CHAPTER: 3

DATA COMPILATION AND RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter begins with the definition of the population/ universe of the study area, and then gradually proceeds towards methods of sampling, technique of field-survey, nature of data etc. Under methods of sampling, methods of selection of districts, blocks, markets, respondents, etc. discussed step by step. Under techniques of field-survey, first of all, pilot survey is undertaken after that only, actual survey is conducted. Thus, all the steps involved in field survey as well as categorization of entrepreneurial activities are discussed here in this chapter. The next concern of this chapter is to examine the nature of collected data of the two districts on the basis of which appropriate statistical and econometrical tools will be adopted for further tests and analysis of the data in the chapter five. For examining the nature of data some tests such as normality, linearity and multi-collinearity tests are done. Therefore, all these phenomena are discussed under the purview of this chapter.

In order to glean information on the factors required for this research study, accumulation of primary data is one of the significant parts of this research. For acquisition of data, selection of sample from the population is necessary. Therefore, first of all, we must have a lucid conception of population/universe of this investigation.

3.1.1 Defining the population/ universe in the context of present research:

The population of the research study consists of all those women of Kokrajhar district as well as Dhubri district of Assam, who undertakes any types of micro-entrepreneurship/ micro-businesses in regular or irregular basis in the marketplaces or

haats or at home with or without having fixed place of establishment of businesses, especially in unorganized/informal sector.[1]

3.2 METHODS OF SAMPLING:

The study is based on both primary and secondary data. To minimise the cost of time, money and efforts, sampling technique is applied to collect the primary data. For which mainly purposive sampling & multistage random sampling method is used. The steps involved in sampling technique are mentioned below:

Step I: Selection of Districts: Out of a total of 32 districts of Assam, two rural or semi-urban types districts of Assam namely; Kokrajhar and Dhubri district have been selected for the present study purposively. The study aims to compare WMEs of two neighbor districts with some geographical and demographical differences. The main reason behind selecting these two districts is that a number of women in both Dhubri and Kokrajhar district are found to undertake micro-entrepreneurship for earning income. The geographical difference between the two districts could be grasped from the differences in total forest coverage area in Kokrajhar district and Dhubri district, which is 35.39 % & 4.52% of total geographical area respectively. Moreover, there is a basic demographic difference between these two districts i.e., Dhubri district is one of the Muslim majority districts of Assam, where about 80% of inhabitants belongs to Muslim religion as against Kokrajhar district where majority of population, about 60% belongs to Hindu religion. Again, among all communities in Kokrajhar district major portion of population belongs to tribal community. Anyway, the sample size covers 145 numbers of WMEs from Dhubri district and 166 numbers of WMEs from Kokrajhar district of Assam with a total numbers of 311 respondents as given in the table 3.1. The sample size of Kokrajhar district is higher as compared to that of Dhubri district, as because the size of universe of WMEs in Kokrajhar district is also

[1] It is needless to mention the annual investment limit, annual turnover limit and maximum number of employees to be employed by the WMEs in this definition, as; all these are already intrinsic in the definition of micro-entrepreneurship.

greater than that in Dhubri district and the survey covers almost 80% of WMEs from a particular selected market.

However, the first step started with visiting several municipality offices and studying MSME district handbooks to find out registered WMEs, though this resulted less effective. After, visiting the WMEs in practical field one thing became pellucid that if we want to understand women entrepreneurs then the registered number of WMEs would be misleading, as the registered number of WMEs is very negligible portion of total number of WMEs and the unregistered number of WMEs in unorganized sector is exceedingly higher. Even though, it is quite unfeasible to calculate the ratio of registered to unregistered number of WMEs in the two study areas, yet, the investigator made a rough idea that, of the total number of WMEs only 3-5% WMEs are likely to be registered. In practical field, the WMEs are doing their business in informal way and they are not registered with the government, because, there level of investment, purchase, sales, income and turnover is sometimes so tiny that they don't fulfill the minimum requirements for registration. Moreover, most of the WMEs might not register them intentionally to avoid taxes. Among the registered women enterprises most of the enterprises are actually run by males. Perhaps they registered the enterprise in the name of their female family member to acquire some financial benefit or tax relief or may be to hide more than one business to be registered in the name of same/one person of a family. Since, the present research attempts to examine the role of WMEs in women empowerment, therefore, it targets to represent those 95%-98% population of unorganized WMEs, covering the enterprises, which are actually women run enterprises and not merely registered in the name of women and run by men.

