

TECHNOLOGY AND WOMEN IN INDIA

With Special Reference to the Rural Sector

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Economic growth and technological advancement in India in the current decade is very impressive. Technology, market and development are considered gender-neutral. But there is pronounced urban bias and rural neglect in the development process of India. Modernization of the economy or advancement of the society is a semi-myth for village women. The gender division of labour within the rural household has remained culturally stubborn. Women as a class are oppressed and subdued by the hegemony of social patriarchy. Economic growth has failed to improve the situation either. Rather technology and labour market imperfections have accentuated the concentration of women in domestic works with non-market roles and activities, generating a new process of 'housewifisation', not 'feminization of jobs' in the rural sector. Although gender empowerment has been a buzzword in development circles, the concept remains ambiguous. Gender concerns and discourses survive within the development bureaucracies dominated by men. It is easier for them to ring-fence gender issues as a problem of poverty and to argue against 'feminization of poverty' than to admit the gender disadvantage which crosses the boundaries of class and ethnicity. Since the beginning of planned development, women have been viewed as a deprived section requiring welfare measures. Most studies and reports on women have only remained as a source of data, which rather endorses the passivity of the state. This paper is based on a primary survey of 900 households of two villages of Orissa. It studies the impact of technology on various social parameters of village economy. It examines the link between technology and occupational pattern of women, the level of female education, and identifies the factors that influence women employment. It assesses employment potentials and opportunities for women in both farm and non-farm activities in the villages. It attempts to reveal the real scenario of the rural sector, and argues that rescuing gender from poverty trap means we need poverty-independent gender analyses and policies. Education and technology should ensure liberation and freedom of thought for all human beings. It should break gradually the shackles of tradition that binds women in the man-made gaol. The gender issue should be delinked both from myopic economics and insensitive politics.

1. DEVELOPMENTALISM AND RURAL SECTOR

There is a global economic movement of economic integration through technology. The impact of this globalization process has become all pervasive and inexorable. All sectors of developing countries seem to be vibrating with economic buoyancy. It has generated an impervious atmosphere of over optimism of instant economic growth. There is expansion of trade, investment, market, and increase in GNP, productivity, per capita income, profit, efficiency, salary etc. Life styles of metro people

in India have become more attractive, comfortable and fashionable than ever before. There is worldwide process of overproduction but unemployment and dramatic contraction of purchasing power of people.¹ The global economic system is thus characterized by two contradictory forces: the consolidation of cheap labor economy on the one hand and the search for new consumer markets on the other. Unfortunately the former undermines the latter in the long run. It generates social apartheid and undermines the rights of women. It is an insidious and inscrutable process, which is conducive to globalization of markets, which ultimately undermines human livelihood and destroys civil society in the south².

After India's independence and a long period of planning and development exercise, spanning over more than 56 years of in India, it is saddening to observe that the incidence of poverty and livelihood insecurity have remained as grave as ever. There is pronounced urban bias and rural neglect in the development process. The economic development has created an urbanization process, which is dysfunctional, and an industrialization pattern, which is regionally concentrated. The development planners have remained broadly myopic and complacent with trickledown effect for the rural sector. The result of the development exercises have been the persistence of a huge low productive primary sector, slender industrial sector and a bloated tertiary sector. All the benefits of the welfare measures have gravitated willy nilly towards the elite class and such other groups with political visibility.³ The rural sector of India has remained closed to the subsistence level and sensitive to the vagaries of nature -flood, cyclone and drought etc.

With the euphoria of 'high-tech civilization', the concern for rural development, rural poverty, hunger and inequality virtually are dismissed as an obsession of egalitarian romantics. This insolent attitude and insouciance have generated dangerous consequences. It has spreaded an excitement of over optimism of instant change and pragmatism of high-tech-efficiency. It appears to be very logical and attractive. But its socio-economic impact and implications are not uniform across social groups, genders, regions, sectors, and generations. Its statistical mirage underestimates the ground reality and depicts a misleading picture. When one aims at gender equity, neither the earlier panacea of central planning nor the virtues of free marketism appears to carry much conviction for the common man of backward regions of India. The problem of economic vulnerability, livelihood insecurity and malnutrition among village people is becoming more pronounced .

2. WOMEN AND ECONOMIC DEVELOPMENT

The millennium development Goals (MDG) aims at eradicating poverty and promote gender equality and empower women by 2015. There is need to improve the policies and implement them with greater impetus. But poor women in India remain in traditional fields of employment. When traditional jobs become unavailable due to

¹ Michel C (1997), *Globalization of Poverty*, Madhyam Books, New Delhi.

² Kabra, K (2000) Indian Economy 98-2000, *Alternative Economic Survey*, Rainbow Pub.Delhi.

³ Das Kumar (1997) Asian Profile of Underdevelopment and Poverty, *Asian Profile*, Canada, 5(1)

number of factors, women are forced to seek employment in other areas, which may have no relationship with their original experience and expertise. Women have a marginal role in family decision making, they are primarily responsible for keeping the hearth going. They are occasionally consulted on marriage negotiations but not on any financial matters in the villages. Women's economic contribution has been invisibilised in the industrial process of economic development.⁴ This trend is not linear or unidirectional. Women are also displaced and lost their share in the industrial workforce due to upgradation of technology, and reduction of labour intensity of production through automation and adoption of high-tech. Employers in the private sector, in the process of modernization, eschew the responsibility for workers well being in the name of eliminating market distortions. Moreover, in the current globalized economy, women's social subordination coincides with the absence of economic alternatives. Employment of women in industries has been accompanied with deregulation of labour protection. Women fail to defend or promote their interest both as women and as workers. Even male-led labour unions either ignore or consider women's demand as divisive and irrelevant to the interest of the 'real working class'. The women-heads in the families face serious challenges in village economy due to low literacy levels, low asset holdings, lower productivity of land, lesser access to avenues of income-earning and governmental help and the declining kinship supports. The differential social evaluation of the sex roles, the male-orientation in running households coupled with rural poverty and household poverty enmesh in narrowing choices open to women heads of households. The capital intensive technology has rather trivialised the gender issue. The whole host of economic and social structures and processes that reinforce patriarchy, devalue and commodify the women. The confluence of modernization does not improve the fate of women.

