

Study No. 126

**VIABLE ENTREPRENEURIAL TRADES
FOR WOMEN IN AGRICULTURE
– A STUDY IN ASSAM**

Dr. Ranjit Borah



**Agro-Economic Research Centre For North-East India
Assam Agricultural University
Jorhat - 785013, Assam
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PREFACE

The study on “Viable Entrepreneurial Trades for Women in Agriculture – A study in Assam” has been undertaken at the instance of ICAR, Ministry of Agriculture, Government of India. The study has been conducted as per guide line provided by the Co-ordinating Centre IEG, Delhi.

The present study has been conducted to examine the economic viability of agriculture based enterprises operated by women in Assam. The study is conducted in Jorhat and Golaghat districts of Assam to assess the economic viability of 3 (three) most popular women enterprises i.e. livestock farming, bee-keeping and fruits and vegetables processing enterprises.

The participation of women in income generating activities expected to increase their family income along with bringing economic independence and helping them in effective participation in household decision making process. The impact on households income in the sample women entrepreneurs is found to be highest for the livestock entrepreneurs (22.68 per cent) followed by bee keeping entrepreneurs (14.74 per cent) and then fruits and vegetables processing entrepreneurs (9.47 per cent). The empowerment enjoyed by the women entrepreneurs in household decision-making are 58.33 per cent, 45.83 per cent and 40.00 per cent for the bee keeping enterprise, fruits and vegetables processing enterprise and livestock enterprise respectively. The development of self confidence of the sample women entrepreneurs is observed to be highest in bee keeping entrepreneurs (66.67 per cent) followed by livestock entrepreneurs (61.11 per cent) and then fruits and vegetables processing entrepreneurs (25.00 per cent). Development of marketing skill in bee-keeping entrepreneurs is found to be 61.11 per cent, livestock entrepreneurs at 34.44 per cent and in fruits and vegetables processing entrepreneurs at 25.00 per cent.

The findings of the livestock enterprise showed that annual average net profits is Rs.3, 660.00 per farm for the trained women entrepreneurs and Rs.1, 285.00 per farm for the non – trained women entrepreneurs. The overall Benefit Cost Ratio (BCR) in the livestock

enterprises of the trained and non-trained women entrepreneurs are estimated at 1.25:1 and at 1.10:1 indicating the enterprises marginally viable enterprise.

The findings of the bee keeping enterprise indicated that annual average net profit for the trained women entrepreneurs is Rs.3, 127.00 per farm, while it is Rs. 1,429.00 for the non – trained women entrepreneurs. The BCR in the enterprises of the trained and non-trained women entrepreneurs are found at 1.65:1 and at 1.35:1 which established that the bee keeping enterprises are remunerative and economically viable enterprise for the women.

The fruits and vegetables processing enterprises are not so successful; as the trained women entrepreneurs have earned a net profit of Rs. 749.00 per farm only while the non – trained women entrepreneurs have earned a net profit of Rs.204.00 from the enterprises. The estimated BCR in the enterprises of the trained women entrepreneurs is found at 1.07:1 and for the non-trained women entrepreneurs at 1.02:1 which shows that the enterprises are not much remunerative for the women entrepreneurs.

I am thankful to the Joint Director of Agriculture, Jorhat and Director of Extension Education, Assam Agricultural University, Jorhat for providing necessary secondary level information to incorporate in the report.

I extend my sincere thanks to Dr. Nilabja Ghose, of Institute of Economic Growth (IEG), New Delhi, for her valuable comments and suggestions on the draft report for improvement.

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March, 2007

Dr. T. N. Saikia,
AERC, Jorhat

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Chapter – I

Introduction

Woman is the mother of race and the union between generations. It is the women who have maintained the growth of society and influenced the future development of the nations. But, they have been made dependent by men due to the social environment that has been created for them. It proceeds from various castes, class, community and patriarchy of the male. The social conformity has always been more obligatory for a woman than for man (Meenakshi Mukherjee, 1984).

It is widely recognized that the status of women in society, both in the developed and under developed countries, continues to be inferior to men. Although women's role is treated as utmost important in the family as well as in the household economy. The women have not been given equal rights in social and economic fields. However, it is now recognized all over the world that the improvement of status of women is an important aspect of national progress and development. It has also been felt that the problem of poverty cannot be controlled without providing opportunities of productive employment to women. It is the fact that the productive employment to women would provide necessary economic base and improve their social status.

The Constitution of India provides not only equal rights and privileges for all the citizens, but also specially mentions that the need for making special provisions for women. Subsequently, since the beginning of Indian planning, the planners and policy makers have introduced various welfare and development programmes for women to improve their social and economic status in the society.

All round development of women has been one of the focal points of planning process in the country. The First Five Year Plan (1951-56) envisaged a number of welfare measures for women. Establishment of the Central Social Welfare Board (CSWB), organization of Mohila Mandals or Women's Clubs and the Community Development Programmes etc. were a few worth mentioning steps in this direction. In the Second Five Year Plan (1956-61), the empowerment of women was closely linked with the overall approach of intensive agricultural development programmes.

The Third and Fourth Five Year Plan (1961-66 and 1969-74) supported female education as one of the major welfare measure. The Fifth Five Year Plan (1974-79) emphasized on training of women, who are in need of income and protection. Therefore, the functional literacy programmes specially the women literacy programmes got priority. This plan coincided with International Women's Decade and the submission of the report of the Committee on the Status of Women in the country. In 1976, women's welfare and Development Bureau was set up under the Ministry of Social Welfare. It was to act as a nodal point to coordinate policies and programmes for women's development.

The Sixth Five Year Plan (1980-85) showed a definite shift from welfare to development. It recognized that women's in general are lack of access to resources as a critical factor impeding their growth. The Seventh Five Year Plan (1985-1990) emphasized on the need for gender equality and empowerment. For the first time emphasis was given upon qualitative aspects such as inculcation of confidence, generation of awareness with regards to rights and training in skills for better employment.

The Eight Five Year Plan (1992-97) stressed on empowering women, especially at the grass root level through Panchayati Raj Institutions. The Ninth Five Year Plan introduced a strategy under women's component plan, which earmarked that not less than 30 per cent of funds/benefits for women specific be earmarked for the development of workers programmes. The Tenth Five Year Plan (2002-07) approach aimed at empowering women through translating the recently adopted National Policy of Empowerment of Women (2001) into action and ensuring survival, protection and development of women and children through Rights Based Approach.

Participation of Women in Economic Activities in India and Assam :

It is evident from various Census reports that the work participation of men and women in different economic activities has a wide disparity in India as well as in Assam. Table -1.1 shows that as compared to male counterpart, a very small percentage of women were engaged in economic activities. In 1951 Census, it was 16.50 per cent of total work force of the country i.e. less than one fifth of the male counterpart (83.50%), while in Assam (21.17 per cent) less than one fourth of the male counterparts had been engaged. In 1961 Census, the work participation of women was considerably improved both at the national and state level. Thus, it was almost half of the male counterparts at the national

level (31.53 per cent) and at the state level it was more than half of the male counterparts (33.36 per cent). In 1971 census, the rate of work participation of women in the country again deteriorated to the extent of 17.35 per cent and at the state level it was only 7.87 per cent of total work force. In the 1981 census, at the National level there was a slight

Table 1.1

Work Force Participation Rates in India & Assam (1951-2001)

Census	India		Assam	
	Male	Female	Male	Female
1951	83.50	16.50	78.83	21.17
1961	68.47	31.53	66.64	33.36
1971	82.65	17.35	92.13	7.87
*1981	79.79	20.21	--	--
1991	75.15	24.85	71.26	28.74
2001	68.37	31.63	72.03	27.97

Source : Compiled from various Censuses of India and Assam, 1951, 1961, 1971, 1981, 1991 and 2001.

Note : * Census operation was not held in Assam in 1981.

improvement to the extent of 20.21 per cent (i.e. less than one fourth of the male counterparts). In 1991 Census, there were some improvement both at the national and the state levels, as the rate of women work participation were 24.85 per cent at the national level and 28.74 per cent at the state level. In 2001 Census at the national level there was marginal improvement in the women work participation i.e. 31.63 per cent while in Assam it was slightly deteriorated as it was only 27.97 per cent (i.e. less than one third of the male counterparts).

It is noticed from the various Censuses that there are huge discrepancy in participation of males and females in different economic activities in rural and agricultural activities. The decline in the figure of female workers was perhaps due to the adoption of amended definitions of 'workers' in different Censuses and also may be due to economic transformation, which threw out most of the female from subsistence and industrial sectors. Perhaps for these reasons a majority of women are not included as workers. The

National Sample Survey Calculates that as many as 17 per cent of rural women and nearly 6 per cent of urban women are incorrectly recorded as non-workers (Sen Kalyani Menon, at el 2001). Formerly 'worker' status was given to those persons also who were not full time workers, yet worked for 3-4 hours. But, the 1971 Census defined a worker as: "A worker is a person whose main activity is participation in any economically productive work by his physical and mental ability." As most of the female population of the State primarily engage themselves in household activities, which are not considered as economically productive works, a good number of female populations are not included as 'worker' since 1971 Census onwards.

Industrial category wise distribution of workers in 1991 and 2001 in India and Assam are presented in the Table-1.2 (a) and Table-1.2 (b) respectively. It was observed from the Tables that in India, the highest number of female workers were concentrated in agriculture sector as agricultural labours. Of the total women workers, it were 44.24 per cent in 1991 and 38.87 per cent in 2001 agricultural labour followed by cultivation, which were 34.57 per cent in 1991 and 32.93 per cent in 2001. In rural areas of India, the highest numbers of female workers as agricultural labours were 48.49 per cent in 1991 and 42.95 per cent in 2001 of the total workers. In urban areas, number of female workers was highest in the category of other workers i.e. 70.33 per cent in 1991 which has increased to 72.46 per cent in 2001.

As per 1991 Census the highest numbers of female workers of the State were engaged in cultivation, which was 50.93 per cent of the total female workers, followed by household industries, 25.62 per cent. In 2001 Census, the number of women workers in cultivation was 41.11 per cent followed by the category other workers were 34.82 per cent of the total female workers. So far the rural scenario is concerned in rural areas of Assam, the highest number of female workers were engaged in cultivation, which were 53.69 per cent in 1991 and 43.74 per cent in 2001 of the total female workers. In urban areas the numbers of female workers were highest in "other services" which was 83.09 per cent in 1991 and it further increased to 87.85 per cent in 2001.

It has been observed from the Table-1.2 (a) and Table-1.2 (b)) that as compared to male counterparts, the number of female workers in all categories of works were much less in both national and state levels. It is also evident from the Tables that the female

participation in "other services" was not significant in India as well as in Assam as shown in the Censuses 1991 and 2001.

Employment of women both in the public and the private sectors during the period from 1996-97 to 2000-01 in India and Assam are presented in Table-1.3. The Table shows that the percentage share of women at the national level was higher in public sector and in the State level, the percentage share was higher in private sector. In 1996-97, at the national level, the percentage of female employed in the public and the private sectors were 9.43 per cent and 6.41 per cent respectively and at the State level 6.16 per cent and 23.70 per cent respectively. Thus, as compared to men, the ratio of female employment was negligible at the national level. However, in private sector, as compared to national level the employment ratio of females in the state level was satisfactory. Similarly, in the year 1997-98, at the national level, the percentage share of women in public sector was 9.66 per cent and in the private sector it was 6.76 per cent and at the State level the percentage share of women at the public sector was 6.22 per cent and at the private sector it was 25.55 per cent. In 1998-99, the percentage share of women in public as well as private sectors at the national level were 9.81 per cent and 7.14 per cent respectively and at the State level it was 5.92 per cent in public sector and 26.82 per cent in private sector. In the year 1999-2000, at the national level, the percentage share of women in public sector was 10.00 per cent and in private sector it was 7.18 per cent and in Assam the percentage of women in public sector was 7.02 per cent and in private sector it was 25.76 per cent. Similarly, in 2000-01, at the national level the percentage share of women in the public sector was 10.22 and in the private sector it was 7.39 per cent. In Assam it was 7.11 per cent in the public sector and 24.66 per cent in the private sector.

Thus, it may be commented that at the national level, the employment of women both in the public and private sectors have been increasing gradually though it is much less as compared to male. In the State of Assam though the employment of women in the public sector is negligible as compared to men but in case of private sector the employment of women is satisfactory. This is due to higher female labour employment in tea garden of Assam, which is also the contributing factor for higher female participation in economic activities in Assam, as most of the Tea Gardens are in the hands of private sector.

Table: 1.2 (a)

Sex Wise Distribution of Workers By Industrial Category, 1991

Category	India				Total				Assam				Total	
	Rural		Urban		Male	Female	Male	Female	Rural		Urban		Male	Female
	Male	Female	Male	Female					Male	Female	Male	Female		
Cultivators	85,771,315 (51.58)	21,797,148 (38.93)	2,709,627 (4.89)	424,256 (5.13)	88,480,942 (45.26)	22,221,404 (34.57)	2,845,855 (57.37)	684,989 (53.69)	24,728 (3.64)	2,870,583 (50.89)	3,545 (4.66)	688,534 (50.93)	2,870,583 (50.89)	688,534 (50.93)
Agri. Labourers	43,187,381 (25.97)	27,150,959 (48.49)	2,977,366 (5.38)	1,282,038 (15.49)	46,164,747 (23.62)	28,432,997 (44.24)	671,580 (13.54)	160,655 (12.59)	10,993 (1.62)	682,573 (12.10)	1,736 (2.28)	162,391 (12.01)	682,573 (12.10)	162,391 (12.01)
House hold Industries	6,927,426 (4.17)	2,823,646 (5.04)	2,343,620 (4.23)	750,068 (9.06)	9,271,046 (4.74)	3,573,714 (5.56)	421,896 (8.51)	338,725 (26.55)	28,284 (4.16)	450,180 (7.98)	7,589 (9.97)	346,314 (25.62)	450,180 (7.98)	346,314 (25.62)
Other Workers	30,407,486 (2.54)	4,224,218 (7.54)	47,334,363 (85.50)	5,821,576 (70.33)	51,558,581 (26.38)	10,045,794 (15.63)	1,021,022 (20.58)	91,383 (7.16)	615,899 (90.59)	1,636,921 (29.02)	63,247 (83.09)	154,630 (11.44)	1,636,921 (29.02)	154,630 (11.44)
Total Workers	166,293,608 (100.00)	55,995,971 (100.00)	55,364,976 (100.00)	8,277,938 (100.00)	195,475,316 (100.00)	64,273,909 (100.00)	4,960,353 (100.00)	1,275,752 (100.00)	679,904 (100.00)	5,640,257 (100.00)	76,117 (100.00)	1,351,869 (100.00)	5,640,257 (100.00)	1,351,869 (100.00)
% of Workers to total Population	51.76	18.57	48.59	8.13	44.91	15.93	48.14	13.26	50.22	48.38	6.71	12.57	48.38	12.57

Source: Census of India 1991, Final Population Totals. Paper-2 of 1992, Series-1

Note: i. Figures within the brackets indicate p.c to total Workers.

ii. Total Population of India excluding Jammu & Kashmir.

Table: 1.2 (b)

Sex Wise Distribution of Workers By Industrial Category, 2001

Category	India				Assam				Total	
	Rural		Urban		Rural		Urban		Male	Female
	Male	Female	Male	Female	Male	Female	Male	Female		
Cultivators	83,475,851 (42.00)	41,243,896 (37.12)	1,940,647 (2.55)	652,457 (4.05)	2,620,334 (44.42)	1,092,435 (43.74)	13,734 (1.41)	4,272 (2.51)	2,634,068 (38.34)	1,096,707 (41.11)
Agril. Labourers	54,706,211 (27.53)	47,725,007 (42.95)	2,622,889 (3.44)	1,721,223 (10.69)	825,558 (13.99)	427,893 (17.13)	6,950 (0.72)	3,131 (1.84)	832,508 (12.12)	431,024 (16.16)
House hold Industrie	5,991,226 (3.01)	6,151,454 (5.54)	2,752,957 (3.61)	2,061,305 (12.80)	115,850 (1.96)	197,756 (7.92)	18,052 (1.86)	13,254 (7.79)	133,902 (1.95)	211,010 (7.91)
Other Workers	54,565,865 (27.46)	15,996,560 (14.40)	68,858,830 (90.40)	11,668,346 (72.46)	2,337,462 (39.62)	779,481 (31.21)	933,020 (96.01)	149,411 (87.85)	3,270,482 (47.60)	928,892 (34.82)
Total Workers	198,739,153 (100.00)	111,116,917 (100.00)	76,175,323 (100.00)	16,103,331 (100.00)	5,899,204 (100.00)	2,497,565 (100.00)	971,756 (100.00)	170,068 (100.00)	6,870,960 (100.00)	2,667,633 (100.00)
% of Workers to total Population	52.08	30.79	50.60	11.88	49.41	22.15	52.90	10.61	49.87	20.71
				25.63						

Source: Basic Agricultural Statistics for N.E. Region, 2002 p-24-26.

Note: Figures within the brackets indicate p.c to total Workers.

Table 1.3
Employment of Women in Organised Sector in India and Assam.

