

## **CHAPTER-IV**

### **CONCEPTUAL FRAMEWORK AND METHODOLOGY**

#### **4.1 Conceptual Framework**

This chapter deals with the conceptual framework of the study which is developed on the basis of different studies on different aspects of women empowerment, and keeping in mind the requirements and objectives of the present study. It is combined with the methodology of the study to make it context specific. The present section deals with conceptual framework which is followed by methodology of the study.

##### **4.1.1 Meaning of Mother Empowerment**

The basic difference between an women and a mother is that an women is an adult female. She may be married or unmarried. Whereas, a mother is a female parent of a child who is acting as a mother to a child. Mother Empowerment means self-decision making power of Mother regarding education, participation, mobility, economic independency, public speaking, awareness and exercise of rights, political participation and many more factors. The empowerment of women occurs in reality when women achieve increased control and participation in decision making that leads to their better access to resources, and therefore, results in improved socio-economic status. Woman's level of empowerment varies from individual to individual on account of differences in her class or caste, ethnicity, relative wealth, age, family position, etc. Hence, any analysis of women's empowerment must appreciate these contributory dimensions.

The term empowerment of women is an important popular concept among political spectrum. It is about social transformation. It is about people rather than politicians. It is about power, although the concept of power contained in it is generally left unspecified. Empowerment is both a means to an end and an end in itself. The focus on empowerment

has given a new emphasis to the building of economic and social capabilities among individual classes and communities. It is theories of social change in particular, a change from a hierarchical to egalitarian type of society. It is based on democratic society, which is based on recognition of equal rights to all individuals in its place. Empowerment is to change the society through rearrangement of power. So there is a need for empowerment through civic, political and social rights of citizens (Rao, 2007). HDR 2014 introduces a Gender Development Index (GDI) for the first time, which measures gender development gaps among 148 countries. India's rank is the lowest at 57 in female HDI rank (UNDP, 2014).

Different authors defined women empowerment differently. Some important definitions are mentioned below

Nelly Stromquist, for instance, defines women empowerment as “a process to change the distribution of power both in interpersonal relations and in institutions throughout society.” (Stomquist, 1988). Agarwal defines “women empowerment involves a central component of enhancement of women's ability to function collectively in their own interest.” Batliwala points out that the process of empowerment involves recognition of the ideology that legitimizes male dominations and understanding of how it perpetrates their oppression. World Bank identified “empowerment as a prime element of poverty reduction and as a primary development assistance goal. Again, to achieve that goal, gender equality both as a development objective and as a tool for promoting growth needs to be brought forth.”

There is a nexus of a few key, overlapping terms that are most often included in defining empowerment: options, choice, control, and power. Most often these are referring to

women's ability to make decisions and affect outcomes of importance to themselves and their families. Control over one's own life and over resources is often stressed. Thus, there is frequent reference to some variant of the ability to "affect one's own well being," and "make strategic life choices." (Malhatra, 2003). For example, Sen (1993) defines empowerment as "altering relations of power...which constrain women's options and autonomy and adversely affect health and well-being."

Batliwala's (1994) definition is in terms of "how much influence people have over external actions that matter to their welfare." Keller and Mbwewe (1991, as cited in Rowlands 1995) describe it as "a process whereby women become able to organize themselves to increase their own self-reliance, to assert their independent right to make choices and to control resources which will assist in challenging and eliminating their own subordination". The World Bank's report on "Engendering Development," (2001a) defines rights, resources, and voice as the three critical components of gender equality. Chen (1992) describes "resources, perceptions, relationships, and power," as the main components of empowerment, and Batliwala (1994), characterizes empowerment as "control over resources and ideology." UNICEF uses the Women's Empowerment Framework which encompasses welfare, access to resources, awareness-raising, participation, and control (UNICEF 1994). Kabeer (2001) goes a step further and describes this process in terms of "thinking outside the system" and challenging the status quo. His definition contains two elements which help distinguish empowerment from other closely related concepts. (i) the idea of process, or change from a condition of disempowerment and (ii) that of human agency and choice, which she qualifies by saying

that empowerment implies “choices made from the vantage point of real alternatives” and without “punishingly high costs”.

#### **4.1.2 Issues in Measuring Empowerment**

Women’s Empowerment at the aggregate/macro level is less developed as compared to household level. The accepted and most commonly cited are Gender-related Development Index (GDI), a gender-disaggregated Human Development Index (HDI) and Gender Empowerment Measure (GEM) by UNDP (1995). India has made progress in terms of gender development but the achievements are not uniform across states. This is reflected in the results of two earlier studies namely, State Gender Development Report (2005), by National Productivity Council (NPC), New Delhi and the report “Gendering Human Development Indices: Recasting the Gender Development Index and Gender Empowerment Measure for India” (2009) by Ministry of Women and Child Development (GoI). (Yojana June 2012.)

One of the biggest challenges in measuring empowerment is that empowerment is a latent phenomenon. Its presence can only be deduced through its action or its results. Hence most observed behaviours are proxies for the underlying phenomenon.

While empowerment of the poor and other excluded groups has become part of the development agenda, attempts to systematically monitor and evaluate programs that use empowerment approaches for poverty reduction lag behind. Some challenges highlights below in measuring empowerment and assessing its contribution to improving development outcomes.