3. TECHNOLOGY AND WOMEN OF INDIA

Modern technology is supported and directed by powerful institutions and interests. Men gravitate to science and technology. We must question, whether technology is male dominated because it demands some essentially masculine traits, or 'simply' because technology is where the power is?. Technology is socially constructed, or co-produced, alongside gender.⁵⁵ Technology itself gets gendered in the eyes of would be technologists. The continued male dominance in science and engineering is due in large measure to the enduring symbolic association of masculinity and technology by which cultural images and representations of technology converge with prevailing images of masculinity and power. The use of technology is always discriminatory. Technical prowess is what defines them as engineers *and* what gives them a sense of power. The symbolic gendering of technology extends beyond the artifactual, but it has material consequences. Within the masculinity-technology association, one can discern a series of highly gendered dichotomies. Most obvious of these is the distinction between being people-focussed and machine-focussed. It corresponds to the division between feminine

⁴ Boserup, Ester (1990) "Economic Change and the role of women" in *Persistent Inequalities: Women and World development*, (ed) Eren Tinker, Chapter-2, Oxford U. press, New York.

⁵ Faulkner, Wendy. (2000). The power *and* the pleasure? A research agenda for "making gender stick" to engineers. *Science, Technology, & Human Values*, 25(1), 88-120.

expressiveness and masculine instrumentalism. Most women routinely interact with people *and* technologies. For example computer is implicitly rather than explicitly gendered. 'Hard' technology is inert and powerful, while 'Soft' technology is smaller scale. So the world of technology is made to feel remote and overwhelmingly powerful because of the hard-soft dualism. The hard-soft dichotomy also extend to styles of thought in technology ⁶. On the masculine side of those dualisms we have an objectivist rationality associated with emotional detachment. On the feminine side we have a more subjective rationality associated with emotional connectedness. Males have dominated the 'internet culture' since its inception. The Internet culture can be discomfoting and alien to females.⁷

India has achieved higher technological advancement during last decade. The Green Revolution, which focuses on increasing yields of rice and wheat, entails a shift in inputs from human to technical. Women's participation, knowledge and inputs are marginalized, and their role has shifted from being "primary producers to subsidiary workers." Women work longer hours and their work is more arduous than men's, yet their work is unrecognized. Men report that "women, like children, eat and do nothing." Technological progress in agriculture has had a negative impact on women. There is tremendous effects of information technology on women's employment and the nature of women's work in all third world countries including India .⁸ But in areas of technology, till today women represent about 10 % of researchers and about 5% of manager. The impact of information technology on society has not been uniformly beneficial, and the technological divide is being increasingly felt, especially in the developing countries. Serious obstacles still continue in achieving gender equality. The gender implications of digital divide is very serious in India. Access to and use of the Internet has important economic, educational, and social benefits, and those who are excluded from Internet participation will also be excluded from several benefits.⁹ Lack of training does not allow them to escape from their sex-typed slots. The women from poorer families face challenges as they adjust to new technologies. Their jobs do not reintegrate them, leveling the hierarchies and adding responsibilities.¹⁰ It is still believed by the elite class of Orissa that science improves their role and make them better mother, better wives, enriching their domestic lives. They do not think beyond that. Women still face subtle resistance to their participation in science and technology, no matter how talented she is, from all corners, particularly from the husband, how so ever educated he may be. Women are expressly excluded from many activities. Because marriage has remained indispensable goal for the women, particularly in Orissa. All her achievements culminate in a good marriage and proving her motherhood. Not being married is a great social stigma both for the family and the girls.

⁶ Edwards, Paul N. (1996). *The closed world: Computers and the politics of discourse in cold war America*, Cambridge, Mass: MIT Press.:167-72.

⁷ Kiesler, S., etal 1985). *Pool halls, chips, and war games: Women in the culture of computing*. *Psychology of Women Quarterly*, 9, 451-462.. Turkle, S. (1984). *The second self: Computers and the human spirit*. New York: Simon & Schuster.

⁸ Swasti, Mitter (1997). *Women Encounter Technology*(ed) Routledge ,UK.

⁹ Jannet (1998) *Women and Girls Last: Females and the Internet*, IRISS '98 International Conference: 25-27 March 1998, Bristol, UK.

¹⁰ Gattiker (1994). *Women and Technology* (ed) Walter de Gruyter

Not becoming mother is considered greater ominous. Therefore getting higher education for girls is an accident. Ninety percent of marriages are caste-based, arranged by the parents. Therefore parents feel it as a burden or duty. Girls continue their studies till the parent get a good boy for them. Education reduces the set of choice for the parents. So it is perceived as a problem for many girls. It is increasingly difficult to marry and get a partner. A good girl student experiences very encouraging motivation from the teachers, but cold attitude from the parents and relatives. Besides this, the amount of dowry-offer proportionally increases with the girls schooling for the parents. Even today many educated people (including the potential husbands) think that educated women would engage in deviant social and political behavior.¹¹ It is perceived that she would refuse to do household work and disobey their husband, if their education is too higher than the husband. They would become masculinized and expect to be included in men's activities. Advocates of women's education argue that education will help women to fulfill their God-given duties toward their husband and family. Therefore women suffer greater subordination and deprivation both at home and in society. Oppression of women in Orissa can be described as hypocritical at its worst and schizophrenic at its best.

Women should be given various (both farm and non-farm) training to escape from their sex-typed slots. The aim with jobs should be to reintegrate them wherever possible, leveling the hierarchies, adding responsibilities to lower grade jobs and building in more interaction with the technologies in the case of routine operations and jobs. It should provide pathways for lower skilled women workers to learn and progress. The aim of training should be to encourage women of any age or occupation to consider on-the-job or off-the-job training for more technical work. Other wise they are more susceptible to displacement and deskilling by emerging push-botton technology. Technology should liberate women potential instead of hooking them up, or tying them in side the virtual prisons. Community-based women's organisations should be instrumental in the process of enabling women to cross the so-called digital divide .Technology should be powerful tools for women to overcome discrimination, achieve full equality and higher well-being.

4. RURAL POVERTY AND WOMEN IN ORISSA

India consists of 28 states and six union territories of which 17 are major states with a population of one billion. Orissa is the poorest state of the country. It is the state which depict the paradoxical situation of economic growth and coexistence of poverty and livelihood insecurity of people. Livelihood Security refers to the poverty line defining inadequate income, consumption, nutritional level, health status, life expectancy, and asset holding of the people. Livelihood consists of both generation of income as well as the ownership of productive assets that reduces the vulnerability of marginalized communities.¹² It involves the capabilities, assets of both material and non-material resource required for a means of living. A majority of the village population is still dependent upon the agricultural sector for their income. The income derived from farming is too little to improve their economic status. The rural poor are unable to save

¹¹ Geisman, Donna (2000). *Women, Science and Technology*, Routledge, London.

