

III METHODOLOGY

Women, particularly tribal farm women, play a major role in agricultural system in India, as farm women, unpaid family labourers and agricultural workers, in addition to their work at home. But it is only recently, their contributions are being brought to limelight by social scientists. Therefore, to integrate tribal farm women into the total frame work of development, an appraisal of the work of tribal women at home and on farm needs to be carried out. In this context, it is necessary to go beyond mere description of farm women's roles explaining the theoretical concepts on the existing gender divisions of labour, but study of the practical issues. Therefore an analytical study titled as "**Gender Mainstreaming in Agriculture in the Selected Tribal Settings: A Comparative Analysis of Tamil Nadu and Manipur States**" had been planned and executed under the following lines:

- A. Analysis of Gender Performance in Agriculture in the selected Tribal Settings.
- B. Organising an Awareness Programme for Selected Tribal Farm Women on Gender and Agriculture.

A. Analysis of Gender Performance in Agriculture in the selected Tribal Settings

As the investigator aims to analyse the gender mainstreaming in agriculture in the Tamil Nadu and Manipur states, a social survey was undertaken as a prerequisite for the present study. Social survey is intended to be the study of the social aspect of a community's composition and activities (Sharma, 2003). A social survey is usually an enquiry into the composition, activities and living conditions of a group of people. The steps adopted for the survey is as follows:

1. Selection of the Locale
2. Selection of the Subjects
3. Selection of Variables
4. Selection of the Method and Tools
5. Collection and Analysis of the Data

1. Selection of the Locale

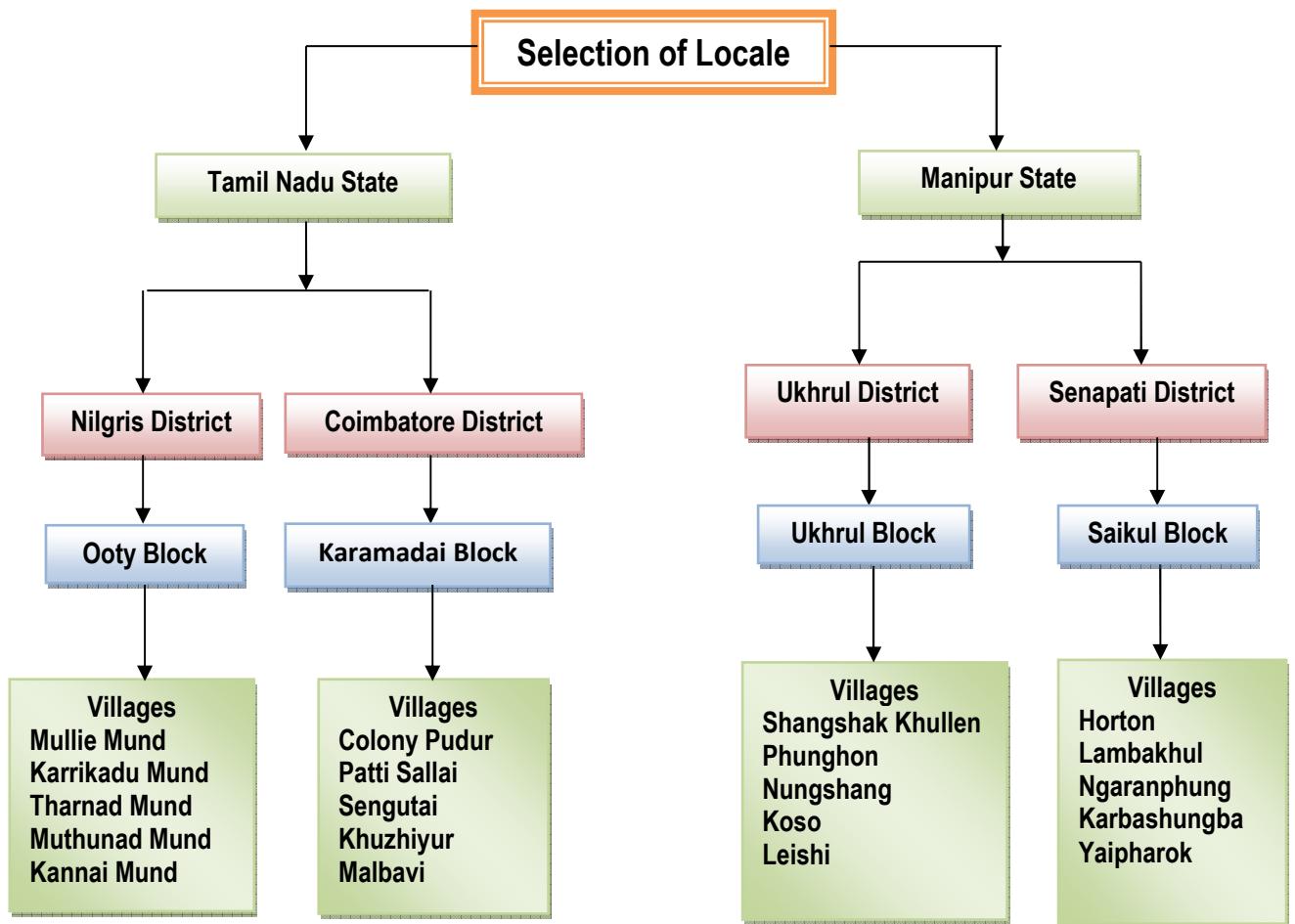
The present study was carried out in two states; Tamil Nadu, located in the Southern region and Manipur, located in Northeast region of India. Manipur being the investigator's nativity and Tamil Nadu where she is pursuing her research programme form the major reason for considering the above mentioned States. Coimbatore district located in plain and Nilgiri district located in the mountain of Tamil Nadu were selected. Applying the same reason, in Manipur State, Ukhrul, a mountain district and Senapati, a plain district were selected. These four districts were chosen purposively since tribal farm women of these districts are actively involved in agricultural activities (Figure 2 and 3).