Step II: Selection of blocks: Selection of blocks is also done purposively**.** The blocks where WMEs exist are selected in the sample. The sample blocks selected for the present survey are mentioned in the following table 3.2.

Step III: Selection of markets: After selecting two districts and sample blocks under the two districts purposively, different markets are selected randomly.

Table 3.1: Sample Schedule

District under Assam	Total respondents
Dhubri	145
Kokrajhar	166
Total	311

Source: Primary data

Table 3.2: Sample Blocks selected for the present study under Dhubri district and Kokrajhar district

Sample Blocks under Dhubri district	Sample Blocks under Kokrajhar district
1. Agomoni Block	1. Kokrajhar (Titaguri) Block
2. Golakganj Block	2. Dotma Block
3. Gauripur Block,	3. Bilasipara (part) Block
4. Debitola Block	4. Chapar-Salkocha (part) Block
5. Bilasipara Block	5. Mahamaya (part) Block
6. Chapar-Salkocha Block.	6. Debitola (part) Block

Source: Primary data

Step IV: Selection of respondents: After selecting a particular sample market, individual respondents are also selected randomly.

3.3 TECHNIQUE OF FIELD-SURVEY:

The field-survey data have been collected through face to face interview with the respondents by using questionnaire tool, which is produced in the Appendix III. Since, the study followed mixed methods utilizing both quantitative and qualitative techniques; the questionnaire covers both quantitative and qualitative type questions & both close-ended and open-ended type questions. Under close-ended type questions, it covers both “yes-no” type and multiple-choice type questions. And

under open-ended questions it covers both ‘to the point answer’ type questions and ‘explanatory answer’ type questions. The field survey technique is explained under the following steps.

I. Pilot Survey: First of all, a pilot survey has been carried out on a total of 30 respondents, 15 from Kokrajhar district, 15 from Dhubri district, by the researcher before going to the actual survey (i) to make the main survey effective, efficient & error-free, (ii) to identify the reliability and validity of the collected data, (iii) to test and modify the questionnaire, and (iv) to estimate and reduce the time and money cost of actual survey etc. On the basis of this pilot survey, the unnecessary and non-sense questions have been excluded from the questionnaire and necessary questions have been incorporated in the questionnaire. Also, the data compilation in the pilot survey has been helpful to eliminate the problems related to data analysis and to pick up appropriate statistical tools by checking, which data is working and which is not working.

II. Actual Survey: The actual field survey has been conducted during the time period 2nd July, 2016 to 30th July, 2016. Women, in these areas, are engaged in variety of business activities, having little similarities in their business units. Also, number of women owning units are very less, so, all types of WMEs are attempted to be covered under the umbrella of the sample. Almost 80% of WMEs from a particular market have been investigated. Simple random sampling has been utilized for choosing sample WMEs. For collecting data on imcome of WMEs, expenditure method has been adopted. The steps involved in selecting sample WMEs are:

i) At first, different market places of the study area have been visited to find out WMEs. Actually, women are doing their business in a much unorganized way that, it is quite tough to find out them in concentrated manner in a particular market.

ii) If WMEs are not obtained in the market places or less numbers are obtained in a particular area then the second step is visiting different homes or inhabited areas to find out home based entrepreneurs[2]. The home based WMEs are found out and approached by enquiring local people of those areas.

iii) Women are engaged in variety of businesses in the study area. Since, the entrepreneurial activities by different WMEs are not uniform and in the population of WMEs, number of WMEs in different business categories is different, so, in the sample of WMEs, number of different WMEs for different categories is found to be very unequal. Moreover, some particular types of entrepreneurship occupied by WMEs in a district are found to be not occupied by WMEs in the other district. Therefore, the investigator has found a very uneven distribution of sample size of WMEs for different business categories as well as for two different districts, as shown in the sample table.

