meenattoor (1999) reported that the soils in NE states are deficient in soil nutrients, such as available P, organic C, K and high magnesium contents, due to the intensive burning of organic debris as part of the shifting cultivation practices. The proper application of inorganic fertilizers was therefore reported highly imperative to enrich the soil status both during the immature phase as well as mature phase of rubber plantations in the region (Krishnakumar and Potty, 1989; Rubber Board, 2005: 20).

5 The consumption of chemical fertilizers is reportedly low in the NE states compared to the national level. The reported per ha consumption of fertilizer during 2003-04 was 46.6 kg per ha in Assam, 29.4 kg per ha in Tripura and 17 kg per ha in Meghalaya as against the all-India figure of 89.8 kg per ha (GOI, 2005). There are various reasons attributed for the lower rate of adoption of fertilizer in the NE states, which include: a) the lack of transportation facilities; b) absence of awareness and even non-absence among the tribal communalities as they deem fertilizer application as detrimental to the soil qualities; c) the absence of irrigation infrastructure facilities leading to non-adoption of high energy and input intensive farming practices; and d) the concerns of environmental support groups in the region leading to a virtual abstinence from use of inorganic fertiliser use.

3.2. RUBBER MONOCULTURE VS RUBBER INTEGRATED FARMING SYSTEMS

Given the synergies and contrasts in resource use and management practices in rubber farming systems in the three study regions as discussed above, the following section makes a comparative analysis of performance of monoculture rubber farming systems *vs* the rubber integrated farm livelihood systems.

Table 2 provides a summary of the important parameters of performance of monoculture rubber farming system in the study regions. It shows that the proportion of smallholdings under tapping is the highest at 84 per cent in Tripura, followed by Assam (77 per cent) and Meghalaya (73 per cent). The average stand of rubber trees available for tapping is 394 trees per ha in Meghalaya, compared to Assam (388 trees/ha) and Tripura (367 trees/ha). The number of tapping days1 reported for the previous year was almost similar between Tripura and Assam (145-147 days) compared to Meghalaya (138 days). The above three parameters, *viz.*, proportion of tapped area, number of trees per ha available for tapping and the average number of tapping days are the three important factors that determine rubber yield in a well managed rubber plantations.

Table 2: Comparative Economic Assessment of Rubber Monoculture

Descriptives	Tripura	Assam	Meghalaya
1. Rubber tapped area (ha)	177.10	119.36	95.72
2. Tapped area (%of total rubber area)	77	84	73
3. Rubber trees tapped per ha	367	388	394
4. No. of tapping days per plot	145	147	138
5. Fertiliser use per ha (kg.)	178	146	135
Cost components (Rs.)[a]			
1. Cost of fertiliser per ha	926 (8)	672 (4)	685 (6)
2. Organic manure cost per ha	795 (7)	1020 (6)	854 (8)
3. Cost of plant protection per ha	463 (4)	712 (4)	286 (3)
4. Tapping cost per ha	6305 (57)	10794 (67)	6912 (63)
5. Other labour costs per ha	1405 (13)	1548 (10)	1027 (9)
6. Material costs per ha	1131 (10)	1336 (8)	1248 (11)
Total costs per ha	11025	16082	11012
Output, prices and profit (Rs)			
1. Dry rubber (per ha)[b]	1238	1153	1043
2. Average rubber price (per kg)	52.76	52.48	54.2
3. Value of output per ha	65317	60509	56531
Net profit per ha	54292	44427	45519
Net profit per ha (US $)	1206	987	1012

Note: 1 USD = Rs. 45; a Labour costs also includes imputed value of family labour; b – Represents the weighted average yield; Figures in parentheses are respective shares in total cost of production.
Source: Farm Household survey (2005).

The average quantity of fertilizer applied was the highest in Tripura (178 kg/ha) and the lowest in Meghalaya (135 kg/ha). In fact, the reported levels of fertilizer application (on a per tree basis) ranging from 340 grams in Meghalaya to 380 grams in Assam and 490 grams in Tripura is far lower than the recommended dosage of 500 gram per plant for the entire NE region (Rubber Board, 2004: 20). However, an overwhelming majority of the smallholders apply organic manures2 , mainly cow dung generated from own sources, as growing of livestock is an integral aspect of livelihood systems in the region.

Based on the reported yield levels, rubber productivity is found to be the highest in Tripura (1238 kg/ha), followed by Assam (1153 kg/ha) and Meghalaya (1043 kg/ha). The rubber prices varied between regions with highest price realized by rubber growers in Meghalaya (Rs 54.2/ kg), followed by Tripura (Rs 52.76/kg) and Assam (Rs 52.48/kg). Evidently, the reported net profit was the highest at Rs 54292 per ha (US$ = 1206) in Tripura, followed by Meghalaya (Rs 45519, *or* US$ 1012 per ha) and Assam (Rs 44427, *or* US$ 987 per ha).

3.3. MONOCULTURE RUBBER FARMING SYSTEM: A CASH FLOW ANALYSIS

While static analysis for a given year/ period is more appropriate for seasonal and annual crops, perennial crops like rubber require inter-temporal analysis (Rae, 1977). Hence, to account for the value of time and include the concept of time preference, a cash flow analysis of monoculture rubber farming system is attempted based on the discounted cash flow approach (DCFA) as suggested in Predo (2003) and Brian *et al.* (2004). Since collection of time series data pertaining to single farm holdings is difficult, the analysis uses the life cycle data generated based on the cross sectional information from rubber holdings of different ages to approximate the entire plantation life cycle. All cost items are considered including the initial plantation development costs as well as the routine agro-management costs, like the costs for weeding, inorganic fertilizer application, tapping, etc for each region. The NPV of cash flows has been computed as:

$$NPV = \sum_{t=0}^{T} \frac{(B_t - C_t)}{(1+r)^t} \qquad \text{Eq 2}$$

1 Rubber tapping is a continuous process once the plantations reach the production stage. Most of the smallholdings follow an 'alternate daily tapping system', which under normal conditions enables the smallholders to make an annual tapping days in the range of 120-140 days. This average figure is derived as: Annual tapping days (no) = [(240 tapping days/ 2)-(60 days tapping rest in monsoon+60 days tapping rest in summer)]

2 An earlier study also reported the limited application of chemical fertilizers by the rubber smallholders, who instead applied cow dung. The supply of fertilizers was imperfect due to the absence of dealer network. The existing dealer network was meant for rice and vegetable cultivation and the rubber growers were not covered under this. Even if fertilizer was obtained, since it was not regular and systematic, balanced mixing and timely application was reported difficult (Joseph and Rajasekharan, 1991: 20).

where: Bt = Income from rubber farming in monetary terms at time t, Ct = cost for rubber farming at time t, r = discount rate, t = time (years) where observation is noted, and T = the entire life of the plantation across the regions (18-26 years), comprising seven years of immaturity period, followed by 22 years of rubber production cycle.

The analysis considers two discount rates: 7.5 per cent and 12 per cent, which justify the market rate of interest in the former case and standard commercial rate in the latter case, as also observed in the analysis of agro-forestry projects (for instance, Nadkarni, 2001) in India. Internal rate of return (IRR) is used here to evaluate the overall feasibility of monoculture rubber farming system across the study regions. IRR is the discount rate that would be required to make the net present value of the costs of farming operations equal to the present value of benefits accrued from rubber farming. Derivation of the IRR is analogous to solving for 'r' in equation 1 (Eq.1), as:

$$0 = \sum_{t=0}^{T} \frac{(B_t - C_t)}{(1+r)^t}$$

The results of the cash flow analysis are summarized as in Table 3.

Table 3: Cash Flow Analysis of Monoculture Rubber Farming System

Descriptives	Tripura	Assam	Meghalaya
1. Average life of the holding (years)	26	19	18
2. Cumulative costs (undiscounted) per ha (US$)	4801	5156	4325
3. Cumulative benefits (undisc.) per ha (US$)	25019	10167	8027
4. NPV (undiscounted) per ha (US$)	20219	5011	3703
5. Benefit cost ratio (BCR)	4.17	1.59	1.25
6. Discounted costs (US$/ha –@ DF -7.5 %)	2304	2848	2308
7. Discounted benefits (US$/ ha -@ DF -7.5 %)	11162	5233	4081
8. NPV (US$/ha - @ 7.5 %)	8858	2385	1773
9. IRR at 7.5 % DF	9.63	24.90	22.54
10. Discounted costs (US$/ha –@ DF 12 %)	1786	2231	1828
11. Discounted benefits (US$/ ha -@ DF -12 %)	8449	3982	3162
12. NPV (US$/ha - @ 12 %)	6663	1751	1334
13. IRR at 12 % DF	37.42	22.48	20.44

Source: Farm Household survey (2005).

Table 3 reveals that the survival period of the rubber holdings differed from 26 years in Tripura to 18 years in Meghalaya, which is inclusive of the unproductive period of 7-9 years. As a major share of the tapped rubber holdings in Assam and Meghalaya fall in the initial years of productive period, the important measures of economic performance, ie. BCR, NPV and IRR are reportedly low for these regions compared to Tripura. The highest performance indicators have been reported for smallholdings in Tripura, followed by Assam and Meghalaya. Overall, the analysis indicates that rubber monoculture system by itself is a viable system, provided the rubber prices remain remunerative throughout the entire life cycle and the marketing practices remain efficient.

3.4. RUBBER INTEGRATED FARM LIVELIHOOD SYSTEMS: COMPARATIVE PERSPECTIVES

The foregoing analysis on the rubber monoculture farming system as prevalent in the study regions brings out that rubber as a single crop is a resilient system provided the prices are remunerative and marketing practices remain transparent and effective. However, the above scenario need not be a realistic one in view of the uncertainties that persist especially in the case of commercial crops like rubber, which is highly vulnerable to price fluctuations in the free trade regime. Moreover, as emerging from the foregoing analysis, the smallholder communities in the study regions have been following diversified and integrated farm livelihood systems from time immemorial. In fact, rubber is a new entrant into the system imposed externally by the Rubber Board (an external agent). Given this, it is important to examine how both the systems co-exist and help the smallholders to make a sustaining and resilient livelihood system in the long run. Hence, this section makes a comparative assessment of the prevailing farming practices of the tribal smallholders dominated by rubber and the related livelihood support activities. Table 4 gives a summary of relative profitability of the rubber integrated farm livelihood systems in the study regions.

Table 4: Rubber Monoculture *vs* Rubber Integrated Farm Livelihood Systems

Type of farming system	Tripura		Assam		Meghalaya	
	Income (Rs.)	Rank	Income (Rs.)	Rank	Income (Rs.)	Rank
1. Rubber monoculture	54292	7	44427	7	45519	7
2. Rubber + fruit + agriculture	57057	5	47672	5	49837	4
3. Rubber and poultry	55715	6	45807	6	46764	6
4. Rubber and livestock	60325	1	50288	1	51316	2
5. Rubber and rice	58080	4	49412	3	49595	5
6. Rubber and fishery	58466	3	47733	4	51502	1
7. Rubber and piggery	59398	2	50193	2	51030	3

Source: Farm Household survey (2005).

Table 4 shows the different combinations of rubber integrated farm livelihood systems prevalent in the study regions. While rubber and livestock combinations fetch the maximum household income in Tripura and Assam, in Meghalaya, rubber and fishery provides the highest income. However, it is important to note that income from rubber cultivation occupies the dominant share in most of the combinations in view of the relative profitability and stability in cash flow of rubber *vis-à-vis* other cropping, livelihood options.

It is also important to consider that more than offering as potential sources of income, these farm livelihood combinations amply provide for resilience and ensures subsistence of the smallholder households. More importantly, their impact on livelihoods needs to be assessed in terms of the extent to which such integrated systems help the smallholders avoid the market dependence for purchase of these items. One of the most explicit positive impacts of such commercial crop-livelihood systems integration process as reported by the tribal households in the study regions is that using the income realised from sale of rubber, they could even avoid the 'distress sale of paddy' situation that they usually encounter in the production of traditional crops. As a result, the rice produced by the households, which previously have been sold off at times of distress, is now kept as a buffer for own future consumption requirements. Similarly, since a regular income is assured through cultivation of rubber, the livestock related activities such as rearing of piggery, poultry and fishery are now pursued in such a way as to meet own consumption requirements and sale of the surplus.

3.5. RUBBER FARMING SYSTEMS AND SUSTAINABLE LIVELIHOOD OUTCOMES

It emerges from the above analysis that various combinations of farm livelihood options with rubber cultivation form an integral aspect of sustainable farm livelihoods in the NE regions. Invariably, the process of rubber development in the NER in itself is a case in point needing serious consideration for further scaling up more in favour of an integrated farm livelihood system without obstructing or compromising on the agro-ecological diversity as well as the pre-rubber existing land use systems of the region.

In this regard, it is all the more important to determine how sustainable would be the livelihood outcomes of the rubber integrated smallholder systems in the study regions. To provide some broad indications, the present analysis attempts at measuring the various components of the five types of the capital assets base of the rubber smallholder livelihoods. The important constituents of the livelihood assets have been measured as indices based on measurement procedures as discussed in Shrestha and Shivakoti (2005 a and b); VanLoon et al., (2005); and Choudhury et al., (2005). The various constituents of the five types of livelihood assets as considered in the analysis are derived as indices following the equations as shown in Annexure 1.

The various components used for measuring index of human capital assets included: a) experience in rubber farming; b) educational status of the household head; c) availability of family labour; d) women participation in rubber farming activities; e) children's education; and f) annual household expenditure on healthcare. For determining natural capital assets, the indices considered are: a) rubber area owned by smallholder; b) quality of land; and c) household access to safe drinking water. Physical capital assets have been measured using index of market access and the access to rubber processing facility, which represents the overall availability of and access to infrastructure and technological facilities in the rubber growing regions. Financial capital assets have been measured as indices of: a) income of the household from sources other than rubber, like wages, salaries, farm and off farm income, etc.; b) savings; and c) value of household assets1 (both essential and semi-luxury items). Social capital assets of the households have been measured using indices, such as: a) access to R&D and institutional support (planting grant for newplanting or replanting, subsidy for inputs, plant protection, etc); b) access to training in rubber tapping and processing; c) access to extension activities; and d) access to local development institutions, co-operatives/ SHGs, etc.

The indices so derived range from 0 to 1 with highest values indicating the greater strength of the livelihood assets possessed by the smallholder households. To relate the values of assets with respect to sustainable livelihood outcomes, three scores have been used representing indices on a 0-1 scale. Thus the assets index values falling between 0 to 0.33 have been considered as unsustainable; 0.34 to 0.66 as moderately sustainable; and 0.67 to 1 as highly sustainable. The values of the indices representing the five livelihood capital assets of the rubber smallholders across the study regions are shown in Table 5.

Table 5: Values of the Livelihood Capital Assets of the Rubber Smallholders

Capital assets	Tripura	Assam	Meghalaya
1. Human capital	0.38 *(2)*	0.27 *(3)*	0.35 *(2)*
2. Natural capital	0.73 *(1)*	0.78 *(1)*	0.83 *(1)*
3. Physical capital	0.57 *(2)*	0.46 *(2)*	0.48 *(2)*
4. Financial capital	0.33 *(3)*	0.28 *(3)*	0.26 *(3)*
5. Social capital	0.56 *(2)*	0.54 *(3)*	0.63 *(2)*
Overall livelihood score	0.514	0.466	0.510

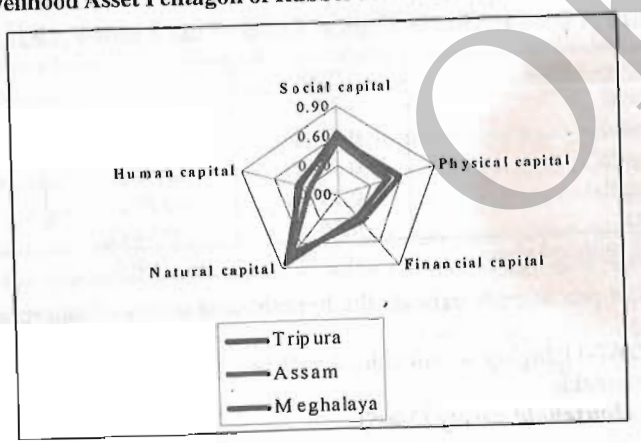
Note: Figures in parentheses indicate the hypothetical scores of sustainability of the assets.
Ranking 1 = (0.67-1): highly sustainable; 2 = (0.34 – 0.66) moderately sustainable; 3 = (0-0.33) unsustainable.
Source: Farm Household survey (2005).

Table 5 shows that the access to and control over natural capital assets enable the livelihoods of the rubber smallholder households to be highly sustainable when compared to rest of the capital assets. Financial capital assets base of the households appears to be rather weak and unsustainable for all the regions, which suggests that the income realised from rubber farming and other integrated activities is inadequate or not effectively utilised for building up or strengthening the economic or financial asset base by the smallholders. Human capital assets values are moderately sustainable for Tripura and Meghalaya. Physical capital assets are also appears to be moderately sustainable for the three regions. Social capital assets are at moderately sustainable levels with the highest score reported for Meghalaya (0.63), followed by Tripura (0.56) and Assam (0.54).

The relatively higher values of social capital as reported from Meghalaya may be attributed to the social development outcomes in the region following the introduction of rubber cultivation. The study region in Meghalaya, i.e. Mendipathar village has witnessed the emergence of local initiatives leading to the development of a rubber grower co-operative, called Mendipathar Multi-purpose Co-operative Society (MMCS). Notably, the MMCS plays a significant role in terms of mobilising the local communities in matters of scaling up of rubber integrated farm livelihood systems with greater impacts on the local communities leading to better collective action outcomes in the region *vis a vis* rest of the rubber growing areas within the NER (Viswanathan, 2006). The values of the capital assets as shown in Table 5 are plotted in a radar diagram, representing the livelihood assets pentagon (Figure 2).

1 The household assets considered in the present analysis include land, household amenities like radio, TV, bicycle, vehicle (motor cycle, car, pick up van), telephone (including mobile), pumpset, electric and other electronic accessories, like refrigerator, washing machine, etc.

Figure 2: Livelihood Asset Pentagon of Rubber Smallholders



However, it is important to note that though the rubber smallholders are relatively better off in terms of access to natural capital assets like possession of rubber area and quality lands, the sustainability of the same is subject to constraints. Particularly, as discussed above, the access to rubber area is constrained by the agro-climatic suitability factors as well as the prevailing property rights regime in the NER, which do not ensure secure property rights to the tribal rubber growers. Given this, an increase in population coupled with increasing demand for land for rubber area expansion stimulated by its profitability may adversely affect the sustainability of the natural capital assets base.

4. CONCLUSIONS AND POLICY IMPLICATIONS

The paper brings out the significance of evolving cash crop integrated farming systems for the mountainous regions in particular, as a sustainable livelihood strategy to counter the crisis in livelihoods in the era of globalisation. At the same time, a judicious choice of a cash crop would enable the mountainous communities to get them integrated with the global economic integration process with definite impacts on their socio-economic wellbeing and sustainable livelihoods. Though the analysis of rubber integrated farm livelihood systems indicated the stronghold of income from rubber cultivation in the gross household income, the socio-economic significance of rubber integrated farm livelihood systems is such that various combinations of rubber integration amply provide for resilience and ensures subsistence of the smallholder households and their impact on livelihoods is mostly in terms of avoiding the market dependence of the households for purchase of these items.

Viewed from this perspective, there is a strong case for further promotion and scaling up of rubber integrated farm livelihood systems in the smallholder dominated rubber producing countries of the Asian and SE Asian countries. This is reasoned by the fact that rubber, which forms a crucial industrial raw material for the development of the automotive industry, has a bright future in the years to come. In view of its future potential, there has been tremendous economic activism towards further expansion of rubber even in the marginal and sub-marginal climatic zones of the countries, *viz.*, India, Thailand, Indonesia, China, Vietnam, Laos PDR, Myanmar, Cambodia and Philippines.

However, rubber production system cannot be sustained as a monoculture as it did in the dominant rubber growing countries ever since the colonial era. This is because, the prevailing rubber production structure in most of these countries is characterised by predominance of small and marginal holdings with a vast base of population still pursuing a diversified farm livelihood systems, including shifting cultivation. Despite this empirical reality, most of these countries (barring India, Malaysia and Thailand)

are distinctly lacking in terms of institutional interventions, financial support mechanisms, R&D and extension activities facilitating scaling up of rubber farming as an integrated farm livelihood system. Especially, as revealed by the rubber development experience in the NE India, the sustainability of the rubber smallholders largely depends on their access to secure property rights, efficient and transparent rubber marketing systems. This necessarily calls for policy and institutional interventions covering a broad array of activities, *viz.*, a) secure property rights regime; b) financial support for rubber planting and development of integrated systems; c) R&D support for quality rubber planting materials, plant protection, yield enhancement, crop processing and product development; d) efficient marketing and price control; e) value addition with due share of the smallholders in the value chain; f) development of ancillary and by-product segments, etc. The above activities also simultaneously call for crafting and/or strengthening of the institutional linkages so as to empower and capacity building among the local communities and thereby achieve better outcomes of mobilisation and collective action and the sustenance of livelihoods of the rubber smallholders.

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Annexure 1: Equations used for Deriving Indices of the Livelihood Capital Assets

1. Human Capital Assets:

1. Index of experience in rubber farming:

$$\text{IREXP} = \sum (REXP_i / REXP_h) / N$$

Where, IREXP = Index of experience in rubber farming (0 = IREXP= 1)

i = ith farmer, 1,2,3,...N

h = the highest experience (years) reported in the sample

N = total number of rubber growers

2. Index of educational status of the head of the household:

$$\text{IED} = \sum ED_{ij} / 5N$$

Where, IED = Index of educational status (0 = IED= 1)

i = ith farmer, 1,2,3,...N

j = jth criterion, 0,1,2 , 3, 4

N = total number of rubber growers

3. Index of family labour availability:

$$\text{IFLA} = \sum (FLA_i / FLA_h) / N$$

Where, IFLA = Index of Family labour availability (0 = IFLA = 1)

i = ith farmer, 1,2,3,...N

h = the highest number of family labour reported in the sample

N = total number of rubber growers

4. Index of gender participation in rubber farming:

$$\text{IGPR} = \sum (GPR_i / GPR_h) / N$$

Where, IGPR = Index of gender participation in rubber (0 = IGPR= 1)

i = ith farmer, 1,2,3...N

h = the highest number of female labour reported in the sample

N = total number of rubber growers

5. Index of childrens' education enrolment:

$$\text{ICED} = \sum (CED_i / CED_h) / N$$

Where, ICED = Index of childrens' education enrolment (0 = ICED = 1)

i = ith farmer, 1,2,3…N

h = the highest number of children enrolled in the sample

N = total number of rubber growers

6. Index of annual expenditure on healthcare:

$$IHEXP = \sum (HEXP_i / HEXP_h) / N$$

Where, IHEXP = Index of annual household expenditure on healthcare (0=IHEP= 1)

i = ith farmer, 1,2,3…N

h = the highest reported expenditure on healthcare in the sample

N = total number of rubber growers

The total value of human capital assets = Average of the indices 1,2,3,4,5 and 6.

