CHAPTER I
Introduction

Section-I

1.1.1 Feminism and Development

Two parallel trends gained momentum in the later part of the last century: one was women and development debate and the other was the feminist movement and the great upsurge of women mobilization and organization around the world, continuing centuries-old struggle to liberate women from oppression and subordination in society. The division between mainstream feminists and grassroots development proponents are reflected in differences regarding the nature of development. The latter consider it to represent the personal assessments for change as determined by individual groups of women. The former, on the other hand, insist on a particular concept of change applied to all women (Kalegaonker, 1997).1

1.1.2 Development Trend: Women in Development

When the modern concept of development emerged with the initiation of the world powers to uplift the socio-economic condition of the people of the Third World the goal was to raise the GNP of the state. During 1960-1970s the world’s gross international product was increased by one trillion dollars. At the end of the first development decade, an annual growth rate of 5 percent had been achieved by most developing countries. The rates of unemployment, population growth and the disparity in people's incomes were also increased. By this time it was clear that in spite of rising GNP, the essential needs of people were not being met and evidences depicted that the situation of women in developing countries had, in fact, deteriorated. According to Moser, during these initial years, women of the Third World got special attention through welfare approach particularly emphasizing in the area of education and health. Motherhood has important role in the welfare approach while implementing the family centered programs. Along with the free distribution of goods and services, efforts to combat malnutrition and population control through family planning programs were implemented directly.

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through the aid received from the well to do countries. This gave rise to two parallel approaches, first the financial aid for economic growth and secondly relief aid for the socially weaker section of the society. This had critical implications for Third World women. It meant that the international economic aid which prioritized government support for capital-intensive industrial and agricultural production to accelerate growth focuses on increasing the productive capacity of male labour force, while welfare provision for the family was targeted at women, who along with disabled and the sick, were identified as "vulnerable groups" (Moser, 1992).

1.1.3 Decentralisation and Gender Equity

Decentralization of governance was seen as an important strategy to build efficient, accountable and transparent governance. Decentralization as a cornerstone of good governance began to gain importance after 1980’s. Notable feature of this development was the affirmative action by the governments for inclusion of significant number of women into local governments. There was an attempt to increase the number of women in political spheres through decentralization.

Democratic decentralization is a form of governance that expands participation of subordinate groups and is responsive to their interest. It is critical for women as a subordinated group not only because of the proximity of local government to the lives of ordinary women but because the lack of democracy in gender relations excludes them from participation in governance and the consideration of their interest in the business of governmental decision-making.

The Committee on the Status of Women, 1974, recommended reservation for women in local governments. Lotika Sarkar and Vina Mazumdar in favour of the recommendation said that, equality of opportunities cannot be achieved in the face of the tremendous disabilities and obstacles which the social system imposes on all those sections that traditional India treated as second class citizens. The application of the theoretical principle of equality in the control of unequal

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situation only intensifies inequalities because equality in such situations merely means privileges for those who have them already and not for those who need them. Equality of opportunity cannot be achieved as there are obstacles in the social system. Decentralization with affirmative action was accepted as a means towards gender equity and political empowerment (GOI, 1974).3

Decentralisation has to be accompanied by mobilisation and advocacy if it is to effectively establish gender equality and equity. It needs to rally the support and expertise of a range of actors for this, including women’s organisations, political parties, local councillors and the media. The political will of national government is also essential to the emergence of conducive environment for local government to flourish.