¹² Dorward, Andrew et al (2003) Markets, Institutions and Technology: Missing Links to Livelihood Analysis, *Development Policy Review*, Vol.21(3) pp.313-332

and do not have access to credit in order to invest in creating assets. The livelihood strategies of poor people in the villages are in reality different from those of rich people. The reduction in poverty in India is a myth. One fine morning the poverty level of India reduced from 36 % to 26% without any commensurate results. The definition adopted by the government at present has conceptual problem and therefore poverty is consequently underestimated.¹³

Table 1. STATEWISE HUMAN DEPRIVATION INDEX:

Sl.No	Major States	Poverty line	Illiteracy 2001	IMR 2001	DI	Rank in DI	Rank in WEI
1	AndhraPradesh	15.77	38.89	66	40.21	9	20
2	ArunachalPradesh	33.47	45.26	44	40.89	7	13
3	Assam	36.09	35.72	78	49.93	5	19
4	Bihar	42.60	52.47	67	54.02	3	25
5	Gujrat	14.07	33.57	64	37.21	12	10
6	Haryana	8.74	31.41	69	36.38	16	12
7	HimachalPradesh	7.63	24.09	64	31.90	18	6
8	Jummu&Kashmir	3.48	45.54	45	31.34	19	21
9	Karnataka	20.04	32.96	58	36.99	13	16
10	Kerala	12.72	9.08	16	12.59	30	4
11	MadhyaPradesh	37.43	35.92	97	56.77	2	23
12	Maharashtra	25.02	28.73	49	34.24	17	17
13	Orissa	47.15	36.39	98	60.50	1	22
14	Punjab	6.16	30.05	54	30.06	20	5
15	Rajasthan	15.28	38.97	83	45.74	6	24
16	Sikkim	36.55	30.32	52	39.61	10	8
17	Tamilnadu	21.12	26.58	53	23.54	23	11
18	Tripura	34.44	29.36	49	36.59	15	15
19	UttarPradesh	31.15	42.64	85	52.92	4	26
20	WestBengal	27.02	30.78	53	36.92	14	18
21	Delhi	8.23	18.18	51	25.80	22	2
	India	26.10	34.80	71	43.96		

Source : 1. National Human Development report 2001 . India

2. Based on NHDR 2001 literacy rate

3. Economic and political report 2003, May. 10.

Note. DI=Deprivation Index, WEI=Women Empowerment Index

The government uses that statistics to camouflage the real state of affairs. Orissa is the poorest state of the India having 48% of its population below the line of poverty. The deprivation Index estimated for all states depicts the Indian scenario and place of Orissa in the national map. Orissa has the highest IMR, MMR and high rate of illiteracy. It has the maximum concentration of tribal population. Incidence of poverty is the severest on Women and children of Orissa. The standard prescription for growth have not

¹³ Meheta Jaya et al (2000) Poverty Statistics: Bermicide's Feast, *Economics and Political Weekly*, July 1st.

ended poverty or hunger anywhere in the state. Poverty reduction is the bench mark against which success of development institutions must be measured.

Poverty, hunger and starvation deaths persist in KBK districts of Orissa despite large sums are spent in various Govt programs. The ongoing poverty alleviation programmes of the govt do not attack the poverty at its roots. Rather they tend to polarize the society by concentrating income in the hands of few and narrowing the social and economic opportunities for the poor¹⁴. Land degradation, water scarcity and growing vulnerability to economic stress are real threats to food security. Hunger is considered as the result of underdevelopment. Therefore there is need for appropriate mix of resources, food, water, land, credit, training, market and technology in order to create enabling condition for the poor people. Policy makers of India attempt to fight against 'Feminisation of poverty'. It does not mean that poverty is a gendered experience but that the poor are mostly women. The poorer the family the more likely it is to be headed by a woman. But poverty can not serve as the proxy for subordination of women. Therefore anti poverty policies can not be expected to necessarily improve the position of women.

4. 1. Feminization of Jobs and Village Economy

Independence in all countries has brought radical changes in the traditional hierarchy for men but much less for women in Orissa. For example, modernization of agriculture resulted in mechanization ,which had reduced the work burden of male. But women of Orissa continue to perform their drudgery- ridden traditional hand operated tasks unless their family income is sufficient to shift some work to another women from less well-off families. Advocates of globalization argue that there is feminization of jobs by looking at the rising work participation rate among females. But it does not solve the problem of gender inequality in Orissa. The ergonomics and working condition of employment in the urban informal sector is becoming worse. There is lack of training, job insecurity, health hazards, low wages, longer working hours, intensive supervision and contractual tasks etc, irregular salary and absence of social security benefits. This entails heavy exploitation of women workers of Orissa. Sometimes young girls are pressurized by the family to work in factories or offices. Sometimes they choose 'bad jobs' on their own in the face of strong parental oppositions. They see their job as a route to escape and find personal liberation. Employers take the advantage of their psychological/economic insecurity. Social dynamics so operate in side the house that even working women are not happy either. Given the opportunity they prefer to leave the job and remain as idle mothers. Some of them even cherish the 'comfort and care' of the husband for their non working wives.

The gender inequality in Orissa has remained very sharp within both rural and urban households. It manifests also in the labour market. Since the employment options available to women are severely limited and since the opportunities for skill acquisition and job mobility are more limited for the female than the male, the work force participation for the female means the relentless weariness of multiple burdens. The economic citizenship has failed to improve the situation either. Both technology and

¹⁴ Curie , Bob (2000), *The Politics of Hunger in India*, Macmillan India, Chennai.

labour market imperfections have been continuously displacing the female workers from high productive activities to low productive activities, through casualisation and contractualisation of jobs. Growing industrialisation and cut throat market economy suits and reinforces the image of the female home makers par excellence. The work participation rate of female is rising in the informal sector only. They are ill-paid but don't leave the job due to increasing unemployment. This need for survival drives the woman to a virtual rape situation. Harassment at work place is real and pervasive. The women have no courage to report due to the fear of further harassment, trauma and re-victimization. Even earning women do not have the freedom to spend or regulate their lives. They are expected to hand over their salary to their husband or in-laws. The problems of managing both the employment situation and the home, and the suspicions about the woman's character continue to make matters worse. The male dominance is all-pervading and there are implicit assumptions that the wife should have a lesser designation at the work place. The gender bias at work expects a woman executive to "look like a woman, behave like a lady, think like a man and work like a donkey".