2. Natural Capital Assets:

1. Index of rubber area possessed:

$$IRA = \sum (RA_i / TA_i)$$

Where, IRA = Index of rubber area possessed (0 = IRA= 1)

i = ith farmer, 1,2,3,…N

TA = Total Area owned

2. Index of land quality

$$ILQ = \sum LQ_{ij} / 4N$$

Where, ILQ = Index of land quality (0 = ILQ = 1)

i = ith farmer, 1,2,3,…N

j = jth criterion, 1,2, 3, 4

N = total number of rubber growers

3. Index of gender access to land

$$IGL = \sum GA_{ij} / 3N$$

Where, IGL = Index of gender access to land (0 = IGL = 1)

i = ith farmer, 1,2,3…N

j = jth criterion, 1,2,3

N = total number of rubber growers

4. Index of access to safe drinking water:

$$ISW = \sum SW_{ij} / 4N$$

Where, ISW = Index of safe drinking water (0 = ISW = 1)

i = ith farmer, 1,2,3…N

j = jth criterion, 1,2,3,4

N = total number of rubber growers

The total value of natural capital assets = Average of the indices 1,2, 3 and 4.

3. Physical Capital Assets:

1. Index of access to rubber market:

$$IMA = \sum MA_{ij} / 3N$$

Where, IMA = Index of market access (0 = IMA = 1)

i = ith farmer, 1,2,3…N

j = jth criterion, 1,2,3

N = total number of rubber growers

2. Index of access to rubber processing facility:

$$IMA = \sum RP_{ij} / 2N$$

Where, IMA = Index of market access (0 = IMA = 1)

i = ith farmer, 1,2,3…N

j = jth criterion, 0,1

N = total number of rubber growers

The total value of physical capital assets = Average of the indices 1 and 2.

4. Financial Capital Assets:

1. Index of income from sources other than rubber:

$$IHEXP = \sum (INR_i / INR_h) / N$$

Where, IHEXP = Index of income from non-rubber sources (0 = IINR = 1)

i = ith farmer, 1,2,3…N

h = highest reported income from non-rubber sources in the sample

N = total number of rubber growers

2. Index of household savings:

$$IHS = \sum (HS_i / HS_h) / N$$

Where, IHS = Index of household savings (0 = IHS = 1)

i = ith farmer, 1,2,3…N

h = highest reported savings in the sample

N = total number of rubber growers

3. Index of value of household assets:

$$IHS = \sum (HA_i / HA_h) / N$$

Where, IHS = Index of household assets (0 = IHA = 1)

i = ith farmer, 1,2,3…N

h = highest reported value of household assets in the sample

N = total number of rubber growers

The total value of financial capital assets = Average of the indices 1, 2 and 3.

5. Social Capital Assets:

1. Index of access to institutional support:

$$IINST = \sum INST_{ij} / 2N$$

Where, IINST = Index of access to institutional support (0 = IINST = 1)

i = ith farmer, 1,2,3…N

j = jth criterion, 0,1

N = total number of rubber growers

2. Index of access to training in tapping and rubber processing:

$$ITRP = \sum ITRP_{ij} / 2N$$

Where, ITRP = Index of access to training in tapping and processing (0=ITRP= 1)

i = ith farmer, 1,2,3…N

j = jth criterion, 0,1

N = total number of rubber growers

3. Index of access to local institutions:

$$ILI = \sum ILI_{ij} / 2N$$

Where, ILI = Index of access to local institutions (0 = ILI = 1)

i = ith farmer, 1,2,3…N

j = jth criterion, 0,1

N = total number of rubber growers

The total value of social capital assets = Average of the indices 1, 2 and 3.

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Future of Muslim Community in Electoral Politics of Assam

Monoj Kumar Nath

Muslims constitute almost one third of the total population in Assam. They are an inseparable part of the contemporay Asomiya nationality and stakeholders in building its history and destiny. But, due to rapid growth of population and some very sensitive issues like immigration and 'Swadhin Bangabhumi' etc., the community has become a cause of concern in the politics of Assam. The increasing dominance of the community in power politics of the state also has created fear among the people of the majority community. In this backdrop, an attempt is made in this paper to know the future of Muslim community in electoral politics of Assam from three different perspectives, namely, Muslim vote bank, Muslim based political party and Muslim consciousness.

Assam has been experiencing a steady rise in Muslim population, especially during the period after independence, and now it is the largest religious minority group constituting 30.92 per cent of the total population in the state (Census, 2001). In terms of numerical strength, the Muslims are majority in six districts, namely, Dhubri, Goalpara, Barpeta, Hailakandi, Nagaon and Karimganj, and they constitute 35 to 50 per cent of total population in other four districts- Morigaon, Bongaigaon, Cachar and Darrang. Together, these 10 districts in Assam have rounded over to 51 per cent growth rate which is above the national average.

Being an integral part of the socio-cultural life of Assam, the Muslims have been immensely contributing to the society building process. However, like in other states of India, Muslims in Assam are also one of the most backward communities. The 2001 Census reveals that literacy rate among the Muslims in the state is only 48.4 per cent while it is 70 per cent among the Hindus. Female literacy rate among the Muslims is only 40.2 per cent in comparison to 61.1 per cent among the Hindus in the state. Again, while work participation rate among the Hindus in Assam is 38.6 per cent, it is only 29.1 per cent among the Muslims.

Because of increasing numerical strength, Muslims as a community is becoming a very important factor in electoral politics of Assam. At present the Muslims constitute the decisive factor in 30 out of 126 Assembly Constituencies (Ahmed, Baruah, Bhuyan, 2006: 114). However, newspaper reports project the number of

such constituencies as at least 43 where Muslims alone can determine the result of the elections (Kaushish, 2005). Out of total 14 Parliamentary constituencies in the state, Muslims are decisive in three constituencies (Barpeta, Dhubri, Cachar) and a crucial factor in four more constituencies (Guwahati, Mangaldoi, Nowgong, Lakhimpur) [Ahmed, Baruah, Bhuyan, 2006: 116].

Minorities in every country are always vulnerable and very prone to political manipulation. Quite often, the dominant groups in the society try to impose their culture and ideology on the minority groups. But, Assam is an exception in this regard, and Hindu-Muslim unity in the state has always clearly shown a true multicultural character. But, continuous large scale Muslim immigration from neighbouring Bangladesh to Assam has remained a sensitive issue, which has many socio-political implications.

In India, Muslims are equal citizens under the Constitution. But, they have always been neglected and discriminated by successive governments. Every government at the centre and in the states promises special measures to uplift the community, but no government shows willingness to turn these promises into reality. On the contrary, the community has always been marginalised in every aspect. Almost all the political parties play with emotional issues of the Muslims for the sake of 'vote' but, do not address their real problems such as illiteracy and poverty.

The Assam Movement (1979-1985) brought about significant changes in social-political milieu of the state. The movement was launched for safeguarding the interests of the indigenous people of Assam by identifying and deporting the illegal migrants from the state. Misinterpretation of the movement by different groups at different occasions created identity consciousness among several ethnic groups of Assam. Muslim community in the state has also become more conscious of its existence, strength and socio-political identity in the post movement period.

The Illegal Migrants (Determination by Tribunal) Act, 1983 was a response of the central government to the Assam Movement. The sole objective of the Act was fast identification and deportation of illegal nationals. But in the politics of Assam, while some political parties sought to make it instrumental for safeguarding interests of the Muslim minorities, others projected the Act as the main obstacle to identify and deport the illegal migrants from the state. The controversial Act, therefore, became a tool in the hands of the political parties either to appease or to threaten the Muslims in the state. The Act has remained as one of the most contentious issues in politics of Assam for more than two decades till it has been declared unconstitutional and ineffective by the Apex Court of India in July 2005.

Thirteen small political and non-political minority organisations came together to form a new political party, Assam United Democratic Front (AUDF), in 2006 to safeguard the interests of the minorities in the state in post-IM (DT) situation. The United Minority Front (UMF), which came into existence as a political party for

the minorities in the state against the Assam Accord (1985) and which broke away into several groups after the Assembly election in 1985, also merged with the newly formed AUDF. In formation of the AUDF, for the first time in the political history of post-independent India, Jamiat Ulema-E-Hind had played an active and direct role. And, in 2006 Assembly election in Assam, the AUDF showed surprising success.

MUSLIM VOTE BANK

Voting percentage among the Muslims in Assam is always higher than all other communities. Because the Muslims, especially the immigrants who are also called the *Na-Asomiya*, use the elections as means to re-establish their identity as Indian citizens. And, Muslims in general in the state always prefer to vote for a Muslim candidate. Actually, this is a common phenomenon in caste based multicultural electoral politics in India where every caste and community prefers to vote for a candidate from their own caste or community.

Considerably high voting turnout among the Muslims and their preference to vote only for Muslim candidates provide the basis for the highly controversial hypothesis of Muslim vote bank. It is believed that Muslims in Assam, since independence, has remained a vote bank for the Congress party.

In Assembly elections held in 1952, 1957, 1962, 1967 and 1972, the Congress did not have any organised opposition in the state. The Congress lost power in the state in 1978 at the hands of the Janata Party for the first time. And, the six years between 1979 and 1985 were the years of 'Assam Movement' which brought about significant changes to political equations regarding Muslims in the state. The study of Assembly elections in Assam since 1978 is very necessary to know the reality about the Muslim vote bank hypothesis.

The 1978 election was held amidst the wave of 'Indira Hotao' because of her imposition of emergency in 1975 as the Prime Minister of India. The Janata Party for the first time came to power in Assam in 1978 election. Though Congress party was defeated badly in most of state Assembly and Parliamentary elections at

Table - 1 : Partywise Muslim MLAs after Assembly Elections (1978-2006)

Election	Total elected Muslim MLA	Partywise Distribution
1978	28	INC-7, INC(I)-3, Janata Party-10, Others-8
1983	32	Cong(I)-22, Others-10.
1985	25	Cong(I)-5, UMF-13, AGP-2, Others-5.
1991	24	Cong(I)-15, AGP-1, Other-8.
1996	27	Cong(I)-11, AGP-9, Others-7.
2001	26	Cong(I)-13, AGP-4, Others-9.
2006	25	Cong(I)-9, AUDF-8, AGP-3, Others-5

Source : Election Department, Govt. of Assam.

that time, the Muslims in Assam stood with the party in 1978 elections. Out of total 28 elected Muslim MLAs to Assam Legislative Assembly in that election, two breakaway groups of the Congress - INC and INC(I) - together had 10 Muslim MLAs when the Janata Party also had 10 Muslim MLAs. The Muslims in Assam stood by the party in its worst time ever.

The 1983 Assembly election was a different history. Most of the political parties and civil society organisations boycotted this election because of the Assam Movement. In this election, as many as 32 of the Congress (I)'s 126 tickets had gone to the Muslims. Total 32 Muslim MLAs were elected from 109 constituencies where elections were held. Out of these 32, Congress (I) had 22 MLAs, the biggest number of Muslim MLAs possessed by a party in Assam Legislature till today. Actually, the 1983 Assembly election established a permanent friendly relationship between the Congress (I) and the Muslim electorates in the state. The Assam movement was opposed by the immigrant Muslims. The Congress (I) also opposed the movement and forcefully held the Assembly election in 1983. By holding the Assembly elections in 1983, Congress (I) tried to show itself as the only political party which takes care the interests of the Muslims in the state.

The Assembly election in Assam in 1985 was held after end of the Assam Movement with signing the Assam Accord. In this election, total 25 Muslims were elected to the Assembly and out of them Congress (I) had only five. In this election, majority of the Muslims voters went away from the party. The UMF was formed just before the election of 1985 demanding the scrapping of the Assam Accord. And in the election, most of the immigrant Muslim voters supported the UMF as a better alternative to the Congress(I).

The UMF broke into several groups after 1985 elections and several prominent leaders of the party joined the Congress (I). So in 1991, 1996 and 2001 Assembly elections, the Congress (I) could keep its support base amongst the Muslims in the state almost intact. But 2006 Assembly elections brought break down to the Congress support base among Muslims. In this election, the Muslim voters were clearly divided between the Congress and the newly formed AUDF.

When we study the post-Assam movement electoral politics, we must note the role played by Jamiat Ulema on the Muslim politics in the state. Actually Jamiat has been playing a significant role in directing the Muslim politics in Assam since independence. But, after the Assam Movement it has started to play a more active role. In 1985 elections, the Jamiat openly supported the newly formed UMF. As a consequence, the UMF got 10.85 per cent of total votes and won 17 seats by contesting in 56 constituencies. Because of Jamiat's open support to UMF, the Congress (I) could

win only 25 seats and for the first time Asom Gana Parishad (AGP) formed a government in the state.

In 1991 and 2001 Assembly elections in Assam, Jamiat supported the Congress (I) and the party won the elections comfortably. In 1996 election, Jamiat supported AGP and the party formed the government in the state after election (Umar, 2005: 13). But in 2006 Assembly election, the Jamiat came forward to play a more aggressive political role than the supportive role it was playing since independence. After the IM (DT) Act was repealed by the Supreme Court, the state unit president of the Jamiat, Mr. Badaruddin Ajmal brought 13 different minority organizations together to form AUDF against the Congress party's failure to prevent repeal of the IM (DT) Act. The Jamiat leaders declared the repeal of the IM (DT) Act as a betrayal of the Congress to the minorities of the state. Both national and state leaders of the Jamiat openly campaigned for the AUDF in this election. The party won 10 seats by securing 9.03 per cent of the total votes polled in the election.

Thus, we have seen that the Jamiat has been playing an increasingly crucial role in the Muslim politics in Assam since the days of Assam Movement. So, when we talk about Muslim vote bank in elections of Assam, we must consider two aspects at the same time: the role of the Jamiat and the Muslim voter's sympathy towards the Congress party. And, if we study these two aspects in Assembly elections after the Assam Movement, we can come to some conclusions -

Firstly, the Muslim voters have lots of goodwill and support towards the Congress. They have developed a psychology of feeling secured under the Congress rule. The party's opposition to the Assam Movement and support to the IM (DT) Act have developed this psychology among the Muslims in Assam. In elections, whenever the Jamiat supported the Congress, the Muslim electorates overwhelmingly supported the party. The Assembly elections in 1991 and 2001 are proof of this. And in this situation, the hypothesis that 'Muslims are vote bank of the Congress' is very easy to prove.

Secondly, Muslim voters support to the Congress is weaker than their allegiance to the Jamiat. Whenever the Jamiat did not support the Congress in elections, but provided an acceptable alternative, the Muslim voters preferred to vote for the new alternative against the Congress. The 1985 and 2006 Assembly elections have proved this. In 1985, Jamiat supported the UMF and in 2006, it supported and campaigned for the AUDF. In both the elections, majority of Muslim voters quickly shifted from Congress to support these newly formed parties.

Thirdly, whenever the Jamiat did not support the Congress but also could not provide a better (acceptable) alternative for the interest of the community, the major-

ity of the Muslim voters prefer to support the Congress. In 1996 Assembly elections, Jamiat supported the AGP, but majority of Muslims remained with the Congress. In this election, AGP got 9 Muslim MLAs while the Congress got 11 Muslim MLAs. As the AGP was formed by the leaders of the Assam Movement, the majority of immigrant Muslims in the state did not consider the party to vote for.

So, we can say that the Muslims in Assam can be considered a vote bank of the Congress party provided the Jamiat's support. Jamiat's opposition to the Congress has always been dividing the Muslim voters between the Jamiat supported party and the Congress.

Jamiat's new strategy to play an activist role in the politics of Assam can bring about significant changes to this vote bank politics in future. But everything depends upon the survival of the AUDF in the politics of Assam. The experience of minority based political parties in Assam is not satisfactory. The UMF, which came as a protest movement against Assam Accord, broke away into several groups just after 1985 election. Most of the leaders of the UMF later joined the Congress. The formation of the AUDF is also similar to the UMF. The AUDF has been formed against the government's failure to prevent repeal of the IM (DT) Act. In both the cases, the parties have originated on emotional issues and waves. So, now the challenge before the AUDF is to stand united and to rationalise its existence so that the UMF episode does not repeat. Naturally, the Congress would try to destabilise the party, which can change its vote bank equations among the Muslims.

Jamiat's influence on Muslims in Assam is also a matter of controversy. Actually, Jamiat has no significant presence among the Assamese Muslims in the Upper Assam districts. But, it has considerable influence among the immigrant Muslims of rural areas, especially in the lower and middle Assam, besides the Barak valley. The rural immigrant Muslims of these areas are mostly poor and illiterate. And so they are very easy to be motivated and manipulated. The local Muslim religious leaders motivate them according to the wishes of the Jamiat leaders. During elections, these illiterate and poor Muslims are instructed by the local religious leaders to whom to vote for.

Since its origin, the IM (DT) Act remained the most contentious issue for the Muslims in Assam. The Bharatiya Janata Party (BJP) and AGP had been advocating the repeal of the IM (DT) Act. The immigrant Muslims in Assam was supporting the Congress because of its support to continuation of the Act. After the IM (DT) Act was repealed by the Supreme Court, the Congress has lost its most attractive political weapon to keep the minorities with it. On the other hand, the Muslims are now realising that their main problems are their backwardness and

poverty, not the security as they now constitute one third of the total population of the state. During almost last six decades, though the community has remained with the Congress, the party did little to uplift them socially as well as economically. This realisation among the Muslims is now bringing the community closer to the AUDF, which promises fast and all-round development of the community. The charismatic leadership of the party's president Badaruddin Ajmal, his status of a 'Maulana' and his growing popularity among the immigrant Muslim community are positive aspects for the party. And, if the AUDF leaders can show their sincerity towards the community in the coming years, definitely, the Congress vote bank among the Muslims in the state will disappear and the AUDF would emerge as a strong power centre of Muslims in the politics of Assam.

Here we must note another important aspect. The Jamiat, for the first time in politics of Assam, directly involved itself with the AUDF in 2006 election. In case of the UMF in 1985 elections, the Jamiat supported it from outside only. And if the AUDF cannot survive long in politics of Assam, definitely the Jamiat would lose its influence on the Muslim voters. So, the survival of the AUDF is becoming a challenge for the Jamiat also.

LEADERSHIP AND MUSLIM BASED POLITICAL PARTY

The Muslims in Assam lack efficient leaders to raise and to establish the demands and concerns of the community in reasonable and bold way. The Muslim community in Assam, especially during post Assam Movement period, has failed to produce a Muslim political leader acceptable to the community as a whole. As a consequence, the basic problems of the community have remained largely unaddressed.

As such, a community leader is not always bound to raise the problems of the specific community alone. Nevertheless, an efficient community leader is always expected to have better knowledge and realisation about the problems of his own community, and therefore, he can articulate them more effectively.

Though the Muslim community in Assam has persons with political knowledge, leadership quality and acceptability by the whole community, they have failed to emerge as leaders. The main reason is indifferent attitude of most of the political parties towards the community. In this regard, first of all, we must consider the policy of the Congress, which has remained the most dominant party among the Muslims in Assam since independence. The Congress has been using the community only as a vote bank. In return to continuous support of the community towards the party, the Congress has given very little. Actually, the party wants to keep the community as its vote bank as long as possible. So, it is not in favour of solving the problems of the community, so that the community can always be manipulated dur-

ing elections in the name of its problems. And for that, the Congress does not like to create or find out efficient leaders from the community capable of articulating and resolving the basic the problems. If efficient leaders emerge from the community, the Muslims can rally behind them, and then, the community can come to a position to bargain for its development. And if such efficient leaders go away from the Congress, the party can lose significant number of votes. Under these considerations, most often, the party generally gives candidature to those Muslims only who do not have the quality to become a good and bold leader. And most of these weak candidates win election only because of the Congress ticket.

If we consider two other main political parties in Assam, we find a slightly different situation. The BJP does not have any significant presence among and impact on the Muslims in the state. Although the AGP has significant presence among some sections of Muslims, the party has not yet been accepted as a friend of the community by the majority of Muslims in the state mainly because of the Assam Movement and its support to the demand for the repeal of the IM (DT) Act. In 1985, 1991, 1996, 2001 and 2006 Assembly elections, the number of Muslim MLAs won in the party's tickets were 2, 1, 9, 4, and 3 respectively out of total 24, 27, 26 and 25 Muslim MLAs in the Assembly. However, the party also has not tried to find out efficient leaders from amongst the Muslims in the state.

The attitude of most of the political parties towards the community is not the only factor for lack of efficient Muslim leaders in the politics of Assam. In terms of number, Muslims have many leaders in different political parties. But they have failed to prove their quality to lead the community and to be accepted by the community itself as a leader. Another cause of this situation is that the Muslim leader, for the sake of Muslim vote in his constituency, has to depend on the local as well as state religious leaders of the community. This dependence on the religious leaders makes them unacceptable among the liberal Muslims and the Hindus in the state.

Underdevelopment and disempowerment of the community has raised the controversy whether the community needs a separate political party of its own. During the post Assam Movement period, in the electoral politics of Assam, we have already experienced the emergence of two Muslim based political parties - the UMF and the AUDF. The UMF was formed in 1985 to protect the interest of all kinds of minorities in the state. Again, the AUDF has been formed in 2006 to safeguard the interests of all the underprivileged of the state. Though, neither of these political parties has claimed itself a party for the Muslim, from the support base of both the political parties and also from the composition of leadership, we can term them as Muslim based political parties.