Local government would benefit by adopting a triple-track approach for promoting gender equality and protecting and respecting women’s rights. First, it would need to thoroughly integrate gender analysis into all its political, organizational and administrative functions. Secondly, it should provide political and practical support to women’s organisations and movements and establish rapport with them. And thirdly, it should support specific strategic initiatives with men on gender and masculinity issues (Helen O’Connell, 2010).4

Decentralisation may contribute to gender equality it approaches women better: Women usually belong to the marginalised groups of society. Actually, they are not only excluded from citizenship and rights, but their interests and concerns in public decisions and public services are not reflected in political decision-making. The lack of democracy in gender relations excludes them from participating in governance. This also hinders poverty reduction. Since participation and access to decision-making is easier for women at local level, a gender-sensitive implementation of decentralisation processes could foster democratic governance structures. This applies to women both in urban and rural areas. Given that communication structures make organising in urban areas easier

4Helen O’Connell, “Preserve status quo or promote gender equality?”, Capacity.org Issue 40 | August 2010, pp: 4-6.
for women, it is necessary to focus on the challenges of decentralisation for rural women (Christa Randzio-Plath, 2009)\(^5\).

### 1.1.4 Gender Equity

Amartya Sen opines that there are systematic disparities in the freedom that men and women enjoy in different societies and these disparities are often not reducible to differences in income or resources. While differential wages or payment rates constitute the important part of gender inequality in most societies there are other spheres of differential benefits for example in the division of labour within the household, in the extent of care of education received, in liberties that different members are permitted to enjoy. There is a lot of indirect evidence of differential treatment of women and men and particularly of girls vis-a-vis boys in many parts of the world, e.g. among the rural families in Asia and North Africa. The observed morbidity and mortality rates frequently reflect differential female deprivation of extraordinary proportions (Sen Amartya, 1995)\(^6\).

Gender equity and development was not given importance by the state during the early years of independence. Over the years, the planning strategies on women and children in the country have evolved from ‘Welfare to development and to empowerment’. The First Five Year Plan provided adequate services to promote the welfare of the women. It stressed the community development approach. The Second, Third, Fourth and Fifth Five Year Plans continued the same approach for the welfare of women. Education, employment opportunities and socio economic programmes for women were introduced.

The Fifth Plan period coincided with International Women’s Decade. The end of the Fourth Plan has seen the release of the Report of Committee on Status of Women in India entitled ‘Towards Equality’ which revealed that the dynamics of development has adversely affected women and created new imbalances and disparities. The report led to the emergence of new consciousness of women as

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critical input for national development rather than as target for welfare policies (Goel Aruna, 2009)\(^7\).

### 1.1.5 Women Empowerment and Political Empowerment

Empowerment of women is an essential basic condition for socio-economic development of any society. Although women constitute one half of the population, they continue to be subjugated, confront in socio-economic and political status. Women have been struggling for self-respect and autonomy. Since mid-1980’s owing to questioning by women themselves about their oppressed status and plight through varied women’s movements, the issue of ‘women empowerment’ came into focus. According to Bina Agarwal (2000)\(^8\), empowerment is a ‘process that enhances the ability of disadvantaged (powerless) individuals and groups to challenge and change (in their favour) existing power relationships that place them in subordinate economic, social and political position’.

Bargava and Subha (2002)\(^9\), defined political empowerment ‘as the capacity to influence decision-making process, planning, implementation and evaluation by integrating them into the political system. It implies political participation which includes right to vote, contest, campaign, party membership and representation in political office at all levels and effectively influences decisions thereby leading to political empowerment’.

Political empowerment refers to the process by which women acquire due recognition on par with men, to participate in the development process of the society through the political institutions as a partner with human dignity. Political empowerment denotes a distinct role for women in the formation of policies and influencing decision-making process by integrating them into the political system.

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Indian women have had little representation in institutional politics since independence. There was more concern in the last two decades towards increasing women’s participation in political institutions thereby leading to empowerment. Affirmative action has been accepted as a means to political empowerment. Leadership is necessary not just to govern but to change the nature of governance. Unfortunately affirmative action and women participation have failed to move beyond local government in India.

1.1.5 History of Political Participation of Women in India

The root to the participation of women in politics can be traced back to 19th century Reform Movement. The early 19th century social reforms and educational programmes initiated by various social reformers dealt with the social evils prevalent in the society. The social reform movement has been regarded as a key to the intellectual processes that went into the making of modern India. They thought that social change could be initiated by educating women and bringing progressive legislation. Social evils can be eradicated by raising consciousness and making people sensitive to injustice done to women.