(in Lacs)

Year	India/ Assam	Public Sector		Private Sector		Grand Total
		Male	Female	Male	Female	
1996-97	India	167.94 (60.11)	26.35 (9.43)	67.20 (94.05)	17.92 (6.41)	279.41 (100.00)
	Assam	4.76 (40.72)	0.72 (6.16)	3.44 (29.42)	2.77 (23.70)	11.69 (100.00)
1997-98	India	168.31 (59.59)	27.28 (9.66)	67.77 (23.99)	19.09 (6.76)	282.45 (100.00)
	Assam	4.71 (39.57)	0.74 (6.22)	3.41 (28.66)	3.04 (25.55)	11.90 (100.00)
1998-99	India	166.55 (59.13)	27.63 (9.81)	67.37 (23.92)	20.11 (7.14)	281.66 (100.00)
	Assam	5.35 (40.07)	0.79 (5.92)	3.63 (27.19)	3.58 (26.82)	13.35 (100.00)
1999-00	India	166.04 (59.06)	28.11 (10.00)	66.80 (23.76)	20.18 (7.18)	281.13 (100.00)
	Assam	4.59 (42.38)	0.76 (7.02)	2.69 (24.84)	2.79 (25.76)	10.83 (100.00)
2000-01	India	164.57 (58.86)	28.57 (10.22)	65.80 (23.53)	20.66 (7.39)	279.60 (100.00)
	Assam	4.56 (41.04)	0.79 (7.11)	3.02 (27.18)	2.76 (24.67)	11.11 (100.00)

Sources: 1. Statistical Hand Book of Assam, 1997, 1998, 1999, 2002.
2. Basic Statistics for North-Eastern Region, 2002.

Note: Figures in the brackets indicate percentages.

So far as work participation of women of the country is concerned, some State-wise zonal variations are noticed. Table-1.4 shows that the work participation of women is highest in North Eastern zone. In the zone the highest shares of women were employed in Mizoram (37.32 per cent as per 1991 Census and 47.54 per cent in 2001 Census) followed by Manipur (30.65 per cent in 1991 and 39.02 per cent in 2001). In the Northern zone, the second highest shares of women were employed in Himachal Pradesh (19.35 per cent in 1991 and 43.67 per cent in 2001). In Madhya Pradesh and in Uttar Pradesh (i.e. Central Zone) considerable shares of women were also employed as in Madhya Pradesh the rate was 22.82 per cent in 1991 and 33.21 per cent in 2001. In the Eastern Zone, highest shares of women were employed in Sikkim (28.63 per cent in 1991 and 38.57 per cent in 2001).

Table: 1.4
Work Participation Rate in Different Zones by Sex (1991 & 2001Censuses)

State/ Union Territory	Work Participation Rate,1991		Work Participation Rate, 2001	
	Male	Female	Male	Female
<u>North Zone</u>				
Haryana	48.26	6.01	50.30	27.22
Punjab	54.12	2.79	53.60	19.05
Himachal Pradesh	49.08	19.36	54.62	43.67
Chandigarh	54.24	10.28	56.11	14.22
Delhi	51.61	7.21	52.06	9.37
Rajasthan	48.53	13.04	49.95	33.49
Jammu& Kashmir	-----	-----	49.99	22.45
<u>Central Zone</u>				
Madhya Pradesh	51.51	22.82	51.50	33.21
Uttar Pradesh	49.31	7.45	46.80	16.54
<u>North East Zone</u>				
Assam	48.38	32.65	49.87	20.71
Manipur	44.21	30.65	48.12	39.02
Meghalaya	49.54	33.95	48.12	35.15
Mizoram	49.59	37.32	57.29	47.54
Nagaland	46.69	10.14	46.70	38.08
Tripura	46.99	35.57	50.62	21.08
Arunachal Pradesh	53.52	37.49	50.63	36.54
<u>Eastern Zone</u>				
Bihar	47.60	9.97	47.37	18.84
Orissa	52.86	12.10	53.17	27.12
West Bengal	50.66	7.96	53.99	18.32
Sikkim	50.82	28.63	57.44	38.57
<u>Western Zone</u>				
Gujarat	53.17	13.73	53.87	27.91
Maharastra	51.25	26.47	53.28	30.81
Goa	48.28	16.77	54.60	22.36
Daman & Due	50.67	12.04	65.47	18.61
<u>South Zone</u>				
Andha Pradesh	55.13	30.05	56.23	35.11
Karnataka	53.53	22.73	56.64	31.98
Kerela	44.82	12.81	50.20	15.38
Tamilnadu	56.10	25.13	57.64	31.54
Pandichery	50.11	14.34	53.12	17.23
Andaman& Nicobar Island	52.25	8.03	56.57	16.60
All India	52.48	22.25	51.68	25.63

Source:1.Govt. of Assam," Women in India"- A Statistical Profile,1997. Department of Women and Child Development, Ministry of Human Resource Development, Table5.3p.123-125.
2.Primary Census Abstract 2001, Total Population Table A-5 p.1-51.

In the Western Zone, highest shares of women were employed in Maharashtra (26.47 per cent in 1991 and 30.81 per cent in 2001) and in the Southern Zone, highest numbers of women were employed in Andhra Pradesh (30.05 per cent in 1991 and 35.11 per cent in 2001).

Economic Empowerment of Women at International & National Forum & Significance of the Present Study:

There is growing consciousness all over the world about the role of women in economic development. It has now been realized that economic progress in any sphere of economic activity is integrally related with the economic well being social and economic status of women. The United Nations proclaimed 1975 as the 'International Women Year' and the period between 1976 to 1985 as the United Nations 'Decade for Women' which demands programmatic measures to improve the quality of life of women.

The United Nations has continuously served as a catalyst for the advancement of women and to promote gender equality through international co-operation. The first global conference on women was held in Mexico on 19th June, 1975 which adopted equal access for women in the area of education, training, political participation, increased employment opportunity, housing, nutrition and family welfare. In order to raise awareness on issues concerning women and development a fund for women namely the United Nations Development Fund for Women (UNIFEM) was instituted. The UNIFEM had been recognized as a permanent autonomous body, which was designed to work with the NGOs and the Government to improve the overall conditions of women. The mid-decade International Conference on women was held in 1980 in Copenhagen which pinpointed three areas for women development i.e. health, education and employment. The Conference also stressed on elimination of all forms of discrimination against women and stressed on participation of women in politics and in decision-making. The Third World Conference on women was held in Nairobi from 15th July 1985, which adopted forward-looking strategies for advancement of women by 2000 in key areas.

The Fourth World Conference on women held in Beijing in September 1995 a powerful agenda for women's economic empowerment and gender equality had been adopted, which is known as Beijing Declaration and a platform for the welfare and

development of women. Twelve critical areas for priority action were identified for the advancement of women.

It is a well-known fact that woman in India, since time immemorial is a major component of working force in the country. Although their role as housewives and mothers compelled them to remain within the four walls of their home, yet they contribute substantially to the economy of the households as productive work force along with their male counterparts. In spite of these multiple roles, productive inputs in terms of working-hours contributed or generation of equivalent income have not been recorded. However, after the declaration of the United Nations 'Decade of Women', some of the scholars and social scientists have taken up some valuable studies and remarked that assignment criteria of farm work and actual division of labour between the sexes and active participation of women in economic activities are necessary for the overall development of a country. They also stressed that the women must have an equal economic share and participation in crucial economic and political activities.

Some studies conducted in rural area revealed that majority of rural women are illiterate and living under the gamut of cultural and social customs and traditions. To improve the economic and social status of women it is necessary to create confidence in the minds of women, so that, they can face any challenge, which may arise in their way of achievement. In this situation, the voluntary organizations like NGOs can play an important role in creating awareness amongst the women, so that they would be able to realize their rights and potentiality. Some of the social scientists argued that due to modernization of economic activities and technological innovations, the women have been pushed back from their traditional occupations. A study conducted by Bina Mazumdar (1978) argued that, "the impact of transition to a modern economy has meant exclusion of an increasing number and proportion of women from active participation in the productive process. A considerable number continue to participate for no returns and no recognition." She opined that technological changes introduce the demand for new skills and specialization, which are very different from the traditional divisions of labour between sexes. So, education and specialization training are very essential for the workers. Besides, she also observed that women in the developing societies, who constitute the largest share of the world's illiterates, are handicapped by the lack of opportunities for acquisition of these new skills,

at the same time their traditional productive skills become unwanted in the new economic environment.

In a study conducted by D. Narendra Kumar and D. Himachalam (1991) on women entrepreneurial development, pointed out that there is a greater need of bringing women to the main stream of economic development as they prove themselves successful in all fields, if they are given an opportunity. Moreover, they viewed that women should come out with commitment to the development activities, particularly to the industrial sector. To achieve this, the society should facilitate to growth of women's nature, their talents and abilities. They also suggested for the involvement of NGOs for successful implementation of any programmes of development, particularly for women. Shanta Kohil Chnadra (1991) in her study on the problems faced by women entrepreneurs in Delhi opined that 'the areas and sectors where women's employment is either low or on the decline are to be identified and corrective measures be initiated to promote additional avenues for employment. It is necessary to make determined efforts to promote self-employment for ensuring a progressive reduction in the incidence of poverty and unemployment.' Further, author also opined that to achieve this objective, assistance is to be intensified in the areas of training and managerial skills, making available easy credit facilities, exploring making outlets, apart from developing the necessary infrastructure. A major step in the direction of promotion of women's employment and self-employment has been expanding and diversifying the educational facilities and training opportunities available to them.

Another study on economic status of women in rural areas of Assam conducted by Anuva Saikia (1992) viewed that any programme for uplifting of rural women must aim at raising the levels of employment and income. This can be done by raising the efficiency of rural women through education and training and by creating employment opportunities which are most suitable to the rural women like agriculture and its allied sectors and also in non-farm sectors like handloom and handicrafts, sericulture and in household industries. They must be encouraged to take up such activities on commercial basis by creating facilities of finance, easy availability of new materials and marketing facilities.

Archana Sharmah (1992) opined that the women in Assam are not getting their due share in the employment market particularly in the better-paid occupation. Considering

large-scale illiteracy among the female population, this limits their scope for occupational mobility between the industries as well as within industries. She also suggested for proper policy measures to increase their occupational mobility, which can be done only through proper education and training.

Robindra Kr. Choudhury (1994) argued that in India, though the rate of female participation in has increased; yet the economic status of women in general has not changed as expected. Technological advancement has not been able to diversify the work participation of women particularly among the uneducated rural women. He also pointed out that the position of women in non-peasant household enterprise is comparatively better due to the fact that labour is exchanged for money and the extent of individual earnings in the family can be identified. Moreover, he pointed out that the position of women is better where labour rather than land productivity is the measure of earnings.

Ranjeeta Phukan (1998) conducted a study on women entrepreneurship development in Assam. She pointed out that the basic constraints of women entrepreneurship development are ignorant of information about various facilities available to them. The banking system in our country is also not conducive to women entrepreneurial development. Women are marginally covered by the banking system with inadequate size of loans, margin money requirement, long process in granting loan etc.

An other important study on "Employment patterns of Rural Women and Their Involvement in Decision Making: A study in Jorhat District of Assam" conducted by Anuva Saikia (2004). The study revealed that women's labour time exceeds 223 days in the year, taking into account all the activities in rural households. She pointed out that out of this; 84 days were spent in crop production, 87 days for livestock care activities, 34 days for handloom and weaving and 18 days for food processing. She also argued that despite their substantial contributions in terms of labour, women do not often have a say in important decisions within the households, especially those related to financial and property matters, although they do have a significant role in various agricultural enterprise.

A study conducted by Jaynal Uddin Ahmed (2002) on "Constraints Experienced by Women Entrepreneurs in South Assam" revealed that even though the rural women played an important role in various economic activities and trained in various technologies, some of them are not able to start their own enterprise due to various

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constraints like, lack of financial assistance, limited scope of farming, seasonal availability of fruits and vegetables marketing problems, lack of medicinal in poultry and also for other livestock, difficulty in getting license etc. experienced by them.

It is evident from the findings of the study conducted by Ruplekha Borah (1998) that rural women spent considerable time in agriculture and allied activities. She also found that women from low-income group were devoted more time in performance of their tasks resulting in higher drudgery. She further observed that to reduce drudgery from farm operations, there is need to educate farm women as well as training in vocational trades which would increase their work output and efficiency.

Scope of the Study :

It is mentioned earlier that since early 70's the Government has been very much concerned to chalk out a plan of action for the development and welfare of women. There is greater need to accept their role in society and in the economy because it aims at increasing women's power to determine choices in life. Therefore, in the recent past a major thrust has been given on the status of women, work environment of women and it is emphasized that women should work as equal partner of men in different economic pursuits.

The Government of India has given considerable thrust for women's empowerment. In 1992 the National Commission for women was established to safeguard the interest of women from any kind of deprivation under the constitution. Different Five Year Plans evolved various development schemes, which is expected to extend direct benefits to women. India Mahila Yojana launched in 1995-96 was recasted after merging with 'Mahila Samridhi Yojana' and re-titled as 'Swayamsidha' in 2001. The scheme envisages achieving economic strength for women through micro-level income generating activities. Several other initiatives have been launched to provide comprehensive package of up-gradation of skill through training, extension of input and market linkage in the traditional rural sectors, several institutions have been involved in imparting training and in helping women to take up viable trades.

In Assam very limited numbers of studies have been conducted by various research organizations and individual scholars regarding the role and the status of women in the society. In fact most of the studies conducted in the recent past are sociological

studies and some of them agricultural proper. There is still ample scope of studying the women's status in relation to economic activities and the level of participation of women in Government sponsored entrepreneurial trades.

However, after consultation with the different resource persons, Government officials and the Directorate of Extension Education, Assam Agricultural University Jorhat, a list of different enterprises in the State in which women are actively involved is collected. The list of enterprises in which women are actively involved in different agricultural based and non-agricultural based enterprises is presented in the Table 1.5. It is

Table 1.5

Different Enterprises adopted by Women Entrepreneurs in the State.

Sl. No.	Agriculture Based Enterprises	Non agriculture Based Enterprises
1.	Livestock	Weaving
2.	Bee Keeping	Knitting and Embroidery
3.	Fruits and Vegetables Processing	Cutting and Tailoring
4.	Pisci culture	Skin Printing
5.	Mushroom Cultivation	Pottery
6.	Nursery Preparation	Cane and Bamboo based Industries
7.	Paddy Culture	Wall Hanging
8.	Plastic in Agriculture	Toy making
9.	Post Harvest Technologies	Beauty Parlor
10.	Commercial Cultivation of vegetables	
11.	Commercial Floriculture	
12.	Food and Nutrition	
13.	Integrated Farming	
14.	Kitchen Gardening	
15.	Organic Fertilizer cum Bio-Fertilizer	

found that amongst the different agricultural based enterprises, a few of enterprises like livestock rearing, bee-keeping, fruits and vegetables processing, nursery preparations, commercial floriculture, kitchen garden etc. are the most popular enterprises in the region. Besides, weaving, knitting and embroidery, cutting and tailoring, toy making, beauty parlor etc. are the popular enterprises amongst the women entrepreneurs in the State as non-agricultural based enterprises. Moreover, some of the enterprises are known to be the region specific one of the State.

Considering so much thrust given by the Governments for women's empowerment, it is essential to assess what actually achieved at field level and what are the impacts of the enterprises to identify viable enterprises for women as well as to improve future programme and policies for development of women which are the main objectives of this study. In addition to these, some efforts have been given here to assess the role of women in relation to adoption of different technologies, financial and infrastructure supports received to uplift the women in general for economic emancipation.

The scope of the study is vast to know the nature and the extent of involvement of women in different entrepreneurial activities, economic returns, socio-economic position of women and also the identification of constraints. At the same time it is also important to evaluate the training in different fields of economic activities. The present study is expected to throw light on the effectiveness of the enterprises on women's development programmes and to assess how far it has been able to provide gainful employment and income to the women in general and women trainees in particular.

Objectives of the Study :

The present study is undertaken with four major objectives:

1. To identify the viable entrepreneurial trades for women in agriculture,
2. To study the impact of these trades on the women beneficiaries in terms of income and their socio-economic conditions,
3. To assess the role of training,
4. To understand the constraints faced and study the linkages and support system needed for enhancing the viability and feasibility of the trades.

Methodology :

In order to draw sample a complete lists of women trainees (ICAR training) covering 3 (three) years i.e. 2000-01, 2001-02 and 2002-03 were collected from the Directorate of Extension Education, Assam Agricultural University, Jorhat. After receiving the lists it has been decided to select two districts of Assam i.e. Jorhat and Golaghat as these two districts have the highest and the second highest number of women trainees under AAU in different entrepreneurial trades. From each selected district 3 (three) individual entrepreneurial trades namely livestock (covering Animal husbandry, Pig rearing, Poultry farming), Bee keeping and fruits & vegetables processing were selected.

Data used in the study were collected from the trained farm women. The women trainees were selected in two stages. In the first stage the women trainees were stratified according to type of the trades. In the second stage the women trainees were selected by random sampling method from each category of trade covering 20 per cent samples as representative samples in each trade. The sizes of the samples were 100 trained farm women and from the control group 50 non-trained farm women which were drawn equitably from the both selected districts. In the control group, 50 non-trained farm women were selected at random from the adjacent areas for comparative analysis. Enterprise-wise selection of women entrepreneurs was presented in Table-1.6. The Table indicates that out of total sample women entrepreneurs 66.67 per cent were trained women and rest 33.33 per cent were non-trained women entrepreneurs.

Table 1.6
Enterprise-wise Selection of Women Entrepreneurs

Entrepreneurs	Enterprise			
	Livestock	Bee Keeping	Fruits & Veg. Processing	Overall
Trained	60 (66.67)	24 (66.67)	16 (66.67)	100 (66.67)
Non-Trained	30 (33.33)	12 (33.33)	8 (33.33)	50 (33.33)
Total	90 (100.00)	36 (100.00)	24 (100.00)	150 (100.00)

The field level data were collected with the help of a set of specially designed schedules through personal interview method. Information on the nature and the extent of participation of women in different economic activities, economic returns, market linkage, socio-economic position of women and constraints faced by them were obtained from the individual women entrepreneurs. In addition to these, some secondary level data regarding the participation of women in different economic activities of India as well as Assam were collected from the various Census report, other official sources and these are incorporated in the report wherever necessary.

Reference Period :

The data incorporated in this report pertain to the year 2004-05.