Even though WMEs are found to undertake a variety of businesses in the two study areas, but, to make data analysis effective the investigator categorizes the entrepreneurial activities into following main categories: *(a) women Fruits & vegetable Vendors , (b) Paan Vendors (c) Beautiparlour & Boutique, (d) Tea & food stalls & (e) Grocery shops, (f) Tailoring, and (g) Laundry*. "Since sometimes the vegetable vendors are located to public or municipal markets and buildings by paying a small amount of tax under the aegis of municipal program, so the vegetable vendors are also pulled under the umbrella of micro-entrepreneurship" (From the concept of

[2] According to **Independent Group on Home-Based Workers in India, set up in 2007 by the Ministry of Statistics and Programme Implementation of the Government of India, "**Home-based workers are defined as a) own-account workers and contributing family workers helping the own-account workers, involved in the production of goods and services, in their homes, for the market and b) workers carrying out work in their homes for remuneration, resulting in a product or service as specified by the employer(s), irrespective of who provides the equipment, materials or other inputs used, and those contributing family workers helping such workers". Retrieved from https://www.wiego.org/definition-home-based-workers on January 12, 2017, at 11.04 PM)

WIEGO).[3] The details of the sample investigated for the present study are presented below in the table 3.3.

Table: 3.3 Sample Percentage of various types of WMEs collected from the two districts

Types of Women Micro-Enterprises*	Dhubri District Number of WMEs (Percentage)	Kokrajhar District Number of WMEs (Percentage)
Vegetable Vendors	05 (3.45%)	75 (45.18%)
Foodstall	40 (27.58%)	42 (25.30%)
Grocery	30 (20.69%)	18 (10.84%)
Paan Vendor	31 (21.38%)	16 (9.64%)
Tailor	19 (13.10%)	4 (2.40%)
Beautiparlour	11 (7.586%)	9 (5.42%)
Boutique	2 (1.38%)	2 (1.20%)
Laundry	3 (1.39%)	--
Flower Decorator	2 (1.39%)	--
Cotton Thread shop	1 (0.689%)	--
Timber wood seller	1 (0.689%)	--
Total	145	166

Source: Primary data obtained from the field survey.

*Here all the enterprises are service sector enterprises.

[3] Women in Informal Employment: Globalizing and Organizing (WIEGO) is a global network focused on empowering the working poor, especially women, in the informal economy to secure their livelihoods. Retrieved from https://www.wiego.org/ on January 14, 2017, at 7.50 PM)

In this context, it is worth exploring that all the above entrepreneurial activities come under service sector enterprises. It is already lucid from the definition of MSME that MSMEs are categorized into two sectors (i) Manufacturing sector and (ii) service sector.

(i) Manufacturing MSME: The enterprise that produces or adds value to physical or tangible goods by employing plant and/or machinery is called manufacturing enterprise. Manufacturing enterprises do not keep direct contact with customers. It is the distributors or retail traders who buy products from manufacturing enterprises and sell these products to the customers.

(ii) Service MSME: The enterprise that produces intangible products or engaged in rendering services is termed as service enterprise.

Now, let us categorize the activities of WMEs of the study area (shown in the table 3.3) into manufacturing sector and service sector**.** In the study area the entrepreneurial activities like grocery, fruits and Vegetable vendors comes under the umbrella of retail traders and retail trading is categorized as service sector entrepreneurship. Again, one should be conscious about the difference between production of fruits and vegetables and sale of fruits and vegetables. The former activity comes under farming or agricultural sector, so, it is not an entrepreneurial activity but the later comes under the umbrella of service sector entrepreneurship. Food stalls, laundry, tailoring, beauty parlour are again categorized under service sector enterprises. Now, there may be a confusion that Food stalls and tailoring produces some kind of commodities, so, there may be a question that "why these are not manufacturing sector enterprises?" To answer this question, let us again recall the definition of manufacturing sector MSMEs, where it is already mentioned that manufacturing enterprise does not sell their commodities directly to the customers. Distributors or retail traders buy their products and sell these directly to the customers. But, the Women Food-stall Owners (WFOs) and Women Tailors (WTs) in the study area produce very less amount of their products and sell directly to the

customers, like a retail trader. Ergo, they cannot be considered as manufacturers. They could have been considered as manufacturers, if they would have produced larger quantity of their output by employing land and equipment, generating inventories, and would have sold their products to the retailers and distributors to reach their ultimate customers. Thus, it can be stated that women micro-entrepreneurs (WMEs) in the study area are mainly engaged in service sector entrepreneurship. The categorization of activities under manufacturing or service sector MSME is based on various MSME circulars. Photocopies of some important circulars are shown in the Appendix I.