The gender division of labour within the household of Orissa has remained culturally stubborn, till today. Women as a class are oppressed and subdued by the hegemony of social patriarchy. In Orissa, new labor saving devices have not changed the patterns of life and labor of farming community. State policy treats farm women as consumers, not producers. Farm women perform their field labor under a patriarchal system in which their work "belonged" to male family members. Their household labor remained unaffected by the technological revolution which changed life style of urban women. Ironically, all home appliances and cooking gadgets encourage women to adopt the full-time homemaker role taken by urban housewives¹⁵. But village women of Orissa prefer their productive roles on and off the farm. The village society of Orissa recognizes farming as a male occupation, so many of women's contributions to modernizing farm life have been ignored or underestimated.

5. LIVELIHOOD SECURITY FOR VILLAGE WOMEN IN ORISSA

The concept of livelihood is defined as a means of living or supporting life and meeting individual and community needs. It involves the capabilities, assets of both material and non-material resources required for a living. It refers to poverty line defining adequate income, consumption, nutritional level, health status, life expectancy, and asset holding of the people. Livelihood consists of both generation of income as well as the ownership of productive assets that reduces the vulnerability of marginalized communities. A majority of the village population is still dependent upon the agricultural sector for their income. The income derived from farming is too little to improve their economic status. The rural poor often are unable to save and do not have access to credit in order to invest in creating assets. As a result, there is over exploitation of natural resources such as water and forests in people's attempts to invest inputs into their agricultural production. The livelihood strategies of poor people in the villages are in reality different from those of rich people. Rich people always have the capacity to diversify their livelihood strategies because of the risks involved. The success of a

¹⁵ Katherine Jellison (1993) *Entitled to Power: Farm Women and Technology*, UNC Press.

livelihood strategy depends on both physical and human factors. In state like Orissa, which is economically not developed, the sustenance and management of a good standard of living and maintenance of secured livelihood is really difficult. The poor villagers are subjected to the prey of vagaries of nature and variance in monsoon, which lead towards very low level of production of crops and family income.

The livelihood becomes sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its assets both now and in the future, while not undermining the resource base. Sustainable Livelihood System promotes equity between and among generations, races, gender, and ethnic groups; in the access to and distribution of wealth and resources; in the sharing of productive and reproductive roles; and the transfer of knowledge and skills. Sustainable livelihoods are based on the functional interrelationships in which every member of the system is needed and participates. Sustainable livelihood supports meaningful work that meets the social, economic, cultural and environmental needs of all the members of a community- human, non-human, present and future and safeguard cultural and biological diversity. It stimulates local investment in the community and help to retain capital within the economy.

A futuristic nightmare is visualized for women in the villages, where widespread unemployment leads to economic insecurity and cuts in government spending and employment mean, worsening health services, lesser access to education and deterioration in civic services. Since gender relations at the household level governing the sexual division of labour tend to remain rigidly in place, young women are forced to give up their education or prospects for gainful employment in order to help their mothers in household maintenance. Thus economic reforms, by ignoring the crucial cultural and structural aspects of gender, interact with the existing gender asymmetries affecting women of Orissa in negative ways.¹⁶ Some of these factors especially those that concern gender ideology are indeed very difficult to measure quantitatively.

6. TECHNOLOGY AND WOMEN'S OCCUPATION IN VILLAGES: FIELD SURVEY

Livelihood options and occupational pattern of the people are directly and indirectly related with market mechanism. Sometimes market works friendly to the poor people and also sometimes expanded market access creates problems of livelihoods for them. Many social and cultural factors which influence women employment opportunities are persisting in the villages. Poverty and gender are not entirely separate social phenomena. The term "feminization of poverty" does not mean that poverty is a gendered experience. Previous studies used to focus on vulnerability context, livelihood assets, policies, livelihood strategies and outcomes. They never perceive the gender dimension of the issue. Women belonging to landowning rich class, being mostly dependent housewives, run the risk of higher livelihood insecurity with worst fallback

16. Dewan, Ritu (1996) ,Gender: conceptual overview, *Economic and Political Weekly* April,19.

position. Our survey focuses on both endogenous and exogenous processes that influence the livelihoods of rural women. It identifies the crucial variables that influence the livelihood pattern among both land-owning and labour-selling class of women in the villages of Orissa. It analyses various farm and off-farm activities, which contribute to the family earnings, pursued by village women. It explains various livelihood needs, potentials and opportunities for village women.

During our field survey we examine the links between technology and gender within the villages of Orissa. It analyses the occupational pattern of women, the level of female education, and identifies the factors that influence women employment. It assesses employment potentials and opportunities for women in both farm and non-farm activities in the villages. Orissa belongs to the coastal belt of eastern India. It has 30 districts. This study is based on the census study of two villages of two districts of Orissa. Two villages of Orissa have been selected purposively. The economy of both the villages centers around agriculture where as the first village has higher share of non farm activities. The first village is nearer to the town, second village is a remote one. It analyzes the occupational pattern of women, their decision making power and contribution towards to the family income. It analyses how women are contributing to their family income through various farm and non farm works. Mostly women are engaged in handicrafts, appliqué works and other small scale cottage industries.

7. CHARACTERISTICS OF THE STUDY VILLAGES

The study focuses on the scope, potentials and opportunities of income generation among women in both the villages. It analyses, how women are utilizing these opportunities for getting employment and improving their earnings in the village economy. We observe the following difference between the two villages.

- The average family size is lower in the occupationally diversified village, Nuasasana.
- The dependency ratio of is higher in the agricultural village, Madhusudan pur.
- The percentage of housewives is higher in the pure agricultural village.
- The work participation rate among women is higher in the occupationally diversified village.
- Higher literacy among the people motivates the people to diversify their

Villages	Districts	Total House Holds (No)	Population below Poverty line (%)	Irrigated land (%)	Dependence on agriculture (%)	Distance from nearest town (Km)	Dependency ratio (%)	Male Literacy (%)	Female literacy (%)
Nuasaan	Puri	430	53	80	75	20	76	52	30
Madhusudan pur	Jajpur	470	66	20	80	50	80	40	18
Orissa	30 districts		48		76	..	62	50	32

- livelihood in the first village .
- Lack of or lesser irrigation facility fail to motivate the people to pursue non-farm activities.
 - The higher percentage of marginal farmers encourages non-farm activities.
 - The higher the percentage of wasteland, higher is the motivation for off-farm activities.
 - The land-man ratio is lower in first village where people have high propensity to carry out non farm activities. The lesser the LAP higher is the propensity to carry out non-farm activities.
 - The occupational concentration is higher in second village and occupational diversification is high in the first village
 - The dependency ratio is higher among higher caste and rich households due to many social constraints