Chapter – II

General Overview of the Surveyed Area

It is mentioned in the earlier Chapter that the study is conducted in Jorhat and Golaghat districts of Assam. Physiographically both the districts are plain areas of the State and situated on the Southern part of the Upper Brahmaputra Valley Agro-climatic Zone. In this chapter an attempt has been made to project the general overview of the surveyed areas based on secondary level information collected from various published and unpublished sources.

Jorhat district is surrounded by the Hill State Nagaland on the South, Sivasagar district on the East, Golaghat district on the West and Lakhimpur district on the North. The Brahmaputra river is flowing from East to West in the northern part of the district; forms 'Majuli', the biggest river island in the world.

The river Brahmaputra separates Golaghat district from Sonitpur district on the North, Karbi Anglong district on the South, Jorhat district on the East and Nagaon district on the West. The Kaziranga national park, which is famous for one horned Rhinoceros, is situated in the district.

Some of important basic statistics regarding administrative set up of the districts are given below:

Items:	Jorhat District	Golaghat District
1. Geographical Area	2,859 sq.km.	3,541 sq.km.
2. District sub-divisions	3	3
3. Nos. of Block	8	8
4. Nos. of inhabited Village	866	1,189
5. Nos. of village electrified	640	658
6. Nos. of village connected by all weather roads	281	583
7. Nos. of village having supply of potable water	750	1,068

Jorhat district is divided into 3 sub-divisions viz. Jorhat, Majuli and Titabor comprising of 8 Development Blocks (Jorhat, North West Jorhat, Central Jorhat, East Jorhat, Kaliapani, Titabor, Majuli and Ujani Majuli. Out of 866 inhabited villages, 73.90 per cent villages are electrified and only 32.45 per cent villages are connected by all weather roads.

Golaghat district also has 3 sub-divisions namely, Golaghat, Dhansiri and Bokakhat, comprising of 8 Development Blocks, i.e. Dergaon, Kathalguri, Bokakhat, Sarupather, Padumoni, Gamari, Morangi and Khongia Development Blocks. In the district, out of 1,189 inhabited villages, 55.34 per cent villages are electrified and 49.03 per cent villages are connected by all weather roads.

It is observed that the infrastructural facilities are the biggest impediment to development in both the sample districts. Road communication facilities are very poor in the villages, as a result, farmers could not easily transport their produces to the market. Agricultural inputs are also not easily available in the villages due to non-availability of input distribution agencies and ineffective extension machinery of the Government. There is no worth mentioning irrigation projects in both the sample districts. Supplementary irrigation facilities are also not developed in spite of several schemes like S.T.W. irrigation scheme, which is under implementation. Due to these shortcomings agriculture has been practiced by the farmers on traditional lines resulting in lower productivity, lower income for which both districts remained backward.

There is no organized marketing facility for agricultural produce in the sample districts. The Government agencies like Food Corporation of India, State Agricultural Marketing Board and NERAMC are not procuring marketable surplus of agricultural commodity for which the farmers are forced to sell their produces in the open markets through market functionaries. The price of commodity is fixed by the traders/middlemen. The farmers have been forced to be at the mercy of trading/market functionaries.

The agro-climatic condition of the study area is congenial for cultivation of tea and sugarcane. Tea is the most important plantation crop, grown commercially in both the sample districts. The processing units of green tea leaves are considered as a major agro-based industry of the sample districts, which generates considerable employment opportunity to the local people. Besides tea, sugarcane used to be widely grown up to mid

80's in the sample districts. The first Sugar Mill was established under the Cooperative sector in 1955 at Dergaon in Golaghat district and its operation started in December, 1958, with a crushing capacity of 800 tonnes per day. However, at present that Sugar Mill has been closed mainly due to shortage of raw material and also due to mis-management.

Flood Problems :

The problem of floods and riverbank erosion are chronic problems for the sample districts. The damages caused by the flood are sometimes so devastating that the economy of the people has been suffered a lot. In Jorhat District a total of 77,321 hectares land were affected by flood during the year 2003 and the estimated loss was Rs.548.49 lakhs of which about 50 per cent of loss is in Majuli itself. However, compare to the unprecedented flood in a few other districts, the effect in Jorhat was not unprecedented one.

Flood is a burning problem in Golaghat district also as the fury of floods has impeded development in general and more specifically it cause enormous damages to the crops, livestock, land, property and brings untold miseries to the people as well as to the wild animals of the Kaziranga sanctuary. During 2003, a total of 24,429 hectares of land were affected in flood and the estimated loss was Rs.256.24 lakhs in the district.

Climate, Rainfall and Soil :

Some basic characteristics of climate, rainfall, soil etc. of the two sample districts is almost similar. The climate of the districts is subtropical. The average annual maximum temperature (July-August) recorded in between 30⁰C to 36⁰C while the minimum temperature (December-January) ranges from 6⁰C to 12⁰C in the districts.

The State is situated in the heavy rainfall zone, but the distribution of rainfall is not uniform throughout the year. Generally the period of monsoon begins in the month of June and it lasts up to mid-September. The heaviest rainfall is experienced during this period. The winter season has the lowest rainfall in the sample areas.

Rainfall is the most important single factor governing the cropping pattern and agricultural practices in the sample districts. Water for growing crops in Assam is in general and sample districts in particular are met almost by rainfall. Peasant agriculture in the State and the sample districts is really 'a gamble in monsoon'. Assam is also said to be in the zone of assured rainfall in the country; yet, wide fluctuation is observed in year to

year and season to season rainfall records. Table 2.1 shows the extent of rainfall in the sample districts during various seasons of a year. In contrast to high humidity and temperature in the summer and monsoon seasons, the climate becomes dry and cool in the winter season. Besides, due to heavy rainfall during the monsoon season resulted water logging and floods in the surveyed areas. This is the most important natural problem, which affects the growth of agriculture sector in sample districts during the Kharif season.

Table 2.1

Season-wise Distribution of Rainfall in the Sample Districts
(December,2003 to November, 2004.)

(in mm)

Seasons	Districts			
	Jorhat		Golaghat	
	Normal	Actual	Normal	Actual
1. Winter Season (Dec. to Feb.)	97.4	100.0	97.4	86.1
2. Summer Season (March to May)	590.7	752.4	590.7	748.6
3. Monsoon season (June to Sept.)	1409.7	1139.0	1409.7	1185.6
4. Post Monsoon (Oct. to Nov.)	146.7	197.5	146.7	197.5
5. Annual Rainfall	2244.5	2188.9	2244.5	2217.8

Source: Handbook of Agricultural Statistics, 2005.

The soils of the surveyed areas are alluvial which are suitable for growing various crops. The alluvial soils eroded by the floods of the rivers depositing silt and as a result these areas are less acidic than the alluvial soils in flood free areas. Generally the soils of the districts have high percentage of nitrogen and organic matter.

Land and Cropping Pattern :

Agriculture is the mainstay of livelihood of majority of people of the sample districts. Naturally, land is the main source of livelihood, which determines the economic condition and standard of living of large majority of rural people. Table 2.2 gives the land use pattern of sample districts (Jorhat and Golaghat) for the year 2000-01. In Jorhat district, of the total geographical area, 9.82 per cent are covered by forest, 36.49 per cent are not available for cultivation, 7.02 per cent other uncultivated area, 5.97 per cent fallow

land and 40.70 per cent are net cropped area. In Golaghat district, 42.86 per cent of land are covered by forest, 14.28 per cent are not available for cultivation, 8.00 per cent other uncultivated area, 2.00 per cent fallow land and 32.86 per cent are net cropped area. The cropping intensity is 154 per cent in Jorhat district and 136 per cent in Golaghat district.

Table 2.2

Land Use Pattern of the Sample Districts According to 2001 Census

("000" Ha.)

Categories	Jorhat	Percentage	Golaghat	Percentage
Geographical Area	285	100.00	350	100.00
Forest Area	28	9.82	150	42.86
Land not available for cultivation	104	36.49	50	14.28
Other Uncultivated land Excluding Fallow land	20	7.02	28	8.00
Fallow land	17	5.97	7	2.00
Net Area Sown	116	40.70	115	32.86
Area sown more than once	63	-	40	-
Total cropped area	179	-	156	-
Cropping intensity	154%	-	136%	-

Source: Statistical Handbook, Assam, 2005.

It is to be noted that about 83 per cent in Jorhat district and 85 per cent in Golaghat district are small and marginal farmers possessing agricultural land holdings of below 2 hectares. The individual land holding is tiny and that too fragmented and situated at different distances.

The Table 2.2 presents that out of the total geographical area of 285 thousand hectare, the net sown area is 116 thousand hectare, which is 40.70 per cent of the total geographical area. The total cropped area is 179 thousand hectare constituting 62.81 per cent of the total geographical area.

The agro-climatic condition of Jorhat district is conducive to grow various types of cereals, pulses, oilseeds and varieties of summer and winter vegetables. Paddy is the principal and most dominant crop occupying major portion of the gross cropped area of the district. The district falls in the humid climatic belt and receives average rainfall of about 2244 mm. The irrigation potential, both ground and surface water are almost under utilized and more than 90 per cent of the agriculture remains rain fed. Recently, due to

Table: 2.3

Distribution of Area, Production and Yield of Important Plantation and Horticultural Crops in the Sample Districts During 2003-04

Sl.No.	Crops	Jorhat District			Golaghat District		
		Area	Production	Yield	Area	Production	Yield
1	Banana	3,104 (1.73)	41,776	13,459	2,112 (1.35)	29,274	13,861
2	Lemon & Orange	556 (0.31)	3,462	6,227	996 (0.64)	7,437	7,467
3	Pineapple	190 (0.11)	2,925	15,395	237 (0.15)	3,102	13,089
4	Litchi	139 (0.08)	516	3,712	206 (0.13)	668	3,243
5	Jackfruit	914 (0.51)	8,314	9,096	181 (0.12)	1,980	10,939
6	Guava	135 (0.08)	2,340	17,333	357 (0.23)	5,344	14,969
7	Mango	59 (0.03)	369	6,254	212 (0.14)	1,884	8,887
8	Ginger	368 (0.21)	3,615	9,823	730 (0.47)	7,200	9,863
9	Chilly	131 (0.07)	71	542	201 (0.13)	131	652
10	Potato	2,932 (1.63)	20,761	7,081	1,615 (1.03)	12,535	7,762
11	Coriander	568 (0.32)	424	746	208 (0.13)	164	788
12	Garlic	92 (0.05)	294	3,196	190 (0.12)	764	4,021
13	Black Pepper	619 (0.34)	206	333	139 (0.09)	191	1,374
14	Sugercane	219 (0.12)	7,494	34,219	3,278 (2.09)	133,644	40,770
15	Papaya	245 (0.14)	3,798	15,502	177 (0.11)	2,926	16,531
16	Vegetable	8,942 (4.98)	125,534	14,039	11,369 (7.27)	160,184	14,090

Note: Figures in Parenthesis indicates Percentage to Gross Cropped Area.

Source: Handbook of Agricultural Statistics, 2004

installation of STWs under ARIASP and NABARD programmes in the district the cropping intensity has increased remarkably.

The geographical area of Golaghat district is 350 thousand hectare, of which total cropped area is 156 thousand hectare and the net sown area is 115 thousand hectare as shown in the Table 2.2. Paddy is the major crop in the district. Besides paddy, wheat, mustard, sesamum, sugarcane, gram, peas and potato are also grown in the district. The crop cultivation in the district depends almost on nature, as there are about 90 per cent of the agriculture remains rain fed.

Plantation and Horticultural Crops:

The agro-climatic condition of the study area is congenial for the development of plantation and horticultural crops. Tea is the most important and single major plantation crop, grown commercially. In addition to big tea gardens, a number of small tea gardens coming up in recent years in Jorhat district. There are 135 tea gardens in the organized sector having a total area of 63,196 ha. In Golaghat district the area under tea is around 16,000 ha. There are 108 tea gardens in the district including Small Tea Gardens. Tea contributes substantially to the economy of the districts. Other important plantation crops of the districts are arecanut and black pepper.

The important and predominant horticultural crops in the districts are banana, Assam lemon, jackfruit, coconut, litchi, turmeric, ginger, garlic etc. A general feature of horticultural crops in the districts is that cultivation of these crops is done mostly in homestead gardens despite having enough scope for commercial cultivation.

Distribution of area, production and yield of important plantation and horticultural crops of the sample districts during 2003-04 are presented in Table 2.3. Both the districts have ample scope to produce various horticultural crops. There is marketable surplus of horticultural crops like Banana, Jackfruit, Assam Lemon, Pineapple, Vegetables etc. in the districts, but due to lack of adequate cold storage and processing facilities in the districts, farmers have not been able to get much profits. With the implementation of Technology Mission for Horticulture by Assam Agricultural University, the sector is expected to get a boost, facilitating commercial horticulture by the farmers.

Irrigation Facilities :

Irrigation continues to be the most critical input for agriculture in the districts. In Jorhat district the gross cultivable area is 1,56,476 hectares and it has irrigation potential created about 16,273 hectares i.e. 10.40 per cent of the total cropped area. In Assam only 22 per cent of the total gross cropped areas were under irrigation in 2001-02. In the sample districts the irrigation potential created through minor irrigation projects using surface water has providing irrigation to kharif as well as rabi crops. Ground water resource has also been utilized and recently a number of Shallow Tube Wells are installed for development of irrigation facilities in the sample districts.

Demographic Profile :

The population, sex ratio, density and literacy rate of the sample districts as per 2001 Census is presented in Table 2.4. In Jorhat district the total population is 999,221, of which 5,17,015 are males and 4,82,206 are females comprising of 51.74 per cent and 48.26

Table 2.4**Population, Sex ratio, Density and Literacy of the Sample Districts as per 2001 Census.**

Population	Districts	
	Jorhat	Golaghat
Male	517,015	490,286
Percentage	51.74	51.81
Female	482,206	455,993
Percentage	48.26	48.19
Total Population	9,99221	946,279
Rural	827,901	865,141
Percentage	82.85	91.43
Urban	171,320	81,138
Percentage	17.15	8.57
Total Population	999,221	946,279
Literary Rate		
Male	375,400	322,048
Percentage	56.83	57.78
Female	285,191	235,312
Percentage	43.17	42.22
Total	660,591	557,360
Percentage	76.35	69.38
Sex Ratio (Female per 000' Male)	933	930
Density (Per Sq. Km.)	350	270

per cent respectively. Of the total population, 82.85 per cent live in rural areas and rest 17.15 per cent in urban areas of the district. The overall rate of literacy in the district is 76.33 per cent to the total population, which is higher when compared to the other districts of the State. It is 13.08 per cent higher than the State average literacy rate as the State average being 63.25 per cent. Of the total literate persons of the district, 56.83 per cent are males and 43.17 per cent are females. The sex ratio is 933 women per 1000 males and the density of the population is 350 persons per sq. km.

The Table 2.4 also presents the demographic profile of Golaghat district. Of the total population, 51.81 per cent are males and 48.19 per cent are females. In the district major portion of population lives in rural areas, as it constitutes 91.43 per cent and rest 8.57 per cent live in urban areas. Overall literacy rate in the district is 69.38 per cent to the total population. Of the total literate persons, 57.78 per cent are males and 42.22 per cent are females. Sex wise distribution of literate persons in both districts indicated that women are lagging behind their male counterparts. The sex ratio of women is 930 per 1000 males and density of population per sq. km. is 270 persons.

Farm Class of the Sample Districts:

Table 2.5 shows the farm class of the sample districts according to farm size of holdings. In Jorhat district, the Table shows that out of total farms 60.25 per cent of farms are below 1.00 hectare of land, 22.10 per cent of farms 1.00 to below 2.00 hectares of land and rest 17.65 per cent of farms are 2.00 hectares and above land holdings. Similarly, in Golaghat district, the percentages of land holding are 60.78 per cent of farms below 1.00 hectare, 21.05 per cent of farms between 1.00 to below 2.00 hectares and 18.12 per cent farms 2.00 hectares and above land holdings (Table 2.5).

Table 2.5

Farm Class of the Sample Districts and State according to the size of Land Holdings

Districts	Farm Class (in Nos.)			
	Below 1 ha.	1 ha. – 2 ha.	2 ha. & above	Total
Jorhat	64,793 (60.25)	23,765 (22.10)	18,989 (17.65)	107,547 (100.00)
Golaghat	82,586 (60.78)	28,589 (21.05)	24,666 (18.17)	135,841 (100.00)
All Assam	1,669,252 (62.22)	561,078 (20.91)	45,667 (16.87)	2,682,997 (100.00)

Source : Hand Book of Agricultural Statistics, 2004-05, Govt. of Assam.

Economic Status :

The Table 2.6 shows category-wise distribution of workers (Census 2001) in agriculture and other sectors as cultivators, agricultural labours, engaged in household

Table 2.6**Distribution of Workers engaged in Agriculture and other Sectors by Category-wise according to 2001 Census.**

Categories of Workers	Districts					
	Jorhat			Golaghat		
	Male	Female	Total	Male	Female	Total
1. Cultivators	90,749	65,897	156,646	111,125	64,912	176,037
Percentage			37.81			45.30
2. Agricultural Labours	15,893	16,481	32,374	20,411	19,715	40,126
Percentage			7.81			10.32
3. Household Industries	6,163	11,430	17,593	4,043	6,888	10,931
Percentage			4.24			2.81
4. Other Workers	159,256	48,479	207,735	115,302	46,244	161,546
Percentage			50.14			41.57
Total	272,061	142,287	414,348	250,881	137,759	388,640
Percentage	65.66	34.34	100.00	64.55	35.45	100.00

Source: Statistical Handbook of Assam, 2004.

industries and respective percentages to the total workers of Jorhat and Golaghat districts. In Jorhat district, the number of total worker is 4,14,348 persons (41.47 per cent to the total population of the district). Of the total workers, 37.81 per cent are cultivators, while 7.81 per cent agricultural labours, 4.24 per cent engaged in household industries and 50.14 per cent are working in other occupations. In Golaghat district, out of 3,88,640 total workers, 45.30 per cent are cultivators, 10.32 per cent are agricultural labours, 2.81 per cent are in household industries and 41.57 per cent workers are engaged in other occupations.

