

METHODOLOGY

III METHODOLOGY

The methodology of the study on “**Developing a Model on Public Private Partnership for Gender Mainstreaming in Agriculture**” is dealt in two phases:

Phase I: Analysis of Gender Mainstreaming in Selected PPP Projects

Phase II: Developing a PPP Model with Gender Mainstreaming in Agriculture

Phase I: Analysis of Gender Mainstreaming in Selected PPP Projects

The analysis of Gender Mainstreaming in selected PPP Projects was carried out on the following heads:

- A. Selection of the Locale
- B. Selection of the Projects
- C. Selection of the Subjects
- D. Construction of the Tools
- E. Collection of the Data
- F. Selection of the Variables and
- G. Analysis and Interpretation of the Data

A. Selection of the Locale

Two states, Tamil Nadu and Andhra Pradesh and one Union Territory, Puducherry were assigned to the Department of Home Science Extension Education, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore by Directorate of Research on Women in Agriculture (DRWA) Bhubaneswar, for its research project. They were included for the present research too.

In Tamil Nadu, among 32 districts, nine districts were randomly selected. In Andhra Pradesh, only one district in the border of Tamil Nadu was selected owing to the reason that it was accessible and manageable with the language for communication. In Puducherry, among the four regions, ie Puducherry, Karaikal Mahe and Yanam, Puducherry region was randomly selected for the study.

B. Selection of the Projects

In the selected nine districts of Tamil Nadu, one district in Andhra Pradesh and one in Puducherry(Union Territory), totally 75 PPP Projects were located(Appendix I). From among the 75projects, a score card (Appendix II) was used to select five projects from the 75projects, having scores of first five ranks. Four projects in Tamil Nadu and one project in Puducherry (Union Territory) were getting the rank to be included for the review. The selected PPP Projects were namely Agriculture Product Producers and Traders Association (APPTA) Market (Kannyakumari), Cocoa Promotion Project (Theni), Fisheries Development Project (Ramanathapuram), Jatropha Promotion Project (Thirunelveli) and Precision Farming Project (Puducherry).