Social reformers like Rajaram Mohan Roy, Ishwar Chandra Vidyasagar, Mahadeva Govinda Ranade, Behramji Malabari raised their voices against the prevailing practices and social customs subjugating women. Their efforts rallied around issues affecting women’s life adversely such as the practice of sati, female infanticide, plight of the widows, child marriage, polygamy etc. Rajaram Mohan Roy championed the ban on the practice of sati. The campaign resulted in the government resolution of 1829, banning the practice of sati. Ishwar Chandra Vidyasagar took up the cause of widows and started a movement for widow remarriage in 1850s. It resulted in Hindu Widow Remarriage Act of 1856. But this act denied them the right to their husband’s and family’s property. It met with a strong opposition from Bengali orthodoxy (Sinha Niroj, 2000)10.

Ishwar Chandra Vidyasagar fought against polygamy and encouraged women’s education. Pandith Ramabai, Manorama Majumdar, Sarala Devi Goshal

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founded Bharath Shree Mahamandal for the education of women. Swarna Kumari Devi founded women’s organization called Sakthi Samiti in 1886 for widows. Behranje Malabari started campaigned against child marriage and nationwide debate over Age of Consent Bill. It met with strong opposition from the orthodox Hindus. The attack was spearheaded by Lokmanya Tilak, who defied the legislation as an attack on religion. The orthodox Hindus were connecting the issue of reform and religion. They wanted all reforms within the framework of Hinduism. So the movement was almost totally overwhelmed by Hindu revivalism by the end of the 19th century.

The new revivalism was embodied in powerful organizations such as Dayanand Sararwati’s Arya Samaj (1875), Vivekananda’s Ramkrishna Mission (1897) and Annie Besant’s Madras Hindu Association (1904). The new organizations attacked the reformers but supported some reforms of the Hindu society. They did not incorporate a good deal of the programmes of reformers such as educating women, raising the age of marriage, remarriage of child widows etc, but all this was to be done within the framework of Hinduism.

Nivedita Menon observes those movements, as well as the resistances to such reforms were decisively shaped by the colonial encounter. Prominent sections of the bourgeoisie had an intent to reform what the colonial discourse presented as primitive and barbaric aspects of the Hindu society, while the resistance came from revivalist nationalists who challenged the colonial interventions with Indian tradition (Menon Nivedita, 1999).

1.1.6 The Research Problem and Rationale of the Study

According to Kabeer’s (2001) understanding there are two essential elements of women empowerment, i.e., process and agency. A process is defined as a series of events that produce gradual change. The process of women empowerment leads to expansion in their ability to have resources and to make

\[1\] Ibid, p. 72.

\[2\] Menon Nivedita (1999): Themes in Politics (Ed.) in Gender and Politics in India, Oxford University Press, New Delhi, p. 4.

strategic life choices. The agency element of women empowerment describes that women themselves are the significant activists in the process of change. Kabeer (1999)\textsuperscript{14} explained that women’s empowerment refers to the process by which those who have been denied the ability to make strategic life choices, acquire such ability. The ability to exercise choices incorporates three inter-related dimensions: Resources, which include access as well as future claims to both material and social resources; Agency, which includes the process of decision-making, negotiation, deception and manipulation; and achievements. Kabeer’s (2001) understanding of agency is mainly based upon Sen’s study. Agency is defined as an individual’s ability and involvement in making meaningful choices. It encompasses the ability to formulate strategic choices, to control resources and decisions that affect important life outcomes.

Longwe and Clarke (1994)\textsuperscript{15} explained women empowerment as an on-going cyclical process having five stages. The first stage is welfare stage and at this stage the women’s resources are not fully recognized and met. The second is the access stage, where women recognise it and take action to gain access to these resources. The third stage is the conscientisation level stage, where women realise that their lack of access to resources and their general subordinate status are due to socially constructed beliefs and phenomena. The fourth stage is the participation level stage, where women become actively involved in decision-making processes within their households, communities and societies. The final stage is the control stage, in which women get control over access to resources and distribution of benefits by increasing their participation. This control increases women’s power and respect within their households and societies at large.