Now, let us move towards secondary information. Regarding secondary data, information has been collected from administrative sources as well as formal and informal sources such as internet, journals, magazines, and statistical hand books etc. Regarding internet, the websites like Shodhganga, Shodhgangotri, http://nlist.inflibnet.ac.in have been visited for accumulating doctoral thesis. For analysis of data, statistical & econometrical models have been utilised.

Eventually, on the basis of profound and appropriate assessments, suitable recommendations and suggestions have been evolved.

3.4 NATURE OF DATA:

After collection of data from the two study areas let us go for some test such as normality, linearity and multi-collinearity to understand the nature of overall collected data, which would help in adopting appropriate statistical and econometrical tools for further test and analysis of data in the chapter five.

Test of Normality, Linearity and Multi-collinearity by using Statistical Package for the Social Sciences (SPSS) software (http://www.spss-tutorials.com, Accessed on 14th Feb 2017, at 9.38 PM **) for the collected data of WMEs from Kokrajhar and Dhubri district:** For the test of normality, one-sample Kolmogorov-Smirnov

test has been conducted. If value of **Asymp.Sig**. is greater than 0.05, then the data is normally distributed, otherwise it is not normal. If the data are **normal** then generally, we use **parametric test (t-test for two independent sample and z-test for several independent sample)** otherwise, **non-parametric test (Mann Whitney U test for two independent samples and Kruskal-Wallis H test for several independent samples).** Similarly, test of linearity will be conducted. If the value of **Sig. Deviation** from Linearity is greater than 0.05, then the relationship between independent variables with the dependent is linear, otherwise non-linear. Again, multi-collinearity test between different independent variables is done. Regarding multi-collinearity test, the **variance inflation factor (VIF)** value ranges between 1 to10, then there is no multi-collinearity. If the VIF value is less than 1 or greater than 10, then there is existence of multi-collinearity.

3.4.1 Normality test of the data for Kokrajhar district: For normality test, one-sample Kolmogorov-Smirnov test is conducted by using SPSS and the outcome for the data of Kokrajhar district has been presented in table A.1 of Appendix II. From the table A.1, it is evident that for Kokrajhar district, except age distribution of WMEs, all other variables (education, No. of family members, Monthly investment, Monthly Revenue, Working hour of WMEs etc.) are not normally distributed. Therefore, we would go for **non-parametric test like Mann Whitney U test for two independent samples and Kruskal-Wallis H test for several independent samples.**

3.4.2 Linearity test of data for Kokrajhar district: Linearity test is done with the help of SPSS and the outcomes are presented in Table: A.2, Table: A.3, Table: A.4, Table: A.5, & Table: A.6 of Appendix II. It is clear from the following ANOVA tables that the relationship between all the independent variables with the dependent variable is linear in Kokrajhar district. Therefore in chapter five, while considering model for the data of Kokrajhar district, we shall consider linear regression line.

3.4.3 Multi-collinearity test of data for Kokrajhar district: Multi-collinearity test between different independent variables of Kokrajhar district done through SPSS produces the table A.7 presented in Appendix II, which reflects that there is no multi-collinearity between different independent variables like age, education, No. of family members, Monthly investment, Working hour of WMEs etc.

3.4.4 Normality test of the data of Dhubri district: One-sample Kolmogorov-Smirnov test is conducted by using SPSS, for normality test, and the outcome for the data of Dhubri district has been has been presented in table A.8 of Appendix II.

The table reflects that for Dhubri district also, except age distribution of WMEs, all other variables (education, No. of family members, monthly investment, Monthly Revenue, Working hour of WMEs) are not normally distributed. Hence, non-parametric test would suite the data.

