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Women Empowerment, Household Condition and Personal Characteristics: Their Interdependencies in Developing Countries.

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1. Introduction

Women's rights and issues have become a subject of serious concern of both academicians and policy makers and have received tremendous attention in the planning, discussions and forums at national and global platforms in both developed and developing countries. The women in developing countries usually take part in the production processes in agricultural and informal sectors. However, study shows that in the South Asian countries the educational and occupational patterns have changed and widened with women entering the domains during past decade (Pandey, 2005). There has been increasing employment of women in the formal sectors as well. However, the grass root situation has not been changed to a great extent might be because of the existing lacuna in the formulation and execution of the policies. The social position of women, especially in the developing world, still needs much attention. On the other hand, women in the developed countries enjoy much of the desired freedom and rights. Therefore, the core issue, which still remains unanswered, is that of women's right and empowerment. The question may arise 'what, then, is women's empowerment?'

It has come out from the discussions in the major international conferences of the 1990's that 'women's empowerment has five components: women's sense of self-worth; their right to have and to determine choices; their right to have access to opportunities and resources; their right to have the power to control their own lives, both within and outside the home; and their ability to influence the direction of social change to create a more just social and economic order,

nationally and internationally'[1]. Combining all these the 'women empowerment' may be defined as a package of both the financial and decision-making power. Alternatively, women empowerment depends upon the interaction between the social and economic aspects of life (IFAD 2000). Now 'empowerment' is defined as the process of increasing the assets and capabilities of individuals or groups to make purposive choices and to transform those choices into desired actions and outcomes.

Having the understanding about the women's empowerment, next it may be asked that 'why does it require?' Accepting the existence of gender inequalities and strains, it is crucial that the upliftment of the women in a society may accelerate the developmental process. Sen (1985, 1999) has introduced, in the context of development, the concept of 'capabilities' and 'functionings'. Following him, the basic purpose of development is to enlarge people's own choices for leading their life. The *choices and the functionings* in Sen's approach are the 'capabilities' and the actual levels of *achievement* i.e., the outcomes attained in the various dimensions are called 'functionings' respectively. And as the development is a multidimensional concept, therefore, there could be more than one achievement level for the same capability level. The 'capabilities' and 'functionings' can be achieved by empowering the women more and more. Empowered people have freedom of choice and action, which in turn enables them to better influence the course of their lives and the decisions which affect them.

The underlying causes of gender inequality are related to social and economic structure, which is based on informal and formal norms, and practices. To eliminate this inequality, creating an environment is necessary through implementation of positive economic and social policies for full development of women to enable them to realize their full potential. This requires changing attitudes and practices by active participation and involvement of both men and women within the family as well as in the society.

The literature has developed in this field following two different approaches: (i) comparison of level of achievement of empowerment over time or over space by construction of

[1] Guidelines on Women's Empowerment UNITED NATIONS POPULATION INFORMATION NETWORK (POPIN)UN Population Division, Department of Economic and Social Affairs, with support from the UN Population Fund (UNFPA)

women empowerment index; (ii) identifying of the factors responsible for change in the achievement level of empowerment.

Following the first approach, number of empowerment indices have been developed. A women empowerment index provides the level of achievements, but is not principally concerned with explaining its causes. Yet a satisfactory explanation of why some women are empowered is essential if we are to be able to tackle the roots of causes.

The second approach deals with the problem of identifying these causes and is to directly model women empowerment level by employing a discrete choice model. In the analysis of determinants of women empowerment level, a widely used approach is the binary logit or probit model to estimate the probability of a woman being empowered conditional upon some characteristics. Household and individual characteristics are generally taken to be some of the key causes of lack of empowerment.

However, the statistical relationships should be interpreted as *correlates* and not as *determinants* since causality can run both ways for some variables. For instance, low levels of education is one of the reasons for lack of empowerment of women; on the other hand, low education may also be the cause of low level of empowerment. Therefore, to develop an effective strategy to increase empowerment a clear understanding of the fundamental causes of lack of empowerment is needed. And the study of mere exploring the interrelationships amongst the various dimensions/attributes and the direction of causality, a statistical association (correlation / regression analysis) alone is not enough to establish causality. This calls for introducing the methodology of *Structural Equation Modelling* (SEM).