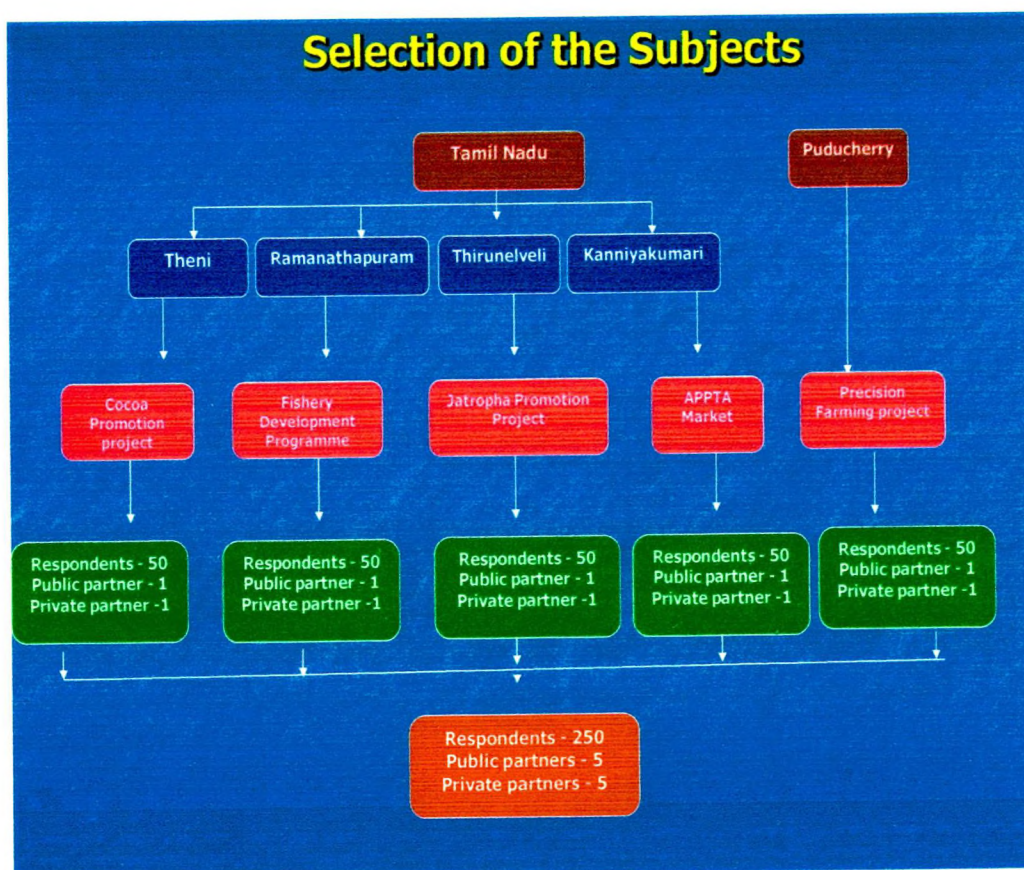
C. Selection of the Subjects

The subjects for the study were chosen from stratified groups given by the public and private partners of the projects. The details are given in Table II

TABLE II
PROJECTS AND SUBJECTS SELECTED

Name of the projects	Beneficiaries of stratified groups			Subjects selected for the studied		
	Male	Female	Total	Male	Female	Total
APPTA Market	928	100	1028	32	18	50
Cocoa Promotion Project	983	227	1210	44	6	50
Fisheries Development Project	2010	220	2230	38	12	50
Jatropha Promotion Project	650	2115	2765	19	31	50
Precision Farming Project	58	19	77	38	12	50
Total	4629	2681	7310	171	79	250

From the area within 5-10 kilometers of distance from the head quarters of PPP Project, fifty beneficiaries both men and women together were randomly selected from each project thus making a total of 250 subjects. To add credibility, in addition to the stakeholders, one public and one private partner from each of the five projects, thus five public and five private partners in total, were included for the study , making the sample size as 260 (Figure 6).



SELECTION OF THE SUBJECTS

Figure 6

D. Construction of the Tools

Score card (developed by Directorate of Research on Women in Agriculture) was adopted to select five best projects for the study. Three different interview schedules were constructed to collect data from the public and private partners and their target groups, pre-tested with a selected group of respondents from outside the study area and necessary modifications were made (Appendix III, IV and V).

E. Collection of the Data

All the respondents were personally interviewed by visiting the project area and meeting project officers. During the interactions, there was possibility for observations which were relevant to the study and useful for discussion and derivation. Public and private partners of selected projects were interviewed to obtain institutional details and services provided (Plate I).



Collection of data about APPTA Market, Kanyakumari



Data collection on Department of Horticulture, Theni



Information gathering from Cocoa Farmer



Data collection on Fisheries Development Project, Ramanathapuram



Discussion with the fisherwomen



Collection of information from the Panchayat President about Jatropha Promotion Project, Thirunelveli



Collection of information about Jatropha Promotion Project, Thirunelveli from the beneficiary



Discussion with the official of Department of Horticulture, Puducherry about Precision Farming Project



Collecting information from the beneficiary about Precision Farming Project, Puducherry

F. Selection of the Variables

The term 'variables' refers to attributes or qualities which exhibit differences in magnitude and vary along some dimensions (Sivapragasam, 2007). The variables selected for the study are exhibited in Table III with their measurement procedures.

TABLE III
LIST OF VARIABLES USED

S. No.	Variables	Measurement
	A. Independent variables	
1	Gender	Actual gender of the respondents
2	Age	Chronological age of the respondents
3	Religion	Religion of the respondents
4	Community	Community of the respondents
5	Marital status	Marital status of the respondents
6	Family type	Socio-economic scale developed by Venkataramaiah (1983, revised 1990)
7	Educational qualification	Educational qualification of the respondents
8	Monthly income	Income of the respondents
9	Source of income	Actual source of income of the respondents
10	Size of land holding	Categorization given by Ministry of Statistics and Programme Implementation, 2006
11	Housing type	House type of the respondents
12	Housing pattern	Categorized for the study
13	Gender analysis in farming	Categorized for the study
14	Institutional support provided by public and private partners	Categorized for the study

15	Ownership of assets	Categorized for the study
16	Investment and indebtedness	Categorized for the study
17	Pattern of household decision making	Categorized for the study
18	Pattern of occupational decision making	Categorized for the study
19	Extent of satisfaction of the public and private partners on PPP projects	Five point scale/Likert-type scale used for the study
B. Dependent variables		
1	Extent of satisfaction of the farm women on functioning of selected PPP projects	Five point scale/Likert-type scale used for the study
2	Gender participation in farming activities	Categorized for the study
3	Level of Gender sensitivity	Five point scale/Likert-type scale used for the study
4	Marketing practices of the private partner (production) of the model PPP project	Categorized for the study
5	Benefits gained by the private partner (production) through project	Five point scale/Likert-type scale used for the study