3.4.5 Linearity test of the data of Dhubri district: Linearity test is done with SPSS and the outcomes are presented in the tables A.9, A.10, A.11, A.12, and A.13 in Appendix II. ANOVA tables show that the relationship between all the independent variables (except number of family members), with the dependent variable is linear in Dhubri district.

3.4.6 Multi-collinearity test of the data of Dhubri district: Multi-collinearity test between different independent variables like age, education, No. of family members, Monthly investment, Working hour of WMEs etc. done through SPSS produces the table A.14 in Appendix II, which reflects that there is no multi-collinearity.

3.5 MODEL CONSIDERATION FOR DATA ANALYSIS:

I. After examining the nature of data, the relationship between monthly return of WMEs and age of WMEs, education, number of family members, monthly investment and working hour is expressed with the help of following multiple linear regression line, for both Dhubri district and Kokrajhar district.

$$Y_t=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\beta_5 X_5+U_t \quad \text{……(i)}$$

Where,

Y_t is monthly return of WMEs

X_1 is age of WMEs

X_2 is education of WMEs

X_3 is number of family members

X_4 is monthly investment

X_5 is working hour

β_o is constant of the model

β_1, β_2, β_3, β_4 and β_5 are coefficients of the variables X_1, X_2, X_3, X_4 and X_5 respectively.

"t" is the time period (year) when the actual data had been collected.

II. Chapter six of the thesis deals with measuring women empowerment among WMEs of the two districts. For that purpose a Women Empowerment Index (WEI) for WMEs is constructed on the basis of Women Empowerment in Agriculture Index (WEAI) by (Alkire et al, 2012) and WEI for Self-Help-Group (SHG) women by (Roy et al, 2017). And, the formulas for estimating WEI among the WMEs of both Dhubri district and Kokrajhar district are presented below:

$$\textbf{WEI for WMEs} = W_e + W_n (D_a) \quad \text{……..(ii)}$$

Where,

W_e = Percentage of women with adequate empowerment;

W_n = Percentage of women without adequate empowerment = $(1-W_e)$

D_a = Percentage of domains in which disempowered women have adequate empowerment

The formulas for W_e, Wn, and D_a are as follows:

$$\mathbf{E_k=\Sigma D_i I_j (W_j)} \quad [i=1, 2,\ldots.6; \& j=1,2,3,4,\ldots\ldots\ldots21] \quad \ldots\ldots\ldots(iii)$$

Where,

E_k=Empowerment Index for Individual WMEs

K=Number of WMEs in the sample

D= Domains

I= Indicators

D_iI_j= Specific indicator corresponding to a particular domain

W_j = Weights assigned to the respective indicators

Again,

$$\mathbf{W_e= N_e/K} \quad \ldots\ldots\ldots\ldots..\mathbf{(iv)}$$

Here**,** $\mathbf{N_e}$ **=** Total no.of empowered women

Given that an individual WME is disempowered i.e., (WEI<0.8), if all the weights of empowered domains corresponding to the individual disempowered WME (i.e., "W_{ed}") is summed up, then we get d, i.e., $\mathbf{d=\Sigma W_{ed}}$**.** (Where, d is the percentage of domains in which an individual disempowered woman has adequate empowerment, W_{ed} is weights of empowered domain/indicator corresponding to an individual disempowered WME).

$$\mathbf{D_a= \Sigma d/N_d} \quad \ldots\ldots\ldots\ldots\ldots\ldots\mathbf{(v)}$$

Here, N_d is total number of disempowered WMEs

3.6 CONCLUSION:

The main limitation of the primary data is that the population size of the WMEs in the study area is very small. Moreover, the few WMEs found in the study area, are not uniform in their entrepreneurial activities. Again, the entrepreneurial activities undertaken by the women of one district is not observed to be undertaken by the women of the other district. Due to all these limitations the inter-district and intra-district comparison of WMEs has been difficult. The WME, which are common in both the districts and also have adequate data in the two districts are only compared. And, the entrepreneurial activities, which are not common in the two districts and do not have adequate data are no doubt included in the overall analysis of the data for the study, but, are not used for the inter-district and intra-district comparison purpose.

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