The present exercise is an attempt towards understanding the structural relationships amongst the various attributes related to question of women empowerment in the above framework. Women empowerment is, in fact, a multidimensional phenomenon consisting of access to decision making in all the family matters, political matters, social factors. A priori, one would expect a woman's major socioeconomic or political decisions to be significantly

influenced by whether or not her level of education, income capacity, social awareness etc. On the other hand, a women, without having any freedom to express her willingness, may not be able to assert her right to enjoy the social and economic benefits inspite of having all provisions for them. Therefore, the model may be considered as Multiple Cause and Multiple Indicator (MIMIC) model (Joreskog and Goldberger, 1975), which assumes that the observed variables are manifestations of an underlying unobserved latent concept (level of empowerment) and there are other exogenous variables that cause and influence the latent factor(s). The results of this study may then help to identify the indicators that mutually reinforce each other. This study has been done based on the National Family Health Survey, Phase 2 (hereafter NFHS-2) data for India for the year 1998-99.

In the next section a brief summary of the literature on women studies has been presented. Section three presents the description of data and the methodology used for the study. The next section, i.e., section four is devoted to a detailed presentation and analysis of the results. Finally, some concluding remarks have been made in section five.

2. Survey of literature

It has already been mentioned that researches have been done in this field following two different approaches. In one approach comparison of level of achievement of empowerment over time or over space has been made by construction of women empowerment index. Some important papers in this context are Hasemi et. al. (1996), Amin et. al. (2004); Longwe &Clarke, 1999; Malhotra et. al., 2002; Mason & Smith, 2003; Kabeer, 2003; Handy & Kassam, 2004; Economic Commission of Africa, 2004; Lopez-Claros & Zahidi, 2005; Hausmann et. al., 2007; Social Watch, 2007 etc.

The second approach has dealt with identifying of the factors responsible for change in the achievement level of empowerment. A brief summary of the studies following this approach has been presented in the Table 1. The common methodology applied in these studies is multivariate logit or probit to estimate the probability of a woman being empowered conditional upon some characteristics. The estimated relationships are unidirectional. The study on

interlinkage between various dimensions / attributes and the direction of causality have not been attempted anywhere. The significance of the present study is with respect to taking an attempt to understand the structural relationship between attributes.

Table 1: Brief description of the selected studies determining the factors responsible for change in the empowerment level of a woman.

Name of the paper	Name of the author	Year	Indicators used
Empowerment in Practice: From Analysis to Implementation	Ruth Alsop, Mette Frost Bertelsen & Jeremy Holland	2005	existence of choice, use of choice, achievement of choice
Energy, Development and Gender: Global Correlations and Causality	Elizabeth Cecelski	2005	Energy(fuel use), electricity, access to clean water, poverty, demographic and health indicators etc.
Sustainable Microfinance for Women's Empowerment	Linda Mayoux	2006	credit micro-finance, access to savings, nutrition and health
Survival, Change and Decision-making in rural households: three village case studies from Eastern Morocco	R. Bourqia	1998	livestock sales, sharecropping arrangements, food crops, children's schooling, health treatments, major expenditures, marriage and dowry.
Tamil Nadu Women's Development Project Completion Evaluation', The Republic of India	IFAD Tamil Nadu	2000	women's mobility, social interaction, employment and access to control over resources.
Women's Economic Decision Making Process in GOLDA project	Rama Saha	2001	Children education, Marriages, Festival, Selling and Purchasing of goods, mobility and economic decision making.
Women's position within the household as a determinant of maternal healthcare use in Nepal	Marie Furuta & Sarah Salway	2006	Household decision making, employment and influence over earnings, and spousal discussion of family planning
Gender Differences in Healthcare-seeking during Common Illnesses in a Rural Community of West Bengal, India	Aparna Pandey, Priya Gopal Sengupta, Sujit Kumar Mondal, et. Al	2002	type of illness, severity of illness, age of child, birth order of child, education of mother, occupation of household head, and per-capita income.
Women's Decision making and Child health: Familial and Social Hierarchies	Sonalde Desai and Kiersten Johnson	2005	own health care, large household purchases, Visits to family or relatives, cooked each day, work status, fertility levels and desires, contraceptive use, and use of maternal and child health services, nutritional status of children and women and infant and child mortality
Women making decisions about self-care and recovering from depression	Helen C. Vidler	2005	Household decisions, depression, self-caring and self-agency

3. Data and Methodology

3.1 Data

Within the framework of a democratic polity, Indian laws, development policies, Plans and programmes have aimed at women's advancement in different spheres. From the Fifth Five Year Plan (1974-78) onwards has been a marked shift in the approach to women's issues from

welfare to development. In recent years, the empowerment of women has been recognized as the central issue in determining the status of women. The National Commission for Women was set up by an Act of Parliament in 1990 to safeguard the rights and legal entitlements of women. The 73rd and 74th Amendments (1993) to the Constitution of India have provided for reservation of seats in the local bodies of Panchayats and Municipalities for women, laying a strong foundation for their participation in decision making at the local levels. Political empowerment still remains a distant dream for Indian women.