### **(i) Intrinsic or Instrumental**

Empowerment has intrinsic value. It is an end in itself. Feeling self-confident, walking with dignity, feeling respected, living without fear, is of value in itself. Empowerment is also important as a means of achieving specific development outcomes, ranging from improved attendance of teachers at schools to increased incomes for poor people. For the purposes of constructing a specific evaluation, therefore, it is important to specify whether empowerment is conceptualized as a means or an end or both.

For instance, participation in decision making can be viewed as a measure of empowerment. When such participation is seen as having intrinsic value, then the number of meetings held or attendance at meetings can be an appropriate measure. However, if participation is considered important because it leads to decision making that reflects the priorities of the poor, then participation is a means, and the evaluation framework has to compare the decisions made when poor people attended meetings with those made when they did not. In fact, research indicates that in some contexts, poor people's attendance at meetings may be a poor indicator of their influence on decisions and hence outcomes. When attendance at village meetings is compulsory, as was true in Indonesia under Suharto, attendance is not a discriminating measure of influence.

### **(ii) Universal or Context- Specific**

Empowerment as a value and phenomenon is clearly universal. People all over the world, including poor people, want to feel efficacious, to exert control over their lives, and to have some freedom of choice among options. While there can be a common conceptual framework across cultures, the context needs to be taken into account both at the analytical level (what matters) and in choice of measures (how it matters or manifests

itself). The cultural context is important because culture consists of a relational system of norms, values and beliefs on which there is simultaneously consensus and discensus, and that are permeable and subject to change (Appadurai 2004).

The community and household, with all their heterogeneity, cleavages, and bonds, are important sites of cultural learning within which empowerment strategies are located. Yet few studies of empowerment have taken community cultural context into account. The five- country study done by Karen Oppenheim Mason and her colleagues on women's empowerment and demographic change is a notable exception. Their theoretical assumption is that women's empowerment in the domestic sphere is mainly a property of social and cultural systems rather than of individual traits and preferences. In other words, the shared norms, values, and beliefs that characterize a group are key determinants. For instance, in certain communities the shared belief that men have more rights than women to determine family size may have more influence over women's fertility levels than do the traits of individual men and women, although there will still be some individual differences. In their survey, Mason and her colleagues do find that country and community of residence predict women's domestic empowerment better than their personal socioeconomic and demographic traits do. They also demonstrate that the primary variation across communities is explained by variation in community values and norms about gender roles.

The second way in which context needs to be taken into account is in the measures or indicators of empowerment. There may be some universal measures, such as freedom from domestic abuse. But many other measures will be culturally specific. In a Muslim society such as Bangladesh, for instance, a woman's movement beyond her home may be

an indicator of increasing freedom, whereas in Jamaica, where women's movements are not culturally restricted, it has little relevance. Even when culture is taken into account, certain indicators may be ambiguous. The veil is perhaps the most controversial symbol, interpreted either as restricted and oppressing women or as providing them safety and freedom to move about without male harassment.

### **(iii) Individual or Collective**

Most social science research on poverty is concerned with individuals, even though the concept of social groups and group identity has a long tradition in sociology. The unit of analysis in most poverty research is the individual. Yet we know from the vast literature on social exclusion that opportunities are not equally distributed but are stratified by social group. In attempting to measure the empowerment of those previously excluded, it is essential to locate individuals within the historical, social and political context of their social groups in order to correctly interpret the impact of development interventions.

Unequal access is remarkably resistant to change, as evidenced by persistent and growing income inequality reflected in Gini coefficients. The Minorities at Risk data set estimates that almost 900 million people worldwide belong to groups that are discriminated against or disadvantaged because of their identity and face cultural, economic or political exclusion (UNDP 2004). In Latin America, to cite just one example, the gap between indigenous and mestizopopulations on almost any development indicator-income, infant mortality, access to electricity, education-is deep and persistent (Glewwe and Hall 1998; Psacharopoulos and Patrinos 1994).

In the context of group-based poverty and exclusion, individual efforts at empowerment may be costly or futile. Responding to this reality, many poverty interventions focus on

collective action through organizations of the poor, such as farmers', indigenous, women's self-help, credit, and water users' groups. Collective action, using processes and rituals that have cultural resonance, is often critical in building confidence and new identity. In poor villages in Andhra Pradesh, India, poor dalit women, as their first collective act, chose to walk through the high-caste areas of the village with their shoes on (rather than taking them off in deference) and with their heads held high. Their success in doing so without retribution from the high-caste villagers electrified the dalit women's movement, which then went on to address livelihood issues.

#### **4.1.3 Dimensions of Women Empowerment**

Different authors suggested different dimensions of women empowerment. (CIDA 1996) mentioned legal empowerment, political empowerment, economic empowerment, social empowerment are the four dimensions of women empowerment. (Jejeebhoy 1995) suggested knowledge autonomy, decision-making autonomy, physical autonomy, emotional autonomy, economic and social autonomy and self-reliance are the dimensions of women empowerment. (Kishor 2000) proposed financial autonomy, participation in the modern sector, lifetime exposure to employment, sharing of roles and decision-making, family structure amenable to empowerment, equality in marriage, devaluation of women, women's emancipation, marital advantage, traditional marriage are the dimensions to measure empowerment. Sen (1999) proposed absence of gender inequality in: Mortality rates, Natality rates, access to basic facilities such as schooling, access to professional training and higher education, employment, property ownership household work and decision-making are the dimensions of women empowerment. Commonly used



dimensions of women empowerment and potential operationalization in the household, community, and broader arenas are listed below:

### **Women Empowerment at Household Level**

Women empowerment at household level can be measured by different dimensions and each dimension has different indicators. These are

**Economic:** Women's control over income, relative contribution to family support; access to and control of family resources.