The experience with the UMF was not satisfactory at all. The party came to existence against the signing of the Assam Accord. Though the party showed surprising success in the Assembly election of 1985, the party broke-away into different groups just after the election. Most of the leaders of UMF joined the Congress(I). Election after election the party became so insignificant and weak in politics of Assam that it had to join the AUDF by sacrificing its own identity and ideology.

The formation of the AUDF in 2006 has changed the old equations of the Muslim politics in the state. The party has succeeded to show surprising success in Assembly election of 2006. The party has emerged as a threat to the Congress with regard to the minority votes in the state. The future equations of Muslim politics in the state will largely depend upon the party's survival and its future course of actions. If the AUDF too cannot survive for long, it would be proved that the Muslim based political party cannot survive in politics of Assam.

Muslim based political parties can mean two things in politics of Assam. Firstly, in a competitive electoral system, the success of a Muslim dominated political party means that the Muslims in general support that party. And a Muslim based political party in general cannot get the support of majority Hindu votes. In that situation, the party has remote chance to come into power of its own. And when it is in opposition, the party in power can neglect and deprive the whole community to prove that the opposition is inefficient, and therefore, to make it unpopular among the community. So, a Muslim based political party can harm the interests of the community itself. Secondly, the existence and success of the Muslim based political parties mean success of Hindu based political parties also. In India, religion and caste still remained the most sensitive informal instrument to gather vote. Existence of Muslim based political party in Assam means a good weapon at the leads of Hindu based political parties to mobilise the Hindu votes. This can polarise the political and electoral equations in the state between the Hindu and Muslim voters.

We can come to the conclusion that community based political party is not an urgent requirement for the Muslims in Assam. The existence, continuation and success of the Muslim based political party can have negative fall-outs on the future of the community. The urgent requirement of the community is a strong political leadership capable of articulating and resolving the specific problems of the community. The community must produce good, honest and efficient leaders so that they can reasonably raise and solve the innumerable inherent problems of the community. The community must have efficient leaders in every political party so that they cannot be recognised as a vote bank of any political party, and therefore, continued to be neglected by others.

MUSLIM CONSCIOUSNESS

The Assam Movement made the identity consciousness among the Muslims in Assam stronger than ever before. The Assam Movement successfully articulated the perceived threat and challenge to the indigenous people by continuous illegal immigration to the state. During the initial years of the movement, the indigenous Muslims of the state supported it. But, because of some unexpected incidents such as the Nellie massacre in February, 1983, the Muslims in general in the state began to perceive the movement as 'anti-Muslims'.

Being confronted with the identity crisis during the Assam Movement, the Muslims in Assam rallied behind the UMF in 1985 Assebmly elections to assert its separate identity. And in 1991 census, vast majority of immigrant Muslims reported the Bengali as their mother tongue, earlier they identified themselves with the Assamese society and language (Ahmed and Yasin, 1997): 148). In post-Assam movement politics of Assam, the highly sensitive issues like continuous Muslim immigration from Bangladesh to Assam and the concept of '*Swadhin Banglabhumi*' have made the Muslims in general in the state vulnerable for political manipulation. The immigration of Bangladeshis to Assam has remained a continuous process during last six decades. To stop immigration from other countries, our borders must be secured first. But after six decades of independence, most part of Indo-Bangladesh border is still open and porous, and because of this, Bangladeshis are easily entering into Assam for better livelihood.

Quite often, the local Muslim in the state are blamed that they remain inactive in the process of identification of the illegal Muslim Bangladeshis already entered and settled in the state. Generally, the newly entered illegal Bangladeshis come to the immigrant Muslims inhabited 'char' areas, and then they go to other places. The local Muslims of these 'char' areas can help the local administration to identify and deport them. But it is not happening, and the newly entered illegal Bangladeshis are being given safe heaven by the local Muslims in 'char' areas.

Many believe that Pakistan's Inter Services Intelligence (ISI) has established strong network in the immigrant Muslims' inhabited 'char' areas of Assam. Many sources say that the large scale Muslim infiltration from Bangladesh to northeast India is a part of the plan of ISI for promotion of Islamisation of South Asia as a component of campaign for Worldwide Islamic Terrorism (Ray, 2002: 34). It is a matter of grave concern that the fundamentalist elements in Bangladesh have been propagating that the borders defined at the time of partition are no longer relevant and need to be changed, taking into account the recent demographic changes. The Jamat-e-Islami of Bangladesh has been talking of *Swadhin Muslim Bangabhumi*

in India - another Muslim country, speaking Bengali predominantly, in the eastern part of India (Singh, 2001: 42).

Because of these highly sensitive issues and controversies, the Muslims in Assam as a community has begun to feel alienated from the Assamese society, and they are trying to create a separate identity for themselves. But in this process, the most noticeable challenge before the community is the psychological division among different groups within the community. The psychological gap and social division between the indigenous Muslims and 'Na-Asomiya' or immigrant Muslim is really a cause of concern for the whole community. The Asomiya Muslims are considered as an integral part of the socio-cultural structure of Assam and they have been enjoying a privileged position in society of Assam. But because of the fast increase in the number of immigrant Muslims in Assam, they have lost their dominance in political and economic life of Assam. The indigenous or Asomiya Muslims live mainly in middle and upper Assam area. They do not live in any contingent area like the immigrant Muslims. So, the Asomiya Muslims do not have dominance in any Assembly constituency from upper and middle Assam. But because of their numerical strength, now, the immigrant Muslims are decisive in at least 30 Assembly constituencies from lower and middle Assam and Barak valley. This growing dominance of immigrant Muslims in electoral politics of Assam has made the Asomiya Muslims sceptical towards the immigrant Muslims of Assam. They have blamed the immigrant Muslims for their marginalisation in every aspect of social life of Assam. They feel that they have been made minority within the minority by the immigrant Muslims.

But, the immigrant Muslims of Assam has different allegations against the Asomiya Muslims. They feel that they have never been treated at par with them by the Asomiya Muslims. They have always been neglected socially by the Asomiya Muslims. The Asomiya Muslims never tried to make the immigrant Muslims a part of the Assamese society in fear of losing its own position. On the contrary, they have been trying to keep them (the immigrant Muslim) away socially and culturally. Moreover, they allege, the Asomiya Muslims had never come forward to help them during their crisis hours. For instance, during Assam Movement, when the immigrant Muslims of Assam were harassed in the name of foreigners, the Asomiya Muslims remained silent spectator, although they could have played a positive role to tackle the situation with the help of their century old close relationship with Assamese Hindu society.

In this background of allegations and counter-allegations, the united Muslim consciousness in Assam has become a matter of controversy. But despite these divisions within the community, we notice a fast growth of community consciousness

among all the Muslims in Assam. Noted columnist Rejaul Karim identified Assam Movement as the cause of origin of this consciousness. According to him, the Assam Movement compelled the community to think about its independent identity (Karim, 2006: 27).

This new consciousness among the Muslims in Assam is totally anti-All Assam Students' Union (AASU) and its like minded organisations. The AASU led the Assam Movement along with the Asom Gana Sangram Parishad (AGSP). After the end of the movement, the AASU had consistently demanded to repeal the IM(DT) Act, which was considered by the Muslims in the state as the safeguard of their security and interests. So, now, the AASU and its like minded organisations and political parties are considered anti-Muslim by the Muslims in Assam. Whatever said or done by these organisations is either opposed or seen with suspicion by the Muslims in the state. This new consciousness is ready to easily accept the organisations and political parties which oppose the opinions of AASU and its like minded organisations. This new consciousness also includes preventing any kind of strategy of Hindu based political parties like BJP to penetrate among the Muslims in the state.

This new consciousness has made the Muslims in the state increasingly defensive. They are now involving in rituals and religious activities more than before. They are increasingly becoming more conscious of their separate dress and Muslim look. Their participation in democratic platforms, institutions and activities is significantly decreasing (Hoque, 2006).

This defensive mentality of the Muslims is not at all good for the future of the community. India is a democratic country and we have every opportunity to solve our problems in democratic way. So, the Muslims in Assam must become more and more part of democratic institutions and process for the community's progress and empowerment. Their consciousness should not be prejudicial towards any ideology or organisations; it should be based on democratic norms and interest of the Assamese society as a whole. As Muslims are an integral part of Assamese society, their misdirected identity consciousness would definitely damage social fabric of the Assamese society.

CONCLUSION

The fact that the Muslims of Assam remained a safe vote bank for the Congress party since independence, except one or two elections, has caused a serious damage to the progress and development of the whole community. The Congress used to consider the support of the community in elections as granted and did little to uplift the community in return of its continuous support to the party.

But, a separate political party for the Muslims is also not an easy way out to change the present deplorable socio-economic conditions of the community. On the contrary, success of the Muslim based political party can divide the society of Assam in religious lines.

Moreover, religion based identity consciousness of the Muslims in Assam can bring only development of underdevelopment within the community. This kind of consciousness is against the democratic norms of a secular country like India. Also, this kind of identity consciousness would make them backward looking in this liberal world.

So, the Muslims in Assam now must decide its future with reasons and must not go with emotion. They must come forward to participate in democratic institutions and platforms. They must come forward to join hands with organisations of other communities in the state to raise and to solve the problems of underprivileged in the state. They should not allow the community any more to be considered as a private property of any political party. They must find out and encourage efficient leaders from amongst them to lead them in a proper direction. And, they must not consider their community interest different from the interests of the Assamese community as a whole. For the sake of a better future of Assam, the Muslims in Assam must maintain secular character in socio-political and cultural life of Assam.

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Growth and Structural Change: A Time Series Analysis in West Bengal.

Panchanan Das

This paper looks at the data generating process of NSDP time series to find how the external shocks, if any, owing to the introduction of economic reforms in India have affected the pace of income growth in West Bengal, an eastern region state of the country. West Bengal assumes special interest because of its distinct character in socio-economic and political issues in the country. The state level study of growth performance has relevance, particularly in the post-reform period when states have got some freedom in implementing their own economic policies. We have carried out a number of tests concerning trend behaviour of state's real income and its major sectoral components over the period 1960 to 2000.

INTRODUCTION

There have been a large number of studies, both theoretical and empirical, concerning the data generating process of macroeconomic time series. The literature has been growing since Nelson and Plosser (1982), the most frequently cited study on the U. S. macroeconomic data. Ghatak (1996) had carried out tests of unit root hypothesis on some macroeconomic data covering a long period (1900-1988) in the Indian economy by following the methodologies developed by Nelson and Plosser (1982). In her exercise she also incorporated the possibility of structural breaks by choosing break points exogenously on the basis of some political and economic importance of the country and followed the methodology popularised by Perron (1989). But in reality one is uncertain about when a structural change might actually have taken place. There may be no guarantee, for example, that the break point in the GDP series in India would exactly coincide to year 1951, one of the break points chosen by her, when economic planning was introduced in the country. If, in fact, the break point is unknown, the use of the conventional Chow test or the dummy variable test for determining structural break becomes futile.

This paper is a step to explore the pace of growth and structural change by carrying out the tests of unit root hypothesis and allowing the unknown timing of the structural break, if any, on the net state's domestic product (NSDP) time series data. The presence of unit root in the series has a serious macroeconomic policy implication. Any external

shock from economic reforms, for example, could have a permanent effect (either positive or negative) on real output and employment. Although the literature on unit root hypothesis and structural change is voluminous, most of them have concentrated on macro economic data for U.S. and OECD countries. Present study is a little addition to the hundreds of empirical studies on this hypothesis by utilising the macroeconomic data at the state level in a developing country like ours.

The paper proceeds as follows. In section 2 we take care of the long run growth behaviour of NSDP series of West Bengal in terms of deterministic and stochastic trends. Section 3 examines structural break of the series. In section 4 we have applied two-state Markov switching model to examine the implications low growth and high growth phase of business cycle fluctuations. Section 5 concludes.

2. LONG RUN GROWTH BEHAVIOUR OF NSDP SERIES OF WEST BENGAL

As is well known, any macroeconomic time series may contain either deterministic trend or stochastic trend or both. Implications of them are qualitatively different. The former is completely predictable, but the latter is not predictable. A time series with deterministic trend follows trend stationary process (TSP), while a non-stationary time series showing stochastic trend is a difference stationary process (DSP)1 . The issue whether a macroeconomic time series is of DSP or TSP is extremely important because the dynamic properties of the two processes are different and a wrong choice of the stationary process creates a serious problem. A TSP implies that cyclical fluctuations are temporary around a stable trend, while DSP implies that any random shock to the series has a permanent effect. The cyclical components of a TSP are derived from the residuals of a regression of the series on the variable time and a DSP involves regression of a series on its own lagged values and time. A TSP has a trend in the mean but no trend in the variance but a DSP has a trend in the variance with or without trend in the mean2 .

2.1 Deterministic Trend

The popular model for measuring trend behaviour is

$$Yt = a + bt + ut \qquad (1)$$

Here, ut is a stationary series with mean zero and variance su2.

The component bt in equation (1) is referred to as a deterministic trend and the OLS estimate of the coefficient b measures trend growth rate3 .

Table 1 presents the OLS estimations of exponential trend of NSDP and its sectoral components at constant (1993-94) prices. The estimates of such deterministic trend

give long run growth behaviour of income originating from different sectors. The trend growth of NSDP and per capita NSDP of West Bengal over the last four decades has been 3.8 per cent and 1.7 per cent respectively. A comparison of growth rates between NSDP and its per capita value clearly shows a painful population pressure on the state. This is partly attributed to the exodus from the neighbouring states like Bihar and Orissa, and illegal infiltration, particularly from Bangladesh and Nepal. Output growth in West Bengal is sustained mainly by the primary sector absorbing majority of the state population. The growth performance of agriculture of the state is quite satisfactory in spite of low intensity of irrigation (only about 28 per cent of the agricultural land, 77 per cent of the total land area, is under the network of irrigation4). As is well cited, land reforms adopted by the Left Front government in West Bengal have had a positive impact on productivity of the actual tillers in the state. Quite clearly industrial output growth has not been well over the last four decades and industrial policies carried out by the central government have taken its toll. Within the manufacturing sector unorganised industries performed better than the registered segment. The main contributors of, less than 2 per cent, industrial growth, are constructions and electricity. The disappointing industrial output growth in West Bengal has had a profound impact on the structural change of the state's economy. The services sector in West Bengal grew by 4.8 per cent and the banking and insurance was the highest growing segment within this sector during 1960-61 to 2000-01.

Table 1 : OLS Estimates of Exponential Trends (1960-61 to 2000-01)

Sectors	Trend Coefficients	Std. Error	t-Statistics	D-W Statistics
Primary sector of which	0.034921	0.00127	27.50364	0.523308
Agriculture	0.037909	0.00139	27.2731	0.590736
Forestry and Logging	-0.0119	0.001668	-7.1384	0.468538
Fishing	0.036399	0.001587	22.93352	0.800713
Secondary sector of which	0.01943	0.001328	14.62638	0.191754
Manufacturing	0.022393	0.001532	14.61803	0.194911
i. Registered	0.017169	0.001662	10.33094	0.245884
ii. Unregistered	0.032832	0.001078	30.46308	0.296911
Mining and Quarrying	-0.02991	0.002882	-10.3784	0.358720
Construction	0.046626	0.001582	29.46483	0.476782
Electricity, Gas and Water Supply	0.051686	0.001795	28.79721	0.225749
Tertiary sector of which	0.047894	0.001542	31.05005	0.073515

(Contd)

(Contd.)

Transport, Storage and Communication	0.069497	0.002932	23.69998	0.213236
Railways	0.026978	0.00153	17.6372	0.670246
Transport by other means	0.046692	0.001678	27.82525	0.476102
Communication	0.034574	0.002638	13.10452	0.192515
Trade, Hotels and Restaurants	0.036657	0.001958	18.71789	0.170508
Banking and Insurance	0.07098	0.002663	26.65052	0.177213
Real Estate, Ownership of Dwellings and Business Services	0.040283	0.001168	34.47604	0.177424
Public Administration	0.056961	0.001601	35.58415	0.476630
Other Services	0.040456	0.000586	69.0335	0.202167
NSDP	0.037851	0.001344	28.16419	0.131415
Per capita NSDP	0.016842	0.001463	11.50821	0.117705

Regression coefficients for all sectors are statistically significant, but the application of such type of conventional regression model does not pay sufficient attention to the warning of high autocorrelation in the residuals involved in it. The presence of autocorrelation, confirmed by the D-W statistic as shown in the last column of Table 1, makes the OLS estimates inefficient and will lead to the conclusion that the parameter estimates are more precise than they actually are and it fails to detect the mean rate of growth. In fact, many macroeconomic data are integrated and the standard significance tests are usually misleading (Granger and Newbold, 1974).

2.2 STOCHASTIC TREND AND UNIT-ROOT BEHAVIOUR

The inefficiency of the OLS estimates of the trend component in the deterministic trend model is robust to the use of stochastic trend behaviour. The most wisely used model to take over stochastic trend is AR(p):

1 For details about TSP and DSP, see Nelson and Plosser (1982).

2 A random walk without drift has no trend in the mean values of the variable.

3 For linear trend, the coefficient, b, simply denotes a constant absolute increment in y per unit of time, while for semi-log trend, the coefficient measures exponential growth. The compound growth rate can be estimated by taking antilog of the regression coefficient of the log-linear trend model and subtracting 1 from it.

4 Agriculture Statistics at a Glance, Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, 2002-03.

$$Yt = á + â1\ Yt\text{-}I + â2\ Yt\text{-}2 + â3\ Yt\text{-}3 + \ldots\ldots\ldots âp\ Yt\text{-}p + et \qquad (2)$$

Yt gives values in log form in time t and et is a stationary series with mean zero and variance s2.

This model can generate the trend behaviour typical of macro economic time series and the randomly fluctuating behaviour of their growth rates. If, for example, Yt is generated by the model Yt = á +Yt-I + et, which is AR(1) with â1=1, accumulating Yt starting with an initial value Y0 we get, Yt = Y0 + át +?ej, j=1, 2.....t., which has the same form as (1) except for the fact that the disturbance is not stationary.

One important property of time series data, not usually present in cross-sectional data, is the existence of correlation across observations. Per capita income today, for example, is highly correlated with per capita income last year. Thus yt tends to exhibit trend behaviour and to be highly correlated over time. The non-stationary time series containing a unit root will give a stochastic trend. If â1 = 1 for the AR(1) model, then y has a unit root and exhibit trend behaviour, especially when á ? 0. Unit root series contain a so called stochastic trend.

We perform the Augmented Dickey-Fuller (ADF) test for unit root hypothesis without considering structural break for determining whether a series is a DSP or a TSP. The more appropriate model for testing a unit root is the AR(p) with deterministic trend:

$$Äyt = á + ñ\ yt\text{-}1 + ç1\ Äyt\text{-}1 + ç2\ Äyt\text{-}2 + \ldots\ldots\ldots + çp\text{-}1\ Äyt\text{-}p+1 + ät + et \qquad (3)$$

The series belongs to the class DSP exhibiting stochastic trend if ñ =0, ä=0, and the TSP class if ñ < 0. If ñ = 0, then yt contains a unit root. In this case we cannot perform hypothesis testing by utilising the usual distributions appropriate for least square. Thus we have to follow ADF test. If the t-statistics on ñ are less negative than the Dickey-Fuller critical value, we conclude that the series yt has a unit root.

Table 2 : Augmented Dickey-Fuller Tests for Unit Roots

Sectors	Series	
	log(y)	Ćlog(y)
Primary sector of which	-2.391	-6.184
Agriculture	-2.702	-6.405
Forestry and Logging	-2.541	-4.694
Fishing	-2.533	-5.964
Secondary sector of which	-0.962	-4.863
Manufacturing	-0.994	-4.637
i. Registered	-1.382	-4.677
ii. Unregistered	-0.378	-5.356
Mining and Quarrying	-2.569	-4.729
Construction	-1.911	-5.034

(Contd.)

Electricity, Gas and Water Supply	-1.987	-4.875
Tertiary sector of which	1.371	-4.043
Transport, Storage and Communication	-1.888	-4.416
Trade, Hotels and Restaurants	-1.888	-5.959
Banking and Insurance	0.005	-4.852
Real Estate	0.805	-3.188
Public Administration	-2.018	-5.321
Other Services	-2.183	-3.062
NSDP	0.172	-5.674
Per capita NSDP	0.463	-5.676

Source: As for Table 1

Note: MacKinnon critical values for rejection of hypothesis of a unit root:

1% Critical Value	-4.2092
5% Critical Value	-3.5279
10% Critical Value	-3.1949

To test whether the series has a unit root, we have to choose lag length (p). Many sophisticated statistical criteria and testing methods are available to determine the appropriate lag length in an AR(p) model. But we carry out a simple route by choosing a maximum lag length and then sequentially drop lag lengths if the relevant coefficients are insignificant. We choose maximum lag length by following Schwert (1989) rule:

Pmax = integer part of [12(T/100).25].

For the selection of appropriate lag length we also utilise the Akaike information criterion (AIC) and the Bayesian information criterion (BIC). By following such criteria, we find that the maximum lag length be 1. Thus our model be

$$\ddot{A}yt = \acute{a} + \tilde{n}\, yt\text{-}1 + \c{c}1\, \ddot{A}yt\text{-}1 + \ddot{a}t + et \qquad (4)$$

Test statistics are summarised in Table 2. All the ADF t values for the logarithmic series are statistically insignificant even at 10% level, while the first differences of almost all the sub-sectors are statistically significant. Thus, the test statistics of unit root hypothesis without allowing for structural breaks confirm the evidence of stochastic trend and of difference stationarity in the logarithmic values of output of all the sub sectors in West Bengal.

3. STRUCTURAL BREAK

The Dickey – Fuller test sometimes gives a wrong signal, particularly when the t-statistic is close to its critical value. Again a time series can also appear to exhibit unit root behaviour owing to the presence of structural change. Thus, we have to test whether structural break appears in NSDP series. The most commonly used test for structural change is attributed to

Chow (1960). The conventional Chow test involves splitting the sample into two or more sub-periods, estimating the parameters for each of the sub-period and, finally, testing for the equality of these sets of parameters using the F statistic. The basic weakness of this test is its critical assumption that the break point is known a priori. But in many cases this assumption does not match properly and if one picks up a break point in an arbitrary manner to perform the test, the result will be uninformative and even misleading. One possible way to solve this problem is to treat the break point as unknown and carry out the procedure for all the possible years and then select the year corresponding to the largest Chow statistic (Quandt 1960). Andrews and Ploberger (1994) provided the critical values as the chi-square critical values are inappropriate for estimating Chow statistic when break point is unknown. Bai and Perron (1998) have developed tests for multiple structural changes.