Measurements of independent and dependent variables

The independent and dependent variables were identified, based on the data collected from the respondents

The independent variables such as gender, age, religion, community, educational qualification, monthly income, source of income and type of housing were measured with the actual information of the respondents. Socio-economic scale developed by Venkataramaiah (1983, revised 1990) was used to measure the family type. Scale developed by Ministry of Statistics and Programme Implementation (2006) was used to measure the land holding of the respondents.

The independent variables like housing pattern, gender analysis in farming, institutional support provided by public and private partners, ownership of assets, investment and indebtedness, pattern of household decision making and pattern of occupational decision making were measured with the categorized for the study. The extent of satisfaction of the public and private partners on PPP projects was measured by Likert scale.

The dependent variables such as extent of satisfaction of the farmwomen on functioning of selected PPP projects, level of gender sensitivity, benefits gained by the private partners through project (production) were measured with five point Likert scale developed by Rensis Likert (1930s). Other dependent variables were measured with the categorized for the study (Appendix VI).

G. Analysis and Interpretation of the Data

The data collected were consolidated, tabulated and analysed with appropriate statistical tests such as frequency, percentage, average percentage score, Chi-square test and paired 't' test.

Statistical tools employed for analyzing the data were as follow

- Frequency and percentage
- Average percentage score
- Chi-square test
- Paired 't' test

Frequency and percentage

Frequency and percentages were used to know the distribution pattern of the respondents in respect of variables.

Average percentage score

Scores were given to the responses based on the five point scale and the scores were multiplied with the frequency to total scores. The average percentage of total score is known as average percentage score.

$$N1 \times \text{score } 1 + N2 \times \text{scores } 2 + \dots = \text{Total score}$$

$$\text{Average percentage score} = \text{Maximum score} / \text{Total score} \times 100$$

Chi-square test

It was used to test the association between the independent variables and the dependent variables.

The following formula was used to calculate the chi-square value.

$$\chi^2 = \sum \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

O – Observed frequency

E – Expected frequency

Paired t - test

The parametric test adopted to prove the significance of hypothesis was t-test.

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

Where $\bar{d}$ = the mean of differences

S = the standard deviation of the differences

The value of S is calculated as follows

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

Strength, Weakness, Opportunities and Challenges (SWOC) analysis

The SWOC analysis was done to enable the investigator to understand the extent of gender mainstreaming in the selected projects.

Phase II: Developing a PPP Model for Gender Mainstreaming in Agriculture

Based on the analysis of the projects, a model for gender mainstreaming in agriculture was developed following steps given below:

- A. Selection of the Locale
- B. Selection of the Partners
- C. Organization of a Model for Marketing through PPP
- D. Implementation of the Model
- E. Assessment of the impact of Model Project

A. Selection of the Locale

The locale selected to develop the model was Ikkaraipoluvampatti village, Thondamuthur Block of Coimbatore District, Tamil Nadu. The village was purposively selected owing to the reasons such as suggestion and cooperation given by the staff of the concerned Development Departments, interest shown by local elected and opinion leaders, readiness of the farm women to participate in the venture and the rapport developed by the institution (to which the researcher is attached) through its Research, Extension and Outreach Activities.

B. Selection of the Partners

To establish PPP link, two sets of partners were included for the study.

Public Partners

Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamil Nadu and Coimbatore Marketing Committee, Tamil Nadu, were selected as public partners to initiate, implement and manage the project for sustainable adoption by the women.