**Socio-cultural:** Women's freedom of movement; lack of discrimination against daughters; commitment to educating daughters.

**Familial/Interpersonal:** Participation in domestic decision making; control over sexual relations; ability to make childbearing decisions, use contraception, access abortion; control over spouse selection and marriage timing; freedom from domestic violence.

**Legal:** Knowledge of legal rights; domestic support for exercising rights.

**Political:** Knowledge of political system and means of access to it; domestic support for political engagement; exercising the right to vote.

**Psychological:** Self-esteem; self-efficacy; psychological well-being.

### **Women Empowerment at Community Level**

Women empowerment at community level can also be measured by different dimensions and each dimension has different indicators. These are

**Economic:** Women's access to employment; ownership of assets and land; access to credit; involvement and /or representation in local trade associations; access to markets.

**Socio-Cultural:** Women's visibility in and access to social spaces; access to modern transportation; participation in extra-familial groups and social networks; shift in

patriarchal norms (such as son preference); symbolic representation of the female in myth and ritual.

**Familial/ Interpersonal:** Shifts in marriage and kinship systems indicating greater value and autonomy for women (e.g. later marriages, self selection of spouses, reduction in the practice of dowry; acceptability of divorce); local campaigns against domestic violence.

**Legal:** Community mobilization for rights; campaigns for rights awareness; effective local enforcement of legal rights.

**Political:** Women's involvement or mobilization in the local political system/ campaigns; support for specific candidates or legislations; representation in local bodies of government.

**Psychological:** Collective awareness of injustice, potential of mobilization.

### **Women Empowerment at Broader Arenas**

Women empowerment at broader arenas can be measured by different dimensions and each dimension has different indicators. These are

**Economic:** Women's representation in high paying jobs; women CEO's; representation of women's economic interests in macro-economic policies, state and federal budgets.

**Socio-Cultural:** Women's literacy and access to a broad range of educational options; positive media images of women, their roles and contributions.

**Familial/Interpersonal:** Regional/national trends in timing of marriage, options for divorce; political, legal, religious support for (or lack of active opposition to) such shifts; systems providing easy access to contraception, safe abortion, reproductive health services.

**Legal:** Laws supporting women's right, access to resources and options; Advocacy for rights and legislation; use of judicial system to redress rights violations.

**Political:** women's representation in regional and national bodies of government; strength as a voting bloc; representation of women's interests in effective lobbies and interest groups.

**Psychological:** Women's sense of inclusion and entitlement; systemic acceptance of women's entitlement and inclusion.

#### **4.1.4 Education and Mother's Empowerment**

Women constitute almost half of the population in the world. But the hegemonic masculine ideology made them suffer a lot as they were denied equal opportunities in different parts of the world. The rise of feminist ideas has, however, led to the tremendous improvement of women's condition throughout the world in recent times. Access to education has been one of the most pressing demands of these women's rights movements. Women education in India has also been a major preoccupation of both the government and civil society as educated women can play a very important role in the development of the country (Sugun, 2011).

Education plays a very significant role in every one's life. It is a human right and an essential tool for achieving equality. One of the major recommendations of the National Policy on Education in 1986 is to promote Empowerment of Women through education. Empowerment is self-governance, self-sufficiency and self-maintenance. The concept of Women Empowerment was introduced at the International Women's Conference at Nairobi in 1985. Empowerment is a process which includes:

- Equal access to opportunities for using societal resources.

- Prohibition of gender disparity
- Freedom from violence
- Economic independence
- Participation in all decision making bodies.
- Freedom of choice in matters relating to one's life.

Education ensures that women grow up with knowledge of the world, ability for critical thinking and practical skills which lead to self-confidence and self-respect. So education is a mile-stone for Women Empowerment because it enables them to respond to opportunities, to challenge the traditional roles and to change their lives. (Meera and M.k. 2015).

Education imparts skills and competencies that are central to human development. It enhances quality of life and brings wide-ranging benefits to both individuals and societies. According to the United Nations' Universal Declaration of Human Rights, access to basic education is a human right. Education is one of the most important sources of women's empowerment. The instrumental and intrinsic benefits of education are widely recognized as pivotal in transforming the life of women in particular since they are underprivileged by social conditioning in most of the developing societies from time immemorial. The existing literature suggests that the opportunities of education and higher education are relatively restricted for young women than for young men. The present gender bias in higher education and professional training in India manifest that fact. The same, nevertheless, prevail even in some of the richest countries of the world as well. Education facilitates women empowerment including her ability to take independent decision which is a primary condition for emancipation from the bondage of

poverty and gender-based subjugation. Education enhances women's well-being. It reduces violence against them, gives them a more autonomy in identifying their lives, improves their status within the family and gives them a greater voice in household decisions, including financial decisions (Malhotra and Mather 1997; Odutolu et al. 2003; UNDAW 2006; UNICEF 2005).