From the above discussion it is clear that the empowerment of women regard with to social, economic and political areas are interrelated. The most significant aspect of women empowerment commence with the involvement of


decision making process in the household activities. Self-help groups have been founded with this motive to create awareness among women in all the areas. First, they built confidence among women by encouraging them to cultivate the habit of saving which gives them financial support. If women got economic empowerment then they could stand on their own feet and fight for the other two viz., social and political empowerment. There are a number of studies focusing on the contribution of self-help groups towards economic empowerment of women. Thus, this study is focused on political empowerment of women with respect to self-help groups of North Coastal Andhra Districts.

1.1.7 The Objectives of the Study

The main objectives of the study are:
1. To examine the socio-economic aspects of SHG women in the Study area.
2. To observe the level of social empowerment of SHG women in the Study area.
3. To observe the level of economic empowerment of SHG women in the Study area.
4. To analyse the political empowerment of SHG women in the Study area.
5. To find out the determinants of political empowerment of SHG women in the Study area.

1.1.8 Hypotheses

H\(_0\): There is no relationship between Socio-economic factors and empowerment.
H\(_1\): There is a relationship between Socio-economic factors and empowerment.
H\(_0\): There is no variation between rural and tribal areas regarding empowerment.
H\(_2\): There is variation between rural and tribal areas regarding empowerment.
H\(_0\): Socio-economic factors do not determine political participation.
H₃: Socio-economic factors determine political participation.
H₀: Socio-economic factors do not determine political empowerment.
H₄: Socio-economic factors determine political empowerment.

Clear description of research methodology is presented in section-II.

1.1.9 Chapterisation

The first chapter presented the research problem, objectives and research methodology. The second chapter is devoted to review of literature. The third chapter presented the profile of the three districts and basic characteristics of sample respondents. The fourth chapter deals with the socio-economic empowerment of sample respondents. The fifth chapter discussed about political empowerment of sample respondents as well as determinants of political empowerment. The sixth chapter outlined the summary of the study and offers summary and conclusions. Finally bibliography is presented.
Section –II: Research Methodology

In this Section, an attempt has been made to focus on database and research design i.e. selection of sample, sources of data, and statistical tools used.

1.2.1 Data

This research study is embodied with both primary and secondary data. As far as secondary data is concerned they were sought from various books, journals, magazines, newspapers, periodicals, unpublished sources, internet etc. The study also embodied a sizeable primary data, which was collected by way of canvassing a questionnaire among selected sample of respondents.

1.2.2 Sample

The study is based on the data collected from primary as well as secondary sources. For primary data collection, a multi-stage stratified random sampling design was adopted. The sample has been drawn in such a way that all the households have equal chance of selection. District is a sample unit at the first stage.

1.2.3 Selection of District

For survey, three districts (Visakhapatnam (VSKP), Vizianagaram (VZM) and Srikakulam (SKLM)) of North Coastal Region of Andhra Pradesh have been selected as the characteristic features of these districts are more or less similar. No attempt, however, has so far been made to study political empowerment in this otherwise an affluent region of the state.