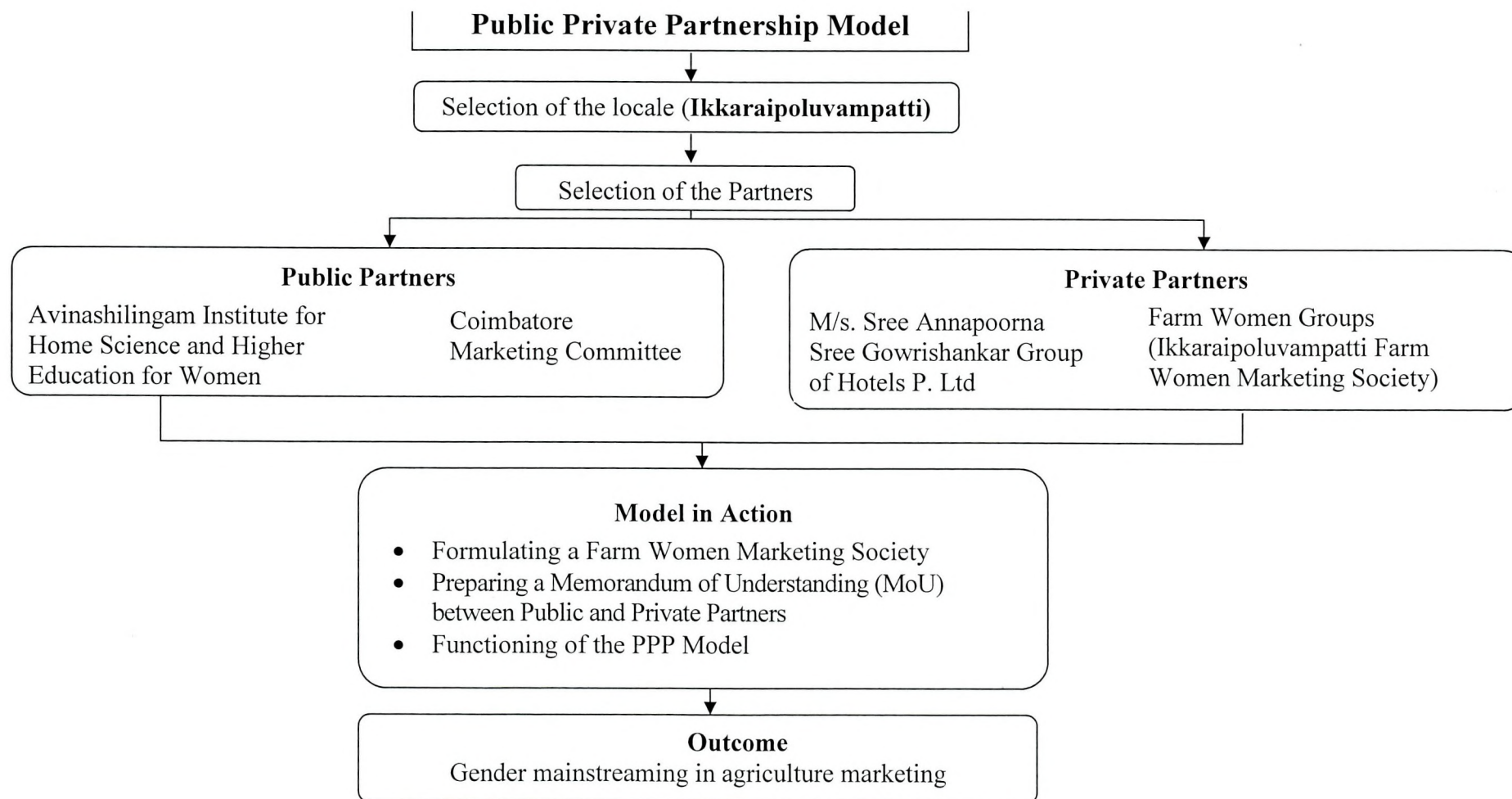
Private Partners

Farm women group of Ikkaraipoluvampatti (which was registered later as Ikkaraipoluvampatti Farm Women Marketing Society), was selected as one of the private partners, owing to the reason that the women were the producers of the vegetables and they expressed their willingness to

participate in the partnership venture. The second private partner was M/s. Sree Annapoorna Sree Gowrishankar Group of Hotels P. Ltd, Coimbatore, Tamil Nadu, which had agreed to buy the vegetables from the women producers.