7. 1. Employment of Women outside the Village

There is high degree of seasonal unemployment and disguised unemployment in both the villages. The agricultural productivity is lower in Madhusudanpur than Nuasasan. Among the hired agricultural labour of Madhusudanpur 56% are men and 33% are women. On the contrary among the hired agricultural labour of Nuasasan 55% are men and 53% are women. Therefore the work participation rate among women in Nuasasan is higher than that of Madhusudanpur. But there is male-female wage differential in the farm sector of both the villages. It is observed that 21 % of the house holds of Nuasasan are getting employment in service sector out side the village. While 11 % of the households of Madhusudanpur are doing services outside the village. But 9% of households of Madhusudanpur and 16 % of households of Nuasasan are engaged in wage labour works out side the village. Mostly women are found in the category of wage labour, working inside or nearby village. Women belonging to higher caste or rich class do not work outside the village at all.

The off farm activities of Nuasasan are mostly done by the women, while the off farm activities of Madhusudanpur are done by both, since they are family or caste-based occupations like carpentry, pottery, basket making etc. The orchard plantations and beetle vines supplement the livelihood system of the village economy. About 30% of farming households of both the villages have marketable surplus. The marketable surplus is generated from both non-cash crops like paddy and cash crops like vegetables, potato, pulses, fruit crops, groundnut and sugarcane. But lower agricultural productivity in Madhusudanpur reduces the marketable surplus of the farmers of this village.

7. 2. Village Credit System

1. The credit system differs between two villages. In Nuasasan, 83% of households, who borrow from commercial banks, use the credit for buying products and raw materials, which they need in their non farm enterprises. But it is different in the

- second village, where people get the cash credit from the cooperative banks. They do not borrow for buying raw materials from the outside market.
2. The Cooperatives encourage many non-farm activities and provide training opportunities for women workers engaged in appliqué, chalk manufacturing, agarbati, candle making etc. About 31% of households of Nuasasan and 12% of households of Madhusudanpur get training from the cooperatives
 3. In the entire sample, about 29%, 13% and 8% of the households have borrowed for health problems, appliqué works and purchasing livestock respectively. Other purpose of making loan includes investing in various types of non farm activities like candle, agarbati and chalk making. Loans for unproductive purposes amount to 24% of the total credit.
 4. The investment in off farm activities is mostly self-financed in Madhusudanpur while it is mostly loan-financed in Nuasasan. This difference has strong association with the nature of non farm activities. Family based on non-farm activities depends more on self-finance, while skill-based non-farm activities depends more on loan-finance.

7.3. Income and Expenditure pattern

5. The occupational diversified village has higher average income than the agricultural village. It is due to two reasons; (a) The agricultural productivity is lower and (b) the average earnings from farm activities are lower than that of the farm activities.
6. But when we observe the expenditure pattern of villages separately we notice the difference that C is the modal expenditure class of Nuasasan while D is the modal expenditure class of Madhusudanpur . There is substantial difference in the average annual expenditure of two villages. It is due to the difference in the level of average earnings of the people.
7. When we examine the saving potential, we find that D is the modal group of both Madhusudanpur and Nuasasan. The average savings amount of household of Madhusudanpur is less than the average saving of the entire sample.

7.4. Women in farm and non farm activities

8. The non farm activities of Madhusudanpur are mostly family-based and self employed occupations. While in Nuasasan the off farm activities are mostly contractual and based on skill, knowledge and external supports.
9. The non farm women workers of Madhusudanpur obtain raw materials from the same locality, while the off farm women workers of Nuasasan procure raw material from out side the village. The network of intermediaries exist for supplying the raw materials to the non farm women workers of the first village.
10. The off farm activity in Madhusudanpur are mostly seasonal while in Nuasasan the non farm activities have no seasonality. It has connection with the nature of

- activity. When the occupation is family-based, then there are seasonal variations in production and demand. When the occupation is skill-based then there is no seasonal effect on production or demand.
11. The market for the products of family based non farm occupations is local, while the markets for the products of skilled based occupations are outside the village. The network of intermediaries exist for supplying the product to the marketing destinations.
 12. Rise in household income and higher production are the main motivational factors for women to pursue off farm activities. There is inter-village difference in the impact of motivational factors.
 13. Lack of or lesser irrigation facility has indirectly motivated the male to pursue non –farm activities. Lack of irrigation is the cause of low land productivity. Therefore it constitutes a push –factor for the villagers to undertake off-farm jobs.
 14. The higher percentage of marginal farmers and landless peasants encourages more non-farmers activities. Nuasasan having higher percentage of marginal and landless farmers has more off farm activities.
 15. Average earnings from non farm activities of households are higher than that of second village. But average earnings from farm activities are higher in Maddhusudan pur than Nuasasan.

7.5. Socio-Economic Status of Women

16. The percentage of housewives is higher in the pure agricultural village i.e Madusudan pur. And the proportion of women engaged in non farm activities is more in Nuasasan. The socio cultural factors are more restrictive in Madhusudanpur where women are demotivated to earn from any economic activity.
17. The work participation rate among women is significantly higher in Nuasasan than in Madhusudanpur. It has brought occupational diversification in the first village. But the women of second village are mostly housekeepers. It is both the cause and effect of occupational concentration in second village. But there is no inter village difference in male work participation rate. It is almost the same in both the villages.
18. Higher literacy among the people motivates the people to face the challenge and diversify their livelihood base in the village economy. Higher female literacy encourages the women to seek alternative sources of income. Therefore Nuasasan having higher literacy has more non-farm activities.
19. The gender divisions of labour are socially rigid in both the villages. Women in all families of both villages are found to do the full responsibility of many jobs like cooking, cleaning, washing, child care, waste disposal and gathering fuel, carrying fodder and water.

7. 6. Participation of Women

20. None of the non farm women workers is very satisfied. In terms of fair price the non farm workers in both villages are marginally satisfied. It indicates the exploitation involved in the contractual arrangements with these women workers. The non producers expropriate the profit margin of the women workers.
21. The participation of women in decisions making pertaining to farming, village meetings, selling of crops, and purchase of animals, orchard plantation and purchase of durables in of sample households is very low.
22. Lower educational status and village tradition and caste system are the main constraining factors for availing employment opportunities of women in both the villages. Reduction in the rigidity of social and caste system leads to increase in women's' freedom to undertake some economic activity in order to supplement the household income.