1.2.4 Selection of Revenue Mandal

At the second stage, Revenue Mandal was selected. The Study has selected Revenue Mandal for rural and tribal areas separately, the following rural areas have been selected from each of the district, Chodavaram from Visakhapatnam district, Gantyada from Vizianagaram district and Etcherla from Srikakulam district and for tribal areas Hukumpeta from Visakhapatnam district, Gummalaxmipuram from Vizianagaram district and Seetampeta from Vizianagaram district were selected.
<table>
<thead>
<tr>
<th>State Region</th>
<th>District Level</th>
<th>Area</th>
<th>No of Revenue Mandal</th>
<th>No of selected Revenue Mandal</th>
<th>Name of Revenue Mandal</th>
<th>No. Of SHG Members</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Costal Andhra</td>
<td>Visakhapatnam</td>
<td>Rural</td>
<td>28</td>
<td>1</td>
<td>Chodavaram</td>
<td>18,016</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tribal</td>
<td>11</td>
<td>1</td>
<td>Hukumpeta</td>
<td>9,419</td>
<td>75</td>
</tr>
<tr>
<td>Vizianagaram</td>
<td>Rural</td>
<td>26</td>
<td>1</td>
<td>Gantyada</td>
<td>16,223</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tribal</td>
<td>8</td>
<td>1</td>
<td>Gummalaxmipuram</td>
<td>8,254</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Srikakulam</td>
<td>Rural</td>
<td>31</td>
<td>1</td>
<td>Etcherla</td>
<td>19,677</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tribal</td>
<td>7</td>
<td>1</td>
<td>Seetampeta</td>
<td>10,100</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Total Revenue Mandals</td>
<td></td>
<td>111</td>
<td>6</td>
<td></td>
<td>81,689</td>
<td>450</td>
<td></td>
</tr>
</tbody>
</table>

### 1.2.5 Selection of Villages and Households

From each sampled Revenue Mandal, three villages were selected at random. The selection of villages was finalized on the basis of the indicators published in Hand book of statistics, and after consultations with the concerned Block Mandla Mahila Samskya officials. Thus 18 villages in total were selected which comprised the third stage in our sampling design.

From each chosen village, 25 households were selected on the basis of systematic sampling from the SHGs list from Society for Elimination of Rural Poverty (SERP) reports. The SHGs list was collected from the SERP official website that is [http://www.ikp.serp.ap.gov.in/IHCB/IHCBHomePage.aspx](http://www.ikp.serp.ap.gov.in/IHCB/IHCBHomePage.aspx). Thus, from 18 villages, 450 households were selected in North Costal Andhra. Out of 450 households 225 for rural area and 225 for tribal area total were selected.
### Table 1.2: List of Selected Villages for the Study

<table>
<thead>
<tr>
<th>Revenue Mandal</th>
<th>Area</th>
<th>Total Number of Villages</th>
<th>Selected Villages</th>
<th>Name of Villages</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chodavaram</td>
<td>Rural</td>
<td>31</td>
<td>3</td>
<td>Chakipalle</td>
<td>25</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lakkavaram</td>
<td>25</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Rayapurajupeta</td>
<td>25</td>
</tr>
<tr>
<td>Hukumpeta</td>
<td>Tribal</td>
<td>168</td>
<td>3</td>
<td>Burja</td>
<td>25</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pathakota</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Santharai</td>
<td>25</td>
</tr>
<tr>
<td>Gantyada</td>
<td>Rural</td>
<td>40</td>
<td>3</td>
<td>Chandrampeta</td>
<td>25</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pedamajjipalem</td>
<td>25</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Tatipudi</td>
<td>25</td>
</tr>
<tr>
<td>Gummalaxmipuram</td>
<td>Tribal</td>
<td>124</td>
<td>3</td>
<td>Cheemuduguda</td>
<td>25</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Lakkaguda</td>
<td>25</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Vangara</td>
<td>25</td>
</tr>
<tr>
<td>Etcherla</td>
<td>Rural</td>
<td>31</td>
<td>3</td>
<td>Arinamakkivalasa</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ibrahimbad</td>
<td>25</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ponnada</td>
<td>25</td>
</tr>
<tr>
<td>Seethampeta</td>
<td>Tribal</td>
<td>118</td>
<td>3</td>
<td>Darapadu</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Kadagandi</td>
<td>25</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Sambham</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>512</strong></td>
<td><strong>18</strong></td>
<td></td>
<td><strong>450</strong></td>
</tr>
</tbody>
</table>

Finally, from the SHGs list of each village, 25 households were selected on the basis of systematic sampling. In this way, 75 households from rural area and 75 from tribal area, i.e. a total of 150 households from each selected district were surveyed. Thus from three districts, 450 households (225 from rural area and 225 from tribal area) were surveyed for collection of data.