If national development and women's development have to be purposeful and relevant, women have to be full-fledged participants. For this it is not enough if women have constitutional and statutory provisions for equal rights, treatment and opportunities: these in turn have to be accessible to them. There are powerful and deep-rooted cultural forces, outdated value systems and discriminatory socialization processes that obstruct such access. Education thus has a three-fold objective to achieve. First, it is a developmental means to achieve and fulfill other developmental goals. Women's education is thus a necessity. Unfortunately- all over the world, the education of women is far short of being universal; it is also much less than that of men in the country. On a global scale, more than 60 percent of the world's illiterate are women. The percentage is much more in the developing countries, as often, illiteracy is the cause as well as the consequence of poverty and under development. Hence the removal of illiteracy and the universalization of education among women become imperative for women's development.

Various writers highlight the role of education for the empowerment of women. According to the International Encyclopedia on women (1999) in the programme of action of the International Conference on population and Development education is considered as one of the most important means to empower women with the knowledge skill and self confidence necessary to participate fully in development process. The

National Policy on Education (1986) emphasized the promotion of women's education in all areas of learning to eliminate any sex based stereo typing with the guarantee of equality before the law and the emphasize on girl's education. Since employment plays a vital role in improving women's status in a society education of women is of prime importance in any women empowerment programme.

International Convention in all forms of Discrimination against Women (ICDAW) in 1993 mentioned that education is one of the most important means of empowering women with knowledge, skills and self-confidence, necessary to participate fully in the development process. Educating women benefits the whole society. It has a more significant impact on poverty and development than men's education. It is also one of the most influential factors improving child health and reducing infant mortality rate. Educated women's responsibility is tremendous. Women have a significant role in shaping the behaviour and mental makeup of the younger generation. She has the primary duty of nurturing and shaping the children, the leaders of tomorrow. Educated women are always cautious about the importance of health care and know how to seek it for themselves and their children. Education makes them able to know their rights and gain confidence. Educated parents have a good thought about their children's educational attainments. Mother's education will influence more in children's life than father's. The empowered women can stand with men. They are not inferior to men and they can do whatever the men can do, sometimes better than that of a man. (Meera and M.K. 2015)

Many studies that have been dedicated to this subject consider the formal education and organizational work as the effective factors of women empowerment. When women have formal education and enter universities and then start doing part time or full time jobs in

organizations, they can have a better control over their lives. Studies show that in developing countries, education and employment strengthen the situation of women in society, and increase their authority and power (Mason, et.al 2002). Also, according to the researches done in western countries, education and working empower women and increase their effectiveness in their personal, social and organizational life (Connel, 1987). In the contemporary world, knowledge is one of the sources of power. The contemporary world has witnessed those powers of force and money (military and economic power) have been replaced by the power of knowledge. Gaining knowledge leads to power and lack of knowledge for women leads to their poverty. When women gain the required knowledge for having skill and power, the feeling of psychological enablement strengthens in them (Spreitzer, 1996). Lots of studies have considered illiteracy of women as the main cause of their problems and literacy as the cause of their freedom (Stromquist, 1997). Therefore, it is necessary for women of each society to gain the required knowledge for being involved in decision-making.

#### **4.1.5 Educational Status of Women in India**

India has attained significant improvement in women's literacy which was 8.9 percent in 1951, improved to 65.5 percent as on 2011. As a result the male-female gap in literacy has narrowed down from 26.6 percent in 1981 to 16.7 percent in 2011. However, the Human Development Report-2011 observed that the population with at least secondary education (percentage age 25 and above) was only 26.6 percent for females as against 50.4 percent for males (HDR, 2011). Net Attendance Ratio at primary and upper primary levels in rural areas and in urban areas was found for females were completely low during 2007-08 (HDR, 2011). Net Attendance Ratio at higher secondary level for females

was only 20.0 percent in rural areas and 39.0 percent in urban areas. In spite of the implementation of programmes like, Sarva Siksha Abhiyan, still 21.8 percent of the girl children (6-17 years age) were found out of schools. Although the gender differential in literacy has declined over time, the differential remains high even in the youngest age group among those 15-19 years of age, the percentage of females who are literate (74percent) is 15percent, which is less than the males (89percent). NFHS-3 (2009) observed that there are great disparities in literacy by wealth especially for women. (Nagaraja 2013)

#### **4.1.6 Women Education and Intergenerational Transmission**

Education of women have also intergenerational ramification. It is commonly observed that children of parents with higher levels of education do better in standard tests of school attainment than those of parents with less education and education have stronger impact on children's overall educational attainments. Educated mothers invest more in their children's cognitive development and thereby, contribute to the welfare of the next generation. An increase in mother's decision making ability within the family can have a positive impact on her children's welfare (Thomas 1990; Thomas et al. 2002). Thomas (1990) finds that in Brazil mother's education has a significantly stronger effect on girls' health than that of sons, but that father's education has a stronger effect on boys' health. On the other hand, in Java (Thomas et al. 2002) and Cote d'Ivoire (Haddad and Hoddinott 1994), women with greater earned income allocate more resources to sons' health. There is less evidence on the effect of women's decision-making power on children's education or on differences in investments in the schooling of boys and girls. While some studies suggest that mother's education (in Peru: King and Bellew 1988) or income from