The Table also indicates that of the total workforce, 34.34 per cent are female workers in Jorhat and 35.45 per cent are female workers in Golaghat district who are engaged both in farm and non-farm activities. The analysis shows that significant portions of workforce are engaged in non-farm occupations in the study area.

Banking Services :

Jorhat district has 15 Commercial Banks (CBs) with 43 branches, one Regional rural Bank (RRB) with 16 branches, two branches each of Apex Bank and Agriculture and Rural Development Bank (ARDB). Of the total bank branches, 40 are in rural areas, 2 in semi-urban areas and remaining are in urban areas of the district. United Bank of India with 13 branches is the lead bank of the district. In the district total deposits and advances of the bank as on 31st March, 2004 were reported as Rs.749 crores and Rs.264 crores respectively. The Credit Deposit (CD) ratio of the banks worked out at 35.25 per cent as on 31st March, 2004 which is more than the State average as the State average is 30.77 per cent only. The agency-wise target and achievement under the Annual Credit Plan (ACP) during last three years for Jorhat district is shown in Table 2.7(a). The Table indicates that all the banks putting together have achieved 64.88 per cent of the target during 2001-02, 87.51 per cent during 2002-03 and 91.71 per cent during 2003-04 under Annual Credit Plan in Jorhat district. These figures show upward trend in banking services of the district.

In Golaghat district, the credit delivery system consists of branches of Commercial Banks, RRB and State Cooperative Banks. The total number of bank branches is 47 till March, 2004. The United Bank is the lead bank of the district. As per data available in the district, the credit flow from the banks is not satisfactory. The overall CD ratio of the district was 32.67 per cent as on March 2004. The agency-wise target and achievement for last three years in Golaghat district are presented in Table 2.7(b). The Table shows that the achievements of all the banks were 27.05 per cent of the target in 2001-02, 35.41 per cent in 2002-03 and 58.46 per cent in 2003-04 in the district.

Prevalence of Poverty and alleviation programmes :

It is needless to mention that poverty is the main hindrance for any kind of development in the society. As per a survey conducted by DRDA (1998), of the total rural families in the Jorhat district, 41.00 per cent of rural families live below poverty line (BPL). In Golaghat district, as per available data from DRDA of the district, total number of families lying below poverty line is 69,320, which is 46.48 per cent of the total rural families. The State Government has continuously trying to improve the socio-economic condition of these weaker sections by implementing numerous developmental schemes

Table : 2.7 (a)

Agency wise Target and Achievement under the Annual Credit Plan (ACP) during last three Years in Jorhat District

Year	CBs		RRBs		P.C.		Cooperatives		P.C.		Total		P.C.
	Target	Ach.	Target	Ach.	Target	Ach.	Target	Ach.	Target	Ach.	Target	Ach.	
2001-02	2022.80	1360.02	327.80	210.19	67.23	64.12	117.20	30.95	26.41	26.41	2467.80	1601.16	64.88
2002-03	2281.80	2081.75	348.90	270.75	91.23	77.60	123.95	58.00	46.79	46.79	2754.65	2410.50	87.51
2003-04	2678.20	2456.45	484.65	516.21	91.72	106.51	164.40	78.87	47.97	47.97	3327.25	3051.53	91.71

Source: Potential Link Credit Plan, Jorhat district, 2004-05, NABARD

Table: 2.7 (b)

Agency wise Target and Achievement under the Annual Credit Plan (ACP) during last three Years in Golaghat District

Year	CBs		RRBs		P.C.		Cooperatives		P.C.		Total		P.C.
	Target	Ach.	Target	Ach.	Target	Ach.	Target	Ach.	Target	Ach.	Target	Ach.	
2000-01	786.57	198.12	173.87	72.52	25.19	41.71	54.21	3.8	7.01	7.01	1014.65	274.44	27.05
2001-02	905.10	264.97	229.30	148.90	29.28	64.94	45.85	4.00	8.72	8.72	1180.25	417.87	35.41
2002-03	1104.11	377.76	330.05	482.46	34.21	146.18	41.76	2.56	6.13	6.13	1475.92	862.78	58.46

Source: Potential Link Credit Plan, Golaghat district, 2004-05, NABARD

with active supports of financial organizations. Some of the most important programmes are discussed in this context.

(1) **Swarna Jayanti Gram Swarozgar Yojana (SGSY)** :

The Government of India has launched the self-employment programme called Swarna Jayanti Gram Swarozgar Yojana (SGSY) with effect from 01.04.1999 by merging the existing poverty alleviation programme like IRDP, TRYSEM, DWCRA, SITRA, GKY and MWS. The programme has aimed to grow 5 major components viz. organization of beneficiaries into Self Help Groups (SHGs), Capacity Building, Technology Development, Infrastructure Development and Improved Marketing Support to the Groups. The programme will be a credit linked one, which will require coordinated efforts from State Government, Banks and NGOs.

The objective of SGSY is to bring the assisted poor families above the poverty line in 3 years by providing them income-generating assets through a mix of Bank credit and Government subsidy by ensuring that the family has a monthly net income of at least Rs.2,000/-. A special thrust has been given to the development of women as 40 per cent of the benefits under SGSY are earmarked for women. Under SGSY, Group Approach has been assigned prime importance. The subsidy under SGSY will be uniform at 30 per cent of the project cost subject to a maximum of Rs.7,500/-. In respect of SC and ST the subsidy will be 50 per cent subject to maximum of Rs.10,000. For Group Loan, subsidy will be at 50 per cent of the cost of the scheme subject to a ceiling of Rs.1.25 lakh.

The district authorities have been implementing the scheme in both the sample districts. The implementing agencies of the sample districts have identified some key economic activities, which are suited to the local condition. The projects for which necessary support offered under SGSY are Dairy, Poultry, Piggery, Goattery, Bee Keeping, Horticulture, Weaving, Fishery, Sericulture, Handloom, Fruits and Vegetable Processing Unit etc.

The implementation of these schemes in the sample districts is very slow. There are 493 individual Swarojgaris in Jorhat district and 408 individual Swarojgaris in Golaghat district who were assisted with bank loans since inception of the Scheme. In respect of Self Help Group (SHGs) finance, a total of 469 SHGs have been credit linked with various banks figuring an amount of Rs.74.19 lakhs in Jorhat district. In Golaghat

district 391 SHGs have been credit linked through various banks with an amount of Rs.73.68 lakhs till the end of March, 2004. Among these SHGs about 80 per cent are exclusively women groups. In addition, six (6) NGOs in Jorhat district and two (2) NGOs in Golaghat district have been actively involved in respect of Bank Linkage Programme with Self Help Groups. Further, the NGOs advocate thrift and savings habits among rural poor for socio-economic development.

(2) **Prime Minister's Rozger Yojana (PMRY)** :

The scheme has been designed to provide self-employment to educated unemployed youth. All the economically viable activities including agriculture and allied sectors (excluding agriculture proper) are covered for granting financial assistance under

Table 2.8

Distribution of Target and Achievement under PMRY during 2000-01 to 2002-03 in the sample districts

Year	Jorhat District		P.C.	Golaghat District.		P.C.
	Target	Achievement.		Target	Achievement.	
2000-01	300	213	71	210	169	80
2001-02	300	213	71	393	181	46
2002-03	942	396	42	593	274	46

Source : (1) Potential Link Credit Plan, Jorhat 2004-05 NABARD.

(2) Potential Link Credit Plan, Golaghat 2004-05 NABARD.

the scheme. District Industrial Centre (DIC) is the nodal agency for implementation of the programme. Training is compulsory for industrial and service ventures whereas certain activities in business sector may not require training. The distribution of targets and achievements under PMRY during 2000-01 to 2002-03 (three years) in the sample districts is presented in Table 2.8. The achievements against the targets as shown in the Table indicate that the schemes are yet to pick up momentum in the sample districts. Initial enthusiasm has seem losing its ground in the sample districts.

Besides these schemes, a few of other important programme viz. Swarna Jayanti Shahari Rozger Yojana (SJSRY), Golden Thread Project, KVIC Margin Money Assistance Schemes etc. have been implementing by the Government in the sample districts. But, due to some specific constraints like mortgage of the property as security, lack of adequate publicity, information gap between bank branches and sponsoring

agencies etc., the performances of the schemes in the sample districts are very poor. So details of these schemes are not incorporated here.

Social and Political Status of Rural Women in the State and Sample Districts :

The women constitute nearly half of the total population in the State, but most of them are deprived of enjoying the fruits and benefits of equality of sex. As a backward State, the socio-economic and political status of women in the State has been inferior to men. The constitution of India has given equal rights to men and women. But the male dominated society of the region yet to recognized equal status to the women in the society. However, realizing the needs of women empowerment, after independence special emphasis was laid on this regard. The main purpose was to bring women into development process as passive beneficiaries of development. Therefore, strategies were made for upliftment of women during policy making and planning in post independence era.

Recognizing the importance of women as human resource contributing to development, their participation in political processes was recognized. In Constitution of India through the 73rd Amendment Act, 1992, the representation of rural women in political processes was ensured. The significant provision of new Panchayati Raj Act has reservation of one third of seats for women in all positions of local bodies. It is also emphasized that the provision is not only the strategic needs of women but also tried to provide them space in local development activities.

Active participation and the leadership of women in polities have played a major role in the working of Panchayati Raj Institutions. However, it is seen that women representation in Panchayats have remained restricted to a limited number of women and not to the masses in the sample area. There are a total of 213 Panchayats consisting of Anchalik Panchayats and Gram Panchayats covering 2,055 villages in Jorhat and Golaghat districts. Out of the totals seats in 213 Panchayats, there are 1,019 seats reserve for women representation. During the Panchayat Election 2002, of the total reserved seats of women, women representatives were elected in 81 per cent of reserved seats only. This indicates that women in the study area are not fully active in politics. The reason behind this may be that in the rural areas male Chauvinism still suppressed the female counterpart. The courage and self-confidence for leadership are yet lacking amongst the rural women in some places. However, situation is gradually improving.

However, the elected women members of Panchayat in sample area have been taking their responsibilities seriously. They regularly attend meetings. They deny any influence of their husbands or other family members over them in the matters pertaining to Panchayat activities. They are very serious in identifying their local problems and also try to solve the problems. It is noticed in the study area that women participation in politics is still at a growing stage. Women are still in the learning process to take up precise roles in politics. Emancipation of women in economic spheres of the sample areas is discussed elsewhere.

Chapter – III

Socio-Economic Profile of the Sample Trained Women entrepreneurs

An attempt has been made here to project the socio-economic condition of the sample woman households based on primary level data. The socio-economic profile of the sample households would provide the basic information on the resource endowment of the selected women entrepreneurs. The profile includes social aspects, land ownership, cropping pattern, assets position, age and educational status of the women entrepreneurs, occupational distribution, property ownership, time spent and income generated from the enterprises etc.

Social Aspects :

The caste / class and religion-wise distribution of sample households of trained woman entrepreneurs is presented in Table 3.1. The sample households are mostly

Table: 3.1

Social Class and Religion of the Sample Households

Enterprise ----- >	(Per cent)			
	Livestock	Bee Keeping	Fruits & Vegetable Processing	Total
No of H.Hs	60	24	16	100
Social Class				
General	35.00	41.67	43.75	38.00
SC	13.33	0.00	0.00	8.00
ST	3.33	0.00	0.00	2.00
OBC	48.33	58.33	56.25	52.00
Religion				
Hindu	100.00	100.00	100.00	100.00
Muslim	0.00	0.00	0.00	0.00
Christian	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00

belonged to General and Other Backward Communities (OBC). It is seen in Table 3.1 that out of total sample families 52.00 per cent of sample families are belonged to the OBC

group, 38.00 per cent are belonged to General Caste, 8.00 per cent are belonged to Scheduled Caste and only 2.00 per cent of sample households are belonged to the Scheduled Tribe community. The entire sample households are Hindu by religion.

Family Members:

The demographic features of the sample households are presented in Table 3.2. The Table reveals that out of total population of families of the sample women entrepreneurs, 44.36 per cent are adult males, 45.62 per cent are adult females and 10.02 per cent are children. The average family size is found at 5.59 persons.

Table: 3.2

Family Members of the Trained Sample Households

Enterprise ----- >	Livestock	Bee Keeping	Fruits & Vegetable Processing	(Per cent) Total
No.of H.H ----->	60	24	16	100
<u>Categories :</u>				
Adult Males	45.21	45.32	39.53	44.36
Adult Females	44.31	46.05	50.00	45.62
Children	10.48	8.63	10.47	10.02
Total (%)	100.00	100.00	100.00	100.00
Av. Family Size (No)	5.57	5.79	5.38	5.59

Land Ownership and Farm Class :

Agriculture is the mainstay of livelihood of all the sample households. Naturally, land is the main resource, which determines the economic condition of the sample families and provides employment opportunity to the family members. Their land holding and land use pattern are the pivotal points of generation of employment and income. The details of land resource of the sample households are presented in Table 3.3.

The Table 3.3 indicates that out of the total area of sample households, 71.12 per cent of land are own cultivable land covered by both field crops and horticultural crops, 6.74 per cent of land are used as homestead and courtyard and 22.14 per cent of lands are other land. Other land includes the area under miscellaneous tree crops and groves, current fellow and some non-cultivable area. Of the total sample families, 11.57 per cent are

Table : 3.3

Land Ownership and Farm Class of the Sample Households

(Per cent)

Enterprise ----- >	Livestock	Bee Keeping	Fruits & Vegetable Processing	Total
No. of H.H ----->	60	24	16	100
Status of Land				
Landless	0	0	0	0
Homestead Land	7.04	7.64	4.37	6.74
Own Farm Land	70.10	72.20	73.53	71.12
Other Land	22.86	20.16	22.10	22.14
Total	100.00	100.00	100.00	100.00
Farm Class on the basis of Owned Land Holding				
Marginal (> 1 ha.)	8.71 (7.58)	24.68 (7.82)	4.28 (0.97)	11.57 (16.31)
Small (1 - 2 ha.)	31.05 (27.01)	33.03 (10.46)	65.52 (14.78)	36.98 (52.14)
Semi Medium(2 - 4 ha.)	38.37 (33.38)	31.43 (9.96)	13.83 (3.12)	32.90 (46.39)
Medium (4 - 10 ha.)	21.87 (19.03)	10.86 (3.44)	16.37 (3.69)	18.55 (26.13)
Large (above 10 ha.)	0	0	0	0
Average Farm Size (ha.)	1.45	1.32	1.41	1.41
Farm Class on the basis of Operational Holding				
Marginal (> 1 ha.)	10.18 (8.31)	29.12 (8.04)	8.78 (1.64)	14.05 (17.98)
Small (1 - 2 ha.)	31.53 (25.73)	32.10 (8.86)	60.81 (11.38)	35.94 (46.00)
Semi Medium (2 - 4 ha.)	36.79 (30.02)	28.97 (8.00)	12.91 (2.42)	31.61 (40.46)
Medium (4 - 10 ha.)	21.50 (17.54)	9.81 (2.71)	17.50 (3.28)	18.40 (23.55)
Large (above 10 ha.)	0	0	0	0
Average Size of holding (ha.)	1.36	1.15	1.17	1.28

Note : Figures in Parenthesis indicates total Land area under different Size Groups

marginal farmers, 36.98 per cent are small farmers, 32.90 per cent are semi-medium farmers and 18.55 per cent are medium farmers. The average size of operational holdings is 1.28 hectare.

Crop Activity:

Land and water are two precious factors which determine the suitable growth and development of agriculture. In the sample, the cropping pattern and crops grown depend mainly on the distribution of rainfall, as the irrigation infrastructure is available in a very limited area. Table 3.4 gives the idea of crop activity and irrigation status of the sample families. Paddy is the principal crop grown by all the sample farmers. The Table reveals that paddy cultivation alone occupies 83.16 per cent of the gross cropped area. Area allocated to other crops is 16.84 per cent only. Moreover, the Table shows that out of the total area, a major portion i.e. 89.26 per cent of land is under rain fed condition and only 10.74 per cent of land has irrigation facility.

Table: 3.4**Crop Activity and Irrigated land of the Sample Households**

(Per cent of Land)

Enterprise ----->	Livestock	Bee Keeping	Fruits & Vegetable Processing	Total
No.of H.H ----->	60	24	16	100
<u>Area Under :</u>				
1.Food Crops (Paddy)	83.15	82.96	83.52	83.16
2.Commercial Crops (potato, Pulses, Mustard, Sugarcane, Vegetables)	16.85	17.04	16.48	16.84
Total	100.00	100.00	100.00	100.00
<u>Irrigation Status :</u>				
Irrigated Land	11.09	10.87	9.11	10.74
Un - irrigated Land	88.91	89.13	90.89	89.26
Total	100.00	100.00	100.00	100.00
% of Households with >70% Irrigated Land	0.00	0.00	0.00	0.00

Cropping Pattern:

The sample farmers raised paddy, potato, pulses, mustard and vegetables as major crops depending upon soil condition, distribution of rainfall and irrigation facilities. Distribution of area under principal crops of the sample households is presented in Table 3.5. As stated earlier paddy is the dominant crop, which alone occupies 83.16 per cent of the gross cropped area and of the 16.84 per cent of area allocated to the other crops, potato

occupies 4.37 per cent, pulse 1.62 per cent, mustard 3.07 per cent and vegetables 7.78 per cent of the gross cropped area.