#### 1.2.6 Time Period

Relevant data, following personal interview method was collected during January, 2012 to December, 2012. The entire survey period is divided into two sub-rounds of 4 months each. January - April 2012 and September - December 2012.

#### 1.2.7 Statistical Tools

1. **Likert’s Scaling Technique**

Scaling models may be employed for three related but distinct purposes. First, scaling analysis may perform a hypothesis-testing purpose. Political scientists, for example, may test the hypothesis that there is a single dimension,
ideology (e.g., liberalism), that underlies voters’ preferences for different political candidates. In this case, the scaling model is used as a criterion to evaluate the relative fit of a given set of observed data to a specific model. Secondly, scaling may be employed for the purpose of simply describing a data structure, that is, for discovering the latent dimensions underlying a set of obtained observations.

Thirdly the purpose of scaling is to develop a unidimensional scale on which individuals can be given scores. Their scores on the particular scale can then be related to other measures of interest. Typically, they are instructed to select one of five responses: strongly agree, agree undecided, disagree and strongly disagree. The specific responses to the items are combined so that individuals with the most favourable attitudes will have the highest scores while individuals with the least favourable (or most unfavourable) attitudes will have the lowest scores (John P. MC Iver and Edward G. Carmines, 1981)¹.

1.2.7.2 Chi-square Test

It is a non-parametric test applied to find out the association among two or more attributes. The test is applied to find out whether the microfinance programme participation has led to increased level of confidence, physical mobility, household decision-making power etc. among the members. The value of Chi-square is calculated as follows (Gupta, S.P, 2007)²:

\[ \chi^2 = \sum \frac{(O - E)^2}{E} \]

Where:

O = Observed frequencies
E = Expected frequencies

1.2.7.3 Z-Test

Z-test for difference in means and the test statistic is used when two samples are drawn from different populations. In addition to the above, the significance of difference in means of empowerment between rural and tribal households is tested.

\[ Z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{\sigma^2_{p1}}{n_1} + \frac{\sigma^2_{p2}}{n_2}}} \]

Where

\( \bar{x}_1 \) = Mean of the first population
\( \bar{x}_2 \) = Mean of the second population
\( \sigma_{p1} \) = Standard deviation of the first population
\( \sigma_{p2} \) = Standard deviation of the second population
\( n_1 \) = Size of the first population
\( n_2 \) = Size of the second population

The null hypothesis for testing of difference between means is generally stated as

\( H_0 : \mu_1 = \mu_2 \), where \( \mu_1 \) is population mean of one population and \( \mu_2 \) is population mean of the second population, assuming both the populations to be normal populations. Alternative hypothesis may be of not equal to or less than or greater than as stated earlier and accordingly we shall determine the acceptance or rejection regions for testing the hypotheses (Kothari, 2004).³

1.2.7.4 F-Test

The F – distribution measures the ratio of the variance between groups to the variance within groups. If there is no real difference from group to group, any sample difference will be explainable by random variation and the variance between groups should be close to the variance within groups. However, if there is a real difference between the groups, the variance between groups will be significantly larger than the variance within groups (Gupta, S.P, 2007)⁴.

\[ F = \frac{S_1^2}{S_2^2} \quad {\text{or}} \quad \frac{S_2^2}{S_1^2} \]

\( S_{12} \) = Sum of the squares between sample
\( S_{22} \) = Sum of the squares with sample

1.2.7.5 Empowerment Index measures

Economic Empowerment Index (EEI) = \( \frac{\text{Actual Score Obtained}}{\text{Maximum Score Obtained}} \)

Social Empowerment Index (SEI) = \( \frac{\text{Actual Score Obtained}}{\text{Maximum Score Obtained}} \)

Political Empowerment Index (PEI) = \( \frac{\text{Actual Score Obtained}}{\text{Maximum Score Obtained}} \)