Agricultural operations are mostly done by men. Off farm activities are mostly done by women. The seasonal and disguised unemployment is very high in both the villages. The male-female wage differential is higher in the farm sector of both the villages. There is no inter village difference in male work participation rate. But the work participation rate among female is directly connected with agricultural productivity.

The higher caste households used to lease out their land to landless farmers or marginal farmers. People have high propensity to carry out non farm activities due to: a) low agricultural productivity b) lower land-man ratio or land availability per household (LPH) c) higher percentage of upland d) higher percentage of wasteland. The dependency ratio is higher among higher caste and rich households. Due to many social constraints and traditional values, the women belonging to higher caste and richer class are compelled to remain as housewives. Awareness and poverty among people encourage them to supplement their farm income and diversify their livelihood base.

The orchard plantation, fishery, appliqué, candle making and basket-making constitute a sustainable source of supplementary livelihood of the village people. The structures of landed property vary but the structure of non productive household assets does not vary according to the village category. The occupational diversified village has higher average income than the agricultural village due to: a) irrigation facility b) higher size of land holding, c) high income from non farm activities. Correspondingly, level of expenditure and saving are higher in the occupational diversified village. But the contractual arrangements in the non farm activities involve exploitation of the women workers. The borrowing for non productive purposes among village people is high.

Higher occupational concentration in a village does not encourage the women to be economically productive. The gender divisions of labour are socially rigid in the villages. Higher literacy among the people motivates the people to face the challenge and diversify their livelihood base in the village economy. Lower educational status and village tradition and caste system are the main constraining factors for village women in availing employment opportunities out side the village and carrying out non farm activities. Thus

it is inferred that livelihood security of women in the village economy is determined by the following five factors: a) Economic factors, b) Social Factors, c) Demographic factors, d) Institutional Factors.

8. STATUS OF WOMEN IN VILLAGES

Although gender empowerment has been a buzzword in development circles, the concept has been used in so many different ways by different agents that it remains ambiguous.¹⁷ Conceptualizing power and gender adequately entails understanding its multi dimensional nature, the complex ways in which women experience subordination and the ways in which they negotiate or manage this state of affairs. The gender-gap in indices such as life expectancy, literacy and earning has in fact increased from sixties to eighties in entire south Asia. The UNDP developed Gender Development Index (GDI) as a tool to capture gender inequality. It notes the inequalities between men and women on the same variables that make up the Human Development Index related to the over all achievements in that society. It considers only three variables: health, education and income. It fails to take into account important dimensions such as the quality of community life access to basic amenities and human rights. Important dimensions relevant for women such as safety and security, household allocation of resources, unpaid labour, mobility constraints and on sexual and reproductive freedom by patriarchal ideology do not find any place. Raising income of women may not indicate improved status for women. The GEM (Gender Empowerment Measure) is again based on three variables. It is built on a very narrow conception of empowerment. It does not include legal and human rights nor does it reflect the ways in which cultural constructions of gender identity are made. Thus it is clear from the above discussion that if one attempts to assess the impact of economic reforms differential on men and women, the conventional parameters used to measure gender disparity is not enough. It is therefore necessary to consider research methodologies that go beyond the quantitative in order to do justice to the complexity of these phenomena.

The situation in Orissa is counter logical. Paradoxically it is observed that in Orissa, there is a trade off between women's material well being and their autonomy. When the family becomes richer, the women lose her earning power and social autonomy. Therefore poverty and gender development can not be approached synergistically with the same policy instruments. When rising household income has a perverse effect on women's well being then policies which promote women's work participation rate even if successful, may not increase women's well being. Thus money is neither necessary nor sufficient for transforming the existing gender relations in Orissa.

In villages of Orissa, the child marriage practice still prevails in some communities. Drop out rates in village schools for girls has been increasing. Practice of girl child labour has been endured as the "harsh reality". Case of selling of girl child

¹⁷ Karlekar, Malavika (1995), Search for Women Voices, *Economic and Political Weekly* 29 April

has increased. Rape cases have been increasing. It is sheer hypocrisy that the so called modern civilisation with its pretensions to high thinking considers that to be born as a girl is a crime and burden. Unfortunately, education among women has not produced a reformative effect on the social outlook, nor encouraged any change conducive to social upliftment. Discrimination against women does not end by merely bestowing of judicial rights or by making women literate. The social problem can not be solved by legal bell or economic independence. Most urban women are literate today but they are also victims of domestic violence and social discrimination.

9. SOCIAL DYNAMICS AND FEMALE EDUCATION

While science and technology are advancing economic and social problems of backward states are worsening. In Orissa, discrimination and violence against women takes a dismaying variety of occurrences. All are violations of the most fundamental human rights. The pitiable condition of womanhood in Orissa trapped in the web of socio cultural factors such as superstitious and blind faith perpetuated by male dominance. Her struggle for survival continues from the womb to the grave without respite. The struggle for survival continues throughout the woman's life beginning with the female foetus. Although there is anti-abortion Act, private practitioners continue to conduct abortions with a sex bias. Though the technology has supported to help women to have safer births, it has resulted in female foetus being aborted and the practice is spreading in alarming manner. In fact prenatal Diagnostic Centres have become sex determination clinics. The legislation to curb the misuse of amniocentesis for sex selection and abortion of female fetuses calls for further punishing the women because they are under pressure to bear a male child. Son preference dangerously affects the women. Its consequences can be anything from foetal or female infanticide to neglect of the girl child over her brother in terms of such essential needs as nutrition, basic health care and education.

Orissa is a mosaic of many social riddles and contradictions. One such paradox is the gender inequality. There is a snark syndrome, where there is no credible empirical base for the prejudices against women.¹⁸ Educators and policymakers have internalized repeated social assertions. Even they do justify and implement such policies such as reservation of seats, women day celebration, welfare measure for widows, etc. The land which worships the woman most, has the highest violence against women. She is not only robbed of her dignity by the men outside, but also become a victim of cruelty by her saviours, within the four walls of her own house. However, her trauma does not end here, it may even go to the extent of forcing her to commit suicide or she may be burnt to death for various reasons. In the age of cyber culture and nanotechnology the horrendous phenomena as dowry in Orissa has also been increasing.¹⁹ Girls are treated as commodity in the market. It transcends the rural urban dichotomy. Its incidence cuts across all caste and class boundaries. The cases of bride burning has been increasing. Many such case

¹⁸ Byrne, Eileen M1993, Women and Science: The Snark Syndrome, Falmer Press, Bristol.