Present study, based on the National Family Health Survey, Phase 2 (hereafter NFHS-2) data for the year 1998-99, has concentrated on the Eastern zone of India. The Eastern Region of India consists of West Bengal, Bihar and Orissa. Population of West Bengal, Bihar and Orissa in 2001 were 80 million, 82 million and 36 million respectively. Now West Bengal has 58 million rural and 22 million urban population, Bihar has 74 million rural and 8 million urban and Orissa has 31 million rural & 5 million urban population respectively. Among these three states, sex ratio was highest in Orissa (972 female) whereas West Bengal and Bihar has 934 and 919 females respectively per thousand male (National Human Development Report, 2001). Total, rural and urban literacy rates of Bihar were 48 percent, 44 percent and 72.71 percent respectively; for West Bengal these literacy rates were 69 percent, 64 percent and 82 percent respectively; for Orissa, total, rural and urban literacy rates were 63.61 percent, 60 percent and 81 percent respectively (Census of India, 2001). In terms of per capita net state domestic product at 1993-94 prices position of West Bengal (Rs.9796) was far better than that of Bihar (Rs.3879) and Orissa (Rs. 5663); in fact the position of Bihar was worst among these three states (Economic Survey 2004-05).

Table 2: Socio-Demographic Profile of Eastern India , 2001

States	Population (in millions)	Sex ratio	% of person below poverty line (1999-2000)	% of literacy	% of female literacy
WB	80.22	934	27.02	69.22	60.22
Bihar	82.88	919	42.60	47.53	33.57
Orissa	36.71	972	47.15	63.61	50.97

Source: Census of India, 2001, Economic Survey,1999-2000

Table 3: Economic Profile of Eastern India, 1999-2000

States	PC NSDP (current Price)	PC consumption expenditure (per month)	% of persons in labour force	Incidence of unemployment	Death Rate (1997)	Infant mortality rate per thousand (1991)
WB	116899	571.66	55.0	4.0	7.7	62
Bihar	38178	417.18	57.30	2.4	10.0	75
Orissa	34299	413.71	62.60	2.6	10.9	125

Source: Economic Survey-2005, 55th Round of NSSO on Levels and Pattern of Consumption Expenditure in India and Employment and Unemployment Situation in India, National Human Development Report, 2002.

The NFHS 2 was a sample survey and was conducted on selected married women belonging to age group 15 - 49 years, nearly 95 per cent of whom used to stay with husband. Majority of the remaining were widow and a very few were divorced or separated. Therefore, the level of empowerment estimated here were with respect to their right of decision makings within in-laws house. The study was done on the combined data for those three states. Though the number of samples taken in the survey was more, only 15513 observations have been included in the study. Inclusion of all observations further reduced the number of variables obtained from the survey for non-response.

Though women empowerment is a multidimensional study, the present study has considered only those indicators for which the data were available from NFHS. Accordingly, the level of empowerment taking decisions for household works and for house related works outside have been included in the study. No information was available with respect to their participation in political or social works. It is to be mentioned here that this is the only source of data from which maximum possible information would be available.

Table 4 : Distribution of Households with Housing characteristics in Eastern India, 1998-99

States	Percentage of households				
	Living in pucca houses	Having safe drinking water	With toilet facilities	With electricity	Using bio mass fuel for cooking
WB	32.8	89.3	44.8	36.7	65.7
Bihar	15.5	75.4	16.8	18.2	85.9
Orissa	14.8	65.3	13.5	33.8	86.8