1.2.7.6 Logistic Regression:

Logistic regression, being well suited for analyzing dichotomous outcomes, has been increasingly applied in social science research. Logistic regression is well suited for studying the relation between a categorical or qualitative outcome variable and one or more predictor variables. In the simplest case of one predictor X (say, IQ score) and one dichotomous outcome variable Y (say, diagnosed to be learning disabled), the logistic model predicts the logit of Y from X.

\[
\ln \left( \frac{\pi}{1 - \pi} \right) = \log(\text{odds}) = \logit = \alpha + \beta x.
\]

Hence, \( \pi = \text{Probability}(Y = \text{outcome of interest} \mid X = x) = \frac{e^{\alpha + \beta x}}{1 + e^{\alpha + \beta x}} \).

Where \( \pi \) is the probability of the outcome of interest, or the “event”, under variable Y, \( \alpha \) is the Y intercept, and \( \alpha \) is the slope parameter. X can be categorical or continuous, whereas Y is always categorical. Although a categorical variable may yield two or more possible categories, we focus on dichotomous outcomes only (Peng and So, 2002).5

\[
Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 + \beta_7 x_7 + \beta_8 x_8 + \ldots + \mu
\]

Where

\[ Y = \text{Position held (yes = 1 otherwise 0)} \]
\[ X_1 = \text{Age of the respondent (in years)} \]
\[ X_2 = \text{Education of the respondent (in Schooling years)} \]
\[ X_3 = \text{Family size} \]
\[ X_4 = \text{Social community of the respondent (Dummy variable)} \]
\[ X_4 = \begin{cases} 1 & \text{if OC}\,=1 \text{ otherwise 0, BC}\,=1 \text{ otherwise 0, SC}\,=1 \text{ otherwise 0 and ST}=\alpha \end{cases} \]
\[ X_5 = \text{Working status of the respondent (Dummy variable if worker =1 otherwise 0)} \]
\[ X_6 = \text{Income level of household} \]
\[ X_7 = \text{Expenditure of household} \]
\[ X_8 = \text{Total assets} \]
\[ X_9 = \text{Saving (Dummy variable if saving is positive =1 otherwise 0)} \]

1.2.7.7 Multiple Regression:

A multiple linear regression analysis is carried out to predict the values of a dependent variable, \( Y \), given a set of \( p \) explanatory variables \((x_1,x_2, \ldots ,x_p)\). In multiple linear regression, there are \( p \) explanatory variables, and the relationship between the dependent variable and the explanatory variables is represented by the following equation:

\[
Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \ldots + \beta_p x_p + \mu
\]

Where:

\( \alpha \) is the constant term and 
\( \beta_1 \) to \( \beta_p \) are the coefficients relating the \( p \) explanatory variables to the variables of interest. So, multiple linear regression can be thought of an extension of simple linear regression, where there are \( p \) explanatory variables, or simple linear regression can be thought of as a special case of multiple linear regression, where \( p=1 \). The term ‘linear’ is used because in multiple linear regression we assume that
y is directly related to a linear combination of the explanatory variables (Tranmer and Elliot, 2008)\(^6\).

\[
Y \ (PEI) = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 + \beta_7 x_7 + \beta_8 x_8 + \ldots + \mu
\]

\(Y\) = Political Empowerment (PEI)
\(X_1\) = Age of the respondent (in years)
\(X_2\) = Education of the respondent (in Schooling years)
\(X_3\) = Family size
\(X_4\) = Social community of the respondent (Dummy variable)
\(X_5\) = Working status of the respondent ( Dummy variable if worker =1 otherwise 0)
\(X_6\) = Position held in other organizations ( Dummy variable if worker =1 otherwise 0)
\(X_7\) = Income level of household
\(X_8\) = Expenditure of household
\(X_9\) = Saving (Dummy variable if saving is positive =1 otherwise 0)

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\(^6\) Tranmer, M., & Elliot, M. (2008)., Multiple Linear Regression, *The Cathie Marsh Centre for Census and Survey Research (CCSR).*