Table: 3.5
Cropping Pattern of the Sample Farm Households

Enterprise ---->	Livestock	Bee Keeping	Fruits & Vegetable Processing	Total
No. of H.H ---->	60	24	16	100
Crops :				
Paddy	83.15	82.96	83.51	83.16
Potato	4.12	3.54	6.55	4.37
Pulses	1.59	2.74	0.00	1.62
Mustard	2.87	3.67	2.92	3.07
Vegetables	8.27	7.09	7.02	7.78
GCA (ha.)	118.09	44.08	28.28	190.45

Costs and Returns of Major Crops:

Of the total paddy cultivated area, 10.74 per cent area has irrigation facilities. None of the vegetables cultivated area has irrigation facilities (Table 3.6). The average productivity of paddy and vegetable crops of the sample respondents are found at 2,877 kg/ha and 13,274 kg/ha respectively (Table 3.6). Rice is the staple food of the sample families. So major portion of paddy production is used for the family consumption. In aggregate, only 21.00 per cent of paddy is marketed with some variations among different sample families. On the other hand, the vegetable crops are grown for commercial purpose as 83.03 per cent of total produce is sold in the market (Table 3.6). It is found that the sample respondents have earned an average income of Rs.13,100.00 and Rs.19,620.00 per hectare from paddy and vegetable crops respectively. Overall agricultural income is found at Rs. 11,720.00 per hectare.

Asset Endowment :

The Table 3.7 shows residential accommodation status of sample entrepreneurs. Of the total samples, 22.00 per cent of the women entrepreneurs are residing in Pucca houses, 42.00 per cent of women are residing in Semi-pucca houses and 36.00 per cent of women entrepreneurs are residing in Kutcha houses. Sample women entrepreneurs have used more than one type of fuel for cooking, lightening etc. purposes in their households. LPG is the most important source of fuel used by the sample households (78.67 per cent)

followed by Kerosene (72.00 per cent) and wood (40.00 per cent) in overall basis. There are 22.67 per cent of sample households who have no electricity.

Table : 3.6

Costs and Returns of major Crops of the Sample farm Households

(Per cent)

Enterprise ---->	Livestock	Bee Keeping	Fruits & Vegetable Processing	Total
No. of H.H ----->	60	24	16	100
Paddy				
% Operated Area	83.15	82.96	83.52	83.16
% Area Irrigated	10.28	11.05	10.17	10.74
Average Yield (qtl. / ha)	29.56	28.65	27.72	28.77
% output sold	30.00	18.00	6.00	21.00
Cost of Farming (Rs./ha)	12,956	12,806	11,989	12,568
Income (Rs. /ha)	13,196	13,320	12,512	13,100
Vegetables				
% Operated Area	8.27	7.09	7.02	7.78
% Area Irrigated	0	0	0	0
Average Yield (qtl. / ha)	134.56	131.20	130.62	132.74
% output sold	79.68	85.80	83.95	83.03
Cost of Farming (Rs./ha)	16,056	15,215	15,688	15,653
Income (Rs. /ha)	19,886	19,052	19,922	19,620
Agricultural Income (Rs./Ha.)	11,180	12,021	11,975	11,720

Table : 3.7

House and Power / fuel asset of the Sample Households

(Per cent)

Enterprise ---->	Livestock	Bee Keeping	Fruits & Vegetable Processing	Total
No. of H.H ----->	60	24	16	100
House :				
Pucca	20.00	25.00	25.00	22.00
Semi - Pucca	41.67	41.67	43.75	42.00
Kutchra	38.33	33.33	31.25	36.00
Power / fuel Asset :				
LPG	77.78	75.00	87.50	78.67
Kerosene	73.33	63.89	79.17	72.00
Wood	40.00	41.67	37.50	40.00
No Electricity	23.33	25.00	16.67	22.67

The uses of modern machineries, electronic/electrical goods like tractor, power-tiller, power pump, two-wheelers, four-wheelers, television, etc. are considered as parameter of economically better off families of the society. Table 3.8 shows the details of

Table : 3.8

Asset Ownership of the Sample Households

(Per cent)				
Enterprise ---->	Livestock	Bee Keeping	Fruits & Vegetable Processing	Total
No. of H.H ---->	60	24	16	100
Assets :				
Tractors / Power tiller	6.67	0.00	8.33	6.00
Power Pump	8.33	12.50	0.00	8.00
Television	65.00	62.50	68.75	65.00
Fan	63.33	54.17	56.25	60.00
Two Wheelers	51.67	33.33	50.00	47.00
Four Wheelers	5.00	4.17	6.25	5.00

such assets endowment of the sample women entrepreneurs. On overall basis, 6.00 per cent of sample households have tractor/power-tiller and 8.00 per cent of sample households have power-pump. In respects of comfort assets, 65.00 per cent sample households have television, 60.00 per cent of households have electric fan, 47.00 per cent of households have two-wheelers and only 5.00 per cent of women entrepreneurs have four wheelers on their family possession.

It is apparent that income from both farm and non-farm enterprises of the women entrepreneurs determine the economic condition of the sample households. But the income thus received is not uniform and showed variations mainly due to different farm size holdings. The sample entrepreneurs are classified by income groups and are shown in Table 3.9. The households having income below Rs.11, 000.00 per annum are 21.00 per cent of the total sample households comprising of households with lowest income bracket i.e. up to Rs.8, 500.00 per annum is 7.00 per cent and households in the income group of Rs.8, 500.00 to Rs.11, 000.00 is 14.00 per cent. This indicates that most of the families (79.00 per cent) are above the cut-off limit of poverty line i.e with an annual income of

above Rs.11, 000.00. Although majority of the sample families are above the poverty line, it is observed in the Table that 36.00 per cent of sample families are below the annual income of Rs.25,000.00, 27.00 per cent of sample households below the annual income of Rs.50,000.00 and rest 16.00 per cent of sample families are above the annual income of Rs.50,000.00.

Table : 3.9

Annual Income of the Trained Sample Households by Class

(Per cent)				
Enterprise ---->	Livestock	Bee Keeping	Fruits & Vegetable Processing	Overall
No. of H.H ---->	60	24	16	100
Income Class:				
Below Rs.4,000	-	-	-	-
Rs. 4,000 --- 6,000	-	-	-	-
Rs. 6,000 --- 8,500	6.67	8.33	6.25	7.00
Rs.8,500 --- 11,000	13.33	16.67	12.50	14.00
Rs. 11,000—25,000	33.33	37.50	43.75	36.00
Rs. 25,000 – 50,000	28.33	25.00	25.00	27.00
Above Rs. 50,000	18.33	12.50	12.50	16.00

Profile of Women entrepreneurs:

The success or the failure of any enterprise depends upon many factors and have wide regional variation depending upon infrastructural facilities and a host of socio-economic factors. Moreover, in many cases the success or failure of entrepreneurs depends to a great extent on social and educational status, skill and expertise in different economic activities of the entrepreneurs. So, individual profile of the sample women entrepreneurs' such as age of the entrepreneurs, relation to the head of the households, marital status, educational status, ownership of properties, occupations, nature and extent of participation in various economic and non-economic activities of the household domestic works etc. which determine the socio-economic condition of the sample women entrepreneurs are collected and presented in Table 3.10.

Table 3.10 shows that of the total samples, 12 per cent of women entrepreneurs are belonging to the age group of 15 to 25 years, 36 per cent of sample are belonging to the age group of 26 to 35 years, 47 per cent are belonging to the age group of 36 to 55 years

and only 5 per cent of sample are on or above the age group of 56 years of age. This indicates that most of the sample entrepreneurs (88 per cent) are more than 26 years old.

There is only 2 per cent of the women entrepreneurs who themselves are head of the households, as they are widows. Otherwise, head of the households are the husbands or the parents of the entrepreneurs as the cases may be. Of the total samples, a major portion accounting 56 per cent are married, 42 per cent are un-married and rest 2 per cent are widows.

Education of the women entrepreneurs may play a vital role in determination of level of investment and adoption of new technology in enterprise. Moreover, education of the entrepreneurs may play a significant role in availing credit facilities, organizing the fellow entrepreneurs against the exploitative market practices; they are supposed to be aware of the market information which may help them in proper trading of their products. Education of the entrepreneurs is considered to be more important while they are receiving training in different entrepreneurial trades. The educational attainment of the sample women entrepreneurs is shown in Table 3.10. Out of the total women entrepreneurs, 2.00 per cent have no schooling or have education up to primary level, 44.00 per cent are primary to school passed and 54.00 per cent of women entrepreneurs have higher educational attainment. It is observed that educational status of sample entrepreneurs is quite satisfactory as more than 50 per cent of them have attained higher education.

Agriculture is the mainstay of livelihood of the majority of the sample entrepreneurs as it is the main sources of employment and income. The distribution of women entrepreneurs according to occupation is presented in Table 3.10. The Table showed that out of total 100 women entrepreneurs 81.00 per cent are primarily engaged in agriculture, 6.00 per cent engaged in services (comprising of 2.00 per cent in Govt. services and 4.00 per cent in private services) and only 13.00 per cent of women are taken up entrepreneurial activities as primary occupation. In addition to this, the Table (3.10) also showed that out of total family members of sample entrepreneurs, 18.00 per cent of husbands, 9.00 per cent of fathers and 5.00 per cent of sons had salaried job in various State and Central Government departments.

and only 5 per cent of sample are on or above the age group of 56 years of age. This indicates that most of the sample entrepreneurs (88 per cent) are more than 26 years old.

There is only 2 per cent of the women entrepreneurs who themselves are head of the households, as they are widows. Otherwise, head of the households are the husbands or the parents of the entrepreneurs as the cases may be. Of the total samples, a major portion accounting 56 per cent are married, 42 per cent are un-married and rest 2 per cent are widows.

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Table: 3.10**Profile of Sample Women entrepreneurs**

(Per cent)

Name of Enterprise ----->	Livestock	Bee Keeping	Fruits & Vegetable Processing	Total
No. of H.H ----->	60	24	16	100
<u>Age group in Yrs.</u>				
15 to 25 Yrs.	13.33	8.33	12.50	12.00
26 to 35 Yrs.	35.00	37.50	37.50	36.00
36 to 55 Yrs.	48.33	41.67	50.00	47.00
56 Yrs. & above	3.33	12.50	0.00	5.00
<u>Relation to Head</u>				
Self	1.67	0.00	6.25	2.00
Spouse	63.33	91.67	75.00	72.00
Daughter	35.00	8.33	18.75	26.00
Others	0.00	0.00	0.00	0.00
<u>Marital Status</u>				
Married	60.00	54.17	43.75	56.00
Widowed	1.67	0.00	6.25	2.00
Separated	0.00	0.00	0.00	0.00
Un - married	38.33	45.83	50.00	42.00
<u>Educational Status</u>				
No Schooling or Primary	1.67	4.17	0.00	2.00
Primary to School Passed	43.33	50.00	37.50	44.00
Higher Education	55.00	45.83	62.50	54.00
At least Primary & Vocational Training	0.00	0.00	0.00	0.00
<u>Main Occupation</u>				
Agriculture	76.67	87.50	87.50	81.00
Govt. Service	0.00	8.33	0.00	2.00
Private Service	1.67	4.17	12.50	4.00
Entrepreneur	21.67	0.00	0.00	13.00
<u>Family Members has Salaried Job</u>				
Husband	20.00	16.67	12.50	18.00
Father	10.00	8.33	6.25	9.00
Son	6.67	4.17	0.00	5.00

Occupational Pattern:

Table 3.11 shows that only 21.67 per cent out of 60 livestock entrepreneurs had taken up livestock enterprise as their main occupation which would come down to 13.00 per cent if all 100 sample entrepreneurs are taken into account. The rest sample

entrepreneurs had considered their entrepreneurial activities as subsidiary occupation. The main occupation for majority of sample women entrepreneurs is agriculture barring a few Government or private job holders.

Table : 3.11

Distribution of Occupations of the Sample Women entrepreneurs

(Percent)

Name of Enterprise ----->	Livestock	Bee Keeping	Fruits & Vegetable Processing	Total
No. of H.H ----->	60	24	16	100
Enterprise as main Occupation	21.67	0.00	0.00	13.00
Enterprise as subsidiary Occupation	78.33	100.00	100.00	87.00
Personal Source of Income	0.00	0.00	0.00	0.00

Property Ownership:

Assam being a patriarchal society the ancestral property is normally inherited from the father to his sons. The women inherit the property rights only if there are only daughters in the family or to the wife after the death of the husband. So, only 2.00 per cent of women entrepreneurs who were widows had the land ownership rights in the sample.

Time Spent:

Time spent by trained entrepreneurial women in different economic and non-economic domestic activities is shown in the Table 3.12. The Table reveals that the daily engagement of women entrepreneurs in different economic and non-economic activities including leisure was between 1.11 hours to 8.08 hours per day in aggregate. Average time spent by the women in these activities were 2.57 hours in farm work, 3.21 hours in cooking and washing, 1.11 hours in fetching of fuel, 1.27 hours in fetching of water, 3.06 hours in care of family members including teaching of children, 1.73 hours in different economic activities (enterprise), 2.94 hours devoted to self including entertainments and 8.08 hours in leisure.

Table:3.12

**Average Number of hours Spent in a day by Trained
Sample Women entrepreneurs**

Name of Enterprise ----->	(in per cent)			
	Livestock	Bee Keeping	Fruits & Vegetable Processing	Overall
No. of Farms ----->	60	24	16	100
Farm Work	2.85 (11.88)	2.25 (9.38)	2.00 (9.38)	2.57 (10.71)
Cooking & Washing	3.20 (13.33)	3.21 (13.37)	3.25 (13.54)	3.21 (13.38)
Fuel	1.20 (5.00)	0.96 (3.99)	1.00 (4.17)	1.11 (4.63)
Water	1.23 (5.14)	1.42 (5.90)	1.19 (4.95)	1.27 (5.29)
Family Care	2.73 (11.39)	3.46 (14.17)	3.69 (15.36)	3.06 (12.75)
Enterprise	2.10 (8.75)	1.21 (5.03)	1.13 (4.69)	1.73 (7.21)
Self / Entertainment	2.80 (11.67)	2.97 (12.38)	3.19 (13.28)	2.94 (12.25)
Leisure	7.88 (32.85)	8.58 (35.76)	8.31 (34.63)	8.11 (33.79)
Total Hours	24.00 (100.00)	24.00 (100.00)	24.00 (100.00)	24.00 (100.00)

It is observed that the women entrepreneurs had limited spare time for carrying out the entrepreneurial activities because of her commitments to family needs and farm work. Livestock enterprises are required daily supervision. So, the women entrepreneurs is devoted average 2.10 (8.75%) hours daily for day-to-day care and management of the animals. On the other hand, the beehives are needed to open after the weekly or forth nightly interval for look after the bees. On an average, the women entrepreneurs required 1.21 (5.03%) hours per day for the bee keeping enterprise. The fruits and vegetable enterprises are mostly seasonal; hence the women entrepreneurs are spent 1.13 (4.69%) hours per day for preparation of different jam/jelly and pickles. The male members are helping the women entrepreneurs in gathering the raw materials and disposal of finished products produced different enterprises.

Income Contribution:

Assessment of impact of women enterprises in generation of income and contribution towards household's income is the main objective of the study. The distribution of income of the family from different sources of the sample entrepreneurs is presented in Table 3.13. The Table shows that the shares of enterprise income to total household income are 22.68 per cent for the livestock enterprise, 14.74 per cent for the bee keeping enterprise and 9.49 per cent for the fruits and vegetable processing enterprise. The overall contribution of economic enterprises towards family income stands at 18.20 per cent.

Table : 3.13

**Distribution of the Household income of the families
of Sample Women entrepreneurs**

(Value in Rs.)

Name of Enterprise ----->	Livestock	Bee Keeping	Fruits & Veg. Processing	Total
No. of Household ----->	60	24	16	100
Particulars :				
Total Male Income*	1,526,400 (31.23)	702,720 (54.14)	729,640 (36.46)	2,958,760 (36.14)
Total Female Income**	0 (0.00)	0 (0.00)	81,568 (4.08)	81,568 (1.00)
Farm Income	2,253,320 (46.09)	403,850 (31.12)	999,830 (49.97)	3,657,000 (44.66)
Enterprise Income	1,108,892 (22.68)	191,339 (14.74)	189,900 (9.49)	1,490,131 (18.20)
Total Household Income	4,888,612 (100.00)	1,297,909 (100.00)	2,000,938 (100.00)	8,187,459 (100.00)
% Enterprise Income	22.68	14.74	9.49	18.20

Note : Figures in parenthesis indicates percentage to total

* Income from salary, Trade, Commerce & Transport etc.

** Income from Salary

It is found that male members of the households are primarily engaged either in farm activities or in different entrepreneurial activities. In livestock enterprises the highest share of the household income comes from farm activities (46.09 per cent), followed by male income (31.23 per cent), then comes the enterprise income (22.68 per cent). On the other hand, the male income of the bee keeping households occupies the highest position

(54.14 per cent) followed by the farm income (31.12 per cent) and enterprise income (14.74 per cent) in the total household income. Most of the fruits and vegetable processing entrepreneurs are found to depend heavily upon agriculture and service sectors for the household earnings as the enterprise income contributed only 9.49 per cent to the total household income. Here the farm income of the household had highest share (49.97 per cent) in total household income, followed by male income (36.46 per cent) and female income (4.08 per cent) for the fruits and vegetable processing entrepreneurs. On an average, woman entrepreneurial activities contributed 18.20 per cent to the total income, which shows that enterprises are the secondary sources of income and subsidiary occupation for the majority of women of the sample households.