In Tamil Nadu, Karamadai Block of Coimbatore District and Ooty Block of Nilgiris District and in Manipur Ukhrul Block of Ukhrul District and Saikul Block of Senapati District, were randomly selected for the study. Again five villages were selected from each block. Total sample of 20 villages were chosen for the study (Figure 4).

In Nilgiris District, tribal farm women belonging to Toda tribe and in Coimbatore District, Irula tribe were selected. In Ukhrul District, Tangkhul tribe was selected since it was in majority. The district of Senapati contains mixed tribe and access was also difficult so it was decided to select women from different tribes, such Tangkhul tribe, Kabui tribe and Maring tribe. Their active participation in agriculture and other allied activities were the other attributes for considering these areas.

Figure 2

Figure 3



SELECTION OF THE LOCALE

FIGURE 4

2. Selection of the Subjects

Sampling is the process of selecting few from a bigger group to become the basis for estimating or predicting the prevalence of an unknown piece of information, situation or outcome regarding the bigger group (Kumar, 2005). A method of sampling that involves the division of a population into a smaller group is known as strata. Under stratified sampling the population is divided into several sub- populations that are individually more homogeneous than the total population and then select items from each stratum to constitute a sample (Kothari, 2007).

Adopting stratified random sampling method, the tribal farm women having farming as their occupation were selected as the subjects for conducting the study. Stratified random sampling technique was used; selection of districts was made at the first stage, then selection of blocks at the second stage, selection of villages at the third stage and selection of tribal farm women at the final stage. Twenty tribal farm women were selected randomly from each village, making the total 400 farm women, as the subjects for the survey are shown in Table II.

TABLE II
SELECTION OF SUBJECTS

State	District	Block/ Villages	Number of farm women	
			Total	Selected
Tamil Nadu	Coimbatore	Karamadai Block		
		Colony Pudur	29	20
		Patti Sallai	22	20
		Sengutai	30	20
		Khuzhiyur	34	20
	Malbavi	28	20	
	Nilgiri	Ooty Block		
		Mullie Mund	26	20
		Karrikadu Mund	24	20
		Tharnad Mund	34	20
		Muthunad Mund	27	20
Kannai Mund	25	20		
Manipur	Senapati	Saikul Block		
		Horton	25	20
		Lambakhul	39	20
		Ngaranphung	30	20
		Karbashungba	35	20
	Yaipharok	60	20	
	Ukhrul	Ukhrul Block		
		Shangshak Khullen	55	20
		Phunghon	42	20
		Nungshang CT	37	20
Koso		38	20	
Leishi	30	20		
Total			670	400

3. Selection of Variables

The selected variables and the mode of measurements are presented in Table III.