The period of study covers three different policy regimes: license permit raj ended at 1984, neo-liberal reforms to start in 1991 and the transitional phase 1985 to 1990. So, 1985 and 1991 be the time of switching policy regime and, by conventional choice, they may be the possible break points. But in this study we allow break points to be unknown. Thus the conventional Chow test is not a right step.

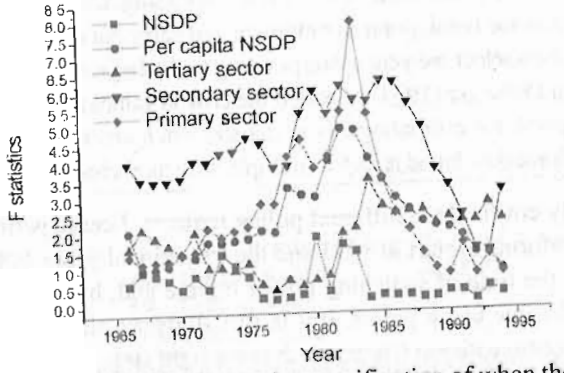
CUSUM1 and CUSUM of squares tests on the residuals may be used for testing structural break in mean and volatility of growth rates respectively with unknown break point. The power of the test, however, is rather limited compared to the Chow test. By following Andrews and Ploberger (1994) we compute a range of candidate values of F statistics corresponding to different points ranging from .15*T to .85*T, T is the total number of years in the sample, and then retain the maximum value, called the supremum value, obtained. We treat the point of time relating to the maximum value as a break point.

There has been much discussion about the trend break in India's growth rate of GDP (DeLong 2001, Wallack 2003, Rodrick and Subramanian 2004). Wallack (2003) had made an attempt to determine the break point by applying some econometric tools. In her estimation the most significant date for the break of GDP growth was 1980, whereas for GNP growth the break point was 1987.

We examine the possibility of structural break of NSDP and its major components by taking deterministic and stochastic trend models given in (3) and (4) separately. We have followed the methodology prescribed by Andrews (1993). Our data span 41 years and thus we choose a window from 1966 to 1994 corresponding to Ð = .15 to Ð = .85. We perform Chow test and estimate F statistic taking every year within the window. Figures 1 and 2 display the sequence of F statistic for NSDP and some of its major sub-sectors for the stochastic and deterministic trend respectively. The results of the tests for structural change in trend growth rates are reported in Table 3. Both types of trend have statistically significant structural change in every series, excepting for stochastic trend of NSDP.

Structural break in trend growth had occurred in early 1980s for all sectors with a minor exception that banking, real estate showed break in the early 1990s. Thus the economic reforms of the 1990s have played a little role in making structural break in output growth.

Figure 1 : Sequence of Test Statistics for Structural Break in Stochastic Trend



1 The CUSUM test does not require a prior specification of when the structural change takes place (Brown, Durbin and Evans, 1975).

1 The CUSUM test does not require a prior specification of when the structural change takes place (Brown, Durbin and Evans, 1975).

Figure 2 : Sequence of Test Statistics for Structural Break in Deterministic Trend

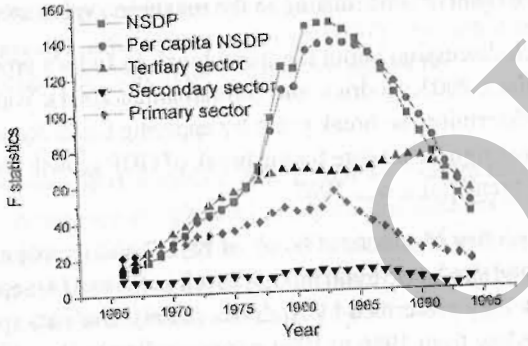


Table 3 : Structural Break Tests

Sectors	Deterministic trend		Stochastic trend	
	Year of break	Sup F-statistic	Year of break	Sup F-statistic
Primary sector of which	1983	52.67142	1983	7.925293
Agriculture	1983	44.15571	1983	7.43231

(Contd.)

(Contd.)

Forestry and Logging	1979	44.75385	1979	8.938046
Fishing	1982	26.277	1982	7.368135
Secondary sector of which	1989	52.62806	1985	6.255469
Manufacturing	1986	44.81493	1982	4.840576
i. Registered	1986	28.74197	1985	4.883575
ii. Unregistered	1990	63.67555	1991	2.918121
Construction	1980	25.44942	1979	7.612613
Electricity, Gas and Water Supply	1985	34.33996	1985	7.022093
Tertiary sector of which	1989	73.94889	1984	3.481326
Transport, Storage and Communication	1981	144.7376	1981	17.8611
Trade, Hotels and Restaurants	1981	133.6932	1983	4.174694
Banking and Insurance	1994	110.0308	1994	5.228039
Real Estate, Ownership of Dwellings and Business Services	1994	61.59044	1990	4.311023
Public Administration	1981	29.82483	1980	2.928834
Other Services	1973	26.13136	1981	5.169496
NSDP	1983	148.5696	1980	1.881153*
Per capita NSDP	1983	137.6781	1982	4.904328

4. MARKOV-SWITCHING MODEL

Structural breaks in the macroeconomic time series resulting from the significant changes in government policies or any other events like wars and droughts may sometimes not be perfectly foreseeable and deterministic. Rather, the change in regime may itself be a random variable. This suggests that we might consider the growth process to be influenced by an unobserved random variable st, denoting the regime that the growth process was in time t. To capture such a situation we follow Markov switching model developed by Hamilton (1994)1 . This model allows the mean rates growth of NSDP and its sectoral components to switch between two regimes: high growth regime and low growth regime. Here we attempt to characterise each regime's first and second moments as well as the conditional and unconditional probabilities of being in a given state. We also determine the unconditional probability that a given regime has generated each observed growth rate and the regime that is more likely to have generated each observed rate of growth.

There are several reasons for employing a regime switching approach to analyse structural break. First, an ex-ante selection of the timing of structural change need not be required, i.e. the date of the structural change is not defined under the null-hypothesis. Second, an assessment of the impact of different policy variable on economic growth

based on simple linear regression does not provide economically meaningful and statistically significant results. This is simply because the relation between the policy parameters and growth is normally non-linear. Thus, the use of linear regressions may lead to serious model mis-specification. Third, in analysing growth across regions by using conventional regression model, it is assumed that the statistical model remains invariant across investigated units (states in our case). But it is difficult to justify that a 1 per cent increase in public investment, for example, has the same effect on growth in two different states.

Let gt denote the rate of growth of a variable in time t. Let st be an unobservable discrete random variable that represents the state or regime of the observable random variable gt. In the Markov model the growth rate is represented by

1 For detail, see Hamilton (1994), Chapter 22, Time Series Analysis, Princeton University Press.

$$f(g_t / s_t = j) = (2\pi\sigma_j^2)^{-\frac{1}{2}} \exp\left\{\frac{-(g_t - \mu_j)^2}{2\sigma_j^2}\right\}$$

For two regimes, ìst indicates ì1 when st = 1 denoting regime 1 (high growth) and ì2 when st = 2 denoting regime 2 (low growth).

$$P(g_t, s_t = j;\theta) = \pi_j (2\pi\sigma_j^2)^{-\frac{1}{2}} \exp\left\{\frac{-(g_t - \mu_j)^2}{2\sigma_j^2}\right\}$$

where pij represent transition probabilities of the two state Markov chain.

Note that

$$f(g_t,\theta) = \sum_{j=1,2} P(g_t, s_t = j;\theta)$$

Let the unconditional probability that gt is in state j be:

$$L(\theta) = \sum_t \log f(g_t,\theta)$$

Each state has a specific probability density function, which generates the observed rate of growth at time t. Assuming normal distribution the density function of gt conditional on the process being governed by state st = j will be:

$$\hat{\mu}_j = \frac{\sum_t g_t P(s_t = j / g_t;\hat{\theta})}{\sum_t P(s_t = j / g_t;\hat{\theta})}$$

mj and sj2 are regime specific parameters.

The vector [m1 , m2 , s12 , s22 , ð1, ð2] (= q) includes all relevant parameters for this two-state Markov-switching model.

The joint density function of gt and st can be expressed as:

$$\hat{\sigma}_j^2 = \frac{\sum_t (g_t - \hat{\mu}_j)^2 P(s_t = j / g_t;\hat{\theta})}{\sum_t P(s_t = j / g_t;\hat{\theta})}$$

The unconditional distribution of gt will be obtained by summing (9) over the two regimes. The joint density function describing appropriately the observable variable gt :

$$\hat{\phi}_j = \frac{\sum_t P(s_t = j / g_t;\hat{\theta})}{T}$$

Under the assumption that st is independently distributed over time the log likelihood function becomes:

The maximum likelihood estimate of q is obtained by maximising (11) subject to the constraints that ð1 + ð2= 1 and ðj = 0 for j = 1,2:

The estimate of the mean for regime j, $\hat{\mu}_j$ in (12) would simply be the weighted average value of gt for those observation known to have come from regime j, where the weight is proportional to the probability that date t's observation was generated by regime j. The more likely an observation is to have come from regime j, the bigger the weight. Similarly, $\hat{\sigma}_j^2$ is a weighted average of the squared deviations of gt from $\hat{\mu}_j$ while $\hat{\phi}_j$ is essentially the fraction of observations that appear to have come from regime j.

Once we have obtained estimates of q, it is possible to make an inference about which regime was more likely to have been responsible for producing the date t observation of gt. We will then compute the conditional probability that a given observed growth rate, gt , has been generated by regime j :

$$P(s_t = j / g_t;\theta) = \frac{P(g_t, s_t = j;\theta)}{f(g_t,\theta)}$$

Equation (15) gives the probability that the unobserved regime responsible for gt was in regime j.

The maximum likelihood estimates of two-state Markov switching model for the growth rates of output from different sectors in West Bengal are reported in Table 4. Columns m1 and m2 indicate the mean growth rates in the high and low growth regimes respectively. The parameter v indicates the variance state; with v1 is the high variance and v2, the low variance. The last two columns give the transitional probabilities of switching from state i to state j for the parameters. The low growth regime has annual mean growth rate of 1.5 per cent for NSDP and 0.4 per cent for per capita NSDP. For the primary sector we have obtained a mean output growth rate of 1.3 per cent which is the same as for agriculture, while for the secondary and tertiary sectors the mean growth rates of the low growth regime are about 0.5 per cent and 0.1 per cent respectively.

Forestry and logging in the primary sector and mining and quarrying in the secondary sector display negative growth in the low growth regime. The high growth regime is characterised by a mean growth rate of 4.4 per cent and 2.6 per cent for NSDP and per capita NSDP respectively. In this regime primary sector as well as the secondary sector grow at the rate around 3.5 per cent, while the mean growth rate of the tertiary sector is about 6 per cent with about 9 per cent growth of banking and insurance. The primary sector shows the least deviation between the mean growth of the high growth regime and that of the low growth regime, while the services sector registers the highest deviation between them. The low growth regime appears to be quite volatile compared to the high growth regime, excepting for the secondary and the tertiary sectors. The transitional probabilities of remaining in the high growth regime followed by the high growth regime are significantly high compared to the transitional probabilities of appearing low growth regime followed by the low growth regime. Thus the high growth regime appears to be more persistent for all sectors of the NSDP in West Bengal.

5. CONCLUSIONS

This paper throws some highlights on long term growth of NSDP and its sectoral components over 1960 to 2000, covering two major policy regimes in West Bengal. Economic reforms in India in the form of deregulation of almost all the sectors were introduced in 1991. But, as identified in this study, structural break in major sectors, especially commodity sectors, have occurred in the early 1980s. Thus the economic reforms of the 1990s have had no impact in the process of structural change in growth. This paper has also focused on characterising the out put growth of NSDP series as a two state Markov-switching process. We find that the low growth regimes exhibit high volatility but are not very persistent, while the high growth regimes are substantially less volatile and very persistent.

APPENDIX: THE DATA

The principal source of data on State Domestic Product (SDP) is the State Economic

	m1	m2	v1	v2	p11	p22
Primary sector of which	3.52958	1.29724	43.27385	43.29147	0.87229	0.65508
Agriculture	3.77978	1.32032	58.49279	59.8732	0.86947	0.66127
Forestry and Logging	-0.13707	-0.44897	68.69674	70.1729	0.71031	0.84367
Fishing	4.16261	1.01461	77.69862	170.8231	0.86833	0.66618
Secondary sector of which	3.47058	0.48592	17.84408	14.87415	0.87984	0.67145
Manufacturing	3.70929	0.66895	23.83928	18.83469	0.87816	0.6664
i. Registered	3.35969	0.46133	35.1432	29.68833	0.86489	0.68025
ii. Unregistered	3.93878	1.67751	19.58093	17.54849	0.89958	0.59962
Mining and Quarrying	-0.4727	-2.55574	127.7903	188.4208	0.69951	0.85032

(Contd.)

(Contd.)

Construction	5.77579	2.41134	70.76833	50.61124	0.88403	0.63113
Electricity, Gas and Water Supply	6.81123	0.90683	38.379	25.88461	0.90335	0.66459
Tertiary sector of which	6.01969	0.08645	6.3197	4.09478	0.99824	0.73382
Transport, Storage and Communication	6.21132	1.93343	38.56495	20.71855	0.90516	0.62876
Trade, Hotels and Restaurants	4.8891	1.39664	36.88886	33.62868	0.88651	0.63837
Banking and Insurance	9.21141	1.8732	68.33815	47.81396	0.90887	0.63626
Real Estate, Ownership of	5.02639	1.43743	13.56453	6.18654	0.94342	0.63211
Public Administration	6.86328	2.09761	63.49787	64.3819	0.89222	0.6242
Other Services	3.97853	1.73496	3.92488	3.13351	0.98786	0.45717
NSDP	4.42657	1.49707	12.27337	15.36118	0.92655	0.55273
Per capita NSDP	2.5771	0.40601	12.74356	14.8866	0.87592	0.66103

Review for different years published by the state governments. But we face serious problems in analysing the growth pattern at the state level using the data from the State Statistical Departments mainly owing to some inconsistencies between such data sources for different states. The Central Statistical Organisation (CSO) makes an attempt to restructure the data in a standardised framework, which are comparable among different states. In this study we use SDP data provided by CSO and published by EPW Research Foundation in 2003. Although we have used SDP data compiled by CSO, the compilation is based on the primary data of production and prices collected by the concerned state statistical department. In some states, the quality of primary data is supposed very weak, partly because of poor statistical network and partly because of biases in data collection and dissemination. Such limitations have to be borne in mind while measuring growth at the state level with SDP data.

There are four series of data on SDP for the base periods 1960-61, 1970-71, 1980-81 and latest 1993-94. Furthermore, the new series (1993-94) of SDP data are based on the System of National Account (SNA) suggested by the United Nations in 1993. In this series not only the base year in terms of price is changed to 1993-94, but the product composition is revised as well in a number of sectors like real estate and finance. These series based on different base years are not comparable and therefore we face difficulties in measuring growth of output over a period of time covering more than one base year. A simple chain linking of the series may not give the correct picture of the economy measured for the past years. We make a consistent chain linked time series of SDP by extending the 1993-94 series backwards, i.e., by converting the old series to the series based on the new base year (1993-94) following the splicing method recommended by the CSO (CSO 2001). In the process of base shifting we change the refer-

ence period for the individual price and volume indices used from being equal to the old base year to being equal to the new base year. But the change of base year has an impact on the growth rates of SDP and, when constant price estimates are rebased, the growth rates observed for major aggregates will change from those, which were based on, earlier base year and previously published and that can be problematic. We have to put up with this problem in measuring growth by using the combined series.

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Gender, Patriarchy and Electoral Politics in Nagaland

Toshimenla Jamir

Gender as a social construct gives rise to stereotype formulations which severely restricts the social roles of women. The socio-cultural system that systematically excludes women from the mainstream, keeping them less capable and denying them equal opportunities, is shaped and strengthened by the values embodied in patriarchy. Like most tribal societies, the Nagas have a patriarchal social structure that is characterised by notions of male superiority. The political status of Naga women is inextricably linked to and determined by the prevalent patriarchal socio-cultural values and ethos of society. The traditional governing system of the Nagas is either chieftainship, under the Village Council or an informal council of elders. Only male members are included in these decision making bodies. Such an arrangement severely restricts the mobility of Naga women in the political and social spheres rendering them politically incapable. The political consequence of this aspect of the Naga tradition is the almost total eclipse of women from administrative and decision-making bodies and institutions which continue till date. The cultural marginalisation of Naga women from public life have exacted a heavy toll on the all-round development of Naga society by not realising and utilising the potentialities of the feminine gender in the administration of society for centuries. It has, therefore become imperative to critically re-evaluate the traditional political system, where the Naga women have for long been merely passive takers of policy without any voice.

In most societies, there are significant gender inequalities in responsibilities assigned, activities undertaken, access to and control over resources, as well as decision-making opportunities. To unveil the reasons for this ubiquitous fact requires a deconstruction of the concept of gender and patriarchy. The concept of gender, in particular, has attracted a significant amount of scholarly attention. In fact, gender occupies centre stage in feminist theories which argues that no phenomenon can be properly understood without a consideration of gender. While the terms 'sex' and 'gender' are often used interchangeably, there is a clear distinction between these two terms. On one hand, the term 'sex' is equated with the biological characteristics of males and females, while 'gender' refers to the socially produced attributes of masculinity and femininity

and the social arrangements based upon them. Gender theories point out how cultural restrictions contribute to the establishment of what is acceptable work for women through an extreme form of stereotyping (Carretson, 1975; Bryson, 1992; Cockburn, 1991 etc.). Hence, gender as a social construct gives rise to stereotype formulations which severely restricts the social roles of women. Throughout human civilisation, women's status is primarily viewed through the prism of their reproductive and nurturant role, which was further legitimated over the ages through customs and legislations. This process has effectively restricted their mobility in the social and political space.

The socio-cultural system that systematically excludes women from the mainstream, keeping them less capable and denying them equal opportunities is shaped and strengthened by the values embodied in patriarchy. Patriarchy is understood as "a system of social structures and practices in which men dominate, oppress and exploit women" (Perron, 1995). Like most tribal societies, the Nagas have a patriarchal social structure that is characterised by notions of male superiority, the birth of a male child being auspicious, men as the bread-winner and protector of the society and women being subordinate to their husbands (Zehol, 1998). Traditionally the identity of a Naga woman is defined primarily through either her father or husband's identity. An aspect of the Naga customary law which seems grossly outdated in the present day global context is the exclusion of women from participation in any formal decision making political institutions. The traditional governing system of the Nagas is either chieftainship, under the Village Council or an informal council of elders. Only male members are included in these decision making bodies. This, viewed against the backdrop of the United Nations Universal Declaration of Human Rights (UDHR, Article 1&2) that ensures the equal right of men and women to enjoy all economic, social, cultural, civil and political rights amounts to a violation of the basic political rights of Naga women to participate in the political institutions of their society as equal citizens.

The rigid dichotomy of the public and domestic/private spheres in the Naga social system is legitimated by their customary laws. While the public and political affair remains a male domain, the women are responsible for looking after the domestic affairs. This division of labour entails that the onus of managing the household falls entirely on the women where they have wide latitude in decision making. This is often interpreted as 'freedom' by many outsiders, considered comparatively better to the women in other parts of the country. The other side of the coin, however, is that such a social arrangement severely restricts the mobility of Naga women in the political and social spheres rendering them politically incapable and even ignorant.

The only provision made for Naga women to be a part of any formal semi-traditional institution is through the recent Nagaland Village Development Board (VDB) Act which mandate 25 per cent reservation for women in the VDBs. This directive was the first to

ensure women's participation in village development and local bodies. This positive empowerment policy has opened a leeway for women to have some voice in the rural formal institutions for the first time in Nagaland. Yet, it is seen that in still many villages the presence of women members serve as mere tokenism to fulfill the official criteria in a male dominated institution. To serve as an effective instrument of change, the representation of women in the VDBs needs to be enhanced to a minimum of one-third of the body.

In a scenario where women are literally tied to their homes and their 'household chores' it is impractical for them to step into the public domain and push through the ranks of a male-centric field. However, women's political participation is increasingly being identified as a central issue in their struggle against subordination in society. About three decades ago, emphasis was on economics as a path for women to attain greater equity. Today the emphasis is on politics – local, national and global. It is widely acknowledged that the true essence of democracy cannot be realised without equal participation of women and men in all spheres of life and at different levels of decision-making. Further, in order to advance towards the Millennium Development Goals (MDGs) set by the UN in 2000, women's full and active participation becomes a prerequisite not only in development process but also in the shaping of its goals. It is in this perspective that the concept of political participation and the subsequent empowerment of women assume great significance. Political empowerment through participation is envisaged as an aid to help women achieve equality with men, or, at least reduce the gender gap considerably. Subsequent to the fourth World Conference on Women held at Beijing in 1995, the Beijing 'Platform for Action' recognised the gender gaps in economic power, property rights and poverty. The Platform also recognises the link between the economic and the political, i.e., eradication of poverty cannot be accomplished through anti-poverty programmes alone, but will require democratic participation and changes in economic resources, opportunities and public services (Agarwal, 1996).

The political status of Naga women is inextricably linked to and determined by the prevalent patriarchal socio-cultural values and ethos of society. Political status of women can be defined as the degree of equality and freedom enjoyed by women in the shaping and sharing of power and in the value given by society to this role of women (Pujari, 1994). A look at the women's representation in the Nagaland State Legislative Assembly presents a very negative picture. Since the first election to the State Legislative Assembly conducted in 1964 up to the tenth General Assembly Election held in 2003, not even one woman has succeeded in making an entry into the state legislature which continues to be a male bastion.

The pattern of candidature of the women candidates in Nagaland provides a strong

indicator that political parties of the state are not in favour of fielding women as their candidates (Table 1). For instance, the pattern of their candidature from 1987 to 2003 reveals that out of the seven women candidates, four of them contested as Independent candidates. The fact that majority of the women candidates contested as Independent candidates, and not fielded by any political party highlights the reluctance of the political parties in the state to sponsor women candidates in the elections. This is true that without the backing of a major political party, the chances of a candidate winning the election is dim in an environment where 'money power' plays an integral role.