Distribution of the Household Income of the Families of Sample Women Entrepreneurs

Particulars	Total	%	Total	%
Enterprise Income	122,887	14.74	122,887	14.74
Farm Income	4,589,612	54.14	4,589,612	54.14
Total Household Income	3,036,908		3,036,908	
Female Income	551,131	18.20	551,131	18.20
Male Income	1,434,646	47.22	1,434,646	47.22
Total Income	1,985,777	65.42	1,985,777	65.42
Total Household Income	3,036,908	100.00	3,036,908	100.00

(Note: Figures in parentheses are percentages of total household income)

It is found that the majority of the entrepreneurs engaged either in farm activities or in the enterprise sector. The household income is derived by the farm income (54.14 per cent) followed by male income (36.46 per cent) and female income (4.08 per cent). On an average, the male income of the household is higher than the female income.

Chapter – IV

Women Empowerment

Empowerment of women is variegated and refers to the extension of freedom of choice and action in social, economic and political life. It also includes the power to control over resources and in decisions making in all areas of economic and social life. However, for empowerment of women required qualities are education, employment and income at the individual or at the collective level, in which women must have competency to organize and mobilize to take action or challenge, which may arise in their way of achievements. An attempt has been made here to analyze the role of various enterprises in the area of economic empowerment of women entrepreneurs achieved through these enterprises. It is mentioned in earlier Chapter that the shares of enterprise income to the respective households income are 22.68 per cent for the livestock enterprise, 14.74 per cent for the bee keeping enterprise and 9.49 per cent for the fruits and vegetable processing enterprise which shows that the enterprise income is meager one. The opinions of the sample women entrepreneurs on how the trade has influenced their socio-economic status in the society were obtained and presented in Table 4.1. Queries are made to the sample entrepreneurs on different aspects like impact on households income, recognition in the family, recognition in the society, increased self-confidence, leadership quality, representation in political set-up, increased awareness and increased marketing skills.

Impact on Households Income :

Assessment of the impact of women enterprise on household's income is the main objective of the study, which in fact influenced the economic position, social status and their role in the society. The income earned by the women entrepreneurs from the enterprises has moderate impact on their household's income. In aggregate, the impact on households income is found to be highest from livestock enterprise (54.17 per cent) followed by bee keeping enterprise (47.22 per cent) and then fruits and vegetable processing enterprise (29.17 per cent) as indicated in Table 4.1. It is also found that the income earned by the trained women entrepreneurs is higher as compared to the non-

trained women entrepreneurs. It is reported by the trained women entrepreneur that after getting the training they introduced some new management practices in respective enterprises and hence the income from the enterprises is gradually increasing.

Recognition of Role in Family:

In a male chauvinist society, women are not treated at par with their male counterparts and hence they are discriminated in all spheres of economic and social life. In the traditional Assamese society, usually the males are the household's income earner. However, when the women contribute considerably towards the family income, the recognition of women's role in various economic activities is observed to be significant. The Table 4.1 showed that in average the recognition of women's role in the family is highest in bee keeping enterprise (50.00 per cent) followed by livestock enterprise (41.11 per cent) and fruits and vegetables processing enterprise (33.33 per cent). Recognition of role of women in trained women families is higher than that of non-trained women families.

Recognition in the Society:

There is greater need to accept women's role in the society and the economy to increase women power in terms of self-confidence in the determine choice of life. When the women come out from the four walls of household's activities to take part in the economic activities, the self-confidence of women as well as the contact with various sectors of the societies observed to have increased. The Table 4.1 indicated that among the total sample, recognition of the women's role in society is highest in bee keeping enterprise (66.67 per cent) followed by fruits and vegetables processing enterprise (54.17 per cent) and then livestock enterprise (43.33 per cent). It was reported by the livestock entrepreneurs and fruits and vegetable processing entrepreneur that they had direct link with firms and also individuals for selling their produce. It is also reported by a few entrepreneurs that they were attending the exhibitions in different parts of the State and outside the State to sell their produce. It is observed that the Kisan Malas are frequently organized by the Assam Agricultural University, Jorhat in which most of the sample women entrepreneur were attended to sell their produce Hence, most of the trained women entrepreneur felt that their recognition in the society is gradually improving after starting their small enterprise.

Table:4.1

Comments obtained from the Sample Women Entrepreneurs that how Trade has affected in Socio - Economic Status and Life

Name of Enterprise ----->	Livestock			Bee Keeping			(% Multiple Response)		
	T	NT	Total	T	NT	Total	T	NT	Total
Type of Entrepreneur ----->	60	30	90	24	12	36	16	8	24
No. of Farms ----->	73.33	63.33	70.00	70.83	58.33	66.67	43.75	25.00	37.50
Impact on Household Income	43.33	36.67	41.11	62.50	25.00	50.00	37.50	25.00	33.33
Recognition of role in Family	46.67	36.67	43.33	75.00	50.00	66.67	62.50	37.50	54.17
Recognition in the Society	46.67	26.67	40.00	54.17	27.78	58.33	50.00	37.50	45.83
Role in decision making	68.33	46.67	61.11	70.83	58.33	66.67	31.25	12.50	25.00
Increased self Confidence	51.67	36.67	46.67	66.67	41.67	58.33	43.75	25.00	37.50
Leadership quality	21.67	10.00	17.78	12.50	8.33	11.11	18.75	12.50	16.67
Representation in Political set up	66.67	53.33	62.22	75.00	58.33	69.44	56.25	50.00	54.17
Increased Awareness	36.67	23.33	34.44	66.67	50.00	61.11	31.25	12.50	25.00
Increased in Marketing Skill									

Note: T ----> Trained respondent

NT ----> Non - trained respondent

Role in Decision Making:

The role of women entrepreneurs in decision-making is a real test of empowerment of woman. The extent of decision-making power exercised by the sample women entrepreneurs in their families is shown in Table 4.1. Empowerment enjoyed by women entrepreneurs of bee keeping enterprise in decision-making are 58.33 per cent, 45.83 per cent in case of fruits and vegetables processing enterprise and 40.00 per cent in case of livestock enterprise. The role of women in decision-making in their families by the sample women entrepreneurs observed to be in the moderate range. It is observed that the bee keeping women entrepreneur are more competent in the business line and are doing it successfully which has increased their decision making power in their family also. The decision making power is higher in case of trained women entrepreneurs than that of their non-trained counterpart.

Increased Self-Confidence:

It is well recognized that the women are the weaker section of the society and dependent upon men in male dominated society. When husband or male person is the sole earning member of the family, the wife/female has to depend upon him even to meet her very personal and petty needs. This constraint could be overcome through involving women in various economic activities and start augmenting the household income by obtaining the training in productive income generating pursuits. The development of self confidence of the sample women entrepreneurs is observed to be highest in bee keeping enterprise (66.67 per cent) followed by livestock enterprise (61.11 per cent) as shown in Table 4.1. The confidence of fruits and vegetables processing entrepreneurs have not developed due to certain constraints faced by them in marketing of produce. It is observed that the entrepreneurs of the bee keeping and livestock enterprises contribute a significant amount of income towards their household income. Therefore, the self-confidence of the sample entrepreneurs of these businesses has been increased significantly. It is also observed that the self-confidence of the trained women entrepreneurs is increased to a greater degree than that of non-trained women entrepreneurs.

Leadership Quality:

Leadership quality is an important aspect to establish an enterprise. After establishment of an enterprise the entrepreneur has to interact with various persons in

regards to purchase of raw materials, marketing of produce, management and communication linkage etc. These interactions of the entrepreneurs help in development of communication skills. The leadership quality in the sample entrepreneur woman is observed to be moderate. The Table 4.1 showed that of the total sample, confidence in leadership are 58.33 per cent in bee keeping entrepreneurs, 46.67 per cent in livestock entrepreneurs and 37.50 per cent in fruits and vegetables processing entrepreneurs. It is observed that the quality of leadership of the sample women entrepreneurs is growing in the society. The leadership quality of trained women entrepreneurs was found to be higher in comparison to the non-trained women entrepreneur.

Representation in Political Set-up :

Political statuses of women (either at the national level or at the local situation) have been defined as degree of equality and freedom enjoyed by the women in governance and in decision-making matters. But the fact is that woman representative to political set up from the sample women entrepreneurs have shown a slow trend of being efficient leaders. It may be noted that for the development of communication skill of the women entrepreneurs, participation in active politics in the Panchayati Raj Institution (PRI) is considered essential. Because, involvement of women in political field make them more popular among the co-villagers and also it brings confidence among women in the household affairs. So, they can take their decision quickly and independently. However, it is yet to be developed among the sample women entrepreneurs as only a very nominal percentage is involved in local political set up of sample area.

Increased Awareness:

Awareness in every aspect of entrepreneurial field is indispensable for success in business enterprise. Knowledge is the true power. Along with manual skills, artistic and other talents, awareness in business activities in respective enterprise is considered essential for the women entrepreneurs. The women entrepreneurs need to update their knowledge. The Table 4.1 presented the overall awareness level of total sample at 69.44 per cent, 62.22 per cent and 54.17 per cent in bee keeping, livestock and fruits & vegetables processing enterprises respectively. This may be considered as the awareness level of the sample entrepreneurs is in moderate range. The awareness level of trained

women entrepreneurs is observed to be in a higher position than that of the non-trained women entrepreneurs.

Increased in Marketing Skill:

Role of women in society has been largely confined to traditional household activities and they are treated mostly as housewives. The role of women in economic activity has not been well recognized although they assist in various agricultural activities. However, there is growing consciousness about the role of women in economic development. The needs for women's development and their role in economic development have been felt in the society and there is also increased involvement of women in economic activities. The sample women entrepreneurs have gained self-confidence and communication skill to interact with various financial organizations, marketing agencies and also form 'Self Help Groups'. Development of marketing skill is highest in bee-keeping enterprise (61.11 per cent), as they had the capacity to bargain on prices for their produce in various markets. On the other hand, 34.44 per cent of the livestock entrepreneurs and 25.00 per cent of the fruits and vegetables processing entrepreneurs have developed their marketing skills due to involvement in economic activities as indicated in Table 4.1. It is observed that the entrepreneurs of the fruits and vegetables processing enterprise faced severe competition in marketing of their produce due to lack of their license and tough competition from established fruits and vegetables processing commercial firms.

Chapter – V

Raw Material Requirements, Employment Pattern, Profitability and Prospects of Different Women Enterprises

In this Chapter an attempt has been made to analyze the profile of women entrepreneurs, processes involved in production, raw material requirements and uses of equipments in the sample women enterprises. In addition to this, details of employment pattern and profitability in these enterprises, problems and prospects of different women enterprises shall also be discussed separately in various sections of the enterprises.

Enterprise – I – Livestock:

Profile of Women Entrepreneurs:

Details of women entrepreneurs' profiles like age group composition, marital status, educational level, social class, relation to head of the household, house type etc. are presented. As stated earlier, 90 women entrepreneurs are selected from the livestock enterprise of which 60 samples are trained women and 30 are non-trained women. It is seen in the Table 5.1 that out of total trained women entrepreneurs, 13.33 per cent are in the age group of 15 to 25 years, 35.00 per cent are in between 26 to 35 years of age, 48.33 per cent are in between 36 to 55 years and 3.33 per cent are 56 year and above age groups. Similarly, out of total non-trained sample women entrepreneurs, 6.67 per cent are in the age group of 15 to 25 years, 13.33 per cent in between 26 to 35 years, 63.33 per cent in between 36 to 55 years and 16.67 per cent are above 56 years of age. The Table also indicates that out of total trained women, 60.00 per cent are married, 38.33 per cent un-married and 1.67 per cent widowed. On the other hand, of the total non-trained women, 80.00 per cent are married, 16.67 per cent un-married and 3.33 per cent widowed. This indicates that mostly experienced women are involved in livestock enterprises as most of them belong to higher age groups.

Table: 5.1
Profile of Sample Women Entrepreneurs in Livestock Enterprise

Type of Entrepreneur ----->	Trained	Non - trained	Total
No. of Farms ----->	60	30	90
Age group in Yrs.			
15 to 25 Yrs.	13.33	6.67	11.11
26 to 35 Yrs.	35.00	13.33	27.78
36 to 55 Yrs.	48.33	63.33	53.33
56 Yrs. & above	3.33	16.67	7.78
Marital Status			
Married	60.00	80.00	66.67
Widowed	1.67	3.33	2.22
Separated	0.00	0.00	0.00
Un - married	38.33	16.67	31.11
Educational Status			
No Schooling or Primary	1.67	30.00	11.11
Primary to School Passed	43.33	40.00	42.22
Higher Education	55.00	30.00	46.67
At least Primary & Vocational Training	0.00	0.00	0.00
Social Class			
General	30.00	26.67	28.89
SC	13.33	26.67	17.78
ST	3.33	6.67	4.44
OBC	53.33	40.00	48.89
Relation to Head			
Self	1.67	3.33	2.22
Spouse	63.33	86.67	71.11
Daughter	35.00	10.00	26.67
others	0.00	0.00	0.00
House			
Pucca	20.00	16.67	18.89
Semi - Pucca	41.67	53.33	45.56
Kutchha	38.33	30.00	35.56

The educational status of sample women entrepreneurs are also shown in the Table 5.1. Out of the total trained sample women, 1.67 per cent have no schooling education, 43.33 per cent are from primary level up to high school passed and 55.00 per

cent have educational level up to higher educational status. In the category of non-trained women entrepreneurs 30.00 per cent women have no schooling education even up to primary levels, 40.00 per cent found to be up to primary to high school level passed and 30.00 per cent of them have higher educational levels. This shows that the percentages of higher education attainment by the trained women entrepreneurs are higher as compared to the non-trained women entrepreneurs.

The dominant social class of the sample trained women entrepreneurs are belong to Other Backward Classes (OBC) as it is 53.33 per cent followed by General population 30.00 per cent, then comes Scheduled Caste (SC) 13.33 per cent and rest 3.33 per cent belongs to Scheduled Tribe (ST). Similarly, the social classes of the non-trained women entrepreneurs are 40.00 per cent OBC, 26.67 per cent General Caste group, 26.67 per cent SC and 6.67 per cent ST. There are 1.67 per cent of trained women and 3.33 per cent of non-trained women who themselves are head of the households as they are widowed. In case of the rest of the sample households, the head of the households are either husband or father of the sample women entrepreneurs. The Table 5.1 also presents that out of the total sample trained entrepreneurs, 20.00 per cent lives in Pucca houses, 41.67 per cent in Semi-pucca houses and 38.33 per cent lives in Kutcha houses. Of the total non-trained women entrepreneurs, 16.67 per cent lives in Pucca houses, 53.33 per cent lives in Semi-pucca houses and 30.00 per cent lives in Kutcha houses.

Products/Processes Involved in Production:

The primary occupation of the sample families of women entrepreneurs are agriculture and allied occupations. The sample area is casually or chronically flood-affected. As such, apart from crop cultivation, majority of the sample families are heavily dependent on livestock rearing. The studies conducted by the AERC from time to time in the sample area revealed that about 10 to 20 per cent of the gross family income has been contributed by livestock. The general nature of state agriculture is primarily dependent on bullocks and buffaloes as draught power. Besides as draught power, the demand for milk, meat, egg, dung etc. are also fulfilled by the livestock population. The Table 5.2 shows the nature of products produced by the sample women entrepreneurs in 2004-05. It

is evident from the Table that no processed items have been produced by the sample women entrepreneurs due to certain unavoidable reasons although processing of

Table-5.2
Nature of Product Produced by the Sample Women
Entrepreneurs in Livestock Enterprise

(In Per cent)			
Type of entrepreneurs-->	Trained	Non - trained	Total
No. of Farms ----->	60	30	90
<u>Nature of Product :</u>			
Processed	-	-	-
Medicinal	-	-	-
Milk	45.00	40.00	43.00
Meat / egg	55.00	60.00	57.00
New	35.00	-	23.00
Traditional	65.00	100.00	77.00
Perishable	100.00	100.00	100.00
Fragile	-	-	-
Demand in Local Market	100.00	100.00	100.00

livestock products have been viewed as one effective instrument in supplementing the income of rural people and also in providing employment opportunity to weaker section of the society.

It is seen in the Table (5.2) that out of total trained women entrepreneurs, 45.00 per cent of entrepreneurs produced only milk and 55.00 per cent of entrepreneurs produced both meat and eggs in their livestock enterprises. Similarly, 40.00 per cent of non-trained entrepreneurs produced milk and 60.00 per cent of entrepreneurs produced meat/eggs. It is observed that in the case of majority of sample enterprises, 65.00 per cent of trained women entrepreneurs and 100.00 per cent of non-trained women entrepreneurs the pursuing occupations are their traditional family enterprises. Only 35.00 per cent of trained women entrepreneurs have started new enterprise. After getting the training on livestock enterprise, the women involved themselves more intensively in livestock enterprise. All the livestock products (milk, egg etc.) are perishable in nature.

It is experienced that the marketing of milk on large scale is difficult in the study area due to non-existence of Milk Processing Plants or Milk Booths for

purchasing of marketable surplus of milk. Generally the middlemen mostly living in towns and cities usually collect the milk from the producers at a comparatively lower price and sell in the towns and cities at a high price. On the other hand, marketing of meat and eggs is not much problematic in the study area. There are daily huts and weekly markets in the study area. The entrepreneurs or the spouse sold the meat and eggs in different huts or weekly markets existing near by the enterprise. Thus the entrepreneurs got proper prices on meat and eggs.

Women, who are almost half of total population in the sample families, contributed monetary and non-monetary inputs towards their family economy. They play a multiple roles in animal husbandry. Of these, the women entrepreneurs spend a considerable time in indoor activities such as cleaning of sheds, preparing feeds, watering and milking etc., besides looking after their children and other affairs of the family (Table 5.3). It is to be noted here that all the activities of livestock enterprises are done

Table : 5.3
Intensity of Resource Use and Process Involved in Livestock Enterprise

Particulars	Feed & Fodder Management	Watering	Milking	Cleaning	Cow dung Management	Marketing of Milk
Need for Family Labour	High	Low	Moderate	Moderate	Low	Moderate
Need for Hired Labour	Low	Low	Low	Low	Low	Low
Supervision	Low	Low	Low	Low	Low	Low
Skill	Low	Low	Moderate	Low	Low	Moderate
Equipment	Low	Low	Moderate	Moderate	Low	Low
Time	Moderate	Low	Moderate	Low	Low	Moderate
Labour Intensive	High	Low	Moderate	Low	Low	Low

by the entrepreneurs and also helped by their spouses and other members of the family. No hired labours are reported to have been used by the entrepreneurs.