Source: NFHS 2 Report, 1998-99

3.2 Methodology

As 'capabilities' by definition cannot be directly measured, so these may be specified as latent unobservable variables. On the other hand, 'functionings' can be measured in terms of the achievements in each dimension both at the individual (household) level and as a whole. These achievements are taken to be indicators reflecting the performance in the associated dimension. The indicators available in practice may be continuous or qualitative in nature. Qualitative variables are ordinal and can be binary or dichotomous, and polychotomous (more than two outcomes e.g. different levels of occupation, education etc.). Some other indicators could be truncated i.e., when not observed for a particular range of values, or censored, when observed only if greater than a threshold value. The statistical/econometric treatment of these variables differs according to the particular type concerned. Considering the interdependent nature of the underlying latent capabilities and the observable nature of the outcomes or functionings, a model may be formulated through a set of relationships. The model then involves simultaneous equations system, where dependent variables could be discrete. Well-known process in this context, where the indicators are ordinal in nature, is the use of LInear Structural RELationship (LISREL) methodology (see Muthen, 1983, 1984).

LISREL model includes two related submodels : (i). a latent variables measurement model which represents the relationships between the latent variables and their observable indicators and (ii). a structural model representing the relationships between the latent variables.

(i) The measurement model

Let $y = (y_1, y_2, ..., y_p)^T$ and $x = (x_1, x_2, ..., x_q)^T$ be vectors of observable endogenous and exogenous variables, respectively.[2] Furthermore, let $\eta = (\eta_1, \eta_2, ..., \eta_m)^T$ be a vector of latent endogenous variables and $\xi = (\xi_1, \xi_2, ..., \xi_n)^T$ a vector of latent exogenous variables. Finally, $\varepsilon = (\varepsilon_1, \varepsilon_2, ..., \varepsilon_p)^T$ and $\delta = (\delta_1, \delta_2, ..., \delta_q)^T$ are defined as vectors of measurement errors of y and x, respectively. The relationships between the observed and latent variables are given in the latent variables measurement models (1) and (2):

[2] The superscript 'T' denotes the transposed vector of matrix.

$$y = \Lambda_y \eta + \varepsilon \quad (1)$$

and

$$x = \Lambda_x \xi + \delta \quad (2)$$

where Λ_y and Λ_x are ($p \times m$) and ($q \times n$) matrices of regression coefficients (also called factor loadings).

(ii) The structural model

The structural model consists of a set of relationships among the latent variables:

$$\eta = \widetilde{B}\eta + \Gamma\xi + \varsigma \quad (3)$$

or

$$B\eta = \Gamma\xi + \varsigma \quad (4)$$

where $\widetilde{B}$ is an ($m \times m$) coefficient matrix with β_{ij} representing the effect of the *j*-th endogenous variable on the *i*-th endogenous variables; Γ is a ($m \times n$) coefficient matrix with γ_{ij} representing the effect of the *j*-th exogenous variable on the *i*-th endogenous variable; ς is a random vector of residuals; $B = I - \widetilde{B}$, where I is the identity matrix and B, without loss of generality, is assumed to be non-singular.

The covariance matrices of ε and δ, which need not be diagonal in LISREL, will be denoted by $\Theta_\varepsilon (p \times p)$ and $\Theta_\delta (q \times q)$ and the covariance matrices of ξ and ς by $\Phi(n \times n)$ and $\Psi(m \times m)$.

Different standard assumptions are made to estimation for the models. The estimation procedure with underlying assumptions made for this purpose is available in Dutta (2006) as well as Jöreskog and Sörbom (2001).

The advantages of the models are first, the multiple observable variables for a latent variable are often preferable and necessary so as to provide a tool for identification (see, among others, Goldberger 1972, 1973). However, the structural model may include observed variables. In that case an identity relationship is specified between the observed and corresponding latent

variable. Second, one single observable variable may be an indicator of more than one latent variable. Finally, the LISREL approach makes it possible to reduce the problem of multicollinearity[3]. By simultaneously handling observable and latent variables within one model framework, the consequences of multicollinearity can be mitigated[4].

Model (1) to (4) is a general framework in which several specific models are contained. The most common of these models are first- and second- order factor analysis models, structural equation models for directly observable variables, and various types of regression models. The present study has used the second model.

The LISREL 8 program (Jöreskog and Sörbom, 2001) has been applied to estimate the free and constrained model parameters from the sample covariance matrix using the Diagonally Weighted Least Squares (DWLS) method. DWLS is an appropriate estimator when there are ordinal or nominal variables among the observables, as in the present study.[5] A function - PRELIS in the LISREL - 8 program can compute estimates of the asymptotic variances and covariances of estimated *polychoric*[6] and *polyserial*[7] correlations. This program provides various statistics to check or test the adequacy of the assumed model.