TABLE III
SELECTION OF VARIABLES

S.No.	Variables	Measurement
A	Independent variables	
	Age	Chronological age of the respondent
	Educational status	Socio- economic scale developed by Venkataramaiah (1983)
	Size of the land holding	Number of acres of land owned by the head of the family
	Annual income	Socio-economic scale developed by Venkataramaiah (1983)
	Type of family	Socio-economic scale developed by Venkataramaiah (1983)
	Size of the family	Socio- economic scale developed by Venkataramaiah (1983)
B	Dependent variables	
	Extent of participation in agricultural operations and allied activities	Schedule developed for the study
	Decision making in agricultural operations and allied activities	Schedule developed for the study
	Awareness gained in gender and agricultural related issues	Schedule developed for the study

4. Selection of the Method and Tools

Interview method was applied to collect data from the subjects. Interviews are particularly useful for getting the story behind a participant's experiences. The interviewer can pursue in-depth information around the topic. Interviews may be useful as follow-up to certain respondents to questionnaires e.g., to further investigate their responses. Any person-to-person interaction between two or more individuals with specific purpose in mind is called an interview. Interview can be very flexible, when the interviewer has the freedom to formulate questions as they come in mind around the issues being investigated and it can be inflexible, when the investigator has to keep strictly to the question decided earlier (Kumar, 2005).

The interview schedule is generally filled out by the research worker or the enumerator, who can interpret the questions whenever necessary (Kothari, 2007). It was the tool used in the study. A pre-tested interview schedule (Appendix I) with appropriate questions pertaining to general background of the selected tribal farm women, agricultural activities like participation, decision making and training needs related to agriculture was used for collecting data (Plate II).

It was another tool used in the study. A check list is a comprehensive list of important or relevant actions, or steps to be taken in a specific order. The checklist as given in Appendix II and III was used to evaluate the impact of the training programme regarding the awareness gained on agriculture and gender issues.

Plate 2

Plate 2a

5. Collection and Analysis of the Data

To find out the profile of the tribal farm women in agriculture, pattern of decision making, work participation, awareness and practicing of modern technologies related to agriculture and all other relevant information were collected, analysed and interpreted.

Statistical tools used for analyzing the data were

1. Frequency
2. Percentage
3. Arithmetic Mean
4. ANOVA (Analysis of variance)
5. Paired't'-test

Frequency and Percentage

Frequency and percentages were used to know the distribution pattern of respondents for each of the selected variables.

Percentages were used for standardisation of size by calculating the number of individuals that would be in a given category, if the total number of cases were 100.

Arithmetic Mean

Arithmetic mean is defined as the sum of observations divided by the number of observations.

$$\bar{X} = \frac{\sum X}{N}$$

Where, \bar{X} = the mean

$\sum X$ = sum of observations or scores

N = total number of observations

ANOVA (Analysis of variance)

It is a collection of statistical models, and their association procedures, in which the observed variance in a particular variable is partitioned into

components attributable to different sources of variation. In its simplest groups ANOVA provides a statistical test whether or not the means of several are all equal, and therefore generalize t-test to more than two groups. Doing multiple two sample t-test would result in an increased chance of committing a type I error. For this reason, ANOVA test is useful in comparing two, three or more means.

Paired 't'-test

The t-test based on paired observations is defined by the following formula.

$$t = \frac{\bar{d}\sqrt{n}}{S}$$

Where \bar{d} = the mean of differences

S = the standard deviation of the differences

The value of S is calculated as follows

$$S = \sqrt{\frac{\sum(d-\bar{d})^2}{n-1}} \quad \text{or} \quad \sqrt{\frac{\sum d^2 - n(\bar{d})^2}{n-1}}$$

B. Organising an Awareness Programme for Selected Tribal Farm Women on Gender and Agriculture

Based on the interest and awareness on gender mainstreaming in agriculture, it was decided by the researcher to conduct an awareness programme considering the needs expressed by the tribal farm women. A training module was prepared to educate the selected tribal farm women on gender mainstreaming in agriculture and related issues. The steps adopted for awareness programme are as follows:

- a. Selection of the Subjects
- b. Identification of the Training Needs
- c. Conduct of the Awareness Programme
 1. Selection of the Locale
 2. Preparation of the Content for the Programme
 3. Selection of the Methods and Materials
 4. Conduct of the Programme
 5. Evaluation of the Programme

a. Selection of the Subjects

Among the 400 tribal women surveyed, 100 tribal women (25 tribal farm women from each of four districts) who expressed interest in participating in the awareness programme were selected as subjects.

b. Identification of the Training Needs

The basic training needs related to agriculture and allied operations were identified with the help of a structured interview schedule. According to the needs expressed by the tribal farm women, the awareness programme had been planned and executed.

c. Conduct of the Awareness Programme

1. Selection of the Locale

In each of the selected block, locale for the awareness programme was decided according to the convenience of the tribal farm women. In Coimbatore district, the programme was conducted at the meeting hall of the SHG federation. In Nilgiri district, the programme was conducted in the seminar hall of Government Cooperative Guest House located in Ooty. In Ukhrul and Senapati districts, with the permission from the Headman of Shangshak (Ukhrul district) and Lambakhul (Senapati districts) villages, the awareness programme was conducted at the community hall of the village.

2. Preparation of the Content for the Programme

The training schedule was prepared covering the aspects of agriculture and gender issues (Table IV). The IEC (Information, Education and Communication) materials were prepared to suit the messages given in the schedule (Appendix IV).

TABLE IV

APPROACH AND METHODOLOGY FOR AWARENESS PROGRAMME

Content	Methods/ Aids used	Resources persons			
		Karamadai Block	Ooty Block	Saikul Block	Ukhrul Block
<p>Technologies related to agriculture</p> <ul style="list-style-type: none"> • Selection of seed • Sowing • Plant protection • Weeding • Vermi composting • Azola cultivation • Storage 	<p>Lecture, video clips Participatory discussion and Interactive session with charts and poster demonstration display of models</p>	<p>Investigator, Field staff of NGOs, Project Coordinator of Women Technology Park and Officers of Department of Agriculture</p>	<p>Investigator, Field staff of NGOs, Project Coordinator of Social Awareness and Voluntary Education (SAVE) and Officers of Department of Horticulture</p>	<p>Investigator, Field staff of NGOs and Officers of Department of Agriculture</p>	<p>Investigator, Field staff of NGOs and Officers of Department of Agriculture</p>
<p>Schemes and programmes</p> <ul style="list-style-type: none"> • Related to agriculture 	<p>Lecture, Participatory discussion and Interactive session with charts on list of programmes</p>	<p>Investigator, Field staff of NGOs, Project Coordinator of Women Technology Park and Officers of Department of Agriculture</p>	<p>Investigator, Field staff of NGOs, Project Coordinator of Social Awareness and Voluntary Education (SAVE) and Officers of Department of Horticulture</p>	<p>Investigator, Field staff of NGOs and Officers of Department of Agriculture</p>	<p>Investigator, Field staff of NGOs and Officers of Department of Agriculture</p>

Formation of Farm Women Self Help Groups (SGHs)	Lecture, Participatory discussion and Interactive session with posters and powerpoint presentation on the steps to be followed.	Investigator, Field staff of NGOs, Project Coordinator of Women Technology Park and Officers of Department of Agriculture	Investigator, Field staff of NGOs, Project Coordinator of Social Awareness and Voluntary Education (SAVE) and Officers of Department of Horticulture	Investigator, Field staff of NGOs, Officers of Department of Agriculture and Yeomen Extension Service (YES)	Investigator, Field staff of NGOs, Project Coordinator of Action of Women in Development (AWID) and Officers of Department of Agriculture
Decision making pattern <ul style="list-style-type: none"> • Decision making related to family • Income generation activities • Agriculture related operations 	Lecture Participatory discussion and Interactive session with poster and charts	Investigator, Field staff of NGOs and Project Coordinator of Gandhian Studies Centre	Investigator, Field staff of NGOs and Project Coordinator of Social Awareness and Voluntary Education (SAVE)	Investigator, Field staff of NGOs and Project Coordinator of Rural Women Economic Development Society (RWEDS)	Investigator, Field staff of NGOs, Investigator, Field staff of NGOs and Project Coordinator of Action of Women in Development (AWID)
Drudgery reduction technologies <ul style="list-style-type: none"> • Meaning • Health problems • Appropriate technologies 	Power point presentation, Lecture, Participatory discussion and Interactive session with poster and charts Distribution of leaflets	Investigator, Field staff of NGOs and Project Coordinator of Women Technology Park	Investigator, Field staff of NGOs, Project Coordinator of Rural Development Organisation Trust (RDOT) and Social Awareness and Voluntary Education (SAVE)	Investigator, Field staff of NGOs and Project Coordinator of Rural Women Economic Development Society (RWEDS)	Investigator, Field staff of NGOs and Project Coordinator of Action of Women in Development (AWID)