Raw-materials and Equipments Used :

Feed, dry fodder, green fodder and straw are the main raw materials required for the livestock enterprise. Detail of raw materials and equipments used by the sample women entrepreneurs and the average prices of these items are shown in Table 5.4. The green-fodder (grass) requirement of livestock is mostly met by grazing in fallow and forest

land in the area. Paddy is the main crop grown in the sample area. The by-products of paddy like straw, husk etc. of co-farmers are purchased by the sample entrepreneurs for the animals at a throw away prices. Besides, a very limited uncultivable area of the sample entrepreneurs is brought under fodder cultivation for their livestock. Feeding of

Table-5.4
Raw Materials and Equipments Used by Sample Women
Entrepreneurs in Livestock Enterprise

Type of entrepreneurs-->	Trained	Non - trained	Total
No. of Farms ---->	60	30	90
Raw Materials			
1. Estimated Feed costs :			
Home / Farm Produced (qtl.)	95	38	133
Average Price (Rs. / qtl.)	339	339	339
Purchased Locally (qtl.)	98	35	133
Average Price (Rs. / qtl.)	340	340	340
Purchased from Outside	0	0	0
Average Price (Rs. / qtl.)			
Supplied by Co - operatives	0	0	0
Average Price (Rs. / qtl.)			
2. Fodder			
Home / Farm Produced (qtl.)	2,066	1,316	3,382
Average Price (Rs. / qtl.)	55	55	55
Purchase Locally (qtl.)	3,195	1,018	4,213
Average Price (Rs. / qtl.)	55	55	55
3. Straw :			
Home / Farm Produced (qtl.)	190	71	261
Average Price (Rs. / qtl.)	186	186	186
Purchase Locally (qtl.)	233	80	313
Average Price (Rs. / qtl.)	185	185	185
4. Major Equipments :			
A. Annual Exp. On Shed :			
	58,994	21,365	80,359
Average Costs	984	712	893
B. Utensils			
Purchase Locally (No..)	255	170	425

concentrate is more or less common to all the sample entrepreneurs. They purchased the concentrates for their livestock at market price, which is available in their localities. It is

observed that the State Departments have no role in providing feeds to the livestock of the entrepreneurs.

The equipments that have been used by the sample women entrepreneurs in livestock enterprise are traditional. The trained women and the non-trained women entrepreneurs have their own equipments for rearing of their livestock. The average price of the major equipments is shown in the Table 5.4.

Distribution of investments in livestock enterprise by the trained farm women and non-trained farm women are presented in Table 5.5 along with particulars about the value of the scheme, grants in aid, subsidy, loan received from the Bank and as members of Self Help Group (SHGs) and proportion of own fund. The grants in aid are provided by

Table - 5.5
Initial Investment on Livestock Enterprise

Type of Entrepreneur	Trained Women		Non - trained Women		Total	
	60		30		90	
Sources of Investment	Value	P.C.	Value	P.C.	Value	P.C.
A. Own	71,625	23.58	100,300	75.81	171,925	39.42
B. Loan	115,289	37.95	17,420	13.17	132,709	30.43
C. Subsidy	56,786	18.69	8,580	6.49	65,366	14.99
D. Grant	40,950	13.48	3,500	2.65	44,450	10.19
E. Loan From SHG	19,142	6.30	2,500	1.89	21,642	4.96
Total (Rs.)	303,792	100.00	132,300	100.00	436,092	100.00
Per Farm Investment	5,063		4,410		4,845	

the Integrated Tribal Development Project (ITDP) and Scheduled Caste Component Plan (SCCP) either in terms of cash or kind to the Scheduled Tribe and Scheduled Caste women entrepreneurs respectively. The District Rural Development Agency (DRDA) provided grants in aid to all types of women entrepreneurs in terms of cash or kind. The Table shows that the total value of investment of the sample enterprise of the sixty trained entrepreneurs is Rs.3, 03,792.00. Out of the total investment, 23.58 per cent are own fund, 37.95 per cent Bank loan, 18.69 per cent subsidy, 13.48 per cent grants-in-aid and 6.30 per cent are loan received as members of SHGs. The average investment for the enterprise is Rs.5,063.00. In case of non-trained women entrepreneurs, the total investment for the

enterprise is Rs.1, 32,300.00 of which 75.81 per cent are own fund. 13.17 per cent Bank loan, 6.49 per cent subsidy, 2.65 per cent grants in aid and only 1.89 per cent as loan received as members of SHGs. The average value per farm is found to be Rs.4, 410.00, which shows that the investment per farm of the trained women entrepreneurs is higher by Rs.653.00 (12.90 per cent) only than that of the non-trained women entrepreneurs. The rates of subsidy are 33 per cent for the general category of women entrepreneurs and 50 per cent for ST and SC women entrepreneurs. As per available field level data obtained from the women entrepreneurs the rate of interest on bank loan is 8.50 percent per annum.

Item-wise initial investment in case of both trained and non-trained women entrepreneurs are worked out and presented in Table 5.6. The items of investment are on livestock, buildings, equipment and other expenses like transportation costs and some non-specific co-related expenditure. Table shows that of the total investment of trained entrepreneurs 61.01 per cent are on livestock, 19.42 per cent on shed/buildings, 10.43 per cent on equipment and 9.14 per cent on other items. The percentages of investment by the non-trained women entrepreneurs are 67.53 per cent on livestock, 16.15 per cent on buildings, 13.19 per cent on equipment and 3.13 per cent on other items. This shows that

Table: 5.6
Item wise Initial Investment on Livestock Enterprise

(In Rs.)

Type of Entrepreneur -->	Trained Women		Non - trained Women		Total	
No. of Farms ----->	60		30		90	
Items Used	Value	P.C.	Value	P.C.	Value	P.C.
Livestock	185,338	61.01	89,336	67.53	274,674	62.99
Shed / Buildings	58,994	19.42	21,365	16.15	80,359	18.43
Equipment	31,695	10.43	17,458	13.19	49,153	11.27
Other Investment	27,765	9.14	4,141	3.13	31,906	7.32
Total Investment	303,792	100.00	132,300	100.00	436,092	100.00
Per Farm Investment	5,063		4,410		4,845	

Note: Other Investment includes Transportation and some Unseen Costs.

the major portion have been invested in purchasing livestock by the trained and non-trained women entrepreneurs.

Generation of employment and income of the selected enterprises are the most important aspects to be studied. Employment and income of the enterprises are the major contributing factors towards economic betterment of the women entrepreneurs. So far as the quantum of generation of employment and income is concerned, it depends on the scale of operation and viability of the enterprise. The nature of livestock enterprises usually requires part-time involvements. The part time working hours are converted into full mandays, by taking 8 (eight) working hours together for one working day. Employment of labour in livestock units for both trained women and non-trained women entrepreneurs are worked out and are presented in the Table 5.7. The Table reveals that of the total man/woman days, the trained women entrepreneurs contributed 5,749 (83.04

Table: 5.7
Employment of Labour in Livestock Enterprise
(8 hours a Day)

Type of Entrepreneur ---->	Trained Women		Non - trained Women		Total	
No. of Farms ---->	60		30		90	
Employment	Mandays	P.C.	Mandays	P.C.	Mandays	P.C.
Adult Family Labour (Days)						
Male	1,174	16.96	1,085	33.66	2,259	22.26
Female	5,749	83.04	2,138	66.34	7,887	77.74
Adult Hired Labour						
Male	0	0.00	0	0.00	0	0
Female	0	0.00	0	0.00	0	0
Children Family Labour (Days)						
Male	0	0.00	0	0.00	0	0
Female	0	0.00	0	0.00	0	0
Adult Female Family Supervision	0	0.00	0	0.00	0	0
Total Days Employment in a Year	6,923	100.00	3,223	100.00	10,146	100.00

per cent) days and their male counterparts contributed 1,174 (16.96 per cent) days. On the other hand, in livestock management the non-trained women contributed 2,138 (66.34 per cent) days and the males are engaged for 1,085 (33.66 per cent) days. Thus, it is seen that the mandays of trained women is 16.70 per cent higher than that of non-trained women entrepreneurs. In general women spend a major time in such activities like cleaning, preparing feeds, feeding, milking, processing livestock products, attending to sick/pregnant animals. On the other hand, outdoors activities related to caring of livestock,

purchase of fodder, purchase and sale of animals, grazing of animals, artificial insemination etc. are done by the male members of the households.

Livestock Production, Home Consumption and Marketable Surplus :

Milk, meat and eggs are highly perishable products; as such these require quick disposal or conversion into processed items or require cold storage facility. It is, therefore, essential to examine the volume of production, quantum of consumption and quantity of marketable surplus in different women enterprises. It is to be noted here that most of the male members of the family are involved in marketing of livestock or livestock products. Table 5.8 shows the livestock production, home consumption, quantity marketed of the sample trained and non-trained women entrepreneurs. It is stated earlier that there is no

Table: 5.8
Distribution of Production, Consumption and Quantity
Marketed in Livestock Enterprise

Types of Entrepreneur --- >	Trained	Non - trained	Total
No. of Farm ---- >	60	30	90
1.Total Milk Production (Lt.)	21,110	8,056	29,166
i. Home Consumption (Lt.)	3,063	1,462	4,525
ii. Quantity Sold (Lt.)	18,047	6,594	24,641
Quantity Sold through (%)			
i. Sold Locally	28.11	46.25	33.12
ii. Local Traders / Middleman	71.89	53.75	66.88
Average Market Price (Rs.) / Lt.	14.50	14.50	14.50
2 Total Meat Production (qtl.)	79.56	32.40	111.96
i. Home Consumption (qtl.)	4.18	1.69	5.87
ii. Quantity Sold (qtl.)	75.38	30.71	106.09
Quantity Sold through (%)			
i. Sold in Local Market	66.18	52.04	57.74
ii. Local Traders / Middleman	33.82	48.96	42.26
Average Market Price (Rs.) / Kg.	80.00	80.00	80.00
3.Total Egg Production (' 000. Nos.)	92.40	34.14	126.54
i. Home Consumption (' 000. Nos.)	29.20	12.33	41.53
ii. Quantity Sold (' 000. Nos.)	63.20	21.81	85.01
Quantity Sold through (%)			
i.Sold in Local Market	62.05	69.58	64.07
ii. Local Traders / Middleman	37.95	30.42	35.93
Average Market Price (Rs.) / Nos.	1.80	1.80	1.80

assured marketing facility for sell of milk or milk products in the study area as the co-operative societies do not have good net work for collection of milk in the State. So, the major portion of marketable surplus of milk is sold to the local traders or middlemen by sample entrepreneurs for which the entrepreneurs are deprived of getting the remunerative price on milk. Table 5.8 shows that out of the total marketable surplus of milk, 71.89 per cent by the trained women entrepreneur and 53.75 per cent by the non-trained women entrepreneurs are sold to the local traders/middlemen. The remaining marketable surplus of milk i.e. 28.11 per cent and 46.25 per cent are sold directly to the consumers by trained and non-trained women entrepreneurs respectively.

It is mentioned earlier that the sell of meat and eggs are not a problem in the study area. Table 5.8 shows that out of total marketable surplus, 66.18 per cent of meat and 62.05 per cent eggs are sold at the local markets/daily huts and rest 33.82 per cent meat and 37.95 per cent egg are sold to the local traders/middlemen by the trained entrepreneurs. Similarly, of the total marketable surplus, 52.04 per cent of meat and 69.58 per cent of egg are sold at the local markets/daily huts and rest 48.96 per cent of meat and 30.42 per cent of eggs are sold to the local traders/middlemen by the non-trained women entrepreneurs.

Annual Expenditure and Estimate of Benefit – Cost Ratio on Livestock Enterprise :

As stated earlier livestock has a special significance in rural economy and the women are traditionally involved in livestock enterprises. It is observed that during the last two decades livestock enterprise achieved some progress as there is a policy to replace the indigenous non-descript livestock by improved breeds. The annual expenditure and estimates of benefit cost ratio on livestock enterprises of sample trained women entrepreneurs is worked out 2004-05 and presented in Table 5.9.

As per records collected from the livestock entrepreneurs on the prices and quantities of the green fodder, dry fodder, feed concentrates etc. are evaluated at market prices of the study area. The Table 5.9 showed that under the head variable costs, expenditure incurred on feed, fodder and feed concentrate is highest (45.76 per cent) followed by expenditure on human labour (38.73 per cent) then comes veterinary charges

Table : 5.9

Annual Expenditure and Estimates of Benefit- Cost Ratio
on Livestock Enterprise

Type of Entrepreneur -----> Year ----->	Trained Women Entrepreneur	
	2004 - 05	
Items of Costs	Value (Rs)	P.C
<u>A. Variable Costs.</u>		
1.Green Fodder	263,050	29.58
Per Farm	4,384	
2 Dry Fodder	78,445	8.82
Per Farm	1,307	
3. Cattle Feed & Fed Cocentrates	65,525	7.37
Per Farm	1,092	
Total Fodder Cost	407,020	45.77
Per Farm	6,784	
<u>Expenditure on Human Labour</u>		
1.Family Labour	344,419	38.73
Per Farm	5,740	
2.Hired Labour	0	0.00
Per Farm	0	
3.Veterinary Charge & Cost of Medicine	16,800	1.89
Per Farm	280	
4.Transportation Costs of Feed,Feed Supplements	2,160	0.24
Per Farm	36	
5.Miscellaneous Costs	7,331	0.82
Per Farm	122	
6.Interest on Variable Costs@ 3.5	27,221	3.05
Per Farm	454	
Total Variable Costs	804,951	90.51
Per Farm	13,416	
<u>B.Fixed Costs</u>		
1.Depreciations on Animals @10%	68,472	7.70
Per Farm	1,141	
2.Appreciations on Young Animals @10%(-)	29,702	3.34
Per Farm	495	
3.Depreciation on Cattle Shed & Equipments@ 10%	9,069	1.02
Per Farm	151	
4.Interest on Capital Cost @3.5 %	53,946	4.11
Per Farm	899	
Total Fixed Cost	84,330	9.49
Per Farm	1,406	
Total Costs (A+B)	889,281	100.00
Per Farm	14,821	
Total Return	1,108,892	
Per Farm	18,482	
B.C.R.	1.25	

Note : B.C.R. indicates Benefit Cost Ratio.

and cost of medicine etc. The overall variable costs of livestock enterprises found at 90.52 per cent of the total expenditure.

The fixed cost is comprised of depreciation, appreciation and interest on various items like animals and birds, shed/buildings, equipment etc., which are estimated at 9.49 per cent of total expenditure. Depreciation on animal is highest being 7.70 per cent.

Table 5.9 shows the estimate of Benefit Cost Ratio (BCR) for the trained women entrepreneurs. The overall BCR in livestock enterprise is estimated at 1.25:1 This indicates that by and large livestock is economically viable enterprise. It is found that the trained women entrepreneurs in the sample are using their knowledge to exploit the resources substantially.

Table 5.10 gives the annual expenditure and estimates of BCR for the non-trained women entrepreneurs. Table shows that of the total expenditure the variable costs is found at 90.51 per cent of total expenditure. Out of the total variable costs the fodder costs is found to be 45.50 per cent of which costs on green fodder is highest being 32.18 per cent. Expenditure on human labour is found to be 40.20 per cent. The proportion of fixed costs is 9.48 per cent of which depreciation of animals and birds is highest being 5.75 per cent.

The BCR for the non-trained women enterprises is worked out at 1.10:1. This indicates that the BCR for the non-trained women entrepreneurs is positive, but comparative lower then that of the trained women entrepreneurs. As per gathered information from the respondents it is due to high mortality of the livestock. It is reported that due to lack of back-up support from the Veterinary Department, the entrepreneurs are not in a position to get the expected results. Further, it is also opined that due to lack of proper knowledge on livestock management they failed to identify the nature of disease of livestock and could not taken the preventive measures on time.