employment (in China: Qian 2008) has a larger positive effect on the education of daughters than that of sons, others find that the reverse is true for father's education (Quisumbing and Maluccio 2003) in some countries. The latter study finds that, in four less developed countries (Bangladesh, Indonesia, Ethiopia and South Africa), an increase in the share of household resources controlled by women increases the share of household expenditure allocated to children's education, but that whether there is a disproportionate benefit to boys or girls differs substantially across countries. For instance, in Bangladesh there is a positive relationship between investment in girls' schooling and mother's schooling. In Ethiopia, on the other hand, the greater the mother's ownership of assets, the less the investment in the education of daughters and the greater the investment in that of sons; the reason suggested by the investigators is that the latter may be an important source of parents' financial security in old age. Quisumbing and Maluccio (2003) conclude that whether it is boys or girls whose education receives preferential investment is a function of the underlying culture and customs of a country (Afridi 2010).

#### **4.2 Methodology**

The present study seeks to examine the level of empowerment of mothers, the women at centre at household level, and educational attainments of their children at household level of Karimganj district of Barak Valley. The study is based on primary data collected from selected households of rural and urban areas of Karimganj. However, a household having both mother and children of school going ages have been taken into consideration. Empowerment level of mother is measured with the help of literature supported dimensions such as Decision making power of mother within family, mother's freedom

of movement, political participation of mother, mother's decision regarding control over economic resources, husband relation with wife, mother's willingness for change etc. Each dimension has separate number of indicators which is based on extensive review of literature which determined empowerment level of mother within family.

#### **4.2.1 Sample**

As such the sample of the study comprise of 250 households where mothers are currently present and living with their children, minor, of school going ages and above. The rural-urban share of such selected households is approximately sixty-forty. Purposive simple random sampling technique is followed for selection of sample households purposively from all parts of the district to make the sample a representative one. However, a household having both mother and children of school going ages have been only be taken into consideration.

#### **4.2.2 Data**

The data is collected with the help of a structured pre-tested schedule through personal interview method and household survey. The schedule is framed in such a way as to collect data on all aspects that define women empowerment. Data is also be collected on the schooling attainments of all the children of the mother of the selected household. It also contains information about proximate determinants of women empowerment such as family structure, nature of workforce participation of women etc.

#### **4.2.3 Data Analysis Techniques**

Simple statistical methods, graphs, diagrams, tables are used for sample data analysis purpose. Further, to meet the objectives and hypothesis of the study Principal Component Analysis technique is used to quantify mother's empowerment, Regression analysis

(OLS) is applied to identify the determinants of mother's empowerment level and to find the impact of mother's empowerment level on children's education t test for small sample and multinomial logistic regression is applied in the study.

#### **4.2.4 The Variables and the Models**

The field survey schedule contains information about the status of the respondents as well as other family members and their income, household assets, education level, personal habits and household background characteristics etc. On the basis of the conceptual frame work of the study and an extensive review of literature, some variables are identified and estimated as indicators of mother's empowerment. These variables are arrayed against a large number of variables which are considered as possible determinants of empowerment.

##### **4.2.4.1 Definition of the Variables**

Variables taken in the study in objective wise are listed below.

The first objective of the study is to measure Mother's Empowerment level. It is measured by framing different indices. The variables taken in each index are listed below:

Mother Empowerment Index: MEI

Mother Empowerment is measured by six different indices. These are:

##### **a. Mother's Decision Making Power within Family Index (MDMPWFI)**

It is constructed with the help of nine indicators. These are as follows:

Mother's Decision Regarding (a) Family Health Care (FHC), (b) Making Large Household Purchases (MLHP), (c) Making Routine Household Purchases (MRHP), (d) Family Size (FS), (e) Family Planning Services (FPS), (f) Job of Women (JOW), (g)

Going Outside of Home (GOH), (h) Family Day to Day Expenditure (FDTDE), (i) Spending Personal Income (SPI) (real or hypothetical). These variables are quantified by coding way.

If mother is found to be able to take decision alone and independently, the value assigned is 2, if both mother and her husband take the decision jointly then the value assigned is 1. But if mother has no role to play in decision making i.e., her husband or other family member(s) takes the decision, the value assigned is 0.

### **b. Mother's Freedom of Movement Index (Mobility of Mother) (MFOMI)**

It is measured with the help of the following variables:

Mother's mobility to Local Market for Purchases (LMFP), Local Health Center/Local Doctor Clinic (LHC/LDC), Home of Relatives/Home of Friends (HOR/HOF), Other City or Other Villages (OC/OV), Cinema/Festival/Village Fair (C/F/VF), Visiting Parental Home (VPH), Participate in Cultural Programmes (PICP), Participate in Religious Programmes (PIRP), Participate in the Meetings of Women Organizations (PIMOWO).

These are quantified by the following way.

If mother is found to be able to move to the above places/participate in the above mentioned activities frequently, the value assigned is 2. If mother moves to the above places/participate in activities sometime then the value assigned is 1. But if mother never moves/participates to the above places/activities, the value assigned is 0.