Table 1 : Men/Women candidates in the State Assembly Elections 1964-2003

Year of election	Total seats contested	No. of male candidates	No. of women candidates	No. of women elected
1964	40	73	Nil	Nil
1969	40	144	2	Nil
1974	60	207	Nil	Nil
1977	60	303	Nil	Nil
1982	60	245	Nil	Nil
1987	60	214	3	Nil
1989	60	140	Nil	Nil
1993	60	178	1	Nil
2003	60	225	3	Nil
Total		1729	9	Nil

Source: *Reports on the General Assembly Elections of Nagaland, 1964-2003, Government of Nagaland.*

Nagaland being a patrilineal society, title and ancestral property are inherited solely by the male members. Cultivable land is the most valued form of property among the Nagas for its economic, political and symbolic significance. Besides being a livelihood-sustaining and productive asset, it also provides a sense of identity and rootedness because it has durability and permanence, which no other asset possesses. Further, in Nagaland, ancestral land possesses more value for its symbolic meaning, which is not possessed by purchasing land. Property has been, in all legal systems, the historical source of civil and political rights. Although in most countries property qualifications for the vote has been eliminated, the inequality in ownership has widespread ramifications across public and private spheres for the exercise of those rights (Ashworth, 1985). One might ask why land is such an important entity in the political empowerment of women. A neglected dimension in many studies is the effective control of ownership and the use of property. Inequality in command over property is considered as the single most important form of persistent economic inequality between men and women. The Naga inheritance system effectively lowers the economic, social and political status of the women by denying them the right to inheritance of parental property. Property not only gives status but is a direct and indirect means of production - income and

subsistence can be derived from it, and also the right to credit, mortgages and other loans, which become inaccessible to Naga women because of their lack of collateral in the form of property or other immovable assets.

Hence, for any women political aspirant, financial constraints exacerbated by a social structure that is yet to accept the feminine gender in the political leadership role narrows the chances of success as independent candidates. Moreover, most Naga families till date are not disposed to finance a woman candidate, though the same family would do so for a male member. The denial of the right to inheritance of the Naga women and the subsequent lack of control over valuable assets and property not only devalues their worth and standing in society, but also deprives them of the economic security that is essential to finance elections.

Interestingly, there is no gender gap in Nagaland as far as voting turnout is concerned. However, they have not able to assume responsibilities at the state legislature. The failure to field women candidates in a desirable number and return to the legislative assembly should not be considered as a sign of their incapability but rather, a significant indicator to the structural constraints faced by Naga women under the existing social order. The customary social structure makes it hard for the Naga society to accept the idea of having women in the highest decision making body of the state as a corollary of the traditional Naga polity where women were, and still are, virtually eclipsed from the traditional administrative and political arenas.

In such a context the role of the political parties in the state needs to be addressed in the wake of the failure of women candidates to return to the assembly. Political parties are among the most important institutions affecting women's political participation. The most common route to elected office is through political parties. Most candidates depend on parties for their nomination, their base of electoral support, and help during the election campaign, financial resources, and continued assistance after their elections. Political parties often control decisions about who will be nominated to run for office, what positions candidates will be given on the party lists, and who will receive support during campaign and after the election. The role of political parties is therefore critical in determining the prospects for women aspiring to public office. Political parties may also determine the extent to which issues of special concern to women become part of the national political debate and are given serious consideration in the work of the legislature. Though women political leaders in Nagaland claim that most of the 'ground work' during the electioneering are made by them, their labour and contributions are often not duly acknowledged by their male colleagues who are always in the forefront. Women, being in a numerically disadvantaged position within political party structures are compelled to take the backseat with regard to policy making and decisions. This is not to say that Naga women have remained in the periphery of

party politics, yet they are mostly concentrated at the bottom of the party hierarchy who can play foot soldiers to the party bosses, but are not in a position to influence any decision. Mention may be made here that a study on Women in Public life, carried out by the United Nations Division for the Advancement of Women (DAW) argues that only a critical mass of women allows female politicians to bring different values to public life (Thakur, 2004). Against this scenario, major decisions regarding the fielding or support of women candidates in the state rest upon the male politicians. Most political parties deny women candidate their tickets on account of their 'non-win ability' factor, which serves to perpetuate male dominance in the political processes of the state.

An area of concern for the political empowerment of Naga women is their low sense of political efficacy. Political efficacy is the subjective political competence of women that leads to effective participation. It implies an understanding of the political system which generates self-confidence in the actor. Optimism or pessimism about one's chances to influence the process of decision- making increases or decreases the political efficacy of a woman (Tripathy, 2000). A belief in one's political competence is considered essential to induce the women to participate in the political affairs of the society. Lack of political efficacy, on the other hand, leads to a feeling of indifference and disillusionment, which alienates the women from the political processes. Thus, political efficacy is a vital component, which leads to political participation. Study on political consciousness and participation of Naga women reveals that a tiny section of women see that their active participation contributes positively to the political process of the state. The extremely low political efficacy of the sample respondents is to be viewed seriously in the light of the low political status of the women in the state (Jamir, 2005). This state of affairs can be associated to their ascribed role in the traditional political setup and the resultant marginalisation from governance of the society, the logical fallout of which is low self-confidence in the women regarding their ability to influence the political process. Political socialisation and civic education therefore becomes crucial to combat the problem of perceived low political competence on the part of the Naga women.

The negative female political efficacy in Naga society can also be a response to the increasing criminalisation of politics in the state. As James D. Wright argues, there are two factors that lead to political alienation and inefficacy: feelings of powerlessness and feelings of distrust (International Encyclopaedia of Sociology, 1995). With 'muscle power' and 'money power' ruling the roost in the Naga electoral practices, women generally feel hapless confronted by such a typically 'masculine' representation of the political activities. It also results in general distrust of politicians and the political system. This image of politics in the state further alienates the women from the political processes, compounding their perception of political inefficacy and helplessness. Un-

less the political milieu in the state undergo a radical streamlining with the object to make it conducive to all the electorate to participate in a free and fair manner, the prospect of the Naga women efficaciously participating in the political processes of the state remains doubtful.

An analysis of the voting behavior of Naga electorate at large reveals that their voting pattern is pervasively influenced and linked to the traditional patriarchal social structure. The important determinants of voting of the Naga electorate include considerations of kinship/clan ties, economic considerations, political affinity of family members, and rarely rest on political ideology or party principles. Often, women's choice of candidate depends on the decision of the male members in the family, particularly the patriarch. Further, the electoral behaviour of the Naga voters indicate that, with a mind-set that is so used to seeing men in the driving seat in policy-making they are yet to get over the mental block of voting only for men.

A crucial factor that works against the women candidates in the Naga electoral process is the double standards of 'morality' employed to assess the character of the women candidates. While the characters of the male politicians are rarely subjected to scrutiny, the same yardstick is not applied for female politicians. For instance, when the name of any woman as a probable candidate in the election crop up, her 'morals' and 'character' are immediately subjected to scrutiny by the concerned political leaders as well as by the electorates. This culture of double standards employed against the women candidates can be regarded as a clear manifestation of the patriarchal ethos that seeks to keep women subordinate and out of the power arena by the male-centred Naga society.

Further, stemming from the nature of the Naga traditional polity, there is a lack of conscious effort at political socialisation of the women. Consequently, women folk in the state remain rather ignorant about most political affairs, considering it men's business. As such, they never receive the due political socialisation which to a large extent subdues their interest to actively participate in the political and public affairs. Hence, one can attribute the patriarchal socio-political system of female exclusion as the underlying primary factor compounding all the above mentioned constraints to women's political participation in Naga society. With statehood, even though a democratic political system has been introduced in the state, it is merely superimposed upon the pre-existing traditional social system where the women are not accorded any place in the governance of society. The political consequence of this aspect of the Naga tradition is the almost total eclipse of women from administrative and decision-making bodies and institutions which continue till date.

It has, therefore, become imperative to critically re-evaluate the traditional political system where the Naga women have been associated as merely passive takers of policy

without being either vocal or impressive in number. The cultural marginalisation of Naga women from public life have exacted a heavy toll on the all-round development of Naga society by not realising and utilising the potentialities of the feminine gender in the administration of society for centuries. While the traditional social structure may have been a logical and pragmatic arrangement in the foregone days of constant village raids and headhunting, today, there is no logical reason or explanation for continuing the practice. The present situation in Naga society, in fact, exemplifies a case of the persistence of traditions and customs while the social and cultural context out of which they emerged are long gone. Besides the material aspect of the non-utilisation of female human resource, the resultant damage to the confidence and morale of the female population of Naga society by making them voiceless is the most crucial detrimental factor for impeding the all-round development of the Naga women in the state. Even though international and national laws confer equal rights on men and women to participate on equal terms in all aspects of life, unless local situation of female exclusion from public life is rectified, it will be a difficult task for the Naga women to enter into the larger male dominated field of politics.

The cumulative consequences of centuries of keeping Naga women out of the political arena cannot be rectified within a short period. It requires a gradual change in the attitude of both men and women in Naga society. Naga men require accepting the idea of having their female counterparts working alongside them as partners in the decision-making institutions, and accordingly make efforts to accommodate them. Correspondingly, Naga women need to get over the idea of seeing only men in the driving seat of governance, and stop being passive takers of policy. This calls for active and collective efforts from all sections of society - the educational system, socialisation process at home, political parties, civil societies, government and the media.

The state government can play the most crucial role in the challenging task of improving the political status of Naga women. The first essential tool for change is the availability of statistics documenting the participation of women and men in public and political life. Statistics are an ideal way to illustrate women's unequal representation in public life. At the state level, this exercise can be carried out by the Department of Women Development, which can make an inventory of public appointments, disaggregated by the gender and the appointing authority, so that it can be clearly seen in which area the shortfall lie. Published routinely, such information would permit women's NGOs and Legislators to put pressure on relevant aspects. Further, the state needs to review aspects of the customary law that is seen to inhibit the political participation of women and initiate positive changes by amending those aspects of the customary law which are deemed discriminatory towards women. The first step in this direction is for codification of the customary laws, which will make it more amenable to changes, as and when social change and

situation demands. The state can also consider a legislation to limit election expenses, which is crucial to allow women into mainstream political arena because lack of access to sufficient resources is a major factor that prevents aspiring Naga women from active politics (Jamir, 2005). Legislation to increase the number of women on government advisory committees, or public boards, etc. is also important to allow more Naga women into decision-making bodies. There can be a mandatory provision that public committees or boards would not be allowed to be set up until a certain quota of women are nominated.

The role of political parties is decisive in determining the prospects for women aspiring to public office. Towards this end, they can adopt democratic procedures by streamlining their organisational structure to accommodate women at every level of hierarchy, including the highest levels of decision-making. Political parties must make certain that women are fully represented in party leadership and policy committees. Further, the government can also consider legislation mandating political parties to implement democratic procedures for their internal operations. They can provide incentives for political parties to promote women candidates, including resources and training.

Social organisations in Nagaland like women organizations, NGOs and other civil societies can play a crucial role in the uplift of women by prioritising women's political empowerment in their own agenda for action. Creation of women's network in business, professions, government, and women's NGOs to create solidarity as well as a knowledge base is crucial. Naga women need to organise themselves into organisations to help them break the barriers of inequality, invisibility and powerlessness. Here, grassroots organizations are vital instruments to provide women with collective strength, bargaining capacity and collective articulation of their interests. They can further raise women's issues as poll issues and bargain with political parties and candidates for programmes that are to the advantage of women. They can provide proper network, support women through nominations and campaign materially, morally and physically. They can also undertake capacity building training for aspiring women leaders to effectively play their role. Another important role that can be played by the women organisations is to identify and promote capable women for election to local, state and national bodies. In this regard, women in senior political positions can reach out to women lower down and promote them to powerful colleagues. Conduct of political awareness programmes, right from the grassroots level is crucial in creating a more aware women electorate.

Since the central struggle is over power which is never yielded to easily by the incumbents, planning mechanisms such as quotas or reservation of seats in the local and state legislature can be considered as a short term strategy to hasten the natural but slow evolution of women into positions of power. Studies show that it is possible to give an impetus to the process of political participation of women by creating appropriate interventions at different levels. For example, many countries in Europe, including Norway and Sweden have used quotas

for women for years and this has resulted in the highest participation of women in Scandinavian countries. It has also resulted in more egalitarian politics (Varma, 1997).

Besides the above mentioned factors which are considered vital for enhancing the political participation of Naga women and improving their political status, the media can also play a functional role by providing gender-sensitive coverage of elections, avoiding negative stereotypes and presenting positive images of Naga women as leaders. In the final analysis, the reality of the social and political position of Naga women can be improved only by altering the mindset of the Naga society, necessitating a complete overhaul in the socialization pattern at large. Improving the political status of Naga women is not only a matter of broadening the political elite structure but is a fundamental part of the overall problem of socio-economic change of the society. Though the present political process in Nagaland remains the exclusive preserve of men, the future of Naga women's participation in public life appears to be headed in a positive direction given the encouraging trends of high literacy growth and the mounting political and gender awareness amongst the Naga women today. It is expected that a gender-sensitised re-structuring of the formal institutions in society, both traditional and modern, will alleviate the Naga women into positions of equal partnership with men in politics as well as in every aspect of life.

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Family Formation among Caste Groups in Andhra Pradesh: An Analysis of Birth and Marriage Cohorts

Dr P. Ramesh

This paper intends to broaden the understanding of the dynamics of family formation among caste groups in the state of Andhra Pradesh. Age at first marriage and age at first birth varies substantially among caste groups. The results of multiple classification analysis carried out for both birth cohorts and marriage cohorts on family formation indicate that the differentials among caste groups persist even after controlling for the other socio-economic variables. Comparing, the analysis of age at first marriage and age at first birth, the differences in the age at first birth by caste are similar to first marriage. However, differentials in age at first birth are smaller in magnitude. Thus, it can be concluded that the large differences in the age at marriage are translated into age at first birth but to a lesser degree. This paper also highlights the need to focus on, to reduce the reproductive and child health risks associated with early marriage and early childbearing.

INTRODUCTION

The timing of marriage and first birth are the two important aspects of family formation. In the process of family formation, the age at which women marry is a significant variable because marriage marks entry into a sexual union and age at first birth marks the initiation of childbearing. These two aspects have long attracted the attention of demographers because of their influence on the pace of childbearing and the level of completed fertility. Increases in age at marriage and first birth were important components of fertility reduction in most Asian nations, and late age at marriage was a factor in the relatively low pre-transition fertility of European populations.

Among the Southern states of India, the state of Andhra Pradesh has experienced fertility transition after Kerala and Tamil Nadu during the recent years[1] . Though the fertility has declined, the circumstances under which it declined in Andhra Pradesh are quite different from those of Kerala and Tamil Nadu. The state of Tamil Nadu has achieved replacement level of fertility in conditions of moderate social development i.e., moderate mean age at marriage and female literacy (Rajna *et al.,* 2005), which are not true of Andhra Pradesh. In terms of social development, Andhra Pradesh is rated lower than the other Southern states. Mean age at marriage in Andhra Pradesh is not only lower than that of

Tamil Nadu and Kerala, but it is also lower than the all India level (Ramachandran and Ramesh, 2005). In spite of low fertility levels in the state and among caste groups (Ramesh, 2006), the scheduled caste and tribes (SC/ST)[2] exhibit early marriage and early motherhood, high levels of infant and childhood mortality as compared to that of other caste (Non-SC/ST) groups. This paper, therefore, examines whether the caste differentials in family formation are caused by variations in the socio-economic characteristics *or* whether caste *per se* is responsible for the differentials; and whether the caste differentials in family formation has changed over time, using the Second National Family Health Survey data of Andhra Pradesh.

BACKGROUND

Among the South Indian States, except the state of Andhra Pradesh, all the other states have reached an average age at marriage of females higher than 20 years in 1991 and started out with a much later female age at marriage i.e. legally prescribed minimum of 18 years in 1971. The social and cultural milieu of the state of Andhra Pradesh has long favoured early and universal marriages. The age at marriage of females was lower in Andhra Pradesh than that of all India level throughout the 20th century. The Singulate Mean Age at Marriage (SMAM) estimates based on the Census Synthetic cohorts for 1901–91 reveal that there was an increase of 6.1 years in female age at marriage, from 12.2 years in 1901 to 18.3 in 1991. The increase was marginal during 1901–51 (0.4 years) than during 1951–91 (5.7 years). However, there has been a consistent increase from 1961–91. The female age at marriage has been increased from 15.2 years in 1961 to 16.3 years in 1971, 17.3 years in 1981 and to 18.3 in 1991 (Ramachandran *et al.*, 1999). Since 1991, however, there has been almost no change in the age at marriage. The NFHS-1 and 2 data show that the SMAM was 18.1 in 1992 and 18.3 in 1998–99 (IIPS and ORC Macro, 2000a:18).

According to the NFHS-2 data, most women (76 per cent) of age 20–49 in Andhra Pradesh were married before they had reached the legal minimum age at marriage of 18 years, as set by the Child Marriage Restraint Act of 1978. The median age at first marriage is 15.4 years for women of age 20–49. The lowest median age at first marriage is 14.3 for women age 45–49 and the highest is 16.6 for women age 20–24, suggesting a modest increase of 2.3 years in the median age at first marriage over a period of approximately 25 years. The corresponding difference in the median age at first cohabitation is 1.6 years. There exist differentials in the median age at first cohabitation by caste among women of age 20–49 at survey. The median age at first cohabitation among the scheduled caste women is about two years lower (14.7) than that of the 'other' category women (16.7). The differentials were negligible between SC-ST and ST-OBC (0.3 years each). On the other hand, the median age at first birth for women of age 20–49 is 18.3 years, having a difference of 2.7 years between age at first

cohabitation and first birth (IIPS and ORC Macro 2000a: 56 & 70). Age at first birth is also lower for scheduled caste and tribe and other backward class[3] (OBC) women compared to other category (OC). The 'other' category women have a median of 19.3 years, which is 1.9 years higher than the median for scheduled caste women, and about 1.4 years each higher than the median for scheduled tribe and other backward class women respectively (IIPS and ORC Macro, 2000a: 70). The observed differentials in age at first marriage and age at first birth may, in part, be attributable to the socio-economic characteristics[4] . Therefore, for a better understanding of the effect of caste factor on the family formation (age at first marriage and age at first birth), multivariate analysis is carried out to the same set of data. Such an analysis would highlight the net effect of caste on family formation (age at first marriage and age at first birth), while controlling for other socio-economic factors.

DATA AND METHODS

Data: The analysis presented in this paper comes from the data of second National Family Health Survey[5] (NFHS-2), a large-scale survey in the state of Andhra Pradesh, carried out during 1998–99, along with other states of the country. The data collected includes the basic demographic and socio-economic characteristics of each household as well as detailed reproductive history of ever-married women. In Andhra Pradesh, data were collected between 26 November 1998 and 4 March 1999, from a total of 3,872 households and 4,032 ever-married women aged 15–49 years. Out of 4,032 ever-married women interviewed, 3,695 were currently married. The household response rate was 99 percent and eligible women's response rate was 98 percent. The details of the study design as well as sampling frame and sample implementation are provided in the state NFHS report (IIPS and ORC Macro, 2000a). The NFHS-2 data provides information on caste/tribe and most of the women belonged to one of the four castes, namely, Scheduled caste (SC), Scheduled tribe (ST), Other backward class (OBC) and those who are neither SC, ST nor OBC and are designated as 'others'. Though the religious differences persist among caste groups, the number of women belonging to non-Hindu religions is not sufficiently large (12.4 per cent of the currently married women belong to non-Hindu religions) for further classification of caste groups by religion. Therefore, for a meaningful analysis, women are classified by caste rather than by religion. Further, the sample of individual categories of scheduled caste and scheduled tribes are very small for meaningful multivariate analysis. Therefore, both categories are combined. Out of 3695 currently married women, 726 are SC and 177 are ST (thus, 903 belong to SC/ST), 1,628 belong to OBC and 1,156 are OCs. The number of missing information on caste was quite small (out of 3,695 only 8). Therefore, these observations were not included in the analysis.

Methods: In order to assess the impact of caste factor on the timing of family

formation[6], multiple classification analysis (Andrews *et al.*, 1973) has been carried out. In addition to the caste factor, the following socio-economic variables are used as independents for the analysis on age at first marriage. They are: education of the woman (illiterate, literate but less than middle school, middle school and above), standard of living[7] (high, medium, low as measured by the NFHS-2, IIPS and ORC Macro, 2000a: 27–29), childhood place of residence, (city/town, village) and region of residence[8] (Coastal Andhra, Telengana and Rayalaseema). For the analysis of age at first birth, the socio-economic variables used as controls are similar to the analysis for age at first marriage. However, work status of woman (working, non-working) and current residence (rural, urban) is included instead of childhood place of residence. Further, in order to capture the varying context of socialisation, and to see the temporal changes in the net effect of caste on family formation, trends in age at first marriage and age at first birth has been examined by birth cohorts (i.e., for women born during specified successive time periods) and age at first marriage by marriage cohorts as well (i.e., for women married during specified successive time periods). It is argued that, the general approach to the analysis of change is, to classify women according to their birth cohort (Thornton *et al.*, 1984). Therefore, it is believed that this categorisation will allow explaining the temporal variation, if any, in the timing of family formation in the state. As the emphasis is on caste factor, findings are discussed in detail on the net effect of caste factor on dependent variables. The other explanatory variables have been used only to substantiate the findings or to develop the model, and are not discussed in detail.

RESULTS

NET EFFECTS OF CASTE ON AGE AT FIRST MARRIAGE

The *ever-married women* in the age group of 25–49 were considered as unit of analysis for the analysis on age at first marriage. In Andhra Pradesh, female age at marriage is low and non-negligible proportion of women is single (11.3 percent) in the age group 20–24 (IIPS and ORC Macro, 2000: 17) and even greater proportions were never married in the younger age groups. As most of these women would marry later, their age at marriage would be higher than that of those married before the survey. If only the experience of those married before the survey date is used, it would cause truncation bias as has been recognized in demographic literature (Smith, 1980). Therefore, women of age below 25 years at survey were not included for this analysis. In the 25–29 age group 2.5 percent and in the 30–49 age group 1.2 percents, were never married. Thus, after the age of 25, the proportion never married remains quite small, indicating that first marriages are rare after age 25. Hence, the information on the age at marriage for women of age 25 and married before the survey date can be considered to be *essentially*

complete for those ever marrying with minimal truncation effect. Therefore, the ages at marriage are analyzed for ever-married women of age 25 and above at survey, which roughly corresponds to women born during 1949–1973 (since survey was carried out toward the end of 1998 and early 1999). There were 2,831 such women in the NFHS-2 of Andhra Pradesh. For some of them, data on one or more socio-economic variables used in the analysis were not available. As a result only 16 cases could not be included in the analysis. Hence, the analysis by birth cohorts is based on the records of 2,815 women.