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[3] As described by, among others, Theil (1971), this problem arises as a consequence of the presence of (highly) correlated explanatory variables. It leads to the increase of the estimated variances of the estimators of the coefficients of the collinear explanatory variables, so that one may be led to drop variables incorrectly from an equation

[4] This can be seen as follows. Collinear explanatory variables, which are indicators of a given latent variable, are dependent variables in one of the latent variables measurement models (1) and (2) and therefore would not be removed from one of these models because of their collinear nature. Furthermore, in the structural model the latent variables appear instead of their corresponding observable variables. So, collinear variables would not be removed from the structural model in spite of the fact that they are collinear.

[5] A prerequisite for estimation is that the hypothesized model is identified. The LISREL 8 program gives hints about identification problems. It calculates an estimate of the matrix of second-order derivatives of the fitting function used to estimate the model. Rothenberg (1971) has shown that under quite weak regularity conditions local identifiability is equivalent to non-singularity of the information matrix. Furthermore, the rank of the matrix indicates which parameters are not identified (Jöreskog and Sörborn, 2001).

[6] Used when an interval variable is correlated with a dichotomous or an ordinal variable, which is assumed to reflect an underlying continuous variable.

[7] Used when both variables are dichotomous or ordinal but both are assumed to reflect underlying continuous variables. That is, polychoric correlation extrapolates what the categorical variables' distributions would be if continuous, adding tails to the distribution.

4. Results :

4.1 Description of the Variables used :

Following are the variables used in the analysis that are available from NFHS report.

Women's right in family and personal decision makings : Women can enjoy freedom in decision makings in household matters and in house related work outside. For house management, decisions are to be taken in case of cooking, health caring, children's schooling, managing household fund etc. Women, taking decisions on their own or jointly with house members including their husbands in the above mentioned matters, may enjoy freedom at household level decision. On the other hand, freedom may be provided to women to take decisions regarding works like visiting market, relatives / friends houses, spending money, purchasing jewelry etc. In both the cases, women's freedom may be recognized if they have the right to take decisions unconditionally. There are number of factors playing crucial role in determining the level of empowerment enjoyed by the women in a household.

Information : Three major sources of information are reading news paper, listing radio and watching television which can provide information from outside to build up their knowledge about their position in the household and encourage them to assert their right.

Respondent's occupation : Economic freedom is a crucial criteria for both male and female members for taking part in decision making at the household level. In that sense, respondent's contribution in family decisions may be recognized for her occupation.

Contribution to family income : Financial contribution in the family income by the respondent may then contribute more than respondent's occupation in family decision.

Household condition : Decision to provide full freedom to the female members in a family would be influenced both directly and indirectly by family's financial and cultural status. Cultural status such as use of safe drinking water, use of hygienic toilet etc. indicates the awareness level of the household's members. On the other hand, the wealth condition of a family may help in increasing the awareness level of the family members indirectly by providing

sources of information in the family. This awareness level may help the family members to recognize the need for women's freedom in decision makings for house management.

Respondent's education level : Education level of a woman may increase her awareness regarding her right for freedom and help her to assert it. This may also affect the level of freedom indirectly by getting occupation and contributing in the family income, which provide her to occupy a significant position within the family.

Husband's education level : Level of education may increase the awareness of a husband, which may help him to recognize the need for giving freedom to his wife.

Husband's occupation : Husbands' occupation, indicating his income level, may affect women's position in the family inversely as low income of husbands may force wives to engage in job. Being involved in job and contributing to family income wives may secure their position in the family.

Table 5 presents the descriptive statistics of the variables used in the study.

Table 5 : Descriptive Statistics of the variables used in the study.