### **c. Mother's Political Participation Index (MPPI)**

In this area mother's empowerment is measured by the variables Caste Vote in Election (CVIE), Vote to candidate of own Choice (VCOOC), Attend the Speeches of Election Contestants (ASEC), Update herself About Changing Political Situation (UACPS),

Discuss the Problems of Local People at any Forum (DPOLPF), Feel Herself Contesting in Election (FHCIE), Should Women Contest Election? (Own Opinion) (SWCEOP)

If mother is found to be able to participate in the above activities generally, the value assigned is 2, if mother participate in the above activities occasionally, then the value assigned is 1. But if mother does not participate in the above activities or mother has no role in political participation then the value assigned is 0.

**d. Mother's Decision Regarding Control Over Economic Resources Index (MDRCOERI)**

In this area mother's empowerment is measured by the variables Routine Household Spending (RHS), Purchasing Jewelry/Bonds/Shares (PJ/B/S), Purchasing Gifts for Relatives (PGFR), Control on Expenditure for Purchasing Daily Necessities (COEFPDN), Purchasing Clothes and Makeup Articles (PCMA), Control the Wastage of Commodities for Use (CWOCFU), Sale or Exchange of Land (S/EOL), Educational and other Expenses on Children (E/EOC), Purchasing Daily Food (PDF), Purchase of Land (POL).

If mother is found to be able to take decision alone and independently, the value assigned is 2, if both mother and her husband take the decision jointly then the value assigned is 1. But if mother has no role to play in decision making i.e., her husband or other family member(s) takes the decision, the value assigned is 0.

**e. Husband's Cooperation with Wife Index (Husband's Relation with Wife) (HRWWI)**

In this area mother's empowerment is measured by the variables Husband Deals With Wife Politely (HDWWP), Husband Helps in Household Work (HHHW), Husband

Shares the Problem with Wife (HSPWW), Husband Respects Wife's Parents (HRWP), Husband Appreciates Wife's Household Work (HAWHW), Husband Takes Care of Respondent (HTCOW), Husband Gives Importance to Wife Opinion (HGITWO), Husband Trust Respondent (HTW), Husband Ignore Wife Mistakes (HIWM), Husband Helps With Childcare (HHWC), Husband Allows Wife to go outside home (HAWTGOH).

If husband is found to be able to behave with wife generally in the above mention areas, the value assigned is 2, if husband is found to be able to behave with wife occasionally, then the value assigned is 1. But if husband is found to be able to behave badly with wife in the above areas then the value assigned is 0.

#### **f. Mother's Willingness for Change Index (MWFCI)**

In this area mother's empowerment is measured by the variables Statement of Respondent about (a) Women Have A Right To Spend Their Life According To Their Will (WRSLAW) (b) Higher Education is Necessary For Women (HEDNFW) (c) Women Should Be Allowed To Go For Job Out Side Their Home (WATGFJOH) (d) Women Should Be Allowed To Join Women Associations Or Organizations (WATJWO) (e) Husband Should Share The Household Work With His Wife (HSHWWW).

If mother is found to give statement in the above mentioned areas to great extent the value assigned is 2 if she gives opinion to some extent then value assigned is 1 and if she disagreed about the statement mentioned above then the value assigned is 0.

#### **4.2.4.2 Principal Component Analysis**

There are six components of mother's empowerment. Mother's Empowerment is determined as a composite of her decision making power within family, her freedom of

mobility, political participation, decision regarding control over economic resources, her relation with husband and her willingness for change in some selected aspects. Principal Component analysis is used to construct the indices of different component of Mother's Empowerment and to find the relative weights of the selected indicators of mother's empowerment regarding different components in Karimganj District of Assam. Principal Component Analysis is a data reduction technique. Before using principal component analysis a multi-variate factor analysis have been done to address the inter-relationship among the set of observed variables. The primary purpose of factor analysis is the derivation of a set of observed variables in terms of new categories called factors. A factor explains the several observed variables. There may be one or more factors depending upon the nature of the study and the number of variables involved in it. For the present study, six different dimensions of mother's empowerment have different number of indicators in each dimension. These indicators are included in the factor analysis model to develop a comprehensive index.

The validity of factor analysis is tested using Bartlett's test and Kaiser-Meyer-Olkin (KMO) measure. Bartlett's examines whether the correlation matrix is an identity matrix, which would test the appropriateness of the factor model. KMO measure compares the value of the partial correlation coefficients against the total correlation coefficients. The factors are then extracted using Principal Component method. The aim of Principal Component method is the construction of a given set of variables  $X_j$ 's ( $j= 1, 2, \dots, k$ ) of new variables ( $P_i \forall i= 1, 2, \dots, k$ ), called  $i$ th Principal Components which are linear combinations of the  $X_k$

$$P_1 = a_{11}X_1 + a_{12}X_2 + \dots + a_{1k}X_k$$

$$P_2 = a_{21}X_1 + a_{22}X_2 + \dots + a_{2k}X_k$$

.....

.....

$$P_k = a_{k1}X_1 + a_{k2}X_2 + \dots + a_{kk}X_k$$

The  $a_{ij}$ 's are called factor loadings and are worked out in such a way that the extracted principal components satisfy two conditions: (i) principal components are uncorrelated (orthogonal) and (ii) the first principal component ( $P_1$ ) has the maximum variance, the second principal component ( $P_2$ ) has the next maximum variance and so on.

According to the Kaiser's criterion only the Principal Components having latent root or characteristic root greater than one are considered as essential and that should be retained.