TRENDS AND DIFFERENTIALS IN AGE AT FIRST MARRIAGE BY BIRTH COHORTS

Table 1 provides the unadjusted and adjusted relationship between the caste and age at first marriage along with other socio-economic variables for all women (born during the period 1949–73) and by birth cohorts (i.e., for women born during the five quinquennial intervals 1949–53, 1954–58, 1959–63, 1964–68 and 1969–73), separately. The results of multiple classification analysis for the women born during 1949–73 shows that the average age at first marriage for scheduled caste/tribe (SC/ST) and other backward class (OBC) women is well below the grand mean (15.46) by 0.90 and 0.32 years, respectively. The age at marriage for 'other' caste (OC) women is higher than that of the SC/ST and grand mean by 1.98 and 1.08 years, respectively. Even after controlling for the other socio-economic variables, the pattern of differentials persists, though the gap narrows down. The adjusted means for SC/ST and OBC are still well below the average by 0.40 and 0.15 years, respectively. The adjusted mean age at marriage for OCs continue to be well above average by 0.49 years. In other words, the unadjusted difference in mean age at first marriage between SC/ST and OC is 1.98 years and the difference between OBC and OC is 1.40 years. When effects of other factors are controlled, the difference in adjusted mean age at first marriage between SC/ST and OC is narrowed down to 0.88 (=15.95–15.07) years and the difference between OBC and OC to 0.63 (=15.95–15.32) years. The beta value for caste remains moderately high, though the value reduces to 0.12 from the eta value of 0.27. The MCA results clearly show that though the gap between OC-SC/ST and OC-OBC narrows down marginally, the pattern of differentials between caste groups do persist even after controlling for socio-economic variables. Among the other variables, education, childhood residence and regions showed significant effects. The influence of education is particularly high, with a very high beta value. Age at marriage is higher than the average among literate women, women who reside in cities/towns during their childhood and women from Rayalaseema and Telengana regions than their counterparts. The standard of living does not show any significant effect (Table 1 col. 1 & 2).

As discussed earlier, in order to examine the trends in the effects of caste factor, the analysis is carried out by birth cohorts separately and presented in the same Table 1 (Col. 3–12). The results show that the differentials in age at first marriage by caste persist in all the birth cohorts even after controlling for other explanatory variables. The effect of caste

is highly significant in all birth cohorts (except for 1964–68 birth cohort) and the beta values are relatively large. Differentials in age at first marriage across the caste categories seem to be somewhat large and uniform over the birth cohorts. In each cohort, there is a difference of 1.86 – 2.27 years between the SC/ST and 'other' category women and 1.25 – 1.56 years between the OBC and 'other' category women. However, after adjustment to other variables, the caste differential in mean age at marriage narrows down to 0.43 – 1.38 years between OC-SC/ST and 0.27–0.85 years between OC-OBC women. Though there is no definite pattern of trend in the adjusted mean age at first marriage among the caste groups, the increase is slightly higher among SC/ST women (1.44 years) from the birth cohort of 1949–53 to the birth cohort of 1969–73. Among OBC and OC women, the increase was 0.86 and 0.59 years, respectively. Although there is an increase in marriage age of women but still in Andhra Pradesh the age at marriage is one of the lowest among Indian States. Among the other socio-economic variables, the effect of education is highly significant in all the birth cohorts and the beta values are also large. Childhood place of residence and regions of the state showed significant effects (except for the birth cohort 1954–58). The standard of living does not show any significant effect, except in the cohorts of 1949–53 and 1969–73.

TRENDS AND CASTE DIFFERENTIALS IN AGE AT FIRST MARRIAGE BY MARRIAGE COHORTS

As discussed earlier, the analysis of age at marriage of women married by the date of survey suffers from truncation bias, since it is biased in favour of women marrying at younger ages. In order to keep this effect minimum, the preceding analysis had to be restricted to women of age 25 and above at survey. An undesirable consequence of such a restriction is that the experience of younger women is not included (some younger women might have married before the survey but were excluded because they were younger than 25 years of age). Thus, recent changes are not accounted for. In order to overcome this problem, age at first marriage can be analyzed by marriage cohorts, i.e., for marriages that take place during specified periods. Five marriage cohorts are used for this purpose: 1973–77, 1978–82, 1983–87, 1988–92, and 1993–97. Most of the women married prior to 1973 were older than 49 years at survey and hence the marriage cohorts prior to 1973 are not analyzed. As such, first the analysis is carried out for women married during 1973 –1997. After deleting 17 records with missing data for the socio-economic variables 3187 records were used for this analysis.

The results of multiple classification analysis for the women married during 1973 to 1997 shows that the average age at marriage for SC/ST and OBC was lower than the grand mean (15.72) by 0.83 and 0.31 years, respectively. The age at marriage for 'other' category (OC) was higher than that of the SC/ST and grand mean by 1.91 and 1.08 years, respectively. Though the gap narrows down marginally, the pattern of differentials do persist even after controlling for socio-economic variables. The adjusted mean age at

marriage for SC/ST and OBCs is still lower than the average by 0.36 years and 0.17 years, respectively. Age at first marriage for OCs remains higher than the average and that of SC/STs by 0.51 and 0.88 years, respectively. The beta value for caste remains moderately high, though the value decreased to 0.13 from the eta value of 0.28. All the remaining variables viz., education, standard of living, childhood place of residence and regions shows a highly significant effect (Col. 1 & 2 of Table 2).

The results of MCA on age at first marriage by caste along with other socio-economic variables across the five marriage cohorts show that there is an increasing trend in age at marriage by caste over the period of observation. The age at first marriage has increased from 15.0 years for the marriage cohort of 1973–77 to 16.8 years for the marriage cohort of 1993–97. Thus, there is an increase of about 1.8 years in age at marriage over a period of 20 years. Though there is a marginal increase among all the caste groups, the differentials between the caste groups have narrowed over time. The unadjusted figures among the various marriage cohorts suggest that the difference in mean age at first marriage between the OC-SC/ST and OC-OBC women is in the range of 1.42 – 2.29 and 1.18 –1.67 years, respectively. However, after adjustment to other variables, the caste differential in mean age at marriage between the OC-SC/ST and OC-OBC women narrows to 0.64 –1.42 and 0.28–1.06 years, respectively. Among the other socio-economic variables, the effect of education is highly significant in all the marriage cohorts and the beta values are also large. Childhood place of residence (except for the marriage cohort 1978–82) and standard of living showed significant effects (except for the marriage cohorts 1973–77 and 1978–82). The regions of the state do not show any significant effect, except in the cohort of 1973–77.

NET EFFECTS OF CASTE ON AGE AT FIRST BIRTH

In many societies, the attainment of motherhood is closely linked to entry into union. The earlier analysis on age at first marriage showed differentials between the caste groups in Andhra Pradesh. Whether these differentials are carried on to the onset of motherhood has to be found out. As discussed in data and methods, to estimate the effects of caste, net of other important socio-economic variables on age at first birth, multiple classification analysis is carried out and the *currently married women* in the age group of 25–49 form the units of analysis. Besides low age at marriage in Andhra Pradesh, relatively large proportion (14.9 percent) of currently married women below the age of 25 had not given a birth by the survey date. Therefore, the age at first birth are analyzed for currently married women of age 25 and above at survey, i.e., women born during 1949 to 1973. Of the 2,441 currently married women in the age group of 25–49, valid information on the age at first birth and socio-economic variables was

available for 2,426 women.

TRENDS AND CASTE DIFFERENTIALS IN AGE AT FIRST BIRTH BY BIRTH COHORTS

The net effect of caste on age at first birth for women born during 1949–73 is presented in Table 3 and caste had exhibited a significant effect on the age at first birth. The 'other' category women have higher age at first birth compared to that of SC/ST and OBC women. For 'other' category women, the average age at first birth is 18.76, that is, 0.84 years above the grand mean of 17.92. The age at first birth for SC/ST and OBC women is well below the grand mean (17.92) by 0.58 and 0.29 years respectively. The unadjusted mean age at first birth among SC/ST and OBC women is lower than that of the OC women by 1.42 and 1.13 years, respectively. Even after adjustment to the other socio-economic variables, the differentials in age at first birth do persist. The adjusted mean age at first birth for OC continue to be well above average by 0.57 years. The adjusted means for SC/ST and OBC women are still well below the average by 0.28 and 0.19 years, respectively. The adjusted mean age at first birth among SC/ST and OBC women was lower than that of the OC women by 0.85 and 0.76 years, respectively. The *beta* value for caste remains quite large, though the value reduces marginally to 0.10 from the eta value of 0.17. Among the other variables, education, current residence and region of residence have shown significant effect (at different levels) on age at first birth. Age at first birth is higher than that of the average for educated women, urban women and women of Telengana region. The standard of living and work status does not show any significant effect (Col. 1& 2 of Table 3).

The trends in the effect of caste were analyzed separately for women born in the five quinquennial intervals (birth cohorts) 1949–53, 1954–58, 1959–63, 1964–68 and 1969–73 and presented in the same Table 3 col. 3–12. The mean age at entry into motherhood has been higher for OC women compared to that of SC/ST and OBC women, with OC women having moderately higher age at first birth in all birth cohorts. The mean age at first birth has hovered around 18 years in all the birth cohorts. There is no definite pattern of trend in the mean age at first birth among the women of caste groups as well as for the women with other characteristics. The adjusted mean age at first birth among SC/ST women was higher than the average by half year for the birth cohorts of 1949–53 and 1969–73. But it was lower than the average of about one-year for the remaining birth cohorts. For the OBC women, mean age at first birth is lower than that of the OC women even after controlling for other factors. As expected, education of woman exhibited a significant effect on age at first birth i.e., educated women have higher age at first birth compared to their counterparts in all the birth cohorts. Among the other variables, region of residence has shown significant effect on age at first birth in all the birth cohorts (except in 1969–73 cohort). Standard of living has significant effect on age at first birth in 1949–53 and 1959–63 birth cohorts. Only in 1969–73 cohort, work status and current

residence have shown significant effect on age at first birth (Col. 3–12 of Table 3).

SUMMARY AND CONCLUSION

Despite the changing pattern towards later marriage, the South Indian states display considerable variations in marriage patterns. Among these states, the female age at marriage is lowest in Andhra Pradesh. According to the preliminary findings of the latest third round of National Family Health Survey (NFHS-3), 2005–06, fifty five percent of women in the age of 20–24 years in Andhra Pradesh were married before the legal age of marriage of 18 years compared with sixty four percent at the time of NFHS-2, 1998–99. The median age at first birth for women of age 25–49 at survey was 18.8 years, compared with 18.0 years at the time of NFHS-2 (Ministry of Health and Family Welfare, 2006). Age at marriage and age at first birth also varies substantially among caste groups and the scheduled caste and tribes have lower age at marriage and age at first birth than 'other' category women. On the other hand, the state of Andhra Pradesh defies the conventional wisdom that socio-economic development (in terms of age at marriage and female literacy) is necessary for rapid fertility decline. Despite the slow progress in socio-economic development, the state has experienced fertility transition after Kerala and Tamil Nadu. This paper has examined the impact of caste factor on the timing of family formation over a period of time, in the context of fertility transition in the state using NFHS-2 data.

The analysis carried out both for birth and marriage cohorts indicates that even after controlling for the socio-economic variables, the pattern of differentials among caste groups persist, though the gap narrows down. After adjustment for other variables, the mean age at first marriage has been higher for OCs as compared to that of SC/ST and OBCs, with SC/STs having lower age at marriage than that of the OBCs. Although it appears that the OC women have higher age at marriage, but after adjustment for other factors, their age at marriage is lower by 0.6 years. On the other hand, the age at marriage of SC/ST and OBC women has increased than their real age at marriage after adjustment. Further, the birth cohort analysis did not show a notable change in the differentials over time. However, results from the marriage cohort analysis showed a relatively greater increase in age at marriage among SC/ST and OC women and a slightly widening of caste differentials. As compared to the grand mean, the average age at first marriage was lower by 0.5–1.0 year for SC/STs and about 0.5 years for OBCs and is higher by 0.5–1.0 year for OCs. Thus, the SC/ST-OC difference has been in the range of 1–2 years and the OBC-OC difference is 0.5–1 year.

The analysis of age at first birth shows similar results as in age at first marriage. The differentials in age at first birth persist even after controlling for the other socio-economic variables. Age at first birth is lower for SC/STs than that of OC and OBCs. OCs

has marginally higher age at first birth than OBCs. The average age at first birth was lower by 0.5–1 year for SC/STs and about 0.5 year for OBCs compared to the grand mean and higher by 1–2 years for OCs. Thus, the SC/ST-OC difference has been in the range of 0.5–1 year and the OBC-OC difference by less than one year. Although, the age first birth is high among OC women but it is not above 20 years of age. Mean age of women at first birth is at legal minimum age for marriage in Andhra Pradesh. It is lower compared to most of the states and at all India level, even for the latest cohorts, suggesting that there is a strong need to concentrate in educating all women on the benefits of higher age at marriage, thereby increasing the age at first birth of women. Further, comparing the analysis of age at first marriage and age at first birth it can be seen that the differences in the age at first birth by caste are similar to first marriage. However, differentials in age at first birth are smaller in magnitude. Therefore, it can be concluded that the large differences in the age at marriage are translated into age at first birth but to a lesser degree.

What are the implications? First of all, effective policies and programmes are urgently required to reduce the early marriage and early motherhood in the state. In Andhra Pradesh, a substantial proportion of women (76 per cent) age 20–49 marry before the legal minimum age at marriage of 18 years and about 64 percent of women undergoing sterilization before the age of 25 (IIPS and ORC Macro, 2000a: 38 & 96). Thus, sizable proportions of women in the state marry before the legal age of 18, have a child soon after marriage, and complete family building and undergo sterilization before age 25. This indicates that the age patterns of childbearing in the state are restricted to very young ages of women, leading to a compression of reproductive spans and this has not seen elsewhere in the world (Padmadas *et al.*, 2004). Since, early marriage and childbearing are known to be associated with a low level of women's autonomy after marriage and high level of health risks among women and their children. Therefore, reducing the proportions of women marrying and giving birth while still in their younger ages is a priority concern for the population and reproductive health policies and programmes.

Further, this study also indicates that providing middle level or higher education to all women will help reduce the proportions of women marrying and giving birth while still in their teens. However, in the cultural context, it rather takes more time to increase the age at marriage by providing education to all girls at least till middle or high school level. But it will take less time to motivate married couple to adopt spacing methods of family planning to postpone their first birth till the woman reaches 20 years of age. The infant and maternal mortality could also decrease further among caste groups in the state if the mothers deliver their first child after 20 years of age. Therefore, educational programme should be organized on the advantages of having first birth after age 20 to the women of Andhra Pradesh. Thus, an increase in age at first marriage and the start of

childbearing can further reduce the number of births and slow the rate of population growth in the state.

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ENDNOTES

1 With a more than 200 million population, the South Indian region (Andhra Pradesh, Tamil Nadu, Karnataka and Kerala) crossed replacement level in the mid-1990s and its demographic experience has attracted wide attention both at the national and the international levels. Among states, Kerala, Tamil Nadu and Andhra Pradesh attained a below replacement fertility in 1988, 1993 and 2002 respectively (Guilmoto and Rajan, 2005).

2 Scheduled castes (SC) and scheduled tribes (ST) are castes and tribes that the Government of India officially recognizes as socially and economically backward and in need of special protection from injustice and exploitation.

3 Other backward classes (OBC) are castes and communities that have been designated by the Government of India as socially and educationally backward and in need of protection from social injustice.

4 It is well documented in the literature that certain socio-economic factors, such as education, income, occupation, rural-urban residence etc., influence timing of family formation (age at first marriage and age at first birth). If such socio-economic characteristics vary substantially across the caste groups, timing of family formation could also differ by caste. In that case, the gross differentials among the caste groups could be totally or at least partially be attributed to variations in socio-economic characteristics of the caste groups. Therefore, it is necessary to do multivariate analysis to identify the net differentials, as the gross differentials may be attributable to other factors.

5 The NFHS-2 is a demographic and health survey collected as part of the Demographic and Health Survey (DHS) program, which is funded primarily by the United States Agency for International Development (USAID). The national survey covered a representative stratified random sample of about 95,000 women aged 15–49 years from the 26 states of India (IIPS and ORC Macro, 2000). Subsequent survey, the NFHS-3 carried out in 2005–06, for which data are yet to become available for the state of

Andhra Pradesh. The preliminary findings report that the age at marriage and age at first marriage was similar between the two NFHS's leading us to believe that analysis based on the NFHS-2, 1998–99 will still be useful programmatically.

6 In the process of family formation, it is desirable and customary to analyze data for the first birth interval i.e., from marriage to first birth. However, the interval between marriage to first birth was found to be inconsistent in a large proportion of cases (Ramesh, 2002). Therefore, it was not possible to study the first birth interval.

7 Data on income or the standard of living of the woman (or her natal household) *prior to the marriage* were not obtained in the NFHS-2. Therefore, on the assumption that most marriages take place between persons of about the same economic status, the current standard of living variable has been used as a proxy for income or economic status.

8 The state is distributed into three regions and these three regions differed considerably in terms of both socio-economic and demographic indicators, with Telangana lagging behind the other two regions (Ramachandran and Ramesh, 2005).

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Table 1: Unadjusted and Adjusted Mean Age at First Marriage by Birth cohorts (1949–73), NFHS-2, 1998–99, Andhra Pradesh

Explanatory variables	1949–73		Birth Cohorts 1949–53		1954–58		1959–63		1964–68		1969–73	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
Col.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Caste/tribe												
Scheduled caste/tribe	14.57	15.07	14.06	14.39	14.23	14.61	14.32	14.70	14.59	15.16	15.11	15.83
Other backward class	15.14	15.32	14.73	14.82	14.70	14.92	15.13	15.32	15.12	15.44	15.59	15.68
Other caste	16.55	15.95	15.99	15.67	16.26	15.73	16.60	16.07	16.57	15.72	16.97	16.26
eta	0.275		0.284		0.297		0.313		0.265		0.260	
beta		0.123***		0.188***		0.160***		0.184***		0.070		0.088*
Education												
Illiterate	14.71	14.84	14.49	14.59	14.56	14.69	14.80	14.92	14.61	14.77	14.96	15.15
Literate, <middle	15.85	15.68	15.73	15.39	15.62	15.34	15.73	15.60	15.80	15.60	16.15	16.03
Middle and above	18.77	18.33	18.67	18.45	19.19	18.59	18.65	18.15	19.31	18.79	18.47	18.00
eta	0.480		0.427		0.454		0.436		0.532		0.482	
beta		0.410***		0.381***		0.377***		0.363***		0.454***		0.390***
Standard of living												
Low	14.69	15.39	14.29	15.02	14.49	15.08	14.71	15.42	14.68	15.40	14.97	15.63
Medium	15.43	15.47	15.24	15.26	15.01	15.04	15.32	15.44	15.24	15.35	15.99	15.95
High	17.09	15.58	15.73	14.53	16.77	15.45	16.95	15.39	17.55	15.85	17.88	16.40
eta	0.292		0.213		0.279		0.273		0.347		0.350	
beta		0.023		0.106*		0.053		0.007		0.063		0.094*
Childhood residence												
City/Town	16.80	15.82	16.37	15.57	16.20	15.37	16.71	15.74	17.04	15.87	17.13	16.24
Village	15.14	15.38	14.72	14.90	14.92	15.08	15.06	15.34	15.09	15.37	15.57	15.80
eta	0.231		0.242		0.164		0.245		0.257		0.223	
beta		0.062**		0.098*		0.038		0.060		0.066*		0.063*
Regions												
Coastal Andhra	15.29	15.28	14.73	14.76	15.03	14.95	15.24	15.30	15.33	15.34	15.75	15.72
Rayalaseema	15.73	15.92	15.33	15.54	15.29	15.56	15.94	16.15	15.39	15.53	16.19	16.41
Telengana	15.55	15.47	15.22	15.08	15.17	15.16	15.43	15.28	15.64	15.58	15.90	15.82
eta	0.059		0.101		0.035		0.086		0.048		0.056	
beta		0.079***		0.108*		0.077		0.113**		0.039		0.092*
Grand Mean	15.46		15.02		15.13		15.43		15.46		15.90	
Number of cases	2815		399		439		571		606		800	
Multiple R	0.506		0.491		0.491		0.488		0.546		0.510	
Multiple R^2	0.256		0.241		0.241		0.238		0.298		0.260	

Note: This analysis has been carried out for ever-married women of age 15-49; Level of significance: ***p £ 0.001; **p £ 0.01; *p £ 0.05.