Description of the variables	Variable Name	Mean	Standard Deviation
Empowerment index for household matters : cooking, health, allowed to have money. Decision taken by the respondent herself or jointly with husband or other family members. Yes = 1; No = 0.	EIH Value = sum of three. Min. value = 0 Max. Value = 3	1.8898	0.8960
Empowerment index for freedom in outside house : freedom for going to market, visiting relative / friend's house, right to spend money, right to purchase jewelry, decision to stay with family. No need of taking permission = 1; Need permission = 0.	EIF Value = sum of five Min. value = 0 Max. value = 5	1.4859	1.4576
Reading news paper : yes=1, no=0 Watching TV : yes=1, no=0 Listening radio : yes=1, no=0	INF Value = sum of three. Min. value = 0 Max. Value = 3	0.7434	0.9823
Respondent's occupation :	ROCCU	0.2998	0.5455

No occupation = 0 Working class = 1 Office work = 2 Professionals = 3	 Min. value = 0 Max. Value = 3		
Contribution to family income : No : 0 Almost none : 1 Less than half : 2 About half : 3 More than half : 4 All : 5	CFI Min. value = 0 Max. Value = 5	0.6378	1.3696
Safe drinking water : No facility = 0 Outside residence = 1 Within residence = 2	SWATER Min. value = 0 Max. Value = 2	1.1559	0.7178
Wealth : having electricity, radio, TV, freeze, cycle, motorcycle, car, phone	WLTH Value = sum of eight Min. value = 0 Max. Value = 8	1.6796	1.7189
Husband's education : No education : 0 Primary : 1 Secondary : 2 Higher : 3	HEDU Min. value = 0 Max. Value = 3	1.2791	1.0878
Respondent's education : No education : 0 Primary : 1 Secondary : 2 Higher : 3	REDU Min. value = 0 Max. Value = 3	0.7085	0.9623
Husband's occupation: No occupation: 0 Working class : 1 Clerical : 2 Professional : 3	HOCCU Min. value = 0 Max. Value = 3	1.1428	0.5665

4.2 Analysis of the results :

Two measurement models have been estimated. The first one, estimating EI (empowerment index) is made up of two endogenous variables : empowerment index for decision making in household matters (EIH) and empowerment index for freedom in decision making for house related work outside (EIF). The second model estimates latent variable HSC (household condition) using two exogenous variables - SWATER and WLTH. Results of the measurement models have been presented in Table 6. The coefficients of EIH and SWATER have been fixed to 1 in order to fix the measurement scale of the latent variables EI and HSC

respectively. From the table, it follows that both EIH and EIF are determinant variables of the latent variable EI and SWATER and WLTH for the latent variable HSC. Corresponding values of R^2 are also significant in both the cases.

Table 6 : The results of the measurement models.

Observable variable	Coefficient	Standard Error	T - ratio
Latent Variable : EI			
EIH	1.000		
EIF	2.334	0.105	22.325
Latent Variable : HSC			
SWATER	1.000		
WLTH	6.007	0.624	9.625

Table 7 presents the results of the structural model. It consists of four functional relations corresponding to four endogenous variables.

Table 7 :The results of the structural model (beta and gamma results)

Endogenous variable	Explanatory variables								
	EI	INF	ROCCU	CFI	HSC	REDU	HEDU	HOCCU	R^2
EI		0.030 (4.87)		0.195 (11.8)	0.179 (9.63)				0.177
INF			0.027 (3.31)		1.754 (27.2)	0.471 (82.9)			0.488
ROCCU	0.109 (2.12)						-0.315 (-22.7)		0.139
CFI			0.869 (93.7)		-0.330 (-11.6)			-0.045 (-5.93)	0.811
χ^2 (P value)	10854.6 (0.00)								
RMSEA (P value)	0.153 (0.00)								

The results in Table 7 shows that the goodness of fit statistics given by scaled χ^2 and root mean square error of approximation (RMSEA) are highly significant implying that model fits the data well. The first equation has the main emphasis of the study, which has identified the determinants of acquiring the power for decision-makings by the women. The level of empowerment, indicated by empowerment index, the latent variable EI, is primarily determined by (a) achievement of awareness through information (INF), (b) financial contribution in the

family income (CFI) and (c) household economic and cultural condition represented by an estimated latent variable (HSC). Both INF and HSC also increase the awareness level of the male family members, which indirectly affect the level of women empowerment in a positive way.

On the other hand, as hypothesized, level of empowerment again positively influence the decision of the women to enter into the job market (ROCCU - see equation 3), which significantly influence the women to contribute in the family income (CFI - equation 4). Therefore, ROCCU indirectly influence the empowerment level. On the other hand, respondent's education level (REDU) has positive significant impact on the INF, which influences EI. Therefore, in the similar way REDU indirectly influences the empowerment level of women.