¹⁹ The word dowry has been replaced by another more socially acceptable word ie presentation

twisted as suicides. Some ideal parents who prefer not to take dowry for their well-qualified sons, are in fact considered 'strange' by the society and doubts about 'the respectability of the groom's family' are usually raised. Even on the final day, the marriage is cancelled on the suspicion that the boy may be impotent or having some ulterior motives. He may not find a girl to marry.

The most common type of violence against women in Orissa is "domestic violence". Although the family is a source of love, sympathy and support, it is also the great source of inequality, exploitation and violence. Domestic violence in Orissa is a horror they have to cope with in silence. The woman in Orissa is a slave to the so-called institutionalized cultural shackles. Her mobility is restricted, her self-expression is monitored and her thoughts influenced by others in her milieu. She becomes the victim of suspicion by her brothers, parents, husband and in-laws. Domestic violence is one of the greatest obstacles to gender equality and right to life and liberty. Wife beating is generally accepted as a cultural phenomenon. Most men take it upon themselves to beat their wives to 'improve them.' Women too accept it as a part of life. The police, the doctor and the teacher all view it as a societal norm. The legal system is also hopeless in Orissa. There are pertinent rules and laws. But there are so many factors that prevent women of Orissa to seek justice through legal exercise such as: (a) Her apprehensions relating to ultimate consequences, (b) Unreliable and expensive legal system, (c) Lack of support from her parental family and (d) Cultural and religious forces. Thus it is imperative that women themselves must be morally strong and empowered. Educational system should make them mentally strong.

9. 1. Institutionalization of neo-patriarchy

The patriarchy is very strong among high caste households of Orissa. The women can not take the full advantage of their increasing access to education in order to enhance their autonomy. The most important factor affecting women autonomy is social prestige associated with higher caste Hindu families. In spite of being an essential economic contributor, there are social constraints, which work against the women to improve her status and position within the household. Female labour who work and earn do not automatically enjoy same rights and liberties. It is again dependent on caste hierarchy. A variety of cultural and socio psychological factors determine her autonomy. Even today man continues to exercise his subtler control on the family production and reproduction system. It is gradually institutionalized at several spheres: work, culture, customs, religion and education. Therefore liberation of women will not be easy or complete without the destruction of 'neo-patriarchy'. The social and economic structures that locks production and reproduction together, perpetrate male dominance and female submission. Thus liberation of women in the villages does not automatically follow from their economic citizenship. It can only be achieved if all structures in which women are integrated are transformed simultaneously. A modification of any one of them can be offset by a reinforcement of another, so that a mere permutation of the form of inequality is ultimately achieved.

9. 2. Neo-housewifization Process

The gender division of labour within the household of in India has remained culturally stubborn, till today. Women as a class are oppressed and subdued by the hegemony of social patriarchy. The gender inequality is very sharp within both rural and urban households. It manifests also in labour market. Both technology and labour market imperfections have been continuously displacing the female workers from high productive activities to low productive activities, through casualisation and contractualisation of jobs. The fate and fortune of working women is not better off either. The working women is saddled with multiple burdens like: cooking, gardening, cleaning, tutoring, shopping, hospitality, rearing children, caring old and diseased, driving etc. The modern lady in the towns does every thing with out leaving the primary job of being the house wife. Yet she has no voice or empowerment. Rather her activities are remotely controlled by the husband. But it safely goes in the name of husband's care and concern. It creates a snark syndrome of neo houswifisation.

After liberalization of the last decade, there is more concentration of women in domestic works and non-market roles and activities. Each household has two clear roles to play : producing and consuming. The consumption activity has two components:

$$C = C_o + C_h$$

Where: C_o means goods and services supplied and consumed from outside the household. And C_h represents goods and services supplied from the household itself. The production activity has two components:

$$P = P_o + P_h$$

Where: P_o stands for the goods and services produced for the outside market and P_h means good and services produced for the house. Each household has no control neither over the C_o nor P_o . In the process of marketisation, the purchasing power of the common man has been decreasing. The globalisation of prices inflicts economic strain on the family, which ultimately spells further strain on the women and girls only. The economic strain is partially absorbed and neutralised by women by curtailing C_h and raising P_h . It only amounts to spell a heavier pressure on women ,girls children and housewives. There fore modernization is generating a TRAP which is not very easily perceptible. T stands for tailoring, tutoring, R stands for jobs like receptionists, A means female engaged in producing Achar and Papad and agarbati and P stands for getting a job in the beauty parlours. All these jobs are palpably make the females more active. But all these jobs belong to the inside spheres (outside the house but inside the gate) and semi domestic sectors. Most of these belong to the informal sector, which is unregistered, unrecorded and unprotected, subject to all types of exploitation and intimidation. It is unfortunate that greater availability of these jobs makes us believe in the feminisation of jobs. Therefore economic independence is a myth for women in Orissa.

In fact outside earnings is expected to give her:

- a better breakdown position

- a clearer perception of her individuality and well being and
- a higher perceived contribution to the economic status of the family.

The greater economic role for women definitely improves their status within and out side the family. However money is not sufficient condition for transferring gender relations in existing social order in Orissa.²⁰ She remains as dependent both in thinking and action as before. The socio-religious and cultural influences on the girl child are so strong, both physically and mentally, that even with education and influences from outside, she is not free to think of herself as an individual.

CONCLUDING REMARKS

Although gender empowerment has been a buzzword in development circles, the concept is being used in so many different ways that it remains ambiguous. All studies and reports on women status have only remained as a source of data, which rather endorses the passivity of the state. We should reject the touristic observations of women in metro society, dispel misconceptions and portray the real scenario of Orissa. Effective policy design requires an accurate understanding of the gender issues within a broad social framework. We need poverty-independent gender analyses and policies in order to rescue gender from poverty trap. Women's income earning activity should not be temporary, exploitative and reversible. Education and technology should ensure liberation and freedom for all human beings. It should break gradually the shackles of tradition that binds women in the man-made gaol. Technological development can be both a threat and an ally to women in their various roles. Therefore we should integrate gender into technology and development. More nuanced discussion of the complex interrelationships between gender and technology is needed. Training program for successful technology transfer is necessary to derive the benefits of existing market-driven technological promotion. The new technology should be used as a vehicle for gender equality in the backward societies like Orissa.