Table 2: Unadjusted and Adjusted Mean Age at First Marriage by Marriage Cohorts (1973–97), NFHS-2, 1998–99, Andhra Pradesh

Explanatory variables	1973–97		Marriage Cohorts 1973–77		1978–82		1983–87		1988–92		1993–97	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
Col.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Caste/tribe												
Scheduled caste/tribe	14.89	15.36	14.03	14.25	14.53	14.84	14.38	14.96	15.07	15.67	16.03	16.52
Other backward class	15.42	15.56	14.77	14.87	14.78	14.89	15.07	15.32	15.69	15.76	16.45	16.54
Other caste	16.80	16.24	15.96	15.67	15.96	15.57	16.50	15.60	17.36	16.81	17.77	17.26
eta	0.280		0.309		0.254		0.297		0.327		0.260	
beta		0.132***		0.224***		0.139***		0.086*		0.180***		0.126***
Education												
Illiterate	14.96	15.19	14.65	14.77	14.65	14.78	14.54	14.85	15.24	15.59	15.89	16.24
Literate, <middle	15.91	15.74	15.19	14.92	15.67	15.45	15.73	15.44	15.96	15.82	16.56	16.53
Middle and above	18.24	17.64	17.53	17.13	17.47	16.83	18.46	17.37	18.36	17.62	18.40	17.84
eta	0.445		0.334		0.368		0.493		0.434		0.395	
beta		0.332***		0.271***		0.263***		0.315***		0.286***		0.255***
Standard of living												
Low	14.92	15.51	14.34	14.82	14.62	15.00	14.44	14.98	15.11	15.72	15.93	16.43
Medium	15.71	15.70	15.14	15.16	15.03	15.03	15.22	15.25	16.08	16.06	16.69	16.68
High	17.59	16.25	15.82	14.82	16.48	15.50	17.96	16.39	18.22	16.94	18.66	17.63
eta	0.330		0.216		0.261		0.436		0.371		0.344	
beta		0.091***		0.071		0.075		0.176***		0.146***		0.153***
Childhood residence												
City/Town	16.99	16.18	15.95	15.36	15.99	15.31	16.96	15.82	17.34	16.56	17.89	17.33
Village	15.39	15.60	14.78	14.91	14.88	15.04	14.93	15.20	15.75	15.96	16.39	16.57
eta	0.237		0.192		0.186		0.291		0.228		0.240	
beta		0.086***		0.074*		0.047		0.090**		0.086***		0.121***
Regions												
Coastal Andhra	15.65	15.66	14.88	14.86	14.93	14.94	15.42	15.38	16.05	16.01	16.66	16.80
Rayalaseema	15.88	16.03	15.45	15.68	15.20	15.28	14.85	15.28	16.27	16.51	17.03	17.03
Telengana	15.73	15.64	14.91	14.82	15.23	15.18	15.40	15.26	16.04	15.97	16.71	16.55
eta	0.030		0.089		0.062		0.078		0.030		0.053	
beta		0.054***		0.134***		0.060		0.021		0.070		0.067
Grand Mean	15.72		14.99		15.09		15.31		16.09		16.76	
Number of cases	3187		500		591		648		735		713	
Multiple R	0.486		0.435		0.404		0.531		0.506		0.465	
Multiple R^2	0.236		0.189		0.163		0.282		0.256		0.216	

Note: This analysis has been carried out for ever-married women of age 15-49; Level of significance: ***p £ 0.001; **p £ 0.01; *p £ 0.05.

Table 3: Unadjusted and Adjusted Mean Age at First Birth by Birth Cohorts (1949–73), NFHS-2, 1998–99, Andhra Pradesh

Explanatory variables	Birth Cohorts 1949–73				1954–58		1959–63		1964–68		1969–73	
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
Col.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Caste/tribe												
Scheduled caste/tribe	17.24	17.58	17.30	17.40	17.63	17.73	17.18	17.30	16.82	17.44	17.36	17.96
Other backward class	17.66	17.76	17.93	17.86	17.81	17.89	17.75	17.82	17.44	17.69	17.57	17.63
Other caste	18.76	18.39	18.41	18.45	18.83	18.66	19.26	19.10	18.73	17.98	18.52	17.95
eta		0.172	0.099		0.134		0.224		0.219		0.159	
beta		0.095***		0.097		0.102		0.193***		0.059		0.053
Education												
Illiterate	17.38	17.48	17.57	17.46	17.82	17.84	17.71	17.87	16.93	17.08	17.10	17.34
Literate, <middle	18.00	17.93	18.20	18.44	17.93	18.10	18.10	18.08	18.15	17.94	17.78	17.60
Middle and above	20.41	20.01	20.94	21.34	21.05	20.59	20.54	19.65	20.88	20.46	19.90	19.36
eta		0.293	0.233		0.232		0.238		0.399		0.362	
beta		0.243***		0.271***		0.198**		0.150*		0.340**		0.264***
Work status												
Working	18.57	18.06	17.84	17.59	18.47	18.16	18.72	18.39	18.79	18.09	18.71	18.15
Not working	17.49	17.83	18.08	18.29	17.91	18.09	17.76	17.96	17.05	17.50	17.17	17.57
eta	0.150		0.030		0.070		0.125		0.246		0.251	
beta		0.032		0.086		0.008		0.056		0.083		0.094*
Standard of living												
Low	17.45	18.15	17.87	18.73	18.02	18.55	17.93	18.70	16.91	17.75	17.15	17.76
Medium	17.77	17.82	18.12	18.07	17.78	17.83	17.69	17.78	17.63	17.75	17.79	17.75
High	19.14	17.79	17.82	16.72	19.12	18.05	19.55	18.15	19.40	17.65	19.38	18.07
eta		0.172										
beta			0.034	0.188*		0.128		0.083		0.257		0.252
Current residence												0.039
Rural	17.55	17.81	17.61	17.78	17.86	18.04	17.87	18.13	17.25	17.65	17.36	17.64
Urban	18.97	18.24	18.87	18.44	18.99	18.37	18.85	18.09	18.91	17.92	19.13	18.31
eta		0.176	0.141		0.123		0.116		0.217		0.254	
beta				0.074		0.036		0.005		0.035		0.095*
Regions												
Coastal				17.31		17.63		17.39		17.41	17.68	17.68
Andhra	17.54	17.51	17.29	18.07	17.73	17.85	17.41	18.81	17.47	17.50	17.68	17.96
Rayalaseema	17.81	17.99	17.95	18.66	17.64	18.85	18.60	18.65	17.30	18.19	18.03	17.88
Telengana	18.42	18.37	18.74		18.82		18.71		18.20			
eta		0.114	0.165		0.139		0.169		0.111		0.056	
beta		0.110***		0.153*		0.146*		0.175**		0.108*		0.039
Grand Mean	17.92		17.97		18.12		18.12		17.73		17.81	
Number of cases	2426		303		366		505		535		717	
Multiple R_1	0.330		0.335		0.293		0.344		0.430		0.395	
Multiple R^2	0.109		0.112		0.086		0.118		0.185		0.156	

Note: This analysis has been carried out currently married women of age 15–49; Level of significance: ***p £ 0.001; **p £ 0.01; *p £ 0.05.

Charting out a Case for Development Ethics

Wasudha Bhatt

The following paper seeks to review the need for development ethics that has been made imperative by the crisis of development. I intend to do so by arguing that at the heart of the crisis of development lays its incapacity to address the issue of human well being which is intermittently coupled with the question of 'good', and more so, 'human good'. Moreover by contextualizing this crisis within modernity and the post-colonial period, which followed, and with special emphasis on the way these phases of history witnessed the relationship between human beings and nature, the paper argues that the emergent crisis in development is much more than just a debate that can be resolved by policy makers, economists, and development experts. Instead, it solicits critical ethical interventions, by foregrounding development goals vis-à-vis the policy processes thereof, within the larger ambit of human well being.

THE NOTION OF GOOD LIFE AND HUMAN DEVELOPMENT : SINCE GREEK PERIOD

'Every art and every inquiry, and similarly every action and every choice, is thought to aim at some good, and for this reason the good has rightly been declared to be that at which all things aims.'[1]

Aristotle : Nicomachean Ethics I

Though the concept of human development is as old as philosophy itself, yet discussions on what constitute a good life can be said to date back to Aristotle's *Nicomachean Ethics* and the ancient tradition of the Greeks. The 'good life' thereafter has served as a reservoir of enigma, the pursuit of which has formed a significant aspect of humankind (Barnes, 1984).

Aristotle perceived the universe as hierarchical in nature, wherein everything had a function. The life of the rational being herein was the highest form of existence, to be served by the lower beings. Moreover, Aristotle believed that all living beings had the inherent capacity to reason, the development of which would comprise their ultimate goal. Following which, they would live well in accordance with their inherent nature, culminating into a truly rewarding existence.

Nevertheless, owing to Aristotle the notion of the final end, or, the *summum bonum*—the overall good for human beings, could be found in what he called *eudaimonia*. *Eudaimonia*, a Greek word is usually taken to signify 'happiness', though this is only accurate if we perceive the term in its wider sense to symbolize a pleasing, and satisfying life. Nevertheless, despite much of ancient philosophy concerning itself with the question of *eudaimonia*, i.e. 'the state of having an objectively desirable human life' (Honderich, 1981), the objective character of *eudaimonia* does differentiates it from the ancient philosophies of the Epicureans and Stoics, who perceived good in terms of mental tranquility; and from modern concepts of utility, concerned with the achievement of a subjectively satisfactory life.

Nonetheless, with the ancient Greek philosophy and subsequent moral theories having relatively little influence upon the development of modern political economy and social science, ancient concepts of *eudaimonia* and development failed to elicit much interest from the social scientists, with ethics being largely forgotten within the domains of political theory and philosophy. Moreover, economists in particular were uncomfortable with ethical questions, and divorced their 'science' from the realms of politics and moral philosophy,[2] and thus turned to more practical issues, thereby seeking to avoid transgressing into the moral barricades.

Consequentially, '... modern conceptions of development concerned themselves more with growth, capital accumulation, and technological change, structural transformation of the economy and the modernization of the social, cultural and political institutions necessary to facilitate economic development' (Clark, 2002). Resultant, inadvertently and in some ways, intentionally, little attention was devoted to the development of human beings as ends in themselves in the early days of the discipline of development studies.

However, continuing in the existing phase, the dilemmas that arose out of the development options facing these societies primarily focused on, not only the strategies chosen to bring about the desired changes, but also the kind of the new life that the societies hoped to realize through these conversions. This not only threw the whole process of development open for an ethical inquiry, but also necessitated that a more comprehensive exposition of the meaning of development and the processes involved be evolved. This in return could further aid in improving policy formulations and creating a foundation for building new and better theories.

PART-II

THE CRISIS OF DEVELOPMENT:

Development as an Economic Condition or a Condition for the Good life

Post colonization- during the ephemeral phase ensuing the Second World War, when the course of decolonization began, development became the buzz word, of not only the scholarship in the West and financial aid agencies but also, the third world governments of Asia and Africa, who would try to annul the legacy of underdevelopment that colonialism had enforced. As a majority of the countries of the post colonial world, were considered to be underdeveloped at independence according to all development indicators of the time, the post colonial world has ever since, used development as a mantra, perhaps natural. So much so, that not only did it encompass the hopes of the peoples of newly emerging countries of the postcolonial world, it also became a goal for the establishment of a society based on egalitarian values for which people aspired and struggled.

However, the upshot of development was not what the people of these societies had expected. On the contrary, it meant the amplification of the global accumulation and unison of the capitalist system in the underdeveloped world leading to amputation of resources from the bulk [of the social order] for the benefit of the marginal elite. In this sense, development was not only a package of augmentation of poverty, but the development of the technology essential for keeping the majority of people in their position of relative poverty while generating the surplus value for maintaining the relative prosperity for a rich minority. At the global level too, development as a doctrine and as a state policy with the aid of technocratic instruments of power essentially concentrated on harnessing natural resources, and tapping human labour for generation of wealth in the highly developed countries, with ecology being reduced to a set of purely managerial strategies aiming solely at resource efficiency and risk management.

Development, nevertheless, got its complete political meaning immediately after the Second World War as the process of decolonization began and its antonym, 'underdevelopment' acquired prevalence with President Truman of the United States. Truman observed a state of 'underdevelopment' in the postcolonial societies because they did not possess certain features of the western societies and so, he thought that this underdeveloped state could be overcome only by possessing this feature. Consequently, possessing these features was understood to be 'development'.

In the ensuing years, development became a buzzword, both at the academic and policy levels; policy makers sketched varied blueprints to be packaged to various 'underde-

veloped' areas (Sachs, 1997). It is in this backdrop that development policies and planning first took shape, and have continued to be shaped and reshaped in consonance with east-west tensions and the changing organization of the global political economy (Corbridge, 1995). But for two-thirds of the people on earth, this positive meaning of the word 'development'—profoundly rooted after two centuries of its social construction—remained a brutal reminder of what they are not. It was a reminder of the absence of human well being, unintentional and deliberate in some parts, for a specific pocket of the world (Sachs, 1997).

More so, the economic development of poor countries as a subject of inquiry acquired prominence only a half-century back. Classical economists were certainly much concerned to identify the social processes that created prosperity, but it was the emergence of independent nations in Asia and Africa, which provoked economic development into becoming a specialized field. In order to discover ways to improve upon contemporary development processes, economists explored the impact of economic decisions on human well being not only in the present and near future, but in the distant future too. Unfortunately, they also became attached to the idea: that an increase in gross national product [GNP] is the key to economic development and poverty elimination (WDR, 1986).[3]

Not surprisingly thus, clothed in the veil of ethics, development policies attempted to serve as the raison d'être and the validation of the developed nations and concentrated on processes such as modernization than directly addressing issues such as elimination of poverty, illiteracy and inequality pressing the post colonial societies. As a result the promises with which ordinary people of these countries associated development remained largely unfulfilled. With gradual attenuation of well being, problems such as poverty and illiteracy and the powerlessness of the people who lived in such countries became only the external signs of this underlying condition of 'under-development', thereby raising pertinent questions about the ethical implications of development (Ferguson, 2001).

What was required instead was a new kind of 'empirical philosophy' which though was informed by scientific inquiry, yet was firmly rooted in social reality. Social scientists and philosophers (ideally in partnership with each other) thereby needed to:

- Identify and clarify academic concepts of development employed in social sci ence and philosophy;
- Consider how poor people themselves perceive development and 'good' life; and
- Confront abstract concepts of development with the views of ordinary people.

Efforts to conceptualize human well being and development thus could only benefit

from the closer integration of philosophy in general and applied ethics in particular along with other social science disciplines. Resultant, we find that the mythology of development has not only been exposed but also critiqued. This critique comes not only from the third world, but also, from the West, which criticizes not just the fallout of development but also the conceptual as well as the ethical base of the idea. Thus, the crisis of development, catapulted with a blatant neglect of human well being, originates a deep concern for primary human values, and raises pertinent questions on its ethical implications, while also compelling an earnest introspection on development:

- as a process and,
- as well as a desirable goal (Gunatilleke, 1983).

As a result, development ethics was the new kind of 'empirical philosophy', which emerged.

PART-III

THE ECOLOGICAL CRISIS IN OFFSPRING

The opening decades of the post colonial, post-war period had another momentous implication, one at the ecological front. Characterized by a resolute silence about resources (Sachs, 1997) the predominant ideology of post war development was primarily concerned with the conversion of nature into a resource for commodity production and accumulation of capital. As a result all ethical aspects of relating to nature were destroyed and reduced to mere commercial concerns.

Moreover, the preoccupation of the newly independent nations of Asia and Africa with productivity and production further accelerated the fixation on the necessitation for the elimination of poverty, uniting them in the belief, that it was the economic and technological superiority of the colonial powers which had resulted in imperialism. Furthermore, with decolonization opening up the possibility for these previously 'underdeveloped' nations to develop in simulation to the West, it was believed that rapid industrialization, would end unemployment and poverty, and give way to a strong and self-reliant society (Sachs, 1997). Consequentially, with the times being hardly favourable for formulating an environmentalist agenda, overwhelming focus was now laid on production, and environmentally oriented thinking found little play with the opinion-makers in the 'affluent society' and in the 'developing world' likewise importuning for a more intensive use of natures resources (Sachs, 1997).

All the same, the end of last two decades of the twentieth century resulted in alienation of human beings from nature, and displacement of a large number of the human popu-

lace in the name of development. The environmental decline was further accentuated with the significant change in capital formation, bearing pertinent implications for the ecology (Escobar, 1995).

This is what Donna Haraway called the 'post-modern reinvention of nature' being endorsed by sciences and research trends such as the human genome project, and artificial intelligence and biotechnology. This new capitalization of nature not relying on 'the semiotic conquest of territories and communities' required the conquest of local knowledge paradigms, to the extent that saving nature obligated- 'valuation *of* local knowledge's of sustaining nature' (Lyotard, 1984).[4] Herein by bringing them into politics of science, local forms of knowledge were re-codified by modern science in utilitarian ways.

Consequentially, the myth of development came under two serious critiques, which condemn not just the fallout of development but also the ethical base of the idea, on two significant ethical frontiers, namely:

- the ethical implications of development and,
- the good, which though foundational to ethics, was presumed to be human good.

Evidently it became imperative to realize that the *well being* of present and future human populations depends invariably on an ecologically sustainable and socially equitable ways of living in the world. Moreover, there is something morally naive, about living in an anthropocentric reference frame where one species takes itself as absolute and values everything else relative to its utility. What matters instead is not economic growth *per se*, but the *content* of growth determined by, among other things, the economic institutions within which human activities are conducted, thus protecting the capacity of ecosystems to sustain *human well being*, a concern which transcends the barriers segregating the developed world from the underdeveloped. What is thus needed is an ethic for the biotic communities in which all destinies are entwined. However, for a concerned action to transpire we require a language and the discipline of development ethics is designed to provide one.

PART-IV

WHAT IS DEVELOPMENT ETHICS?

Applied Ethics: The Meaning

Philosophy has always been concerned with the most fundamental questions pertaining to how we should live and how we should conduct our social and political life. It is thus concerned with the question of human conduct-with the question what in the con-

duct of human beings is good, and bad, and would thus result into actions having morally significant implications. Also called *moral philosophy* these discussions of human conduct thus are most intimately associated with the discipline of ethics (Moore, 1962).

Altogether, the field of ethics, also called moral philosophy, thus involves systematizing, defending and recommending concepts of right and wrong behaviour. However, philosophers usually divide ethical theories into the three general subject areas of meta-ethics, normative ethics, and applied ethics.

- *Meta-ethics* deals with the examination of the origin and signification of our ethical principles. Meta-ethical answers to these questions concentrate on the issues of universal truths, the role of reason in ethical judgments and the insinuation of ethical terms themselves.

- *Normative ethics* on the other hand takes on a more practical task, for arriving at moral standards for regulating right and wrong conduct. This may involve articulation of the good habits that we should attain, the duties that we should pursue, or the consequences of our behaviour on others.

- Finally, *applied ethics* involves examining specific controversial issues, by foregrounding ethical reasoning and using the conceptual tools of meta-ethics and normative ethics.

Though philosophical ethics has always been to some degree applied to real-life, applied ethics brings in a process of moral reasoning to bear upon actual issues and helps us to think through these in an ethical fashion. And it is in this process that it determines the nature of normative theories and consequently applies these sets of principles to practical moral problems. This allows us to understand implications for example- on individual well being. Putting it simply, Applied Ethics is the application of ethics or morality (Singer, 2003).

Apart from their continuity, there are certain distinct features of applied ethics, which mark it out in practice from theoretical ethics. These are:

- Its increased attention to context and detail, and,
- It's far more holistic approach-and its willingness to link ethical ideas to a conception of human nature and human well being.

Not admittedly, an entirely new departure, the inception of applied philosophy could we be said to correspond with that of the western philosophical tradition. Thales (585 BC) the first of the early Greek philosophers is stipulated as having combined his

speculative philosophical interests with economic acumen and an interest in political and legal reform.

Nonetheless with later schools of philosophy offering their followers distributive codes of practice and principles for living, moral philosophers from Plato onwards, concentrated on practical questions, including suicide, the exposure of infants, the treatment of women, and the proper behaviour of public officials. Aristotle, perhaps, was the first philosopher who believed that it would be pointless to study ethics unless it would have some beneficial effect on the way one lived life. For both Plato and Aristotle however, ethical and political questions revolved around such notions as the good for man, the ultimate good, or what is good in itself and for its own sake. The assumption being that this inquiry led both to a way of life for the individual, and towards a conception of 'the good society'.

Subsequent philosophers frequently applied their ethical assumptions into particular cases, and saw this as a route for formulating guiding principles. Christian philosophers, notably Augustine and Aquinas, examined with immense care such matters. 'Hobbes had an eminently practical purpose in writing his *Leviathan,* and Hume wrote about the ethics of suicide. Practical concerns continued with the British Utilitarians, who saw reform as the aim of their philosophy: Bentham wrote on an incredible variety of topics, and Mill is celebrated for his essays on liberty and on the subjection of women' (Singer, 1985).

Nevertheless, during the first six decades of the 20th century moral philosophers largely isolated themselves from practical ethics—with a few notable exceptions. More so, even the immensely celebrated stature of Bertrand Russell who was very much involved in practical issues had nothing to do with his writings on topics of disarmament and sexual morality. 'Russell himself seems to have regarded his practical contributions as largely separate from his philosophical work and did not develop his ethical views in any systematic or rigorous fashion' (Singer, 1985).

Nonetheless, the value of such work came to be widely recognized during the 1960s, when first the U.S. civil rights movement and subsequently the Vietnam War and the rise of student activism started to draw philosophers into discussions of the moral issues of equality, justice, war, and civil disobedience. The process succeeded in reviving a renewed interest in detailed ethical discussions, of particular issues of contemporary practical concern, as believed by Peter Singer who may be thought of as one of the first philosophers who used applied ethics to express practical ethics. And it was then that it became significant to answer the question; as to whether philosophers did make

an appreciable contribution to such ethical issues? To answer the question meant that philosophers 'tell people what they ought or ought not to do' in fact, it was 'the application of philosophy to public issues' that would now act as the measuring rod to test the practical skill of philosophers (Singer, 1985).

THE SIGNIFICANCE OF APPLIED ETHICS IN DEVELOPMENT PROCESSES

Studied forthrightly as an economic issue, development had been defined so long as an economic condition to be achieved by a grid of political-economic- social and cultural processes rather than as a condition conducive for the attainment of human well being. The discipline of economics had been the primary source of policy prescription for development decision-makers on the assumption that no society is liberated from the 'economic problem', as economist's defined social reality to be.[5] And it was this assumption of 'scarcity', which followed that provided the keystone for their theoretical construction, and was consequently reinforced constantly (Sachs, 1997). Consequently, this notion further led economists into equating the welfare of a society with the sum total of its goods and services, as measured by net national accounts of per capita product or income.

The starkest manifestation of this equation of social productivity and social welfare was the growth ethic: expounding the conviction that the more must be better in the economic spheres. Rightly so, since social welfare is a matter of national product, and as economic growth entailed increased productivity, growth would automatically increase social welfare. This optimistic creed however was assaulted by serious challenges in the 1970's. What united the growth ethics sceptics was the developing suspicion that the quarter century of continually rising productivity in the developed capitalist societies of the west, post Second World War, had failed to yield a simultaneous increase in the social welfare (Sumner, 1996).