More interestingly, negative significant contribution of husband's education (HEDU) on ROCCU indicates their influence on wives' personal decision. Similarly negative influence of household's condition (HSC), particularly economic condition, and husband's occupation (HOCCU) force the housewives to earn and to contribute in the family income. Particularly in such situation, CFI may not help to increase the decision making power of the women. These are the major feature of the developing countries. Therefore, in spite of all Government effort by adopting developmental programme since First Five Year plan and a multi-disciplinary approach with a special thrust on health, education and employment level of women since Sixth Five Year Plan, empowerment level of women did not increase to the expected level till 1998-99.

5. Concluding remarks

The upliftment of the women in a society has been recognized as a major factor to accelerate the developmental process, which is possible through empowering the women more and more. Because people having unconditional freedom of choice and action in turn enable them to better influence the course of their lives and the decisions which affect them (Sen, 1985, 1999). Government has also taken efforts by adopting developmental programme since First Five Year plan and a multi-disciplinary approach with a special thrust on health, education and employment level of women since Sixth Five Year Plan. Provision was also made for raising of women's economic and social status and generation of skilled and unskilled employment through education and vocational training. Inspite of these efforts, empowerment level of women did not

increase to the expected level till 1998-99.

Researchers in different times have identified different factors necessary for increasing the level of empowerment in an uni-directional way. But, to develop an effective strategy to increase the level of empowerment all should have a clear understanding of fundamental causes of lack of empowerment. A statistical association (correlation / regression analysis) alone is not sufficient to establish causality amongst the various dimensions/attributes and also the direction of causality. To deal with these problems the present paper has introduced the methodology of *Structural Equation Modelling* (SEM). The estimation of the model has been done by using LInear Structural RELationship (LISREL) methodology. LISREL 8 Programme has been applied here as this is the most appropriate one to deal with the ordinal variables as in the case of present study and simultaneity bias for estimation of causality.

LISREL model includes two related submodels : (i). a latent variables measurement model which represents the relationships between the latent variables and their observable indicators and (ii). a structural model representing the relationships between the latent variables. As the said model is Multiple Cause and Multiple Indicator (MIMIC) model, concept of latent variables has been used by assuming that the observed variables are manifestations of an underlying unobserved latent variables and there are other exogenous variables that cause and influence the latent factor(s). This study has been done based on the National Family Health Survey, Phase 2 (hereafter NFHS-2) data for India for the year 1998-99.

Two measurement models have been estimated. The first one, estimating EI (empowerment index) is made up of two endogenous variables : empowerment index for decision making in household matters (EIH) and empowerment index for freedom in decision making for house related work outside (EIF). The second model estimates latent variable HSC (household condition) using two exogenous variables - SWATER and WLTH. Results of the measurement models, presented in Table 6, have proved that both EIH and EIF are determinant variables of the latent variable EI and SWATER and WLTH for the latent variable HSC.

The structural model consists of four functional relations corresponding to four endogenous variables. The goodness of fit statistics given by scaled χ^2 and root mean square error of approximation (RMSEA) are highly significant implying that model fits the data well. The first equation has the main emphasis of the study, which has identified the determinants of acquiring the power for decision-makings by the women. The level of empowerment, indicated by empowerment index, the latent variable EI, is primarily determined by (a) achievement of

awareness through information (INF), (b) financial contribution in the family income (CFI) and (c) household economic and cultural condition represented by an estimated latent variable (HSC). Both INF and HSC also increase the awareness level of the male family members, which indirectly affect the level of women empowerment in a positive way.

On the other hand, as hypothesized, level of empowerment again positively influence the decision of the women to enter into the job market (ROCCU - see equation 3), which significantly influence the women to contribute in the family income (CFI - equation 4). Therefore, ROCCU indirectly influence the empowerment level. On the other hand, respondent's education level (REDU) has positive significant impact on the INF, which influences EI. Therefore, in the similar way REDU indirectly influences the empowerment level of women.

More interestingly, negative significant contribution of husband's education (HEDU) on ROCCU indicates their influence on wives' personal decision. Similarly negative influence of household's condition (HSC), particularly economic condition, and husband's occupation (HOCCU) force the housewives to earn and to contribute in the family income. Particularly in such situation, CFI may not help to increase the decision making power of the women. These are the major feature of the developing countries. Therefore, in spite of all Government effort by adopting developmental programme since First Five Year plan and a multi-disciplinary approach with a special thrust on health, education and employment level of women since Sixth Five Year Plan, empowerment level of women did not increase to the expected level till 1998-99.

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