The amount of variance explained (sum of squared loadings) by each Principal Component factor is equal to the corresponding roots. When these roots are divided by the number of variables they show the characteristic roots as proportions of total variance explained. The variables are then regressed against each factor loading and the resulting regression coefficients are used to generate what are known as factor scores ( $f_{jk}$ ). A composite index is developed as weighted sum of scores for each household, the weight being the percentage of the variation explained by the factors. The index value is calculated for each household.

A composite index is developed by using the formula

$$E_m = \frac{\sum Z_i W_i}{\sum W_i} \dots \dots \dots (1) \quad \forall i = 1, 2, \dots \dots n$$

The value of the index can be negative or positive and can measure one value relative to the other. However, for comparison this index is standardized to a scale of 0 to 1.



Standardized index of jth household is

$$I_j = (H_j - H_{\text{minimum}}) / (H_{\text{maximum}} - H_{\text{minimum}}) \dots \dots \dots (2) \quad \forall j=1,2,\dots\dots\dots j$$

**Mothers’ Empowerment Index (MEI)**

The overall Mother’s Empowerment Index (MEI), taking the above selected constituents (a, b, c, d, e and f above) only, is measured by assigning equal weight to each of the above six aspects of participation/ decision making. Therefore,

**MEI=1/6 [MDMPWFI+MFOMI+MPPI+MDRCOERI+HRWWI+MWFCI].**

**4.2.4.3 Regression Analysis**

For identifying the factors affecting Mother’s Empowerment level, Descriptive Analysis and Ordinary Least Squares (OLS) method is used where Mothers’ Empowerment Index (MEI) is the dependent variable and the independent variables are listed below.

Mother’s Education in Years (MEDU), Religion (RLGN) is a dummy variable 1 for Hindu, 0 otherwise, Family Type (FT) is also a dummy Variable 1 for nuclear, 0 otherwise, Mother’s Age (MA), Place of Residence (POR) is a dummy variable 1 for urban, 0 otherwise, Category (CATRYOBC) is a dummy variable 1 for OBC, 0 otherwise, Category (CATRYSC) is also a dummy variable 1 for SC, 0 otherwise and CATRYGEN is the reference group, Property Owned by Mother (POM) quantified as number of property in the name of mother, Husband living with wife (HLWW) is a dummy variable 1 for yes, 0 otherwise, Mother’s Have bank or post office account (MBPA) is a dummy variable 1 for yes, 0 otherwise and Mother’s Yearly Income (MYI)

The regression equation is specified as,

**Y=α+β<sub>1</sub>MEDU+β<sub>2</sub>RLGN+β<sub>3</sub>FT+β<sub>4</sub>MA+β<sub>5</sub>POR+β<sub>6</sub>D<sub>1</sub>CARTYOBC+β<sub>7</sub>D<sub>2</sub>CARTYSC  
+β<sub>8</sub> MOP+β<sub>9</sub>HLWW+β<sub>10</sub>MBPA+β<sub>11</sub>MYI+μ**

Here  $\alpha$  is the constant term,  $\beta_j$ 's are the regression coefficients and  $\mu$  is the random disturbance term.

#### **4.2.4.4 Mother's Decision Making Power Regarding Children Education Index (MDMPCEDUI)**

To find the impact of mother's empowerment on their children's education a new index is constructed i.e. Mother's Decision Making Power Regarding Children's Education Index (MDMPCEDUI). This index is separately calculated for male and female children in a household by using Principal Component Analysis. The indicators of this index are listed below.

Mother's Decision Making Power Regarding (a) Selection of Schools/Colleges for Children (SOS/SOCFC), (b) Selection of Course of Study of Children (SOCOSOC), (c) Accompany Children for Schools/Colleges related matter (ACFS/CRM), (d) Higher Education Of Children (HEDUOC), (e) Marriage of Children (MOC), (f) Choice Between Marriage and Higher education of Children (CBMHEDUOC).

If mother is found to be able to take decision to great extent, the value assigned is 3, if she takes the decision to an average extent then the value assigned is 2, if she takes decision to some extent then the value assigned is 1. But if mother has no role to play in decision making regarding children's education i.e., her husband or other family member(s) takes the decision, the value assigned is 0.

#### **4.2.4.5 t test for small sample**

To find the difference in the impact of mother's empowerment level on children's education, we used test for equality of two means where standard deviation is unknown. The test comparing two independent population means with unknown standard deviations

is called the Fisher's t-test which follows t distribution with degrees of freedom  $(n_1+n_2-2)$ . In order to test this one subsample by taking one child from each household who is in the age group of 14-27 years is drawn at random from each household. Five households are excluded from the subsample since there is no child present in the household belonging to the selected age group. The age group 14 -27 is selected purposively to ensure that children belonging to the subsample have either completed their education or are continuing education in higher grades. This kind of selection of subsample will make the difference in educational attainment of male and female children more visible and therefore, more suitable for applying t-test to find out the statistical significance in the difference in mean education of children. The subsample comprises of 245 children (from 245 households) out of whom number of male children is 127 and female 118. The subsample population of children is categorized into five age groups, namely, 14-16, 17-18, 19-21, 22-23 and 24-27. Category wise number of children, average empowerment of mother of respective group, average decision making index of mother of the male and female children of each category and average education of male and female children category wise is estimated and these estimates are shown in Table- 5.31 in Chapter-v. The t-test results of the above stated five categories of children is also shown in Table- 5.31. Here, two independent random sample of sizes  $n_1$  (number of male children) and  $n_2$  (number of female children) from two normal populations with means  $\mu_1$  and  $\mu_2$ . The hypothesis that the means are equal i.e. mean of male education= mean of female education.  $H_0: (\mu_1= \mu_2)$  is tested against alternative hypothesis that  $H_1: (\mu_1\neq\mu_2)$  If two population standard deviations are assumed to be equal, an unbiased estimator of the common variance is given by,