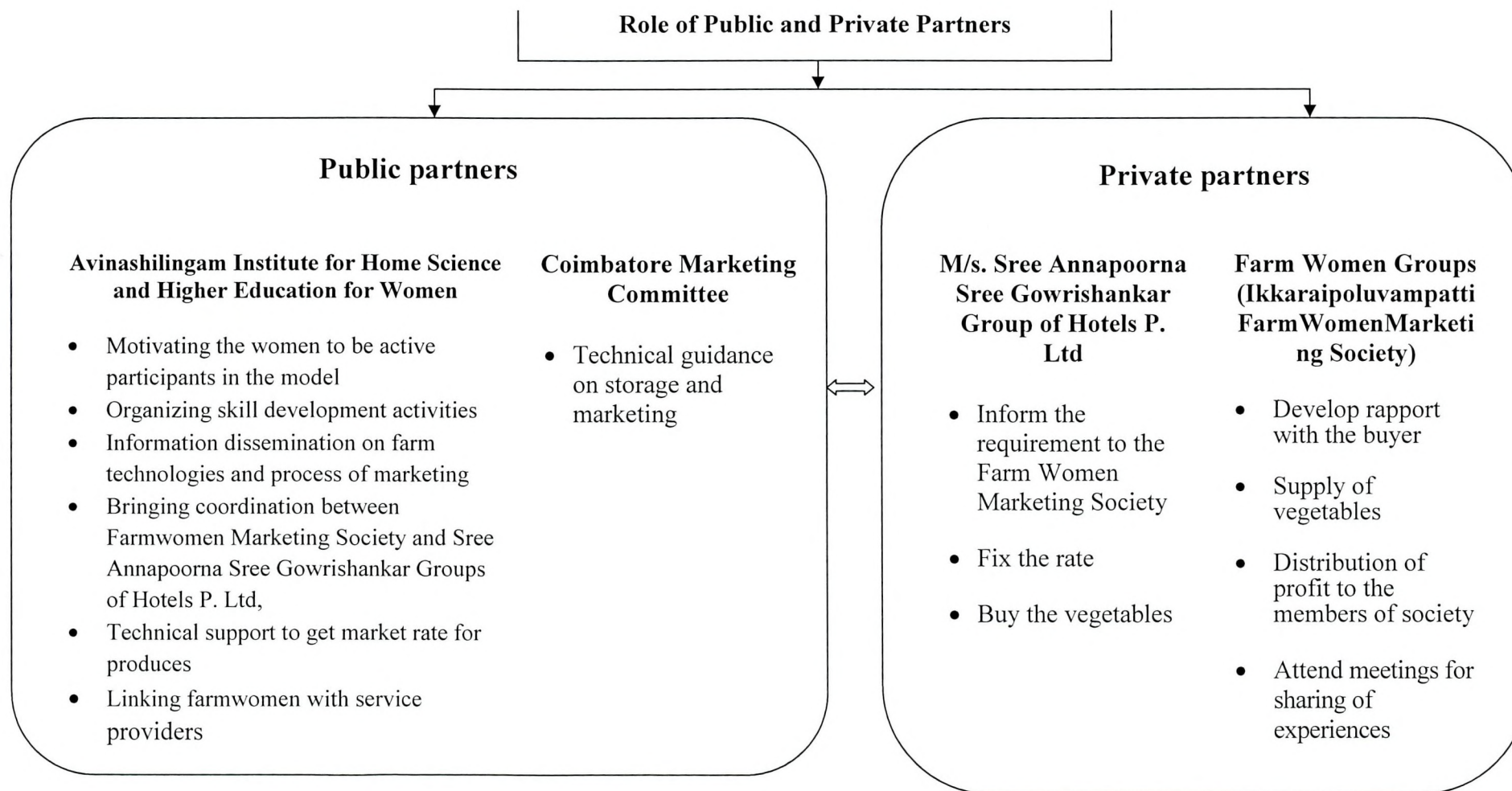
C. Organization of a Model for Marketing through PPP

Based on the partnership, a new model for marketing their agricultural produce was developed through the action project. The PPP Model was formulated to mainstream women in the agricultural marketing by enabling them to take partnership with men. The efforts might turn out to bring economic empowerment to women and motivate them to have gross investment towards agriculture and allied activities, the back bone of the country (Figures 7 and 8).



**ENHANCING GENDER MAINSTREAMING IN
AGRICULTURE MARKETING**

Figure 7



ROLE OF PUBLIC AND PRIVATE PARTNERS IN PPP MODEL

Figure 8

D. Implementation of the Model

A structured interview schedule was used to study the gender awareness among selected farmwomen. The study area being an agrarian village had a potential to cultivate horticultural crops. But there was difficulty for the women in marketing the produces regularly.