<p>Health education</p> <ul style="list-style-type: none"> • Definition • Personal hygiene and • Sanitation. 	<p>Lecture, Participatory discussion and Interactive session with poster and charts. Distribution of leaflets</p>	<p>Investigator, Field staff of NGOs, Project Coordinator of Gandhian Studies Centre and staff of Primary Health Centre</p>	<p>Investigator, Field staff of NGOs, Project Coordinator of Social Awareness, Voluntary Education (SAVE) and staff of Health Department</p>	<p>Investigator and Field staff of NGOs, Project Coordinator of Rural Women Economic Development Society (RWEDS) and staff of Health Department</p>	<p>Investigator, Field staff of NGOs, Project Coordinator of Action of Women in Development (AWID), Community Action for Re-Empowerment (CARE) and staff of Health Department</p>
<p>Food hygiene and balanced diet</p>	<p>Lecture, Participatory discussion and Interactive session with poster and charts. Demonstration display of food materials</p>	<p>Investigator, Field staff of NGOs Project Coordinator of Women Technology Park Extension officer and staff of Social Welfare Department</p>	<p>Investigator, Field staff of NGOs and Project Coordinator of Social Awareness Voluntary Education (SAVE), Extension officer and staff of Social Welfare Department</p>	<p>Investigator and Field staff of NGOs and Project Coordinator of Rural Women Economic Development Society (RWEDS)</p>	<p>Investigator, Field staff of NGOs, Project Coordinator of Action of Women in Development (AWID) and Community Action for Re-Empowerment (CARE)</p>
<p>Gender</p> <ul style="list-style-type: none"> • Introduction to Gender • Roles of gender • Gender mainstreaming 	<p>Lecture, Participatory discussion and Interactive session. Distribution of leaflets</p>	<p>Investigator, Field staff of NGOs, Project Coordinator of Gandhian Studies Centre and staff of Social Welfare Department</p>	<p>Investigator, Project Coordinator of Social Awareness and Voluntary Education (SAVE) and staff of Social Welfare Department</p>	<p>Investigator, Field staff of NGOs, Project Coordinator of Rural Women Economic Development Society (RWEDS) and staff of Social Welfare Department</p>	<p>Investigator, Field staff of NGOs, Project Coordinator of Action of Women in Development (AWID) and staff of Social Welfare Department</p>

<p>Human Right</p> <ul style="list-style-type: none"> • Related contents in the Constitution of India. <p>National Commission for Women</p> <ul style="list-style-type: none"> • Origin and function. 	<p>Lecture, Participatory discussion and Interactive session with poster and charts</p>	<p>Investigator, Field staff of NGOs, Project Coordinator of Gandhian Studies Centre, and staff of Mahalir Thittam</p>	<p>Investigator, Field staff of NGOs, Project Coordinator of Rural Development Organisation Trust (RDOT) and Social Awareness and Voluntary Education (SAVE)</p>	<p>Investigator, Field staff of NGOs and Project Coordinator of Rural Women Economic Development Society (RWEDS)</p>	<p>Investigator, Field staff of NGOs and Project Coordinator of Community Action for Re-Empowerment (CARE)</p>
<p>Convention on Elimination of all forms of Discrimination Against women</p> <ul style="list-style-type: none"> • Origin and related contents in the Constitution of India. 	<p>Lecture, Participatory discussion and Interactive session with poster and charts</p>	<p>Investigator, Field staff of NGOs and Project Coordinator of Gandhian Studies Centre, Extension officers and staff of Social Welfare Department</p>	<p>Investigator, Project Coordinator of Rural Development Organisation Trust (RDOT) and Social Awareness and Voluntary Education (SAVE)</p>	<p>Investigator, Field staff of NGOs and Yeomen Extension Service (YES)</p>	<p>Investigator, Field staff of NGOs and Project Coordinator of Action of Women in Development (AWID)</p>

3. Selection of Methods and Materials

Leaflets were regarded as one of most affordable and effective mode of dissemination of information. They were designed with the specific purpose of handing out to the targeted people. The main purpose of a leaflet is to catch the attention of the people and to get the message delivered convincingly to them (Jim, 2009).