What emerged in the process were some basic truths:

- For both individuals and societies, economic welfare emerged as not a distinctive kind of welfare but a part of overall welfare depending on economic activity,
- Personal income or wealth was now believed as neither constitutive of individual welfare, nor a reliable indicator of it,
- National income or product too was regarded as not constitutive of social welfare or a reliable indicator of the same (Sumner, 1996).

Though the economic growth debate managed to expose the implausibility of merely identifying well being with income, yet it did not bring forth any unique corrective. Even as the promises of development began to prove illusory and challenges to it began

to emerge, one could nevertheless increasingly witness the change occurring wherein economics itself was reintegrating applied ethics into its conceptualization, methodology, and analysis; with a new paradigm of development in gestation. Amartya Sen, in his Royer Lectures entitled *On ethics and Economics*, further instated certain strong links between ethics and economics. He noted the contrast between the self-consciously 'non-ethical' characters of modern economics in opposition to the historical evolution of modern economics as an offshoot of ethics (Sen, 1987).

Herein applied ethics proved fruitful in:

- Bringing normative perspectives on practical issues,
- Foregrounding well being at the heart of the crisis of development.

As a result, the new discipline of development ethics emerged consequently from two sources, which were now converging:

- from engagement in development action into the formulation of ethical theory, and,
- from a critique of mainstream ethical theory into the crafting of normative strategies to guide development practices, concerning itself with informing attitudes and choices of which much of practical ethics overlapped with normatively informed policy analysis (Gasper, 1999).

DEVELOPMENT ETHICS: A CASE FOR WELL BEING

The crucial question however remains as to what binds the issue of 'development' and the notion of 'ethics' together? The answer of this question can be found in the notion of human well being. Moral philosophers have long recognized the centrality of well being in ethics, with well being most commonly used in philosophy for describing what is non-instrumentally or ultimately good *for* a person. Moreover, well being plays a vital role in any moral theory. One can take into account, Joseph Raz's 'humanistic principle' for instance: 'the explanation and justification of the goodness or badness of anything derives ultimately from its contribution, actual or possible, to human life and its quality' (Raz, 1986).

However, questions about the value of well being are, by and large, more familiar to the human mind than questions about its nature. Most of us manage our common lives on the unreflective assumption that well being is worth pursuing or promoting, whereas ill being is equally if not more worth avoiding or preventing. In all of this we are taking for granted the positive value of well being (Sumner, 1996). Furthermore, we generally think and act as though well being were valuable intrinsically than merely as a means

to some further, deeper good, thus assigning it a basic or an ultimate value.

The value of human welfare thus certainly seems to be intrinsic to humankind. Consequently, we thereby normally regard benefits and harms as mattering in their own right and not merely as means to further ends, which further assigns the discipline of development ethics, the following values:

- It is generic as it embraces a wide variety of more specific goods as standard sources of well being.
- It is significant, since it tracks the way in which individuals lives go well or badly, in their own eyes or from their own point of view.
- Finally, it is ethically salient, with the fact that a course of action will make someone better off counting in favour of it, and the fact that it would make someone's life worse off standing against it. Resultant, the central thesis of well being and ethics propounds, that development per se, has ultimately to do with ensuring that lives go well, or at least they not go badly.

Putting these points together, we may conclude that development theory requires a notion of well being with the properties listed above. It therefore seems to be an imperative task for moral theory to come up with a systematic account of well being to meet these requirements. Following which, a moral theory, even a non-utilitarian one, would need to rely on a notion of individual well being insofar as it concedes to a duty of benevolence and insofar as it supposes that moral principles are to be justified, at least in parts, in simulation with the impact they have on individuals' lives.

Thereby it is significant both for moral theory and for theories advocating 'rationality' or 'prudence' to come up with a theory of well being: a systematic account of 'what makes someone's life go better' which elucidates further the boundaries of this concept and also provides a clearer basis for measurement of the same (Sumner, 1996).

It is thus commonly supposed thus that there is a single notion of individual well being that plays the following three roles:

- To begin with, it serves as a significant basis for the decisions of a single rational individual in which he or she alone is concerned, wherein the moral obligations and concerns for others can be left aside.
- Subsequently, it is what a 'concerned benefactor', such as a friend or parent, has reason to endorse.
- Thirdly, it constitutes the basis on which an individual's interests are taken into account in moral argument. More so, this last claim is most plausible when the

morality in question is utilitarian, since on a utilitarian account the moral point of view represents just the point of view of a benefactor who is impartially concerned with everyone, and hence, if the second claim is positive, with the well being of everyone.[6]

DEVELOPMENT ETHICS: THE MAIN THEMES

As a result development's philosophical questions have now regained center stage:

- What is the good life, individually and collectively, across the divide of manifold cultures and value beliefs?
- What are the basics of life in society, in a polity, or the happiness in living together with others?
- And what standpoint must humans take toward nature so as to give way to sustainable development?

In addition to accepting the importance of these questions, most development ethicists share ideas about their field and the general parameters for an ethically sound development.

- First, development ethicists contend that development practices and theories have ethical and value dimensions, which can derive immense, benefit from explicit ethical analysis and criticism.
- Second development ethicists tend to perceive development as a multidisciplinary field encapsulating both theoretical and practical components intertwined in various ways. Hence, development ethics aim not merely to understand development, and promote desirable social and economic change, but also to argue for advocating specific conceptions of such change.

An area of agreement however remains that, development ethics must be accomplished at various levels of generality and specificity, with development ethics further assessing:

- Fundamental ethical principals,
- Development goals for promoting models of economic growth, growth with equity, basic needs and human development, and
- Precise institutions and strategies.

Most development ethicists further believe that their enterprise should be international with a proactive approach, with the ethicists engaged representing the poorer

nations as well, while seeking to forge an international consensus emphasizing commitment for alleviating worldwide deprivation.

Goulet further emphasizes that people seek a certain level of compatibility and synergy between their significative values (meanings) and their performative values (activity-choices). But with the gap that has opened, chiefly in developing countries, between significative values and the new performative values demanded in economic development (Gasper, 1995), such issues he asserts cannot be dealt without invoking the aid of development ethics.

'Development ethics' thus is essentially a lot about what is inherently right and wrong within development policies. Focusing on questions about what we mean when we talk about development, quality of life, freedom, self-determination, and democracy, the concept of development itself acquires profound philosophical connotations. Thus despite running contrary to suggestions of an 'opening up', 'development' in the sense in which it promotes genuine human well being, really requires ***direction*** and not openness.

Moreover, it is in such altercations where unpleasant outcomes are affected by individual or collective human agency, that the implication of ethical issues assumes a critical dimension. More so, with normative dimensions of development assuming far more significance in the Post Development scenario, development ethics is now summoned to an uphill task, transgressing mere instrumental norm settings for formations of ethically sound policy processes of change.

PART-V

CONCLUSION

ETHICS AS 'MEAN OF THE MEANS'

With the world now containing inequalities that are far more morally alarming, the gap between richer and poorer nations has widened. Nussbaum rightly states, that the chance of being born in one nation rather than another exercises a pervasive influence in determining the life chances of every child who is born. Therefore, any theory of development or ethics per se, that proposes political principles defining basic human entitlements ought to be able to confront these inequalities and the challenges they pose, particularly in a world in which the strength of the global market and of multinational corporations has considerably eroded the power and autonomy of the nation state (Nussbaum, 1981).

Although, since the middle and late 1980s, a relatively coherent body of work has

emerged, this has succeeded in highlighting the role of grassroots movements, local knowledge and local strength in transforming development and articulating the need for an ethically sustainable development. Yet, the authors representing this trend promulgate that they are interested not in development alternatives but in alternatives to development. The answer being, 'a policy informed by ethical considerations and capable of articulating social reform with technological modernization in the context of democracy and competitive participation in the world economy', a policy informed by development ethics.

Resultant, contemporary development thinking has thus become prey to unending and perplexed self-questioning of the goals of development being re-examined again, as is the case with the alternative strategies, to be adopted, for pursuing development or disclaiming it. Also what have acquired predominance in the present state of affairs are the questions pertaining to rethinking of the developing world, its politics, the options available and its hopes for sustainability.

With the new paradigm of development evidently in gestation, centering on human development with economic development as the means, the philosophical questions pertaining to development have regained the main stage. Moreover, now matters of environmental ethics, peace, equity, and meaningful existence in the ecosystem constitute a colossal agenda, and cannot be disregarded by the development ethicists.

More so, development ethics while offering a critique of development also provides us with a hinge for alternative notions of development from the pivot of well being. Nevertheless simple preaching of noble ideals will not exorcise blemishes from the realms of past development processes; and in itself it wields no prescriptive power unless it takes us beyond abstract morals and addresses the fundamental issue of human well being. It is thus imperative that ethics penetrates the value dynamisms in the power structures inherent in a given society and itself become a 'means of the means' (Goulet, 1995). It is in this sense that ethics must serve as a means of the means, and as a moral beacon illuminating the value questions buried within the instrumental means to which decision makers and problem solvers of all kinds resort.

It thus all the more becomes essential to analyze and lay bare the value content latently present in the means chosen by development decision makers. Any moral judgment thereby must also relate pragmatically to the technical data pertinent to the problem under study. Simultaneously, an ethic of social justice needs to harness concrete instruments in support of the struggle conducted by the underprivileged by bringing the issue of their welfare to the fore. Otherwise it would be a hollow exercise to speak rhetorically of human well being unless one builds social structures for promoting human dignity and eliminating obstacles for its realization.

It is here that Development Ethics as a discipline:

- Acts as the conceptual cement that coalesces together multiple diagnoses of problems with their policy implications, and
- It seeks to do this through an overt phenomenological study that exposes the value costs of varied courses of action.

Development ethics is thereby concerned with the means of human action and also with the relative worth of the different ends in relation to the costs involved for attaining them. A task, which it cannot fulfill adequately without inquiring into the basic human well being and grounds of one's preferences and choices. This would indeed entail the whole development enterprise being subjected to the value tests not only of human well being, but also of the components constituting it, such as, justice, human enhancement, and spiritual liberation. Eventually it is these values, which must pass judgment on development.

Development ethics by this means pleads normatively for a particular reading of history, one in which human agents are makers of history while bearing witness to values of transcendence. 'There is profound truth, even as there is literal exaggeration, in Marx's notion that till the present we have only witnessed prehistory' (Goulet, 1996). The commencement of authentic developmental human history comes indeed with the elimination of alienation.

Apparently, development ethics rightful task is precisely to abolish all alienation, which is the only guarantee that development processes will ensure a future (Goulet, 1996). Solidarity with the planet, and humankind as a whole, thereby, leading to the resurgence and the renewal of the environment bearing significant implications for us and the future generations, is evidently the ethical key into achieving development; that is at once humane and sustainable in the truest sense of the word.

END NOTES

[1] J. Barnes, (eds.)*The Complete Works of Aristotle*, Princeton University Press, Princeton, UK,1984, p 1729

[2] Myrdal (1962), Heilbroner (1973), Sen (1980b) and Streeten (1981) have all argued that value judgments of any kind perpetually managed to creep into economics and social science.

[3] Of an enormous literature adopting this viewpoint, see *The World Bank's annual World Development Report*, Oxford University Press, New York, 1986.

[4] "Knowledge in the form of informational commodity indispensable to productive

power is already and will continue to be a major-perhaps the major-stake in the world-wide competition for power. It is conceivable that the nation states will one day fight for control of information, just as they battled in the past for control of territory, and afterwards for control of and access to and exploitation of raw materials and cheap labor". For more details see— Lyotard, Jean Francois, *The Post Modern Condition: A Report On Knowledge,* Vol.10, University of Minnesota, 1984, p 5

[5] 'They love to trace its roots back to antiquity, using Aristotle and his worries about value as a case in point. But they see those ancient insights as mere initial intimations heralding the advent of the patron saints of the science, those who discovered economy in the 18th century.' For details, see: Wolfgang Sachs, *The Development Dictionary: A Guide to Knowledge as Power*, Orient Longman. Hyderabad 1997.

[6] The particular goods that make up well being are important from the point of view of the individual whose well being it is, and we can make and need to make at least rough quantitative comparisons within these dimensions of well being (comparisons of levels of comfort and enjoyment, for example). But the boundary between one's own well being and other aims remains unclear. Nevertheless, it does not matter that quantitative comparisons of levels or increments of our own overall well being are difficult to make.

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BOOK REVIEW

Kalyan Das

Ehsanul Haque
Sociology of Population in India
Macmillan India Ltd., New Delhi, 2007
pp. xiv + 3811, Paperback, Price Rs 225/-

The book *Sociology of Population in India* looks at and examines the demographic variables from the perspectives of the discipline of sociology. The book provides a good conceptual background, raises issues from empirical data and leaves ample tasks for students and researchers. The book raises plenty of questions to be addressed through systematic and meticulous research. The book has emphasized mainly on how the societal factors determine and regulate the demographic trends of fertility, mortality, migration besides ushering changes in our spaces.

The book, which is a pioneering effort by a seasoned teacher, examines the major demographic variables from sociological viewpoint. In a similar context other scholars though have addressed the demographic issues, missed out the analysis to captures the realities of the societies of our country. This book is a good source book for students, researchers and teachers as well as for general readers who take interest on demography. The notes incorporated explaining the technical terms to measure the various demographic components make the book understandable to the general readers.

The book is well planned with eight comprehensive chapters apart from the conclusion note. The introduction of the book provides a good note on the interface between demography and other sciences with a brief historical account. This is true that demography relies more on static and segmental analysis from data generated from varied sources; sociology provides a real context to understand and analysis demography effectively. It is interesting to know how social structure and processes regulate the demographic properties and one ponders how social characteristics do regulate fertility behaviour. The inter linkages between the social context and demographic text is the central focus of the book. The assumption prior to writing the book was that the overemphasis on economic aspects to understand demography has not succeeded in delivering the good.

The second chapter provides basic background on theoretical approaches – pre Malthu-

sian, Malthusian, Non-Malthusian- naturalist, socialist and Marxist approaches to population. We may accept that poverty, unemployment, miseries and other social ills are not solely due to man's inherent tendency to grow faster than the means of subsistence but because of the inherent evils of social organisation of production. The structural functional approach considers demographic factors as integral part of social system. All social functions – socialisation, integration of values and communication etc. are intricately interrelated with the reproductive function. The familial organisation, with institutionally defined norms, encompasses the reproductive process. We find fertility and the other demographic components are socially motivated and normatively determined. The reader can draw good theoretical insights from the book, relevant to analyse the demographic transformation at present context in our space.

Chapters three, four and five of the book deal with the three major components of demography - fertility, mortality and migration. Three chapters each exclusively deals with these three aspects provide good backdrop to look at the contexts from the perspective of our societies. The empirical secondary data prepares the context for analysis and leaves further scopes for research in numerous aspects. This could be true that in a poor agrarian economy poverty, coupled with social backwardness, encourages people to look within and assess the economic utility of their reproductive behaviour. The book mentions many regulating factors inherent in our society influencing the age of marriage and number of children to be delivered. The book further cites references from a number of study how education and religious factors influences the level of fertility. There is good analysis on how fertility behavoiur varies by familial arrangements or family types as they differ in their normative order and social requirements. Some issues and hypotheses mentioned in the book leased enough thoughts to be examined and experimented from field experiences. For example, to capture the decline in sex ratio, observation is that this decline is socially constructed. This is inferred because the high incidence of female child mortality is highly correlated with the decline of sex ratio in certain social space where the structural and cultural ethos being governed and derived from the normative order of society. The book also incorporates notes on observation on value orientation towards health facilities and health management on mortality.

We, in general, find overemphasis of the economic factors on migration. Sociologists' view is that the factors apparently look economic are actually responses of the social structure of the society in which economic opportunities grow. Migration is one of the integrated social processes and an integral part of the larger social system. In certain social conditions migration is active or inactive and has effect on social change. This is also true that certain social factors facilitates and restricts migration. Citing one example from rural areas the analysis of migration on a single land related poverty factor

looks inadequate because the economic inequality is to a great extent conditioned by the rural social structure. The chapters have good analysis of the issues with some references of earlier work done by a number of scholars. The chapter on migration also raises issues of social consequences of migration– social advancement, assimilation issues and adaptation in urban areas.

What are the social contexts of the changes in the age and sex structures of population? Composition and changes in the size of categories of children, working population and old dependents lead to plan the needs, functions and care of individuals in these categories as the changes could have far reaching social consequences for each category in particular and the society in general. For example, age maturity determines the economic and reproductive functions but at what specific age these functions are to be performed and up to what extent they are to a large extent socially conditioned in our country. This could mean that our state's action in manpower planning and human resource development context to an extent is socially conditioned. Further there emerge observations that rapid population growth reduces job opportunities and could raise youth unrest and political instability. Further and aging will pose serious problems in India with inadequate level of social security measures. These are the issues raised in the sixth chapter to understand the contexts of the changes in age and sex structure of population.

There are implications that economic development alone cannot provide sufficient conditions to regulate demographic factors. It can be observed that number of social factors could impinge upon economic development. Certain societies have tradition bound with long established customs, social beliefs and institutions and own socially determined demographic needs. However, gradual move of the society to adjust in the changing situation could lead to changes in their approach. In this context the chapter on social development and population growth mentions and analyses some of the most pertinent issues. It does not seem logical to conclude that population tend to increase at geometrical rate much faster than the food production. Such laws actually do not exist, but if they exist they are historically and socio-economically conditioned. At different stage of social development, varied social conditions emerge, which condition all the demographic variables. Every stage of social development makes the effort to create favourable social conditions to improve the quality of life of the people. We observe that population growth affects the family structure, the productivity level, work opportunities, educational advancement and health facilities; and encourages child labour, gender based division of labour, and out migration. On the other hand, social development could help in emergence of new set of social priorities; develop a new mind set and social advancement with small family norms besides many more positive externalities. However, the grim situation of high IMR, MMR as reflected in India puts a

question mark on the type of social development taking place in the country. Social development is a necessary condition for a meaningful decline in the basic indicator of mortality because development promotes attitude, behaviour and values favourable to health practices and generates resources to provide sufficient protective covers in the form of food and nutrition and sanitation and health facilities. The seventh chapter of the book raises concern for these issues.

The chapter eight of the book mentions about the need of population policy and provides an analysis of population policies adopted in the country. Policy makers in India are confronting twin problems of population explosion and socio-economic backwardness, coupled with alarming economic inequality, improper use of resources, inadequate capital formulation and socio-cultural traditionalism. India's demographic dimensions are socially conditioned and population related polices in India could not succeed much because they were not integrated with a variety of interrelated social factors.

This well referred book is primarily a comprehensive textbook on demography. The book also provides insights to the researchers. One could see many statements in the book are looked too general and unreferred. This could be based on the assumption that these are very close and inherent in our social realities and one can capture these from general observations. The statements however, raise queries for further research and studies.

BOOK REVIEW

Dr. Hansa Jain

Gopal Naik, Sudhir Kumar Jain and Santosh Kumar Singh
Econometric Modelling of the Indian Cotton Textile Industry
Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi, 2001, pp. 217

The monograph entitled 'Econometric Modelling of the Indian Cotton Textile Industry' is the outcome of one of the projects undertaken by Centre for Management in Agriculture at the Indian Institute of Management, Ahmedabad. The study is a greater insight into the various aspects of the cotton industry which has an important place both at the national and international level. Cotton contributes significantly to the agricultural and industrial economies of India. Cotton fabrics are in demand in domestic and international market owing to its eco-friendliness and comfort-in-use. Cotton generates employment for skilled, semi-skilled and unskilled labourers in both rural and urban areas and provides livelihood to a large number of people. Thus this commodity has attracted the intervention of central and state governments. Owing to its strong forward and backward linkages with the textile and agro-input industries, its nature has become very complex. The authors have made sincere efforts in dealing systematically with this subject.

The study considers cotton farming, spinning and weaving sectors for the purpose of constructing models. The authors have built three models to accommodate different needs of the users of the study. The aggregate model explains the relationship among the various broad groups of variables influencing demand, supply and prices in each sector, the disaggregate model captures quality variations and the regional model explains the regional variability in the production of cotton. Linear structural equations have been specified to represent demand and supply conditions for each model. Market clearing conditions for each sector in the model have been specified through identity. The study aims at developing an appropriate econometric simulation models for understanding and quantifying the relationship between important variables of all major sector of this industry. It also aims at using the model for long-term forecasting and policy simulations.

The study is divided into seven chapters. The first chapter gives a general introduction of the Indian cotton textile industry with a brief description of cotton, yarn and fabrics

and also the existing government policies and priorities for demand, supply, prices, credit control and international trade. The second chapter describes the structure, characteristics and demand and supply scenarios of this industry with its regional and varietal perspectives. The third chapter explains the forecasting need of this industry for different government and non-government agencies. The fourth chapter presents the conceptual and empirical framework of the models. The fifth chapter gives the estimates of the models and the results of the validation of the model. The sixth chapter deals with simulation of the models in which the results of the short term and long term multipliers of both the models have been reported and discussed. The dynamic simulations of the baseline values of the endogenous variables along with the various policy measures are also presented in this chapter. The monograph ends with a concluding chapter and a rich bibliography. The results are highlighted with the help of tables and graphs. The appendix consists of some conceptual clarifications and useful tables.

The authors have presented the complex nature of the cotton textile industry in a very simplified and holistic manner. It would necessarily help the decision makers in obtaining accurate information about the inter-relationship among the major variables of the country and their forecasts for short, medium and long terms. It would thus help in formulating appropriate strategies and policies for production, procurement, financing, marketing, research and development and investment. Besides, the understanding of the behaviour of major variables from the regional perspective will provide valuable inputs for policy making. The study would be of immense value for those who are involved in the study of commodity sectors. It is in fact a unique contribution in this field.

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The Journal solicits original articles from scholars on topics of social sciences more particularly pertaining to the northeast. The articles should follow the format of articles published in the journal. The manuscripts should be neatly typed in double space, either in MS Word or in PageMaker 6.5, Times New Roman Font, sized 12 points. The articles must be accompanied by an abstract of about 150 words. Two copies of the articles and abstract along with a soft copy containing the article should be sent to The Editor, Social Change and Development, Sapta Swahid Path, Dispur, Guwahati - 781006. Additionally the articles may be submitted for publication via emil: dkdscd@yahoo.co.in. The articles are properly reviewed and edited before publication. In some cases, authors may be requested for further revision by the Editorial Board.

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