Formulating a Farm Women Marketing Society

The main purpose of establishing a PPP project for gender mainstreaming is to treat the farmwomen as one of the partners of PPP linkage and not as respondents. So, efforts were taken to establish a registered society with 40 women (No. 201/2011, Tamil Nadu Registration Act, 1986) to fulfill the marketing needs of the farmwomen.

Periodical meetings were organised to sensitize the farmwomen to establish a marketing society (Plate 2). And also trainings programmes were organized for the farmwomen on enhancing agricultural practices through farm technologies and skill training on arecanut leaf plate making, paper plate making, food processing and, for facilitating income generation and thereby empowering themselves. Stress management was also arranged for the women, as demanded (Appendix VII), (Plate 3).



Plate 2
PERIODICAL MEETINGS



Training on Food Processing and Preservation by the Department of Food Processing, Avinashilngam Engineering College, Coimbatore



Training on Horticultural Crop Management Assistant Director of Horticulture, Thondamuthur Block



Training on Management of Agricultural Marketing by Agriculture Officer, Coimbatore Marketing Committee



Training on drip irrigation and soil management by Assistant Director of Agriculture, Thondamuthur Block



Training on Occupational Stress Management by Dr. M.S.K.Muhaideen, Life Clinic Foundation, Coimbatore

Contd.....



Training on Using e-extension services through Agri portal by Directorate of e-extension, Tamil Nadu Agriculture University, Coimbatore



Training on gender friendly technologies and equipments for post harvesting processes, Tamil Nadu Agriculture University, Coimbatore



Training on Farm Women Empowerment by Dr. S. Rajalakshmi, Assistant Professor, Dept. of Extension



Training on EM Preparation by Dr.R.Alamelu, Associate Professor, Dept. of Extension



Training on Areca nut plate making by Women Technology Park, Dept. of Extension



Training on Paper tumbler making by Women Technology Park, Dept. of Extension

**Plate3
TRAININGS ORGANISED FOR FARM WOMEN**

Preparing a Memorandum of Understanding (MoU) between Public and Private Partners

It is inferred from the detailed study of selected five projects that all the partners had signed MoU for implementation of the project in an organized way. It is again a step to document the roles and responsibilities of each partner and give an assurance to all the partners. An interface meeting was arranged with the members of the Farm Women Marketing Society, members from Sree Annapoorna Sree Gowrishankar Group of Hotels, Coimbatore Marketing Committee and Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore. A MoU was prepared and signed by the representatives of all the partners and it was decided to follow the operational system of PPP model (Appendix VIII).

Functioning of the PPP Model

After signing the MoU, private partners decided on the time of supply, variety of vegetables, quantity and payment according to their demands. The women in the Farm Women Marketing Society supplied their produces to Sree Annapoorna Sree Gowrishankar Group of Hotels P. Ltd. as per the procedure given in the model (Appendix IX and Plate 4) and the MoU.



Plate4
SUPPLY OF VEGETABLES UNDER PPP LINKAGE

E. Assessment of the Model Project

An experimental design followed for the implementation of model project was 'Before-and-After'. Experimental design refers to the framework or structure of an experiment. Before-and-after without control design has a single test group or area to be selected and the dependent variable is measured before the introduction of the treatment. The treatment is then introduced and the dependent variable is measured again after the treatment has been introduced. The effect of the treatment would be equal to the level of the phenomenon after the treatment minus the level of the phenomenon before the treatment. The design can be represented thus

Test area: Level of phenomenon Treatment Level of phenomenon
 before treatment (X) $\xrightarrow{\text{introduced}}$ after treatment (Y)

Treatment Effect = (Y) – (X) (Sivapragasam, 2007)

Level of Gender Mainstreaming Implementation Level of Gender Mainstreaming
in Agriculture before of PPP Model in Agriculture after
implementation of PPP Model $\xrightarrow{\hspace{1cm}}$ implementation of PPP Model

Impact of PPP Model = (Y) – (X)

The model project for gender mainstreaming in agriculture (vegetable marketing) was evaluated using structured interview schedule (Appendix X). The collected data were analysed using above said formula to assess the impact of model on marketing practices, gender sensitization, self empowerment aspects, household decision making, social participation and the benefits gained.

The findings which emerged from the assessment of the PPP Model were suitably interpreted and necessary inferences, conclusions and recommendations were drawn as explained in Chapter IV.