Charts and posters can be used effectively. In particular, charts and posters are used to attract and hold attention, develop an idea, present information to small groups, highlight key points, review and preview, add variety to discussions, speed learning and increase retention (www.learningforlife.org/exploring/resources) (Plate III).

Power Point Presentations are a way of attracting audience towards the views and arguments. It is one of the most helping factors behind success of every programme. Power point presentation combines audio and visual, both aspects, making it easier to understand for audience. Even the normal teaching or training becomes interactive by just using presentations in lectures (Paul, 2008).

Video clips bring training and teaching to life. Video clips help emphasise ideas and lessons, and promote discussion (Chapman, 2009).

Lecture is defined as the method of instruction in which the instructor has full responsibility for presenting facts and principles orally. Lecture provides the effective use of time and manpower in that the instructor can present many ideas to a large group in a relatively short period of time. Also, the lecture method can be used to supplement other methods of instruction (<http://en.wikipedia.org/wiki/Lecture>)

The discussion method is two-way communication between the lecturer and the trainees to increase learning opportunities. This method uses a short lecture (20 minutes or less) to provide trainees with basic information. This is followed by a discussion among the trainees and between the trainees and the trainer that supports, reinforces, and expands upon the information presented in the short lecture. Verbal and nonverbal feedback from trainees allows the trainer to determine if the desired learning has occurred. If not, the

Plate 3

Plate 3a

trainer may need to spend more time on this area and/or present the information again, but in a different manner (<http://www.bookrags.com/research/training-delivery-methods-eom/sect4.html>)

Group discussions are sub-groups of the plenary group. The group consists of 4 to 6 persons whose task it is to debate issues for longer and in more depth than the buzz groups. It gives the trainees an opportunity to verbalise and become familiar with the language, concepts, rules, regulations, etc. of the subject matter. It helps them fit their reality to the new concepts, rules, principles, etc. It is an excellent interdisciplinary forum and improves their communication skills. It assists trainees in achieving higher level objectives, such as analysis, synthesis and evaluation. It assists the sharing of diverse views of issues to the advantage of all participants. It allows ownership of the group outputs. It develops positive and supportive attitudes amongst the participants (<http://www.diffundo.com/instructions/resource16.pdf>).

Distribution of leaflets, use of charts and posters, power point presentation, video clip, lecture, discussion and group discussion were the methods and audio visual aids used for the training, which made the awareness training effective, for enlightening the tribal farm women.

4. Conduct of the Programme

The programme schedule was prepared in consideration with the convenience of tribal farm women and the resource persons. The training programme was scheduled for 10 days. In both the states the selected tribal farm women attended the programme with enthusiasm (Plate IV and V).

D. Evaluation of the Programme

Evaluation is assessing and judging the value of a piece of work. The primary purpose of evaluation, is to gain insight into prior or existing initiatives, is to enable reflection and assist in the identification of future change (<http://en.wikipedia.org/wiki/Evaluation>).

A checklist is a list of items for consideration; it can be in the form of questions or actions to be carried out and it can have a scoring system or they can collect comments. Checklists can speed up the collection of information by using tick-boxes and rating scales. Checklist should be carefully designed

Plate 4

Plate 5

to make sure that when it completed, the results should be reliable and true. Checklists can act as memory aids to make sure that all the relevant issues have been considered (<http://www.ergonomics4schools.com/lzone/checklists.htm>).

The checklist prepared with specific purpose of assessing the awareness programme, was used translating in local language. The checklist was distributed to the literate women before and after the training, to assess the improvement and awareness gained by the women on agriculture and gender issues. For the illiterates, the investigator administered the checklist individually and noted the views. Better awareness regarding the advanced technologies related to agricultural operations, schemes and programmes implemented by the government, steps in forming Farm Women Self Help Groups, decision making pattern, health and drudgery reduction technologies, sanitation, gender and legal rights were the parameters to be achieved after the training programme.

The results of the study are discussed in detail in Chapter IV.