The gender issue should be delinked both from myopic economics and insensitive politics. There is no substitute for a gender analysis, which transcend class divisions and material definitions of deprivation. Therefore 'adding women' is not necessary, but an insight and rethinking development concepts and practices as a whole through a gender lens is necessary. We have to initiate debate on state non action on gender issues. Despite several rules and acts in place, all rights of women are being violated and they have been suffering in silence. A vigorous multi-pronged and multi-professional effort is needed to establish the woman as a human being in her own right. With the hosanna of modernization it is imperative to dispel myths, superstitions and misconceptions about woman and her duties and adopt a rational attitude towards the woman as a human being.

Despite jamboree of techno culture we need a meaningful social transformation, which gives the equal independent human status to women. Economic citizenship is not

²⁰ Agrawal, Bina (1997) Bargaining and Gender Relations within and beyond the Household, *Feminist Economics*, 3 (1) pp. 454-487

sufficient for transforming existing asymmetric gender relations. In all backward states like Orissa, girls are educationally very successful but socially women are not. The wife may be happy but the women is not. The real progress should occur when the women become the producers of their own welfare and bounty, not the recipients of charity. The chance for a social transformation should begin and end with the womenkind in the ground, because, nothing grows from the top. Effective policy design requires accurate understanding of the gender issues within a broad social framework. Women development is a social process to be evolved from the society but not a technological product to be achieved by a triggered policy .

REFERENCES

- Agarwal, Bina (1986). 'Women, Poverty and Agricultural Growth in India', The Journal of Peasant Studies, Vol.13, No.4, July.
- Agarwal, Bina (1994). *A Field of One's Own: Gender and Land Right in South Asia*, Cambridge University Press, Cambridge.
- Agarwal, Bina (1997), "Bargaining" And Gender Relations: Within and Beyond the Households. *Feminist Economics*. 3(1),1-51.
- Bardhan, Kalpana (1979). 'Work as a Medium of Earning and Social Differentiation : Rural Women of West Bengal', Paper presented at ADC-ICRISAT Conference Hyderabad, India.
- Bhalla, G et al (2003) Rural Employment and Poverty, *Economic and Political weekly*, Aug 16th
- Chambers, Robert and Gordon R Conway (1992). *Sustainable Rural Livelihoods: Practical Concepts for the 21st Century*. IDS Discussion Paper No.296. Brighton
- Chattopadhyaya, Molly and David Seddon (2002) Life histories and Long term Change: Rural Households and Gender Relations in a West Bengal village, *Economic and Political Weekly*, Vol 37(49) Dec 7
- Curie , Bob (2000) *The Politics of Hunger in India*, Macmillan India, Chennai
- Das, Kumar(1993) *Rural Development in India*, Discovery pub.House, Delhi
- Desai, Sonalde. 1994. *Gender Inequalities and Demographic Behavior: India*. New York: The Population Council, Inc.
- Dorward, Andrew et al (2003) Markets, Institutions and Technology: Missing Links to Livelihood Analysis, *Development Policy Review*, Vol.21(3) pp.313-332
- Dreze, Jean and Chen Marty (1995), Recent research on widows in India, *EPW*, Sept.30, PP.2435-50
- Dreze, Jean and P.V. Srinivasan(1995). 'Widowhood and Poverty in Rural
- Dube, Leela and Rajni Palriwala (eds.) (1990). *Structure and Strategies: Women, Work and Family*, Sage Publications, New Delhi.
- Dwyer, Daisy and Judith Bruce (eds.) (1988). *A Home Divided : Women and Income in the Third World*, Stanford University Press, Stanford.
- Folbre, Nancy, B. Bergmann, B. Agarwal and M. Floro (eds.) (1991). *Women's Work in the World Economy*, Macmillan, London .
- India: Some Inferences from Household Survey Data', Discussion Paper No. 62, STICERD, London School of Economics.
- Janet, Morahan-Martin Women and Girls Last: Females and the Internet IRISS '98 International Conference: 25-27 March 1998, Bristol, UK
- Jain, Devaki and Nirmala Banerjee (eds.) (1985). *Tyranny of the Household*, Vikas Publishing House, Shakti Book Series, Delhi.
- Kakwani, N . and K. Subbarao (1993). 'Rural Poverty in India, 1973-87', in Michael Karlekar ,Malavika (1995), *Search for Women Voices*, EPW 29th April

- Krishnaraj, Maithreyi and Karuna Chanana (eds.) (1989). *Gender and the Household Domain*, Sage Publications, New Delhi .
- Kumar, V (1997) *Economic Growth and Rural Poverty* , Concept Pub. House, New Delhi
- Kumari, Ranjana (1989). *Women-Headed Households in Rural India*, Radiant Publishers, New Delhi.
- Lingam, L(1994) *Women headed Households: coping with caste, Class and Gender Hierarchies*, Economic and political weekly, March 19.
- Lingam, Lakshmi (1994). 'Women-Headed Households: Coping with Caste, Class and Gender Hierarchies', *Economic and Political Weekly*, Vol. 29, No. 12, pp. 699-704.
- Lipton and Jacques van der Gaag (eds.) *Including the Poor*, The World Bank, Washington DC.
- Panda, P(1997) *Female Headship, Poverty and Child Welfare: a study of Rural Orissa*, August, Center for Development studies, Trivandrum ,Working Paper series 280
- Purushothaman, Sangeetha. 1998. *The Empowerment of Women in India: Grassroots Women's Networks and the State*. New Delhi: Sage Publications.
- Saskia Everts(1998) *Gender and Technology : Empowering Women, Engendering Development* Zed Books .London
- Sen, Amartya K. (1990). 'Gender and Cooperative Conflict', in Irene Tinker (ed) *Persistent Inequalities*, Oxford University Press, New York.
- Sonpar, S and Ravi Kapur (2001),*Non conventional Indicators: Gender disparity under structural Reforms*, EPW ,Jan 6
- Swantz, Marja-Liisa (1995). *Embracing Economies of Women: paths to sustainable livelihoods . Development . 3 , 27-29.*
- Visaria, P. and L.Visaria (1985). 'Indian Households with Female Heads: Their Incidence, Characteristics and Levels of Living', in Devaki Jain and Nirmala Banerjee (eds.) *Tyranny of the Household*, Vikas Publishing House, Shakti Book Series, Delhi.
- Faulkner, Wendy (2000), *The Technology Question In Feminism*, Women's Studies International Forum, University of Edinburgh
- Venkateswaran, Sandhya. 1995. *Environment, Development and the Gender Gap*. New Delhi: Sage Publications.
- World Bank (1991). *Gender and Poverty in India, A World Bank Country Study*, The World Bank, Washington DC.