$$S^2 = n_1 S_1^2 + n_2 S_2^2 / n_1 + n_2 - 2$$

Where  $S_1$  and  $S_2$  are the sample standard deviations. Thus the statistic is

$$t = \frac{\bar{x}_1 - \bar{x}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

#### 4.2.4.6 Correlation Co-efficient

The word “correlation” is used to denote the degree of association between variables. If two variables  $x$  and  $y$  are so related that variations in the magnitude of one variable tend to be accompanied by variations in the magnitude of the other variable, they are said to be correlated.

Let  $(x_1, y_1), (x_2, y_2) \dots (x_n, y_n)$  be a given set of pairs of observations on two variables  $x$  and  $y$ . The correlation coefficient between  $x$  and  $y$  is then defined as,

$$r = \frac{cov(x,y)}{\sigma_x \sigma_y}$$

The variables used in correlation coefficient are listed below.

#### **Male Children Average Education (MCAEDU)**

It is the total years of completed education by male children excluding 0-6 age group divided by the number of male children in the family excluding 0-6 age group.

#### **Female Children Average Education (FCAEDU)**

It is the total years of completed education by female children excluding 0-6 age group divided by the number of female children in the family excluding 0-6 age group.

#### **Mean Difference in Children’s Education (MDICEDU)**

It is simply the difference between male children average education and female children average education.

#### 4.2.5.5 Multinomial Logistic Regression

The logistic regression model can be extended to situations where the response variable assumes more than two values. For example, in a study of the choice of mode of transportation to work, the response variable may be private automobile, car pool, public transport, bicycle or walking. The response falls into five categories. There is no natural ordering of the categories. We might want to analyze how the choice is related to factors such as age, sex, income, distance traveled etc. The resulting model can be analyzed by using slightly modified methods that were used in analyzing the dichotomous outcomes. This model is called the multinomial logistic regression. Suppose we have 'n' independent observation with 'p' explanatory variables. The qualitative response variable has  $k$  categories. To construct the logits in the multinomial case one of the categories is considered the base level and all the logits are constructed relative to it. Any category can be taken as the base level. We will take category  $k$  as the base level in our description of the method. Since there is no ordering, it is apparent that any category may be leveled  $k$ . Let  $\pi_j$  denote the multinomial probability of an observation falling in the  $j$ th category. We want to find the relationship between this probability and the  $p$  explanatory variables,  $X_1, X_2, \dots, X_p$ .

The multinomial logistic regression model then is

$$\log\left(\frac{\pi_j(x_i)}{\pi_k(x_i)}\right) = \beta_{0j} + \beta_{1j}x_{1i} + \beta_{2j}x_{2i} + \dots + \beta_{pj}x_{pi}; \quad j = 1, 2, \dots, (k - 1), i = 1, 2, \dots, n.$$

Since all the  $\pi$ 's add to unity, this reduces to

$$\log(\pi_j(x_i)) = \frac{\exp(\beta_{0j} + \beta_{1j}x_{1i} + \beta_{2j}x_{2i} + \dots + \beta_{pj}x_{pi})}{1 + \sum_{j=1}^{k-1} \exp(\beta_{0j} + \beta_{1j}x_{1i} + \beta_{2j}x_{2i} + \dots + \beta_{pj}x_{pi})},$$

*for j = 1, 2, ..., (k - 1)*

In order to examine further the connection between children's (male and female) education and mother's empowerment level, a multinomial logistic model is constructed where the dependent variables are categorical in nature and values from 0 to 3 are assigned to the categorical values variables. Here the model is based on a subsample which is drawn as follows. One child from each household is drawn at random.

Dependent variable: Children's Education in categorical form as,

Completion of elementary including illiterate = 0, Up to the Completion of high school = 1, Up to the completion of higher secondary = 2, Up to the completion of graduation and above = 3

The set of independent variables used in the multinomial logistic model is comprised of the following variables:

(1) Mother's Empowerment Level (MEI which is the index value of the mother's empowerment level), (2) Mother's Age (MA), (3) Mother's Educational Decision Making Power Regarding male/female child (MDRMC/ MDRFC) and (4) Annual Family Income (AFI in Rs.).

The model is estimated separately for male children and female children in order to assess the impact of mother's empowerment level on male children's and female children's categorical level of education. The result is shown in Table-5.36 in Chapter -v. Here children's educational level is a categorical variable and it is categorized into four groups as mentioned above.viz illiterate or having elementary level of education

(category 1), children completed high school education (category 2), children completed higher secondary education (category 3) and children above higher secondary level of education (category 4). Category 1 is considered as a base category. The multinomial logit model shows the comparison of educational level of each category (category 2, category 3 and category 4) with respect to the base category (category 1).