The opinions of the sample entrepreneurs regarding their attitude towards the enterprises are presented in Table 5.11. It is seen that 3.33 per cent of trained entrepreneurs and 13.33 per cent of non-trained women entrepreneurs reported that they neither want to expand the livestock enterprise nor want to add new breeds. The entrepreneurs are pleased

Table: 5.10

**Annual Expenditure and Estimates of Benefit- Cost Ratio
on Livestock Enterprise**

Type of Entrepreneur ----->	Non - trained Women Entrepreneur	
Year ----->	2004 - 05	
Items of Costs	Value(Rs)	P.C
<u>A. Variable Costs:</u>		
1.Green Fodder	128,370	32.18
Per Farm	4,279	
2 Dry Fodder	28,006	7.02
Per Farm	934	
3. Cattle Feed & Fed Cocentrates	25,121	6.30
Per Farm	837	
Total Fodder Cost	181,497	45.50
Per Farm	6,050	
<u>Expenditure on Human Labour</u>		
1.Family Labour	160,344	40.20
Per Farm	5,345	
2.Hired Labour	0	0.00
Per Farm	0	
3.Veterinary Charge & Cost of Medicine	4,420	1.11
Per Farm	147	
4.Transportation Costs of Feed,Feed Supplements	1,196	0.30
Per Farm	40	
5.Miscellaneous Costs	900	0.23
Per Farm	30	
6.Interest on Variable Costs@ 3.5	12,709	3.19
Per Farm	424	
Total Variable Costs	361,066	90.52
Per Farm	12,036	
<u>B.Fixed Costs</u>		
1.Depreciations on Animals @10%	22,920	5.75
Per Farm	764	
2.Appreciations on Young Animals @10%(-)	10,770	2.70
Per Farm	359	
3.Depreciation on Cattle Shed & Equipments@ 10%	3,882	0.97
Per Farm	129	
4.Interest on Capital Cost @ 3.5 %	21,771	5.46
Per Farm	726	
Total Fixed Cost	37,803	9.48
Per Farm	1,260	
Total Costs (A+B)	398,870	100.00
Per Farm	13,296	
Total Return	437,406	
Per Farm	14,580	
B.C.R.	1.10	

Note : B.C.R. indicates Benefit Cost Ratio.

with the present level of earning in livestock enterprise. Only 46.67 per cent of trained entrepreneurs and 36.67 per cent of non-trained entrepreneurs are interested to expand the enterprise by adding more milch cows, piglets and poultry birds in their small enterprises. The entrepreneurs reported that the livestock enterprise has sufficient contribution in generating the household income and employment, resulting into the increase in women's

Table: 5.11
Prospects of Livestock Enterprise by Sample Women Entrepreneurs

Types of Entrepreneur ---- >	(% Multiple Response)		
	Trained	Non - trained	Overall
No. of Farm ----- >	60	30	90
A. Planning to continue in the same Way	3.33	13.33	6.67
B. Planning to Expand same Enterprise	46.67	36.67	43.33
C. Planning to add new Products	-	-	-
D. Planning to continue if Govt. support available	28.33	36.67	31.11
E. Asking for Training	-	43.33	14.44
F. Planning to Close down	21.67	13.33	18.89

Note : The sum of A,B,D & F is 100.00 per cent.

days in household decisions. It is revealed in the Table that 28.33 per cent of trained entrepreneurs and 36.67 per cent of non-trained entrepreneurs asked for the Government's financial help either in the form of subsidy or by loan at a minimum interest to expand the enterprise. Table also indicates that 43.33 per cent of non-trained entrepreneurs have expressed and showed their interest for the training, as they observed that the trained entrepreneurs are benefited from the training. However, 21.67 per cent of trained entrepreneurs and 13.33 per cent non-trained entrepreneurs have decided to close down the enterprises. They reported that the poor quality of livestock (mostly indigenous breed), poor veterinary facilities, marketing constraints, non-availability of balanced feed and fodder etc. are some of the causes of failure or poor performance of the enterprise. Hence, they have decided to close down their enterprises.

The analysis of the study sufficiently indicated that there is enough scope to make the enterprises more efficient and viable by improving the breeds of animals with proper management. through modernizing the enterprises in all aspects along with optimum utilizations of natural resources. Back-up support from the Veterinary

Department and improvement in nutrient availability from locally available feed and fodder resources, expected to make a break through in transforming the livestock enterprise an economically viable enterprise.

Enterprise – II – Bee-Keeping :-

Bee-keeping is basically a small scale cottage industry, closely linked with agriculture, in which the bees incidentally render the services of pollination of plants while collecting honey from the flowers. It is a clean and fascinating occupation which requires little investment, little space, little running expenses, less equipment and practically requires very little day to day attention.

Profile of Sample Women Entrepreneurs:

As mentioned earlier the study covered 36 women entrepreneurs as sample bee-keeping enterprise wherein 24 sample women entrepreneurs are trained women and 12 are non-trained women entrepreneurs. The profile of women entrepreneurs such as age, marital status, educational status, social class, relation to head of the households and house type of the sample women entrepreneurs are presented in Table 5.12. Table revealed that out of total samples, 54.17 per cent of trained women and 75.00 per cent of non-trained women entrepreneurs are on or above 36 years of age, which indicates that the bee keeping is preferred by the middle aged women. Table also shows that of the total trained women, 54.17 per cent are married and 45.83 per cent are unmarried. On the other hand, 91.67 per cent of women are married and 8.33 per cent of women are unmarried in the category of non-trained women entrepreneurs. The level of educational attainment of the sample women entrepreneurs shows that 4.17 per cent of women have schooling up to primary standard, 50.00 per cent are primary to high school passed and 45.83 per cent are above higher secondary levels. Similarly, in case of non-trained sample entrepreneurs 33.33 per cent have no schooling or up to primary standard, 58.33 per cent are educated from primary to high school passed and 8.33 per cent are above higher secondary levels. Higher

educational attainment is more among the trained women entrepreneurs than that of the non-trained women entrepreneurs.

Table 5.12 also shows that out of total trained women, 50.00 per cent of women belonged to general caste and rest 50.00 per cent of women belonged to OBC category. In case of non-trained women entrepreneurs, 25.00 per cent of women belonged to General

Table: 5.12
Profile of Sample Women Entrepreneurs in Bee Keeping Enterprise

Name of Enterprise ----->	Bee Keeping			
	Type of Entrepreneur ----->	Trained	Non - trained	Total
No. of Farms ----->		24	12	36
<u>Age group in Yrs.</u>				
15 to 25 Yrs.		8.33	0.00	5.56
26 to 35 Yrs.		37.50	25.00	33.33
36 to 55 Yrs.		41.67	50.00	44.44
56 Yrs. & above		12.50	25.00	16.67
<u>Marital Status</u>				
Married		54.17	91.67	66.67
Widowed		0.00	8.33	2.78
Separated		0.00	0.00	0.00
Un - married		45.83	0.00	30.56
<u>Educational Status</u>				
No Schooling or Primary		4.17	33.33	13.89
Primary to School Passed		50.00	58.33	52.78
Higher Education		45.83	8.33	33.33
At least Primary & Vocational Training		0.00	0.00	0.00
<u>Social Class</u>				
General		50.00	25.00	41.67
SC		0.00	0.00	0.00
ST		0.00	0.00	0.00
OBC		50.00	75.00	58.33
<u>Relation to Head</u>				
Self		0.00	8.33	2.78
Spouse		91.67	75.00	86.11
Daughter		8.33	16.67	11.11
others		0.00	0.00	0.00
<u>House</u>				
Pucca		25.00	16.67	22.22
Semi - Pucca		41.67	33.33	38.89
Kutchha		33.33	50.00	38.89

Caste and 75.00 per cent entrepreneurs are belonged to OBC category. In the sample, there are only 8.33 per cent of non-trained women who are the head of the household as they are Widowed. Otherwise, the head of the households are either the parents or the husbands of the sample entrepreneurs. Of the total trained women entrepreneurs, 25.00 per cent of women have pucca houses, 41.67 per cent have semi-pucca houses and 33.33 per cent lives in kutcha houses. Similarly, in case of non-trained women entrepreneurs, 16.67 per cent of women have pucca houses, 33.33 per cent of women have semi-pucca houses and 50.00 per cent of women live in kutcha houses.

Products:

Assam is considered as a paradise for honey bees as it has moderate climate and evergreen vegetation. Both the hills and plains of Assam are inhabited by different species of honeybees. Honey is main product of the bee keeping enterprise. The nature of the product that is produced by the sample women entrepreneurs in bee keeping enterprise is presented in Table 5.13. The Table shows that honey is a traditional product (100.00 per cent), which has medicinal value. Table also shows that though honey is fragile in nature

Table: 5.13

Nature of Product Produced by the Sample Women Entrepreneurs in Bee Keeping Enterprise

Nature of Product	(Percentage)		
	Trained	Non - trained	Total
No. of Farms ----->	16	8	24
Processed	-	-	-
Medicinal	100.00	100.00	100.00
New	-	-	-
Traditional	100.00	100.00	100.00
Perishable	-	-	-
Fragile	100.00	100.00	100.00
Demand in Local Market	100.00	100.00	100.00

it can be stored for years in proper packages or storages. There is much demand for honey in the local areas for which the sample entrepreneurs could easily sell their produce in local markets.

Materials and Equipments Used:

Bee keeping is a suitable enterprise for the rural areas of the State as no heavy investment and technology is required, it is a low cost enterprise suitable for the rural women. It is also not labour intensive. Modern bee keeping has come a long way from the traditional clay pots, log hives, wooden boxes to moveable frame beehives introduced in the beginning of the century. With the introduction of moveable frame beehives, the scientific beekeeping begins in Assam. The materials and equipments used by the sample women entrepreneurs in bee keeping enterprise and their average prices are shown in Table 5.14. The primary occupation of the sample families is agriculture. The bees are collecting their feed from the flowers of various crops for almost 7 to 8 months in a year. For the

Table: 5.14

**Materials and Equipments Used by Sample Women
Entrepreneurs in Bee Keeping Enterprise**

Raw Materials	Trained	Non - trained	Total
No. Of Farms ----->	24	12	36
1.Sugar:			
Home / Farm Produced (qtl.)	0	0	0
Average Price (Rs. / qtl.)			
Purchase Locally (qtl.)	3.02	1.27	4.29
Average Price (Rs. / qtl.)	22	22	22
Purchase from Outside	0	0	
Average Price (Rs. / qtl.)			
Supplied by Co - operatives (qtl.)	1.66	0.68	2.34
Average Price (Rs. / qtl.)	16	16	16
2. Medicine / Insecticide:			
Home / Farm Produced (Lt.)	0	0	0
Average Price (Rs. / Lt.)			
Purchase Locally (Lt.)	6.00	2.90	8.90
Average Price (Rs. / Lt.)	170	170	170
4.Major Equipments:			
A. Annual Exp. on Bee Box & Shed: (Rs.)	10,565	5,395	15,960
Average Costs (Rs.)	189	193	190
B. Other Equipments			
Purchase Locally (No.)	1478	514	1,992
Average Price (Rs. / Nos.)	32	45	36

remaining 4 to 5 months the bees have to feed on sugar & molasses when flowers are not easily available. Bee keeping requires weekly or fortnightly supervision of beehives to look after the feeding and to observe honeybees brood which suffer from various diseases and insect pest attacks. For control of diseases and insect/pest attacks the entrepreneurs are occasionally used some medicines and insecticides of which the average cost is found at Rs.170.00 per liter (Table 5.14).

Beehives, smoker, bee veil, swarm catcher, knife, honey extractor, hand glove etc. are the main equipments needed for the enterprise. All these equipments are available in the local markets and the entrepreneurs themselves bought those from the markets. The average costs of these items are found at Rs.32.00 for the trained entrepreneurs and Rs.45.00 for the non-trained women entrepreneurs (Table 5.14). Some of the male members of the entrepreneurs' family sometimes made some of these equipments at home also. The comparatively higher average cost of non-trained entrepreneurs is due to non-availability of honey extractor at cheaper rate from Government sweeps like that of sample trained entrepreneurs.

Honeybee brood suffers from variety of diseases. Loss of brood affects the colony strength. Adult bees are not affected by brood diseases; but they can spread the disease and hence frequent supervision is required. This supervision and the operations of providing medicine and feed are mostly performed by the women entrepreneurs themselves (Table 5.15).

Table: 5.15

Intensity of Resource Use in Process Involved in Bee Keeping Enterprise

Particulars	Bringing the Bee Hives	Care of Bee Hives	Feeding	Honey Extracting	Marketing of Honey
Need for Family Labour	Moderate	Moderate	Low	Moderate	Moderate
Need for Hired Labour	Low	Low	Low	Low	Low
Supervision	Low	Low	Low	Low	Low
Skill	Low	Moderate	Low	Moderate	Low
Equipment	Low	Low	Low	Moderate	Low
Time	Low	Moderate	Low	Moderate	Moderate
Labour Intensive	Low	Moderate	Low	Moderate	Low

Extraction of honey from beehives is the major process of bee keeping enterprise in which most of the women entrepreneurs are involved themselves. On the other hand, in the outdoor activities like purchase of medicine/insecticide, purchase of sugar, marketing of produce etc. are done by the spouse or any male member of the entrepreneurs' families.

It is observed that the trained women entrepreneurs are more skilled in the management of bee colonies as they are trained before starting their enterprises. The non-trained women entrepreneurs learn the management procedure of bee keeping from the male members of their households and also from some of the co-villagers who are involved in the bee keeping enterprise. Some of the non-trained women entrepreneurs take guidance on management of bee colonies from the trained women entrepreneurs who live in near by the villages.

Details of initial investment in bee keeping enterprises like own contribution, grants in aid, subsidy and loan from Bank and assistance received as member of SHG of the trained women and non-trained women entrepreneurs are presented in the Table 5.16. The grants in aid are provided to the women entrepreneurs by the DRDA in terms of both cash and kinds. The kinds are free gift of equipment i.e. bee boxes, hand gloves etc of the

Table - 5.16
Initial Investment on Bee Keeping Enterprise

Type of Entrepreneur -->	Trained Women		Non-trained Women		Total	
No. of Farms ---->	24		12		36	
Sources of Investment	Value (Rs.)	P.C.	Value (Rs.)	P.C.	Value (Rs.)	P.C.
A. Own	65,380	72.34	19,855	53.58	85,235	66.89
B. Loan	0	0.00	0	0.00	0	0.00
C. Subsidy	0	0.00	0	0.00	0	0.00
D. Grant	22,000	24.34	17,200	46.42	39,200	30.76
E. Loan From SHG	3,000	3.32	0	0.00	0	0.00
Total (Rs.)	90,380	100.00	37,055	100.00	127,435	100.00
Per Farm	3,766		3,088		3,540	

enterprises. The Table indicates that overall investment of the trained women entrepreneur is Rs.90,380.00 (i.e. per farm Rs.3,766.00) of which 72.34 per cent are own contribution, 24.34 per cent grants and only 3.32 per cent loan received as members of

SHG. On the other hand, the non-trained women have invested a total of Rs.37,055.00 (i.e. per farm Rs.3,088.00) wherein 53.58 per cent own contribution and rest 46.42 per cent grants. The per farm investments are worked out at Rs.3,766.00 and Rs.3,088.00 for the both trained women and non-trained women entrepreneur respectively. This indicates that the investments of trained women entrepreneurs are higher by 18.00 per cent than that of non-trained women entrepreneurs. The Bank loan and subsidy are not found during field survey.

Item-wise initial investments of sample bee keeping enterprises by trained woman and non-trained women entrepreneurs are worked out and presented in Table 5.17. Investments incurred in bee keeping include hives, shed/buildings, equipments and other items. The Table shows that out of total investment, 37.24 per cent are in bee colonies including hives, 11.69 per cent in shed, 45.98 per cent in equipments and only 5.09 per

Table: 5.17
Item wise Investment on Bee Keeping Enterprise

Type of Entrepreneur	Trained Women		Non - trained Women		Total	
No. of Farms ----->	24		12		36	
Items Used	Value in Rs.	P.C.	Value in Rs.	P.C.	Value in Rs.	P.C.
Bee including Bee Hives	33,660	37.24	9,495	25.62	43,155	33.86
Shed / Buildings	10,565	11.69	5,395	14.56	15,960	12.52
Equipment	41,555	45.98	21,351	57.62	62,906	49.36
Other Investment	4,600	5.09	816	2.20	5,416	4.25
Total Investment	90,380	100.00	37,057	100.00	127,437	100.00
Per Farm	3,766		3,088		3,540	

Note : Other Investment includes Transportation and some Minor Costs.

cent on other items by the sample trained women entrepreneurs. Similarly, of the total investment of the non-trained women entrepreneurs, 25.62 per cent are in bee keeping including hives, 14.56 per cent in sheds, 57.62 per cent in equipments and 2.20 per cent in other items. It is observed during the field investigation that among all equipments, the honey extractor is the only costly item, in which most of the trained women and non-trained women have invested a significant amount out of their total investments.

The bee-keeping enterprise provided self-employment opportunity to a considerable extent for both trained and non-trained women entrepreneurs and presented in the Table 5.18. The enterprise generally requires less working hours per day and less working capital is one of the significant aspects. Data in this regard are collected in terms of number of hours spent in various activities of bee keeping and converted it into 8 hours equivalent to one man/woman day. In respect of trained women the Table (5.18) shows that of the overall employment generation in the enterprises in terms of mandays, contribution of women is 83.64 per cent and the contribution of males is 16.36 per cent. In case of non-trained women entrepreneurs, the Table (5.18) indicates that of the total employment days, the women contributed 69.01 per cent of mandays and that of male is 30.99 per cent. This shows that the employment days for the trained women entrepreneurs are 14.63 per cent higher than that of the non-trained women entrepreneurs.

Table: 5.18
Employment of Labour in Bee Keeping Enterprise

(8 hours a day)

Type of Entrepreneur ----->	Trained Women		Non - trained Women		Total	
No. of Farms ----->	24		12		36	
Employment	Man/Women Days	P.C.	Man/Women Days	P.C.	Man/Women Days	P.C.
<u>Adult Family Labour (Days)</u>						
Male	259	16.36	225	30.99	484	20.96
Female	1,324	83.64	501	69.01	1,825	79.04
<u>Adult Hired Labour</u>						
Male	0	0.00	0	0.00	0	0.00
Female	0	0.00	0	0.00	0	0.00
<u>Children Family Labour (Days)</u>						
Male	0	0.00	0	0.00	0	0.00
Female	0	0.00	0	0.00	0	0.00
Adult Female Family Supervision	0	0.00	0	0.00	0	0.00
Total Days Employment in a Year	1,583	100.00	726	100.00	2,309	100.00

Generation of income from the enterprises is an important aspect to be studied. Income earned from the enterprises contributed some amount towards economic betterment of the sample woman entrepreneur's households. Details of production, home

consumption and quantity marketed by the sample bee keeping enterprises of the trained woman and non-trained women entrepreneurs are worked out and presented in Table 5.19. Table reveals that out of total marketable surplus, 50.05 per cent of produce are sold either at the local markets or at the exhibitions/malas organised locally and rest 49.05 per cent are sold to the local traders or middlemen by the trained women entrepreneurs. On the other hand, entire marketable surplus of honey are sold at the production point or at the local markets by the non-trained women entrepreneurs. On an average market price of honey is found at Rs.140.00 (Table 5.19).

Table: 5.19
Distribution of Production, Consumption and Quantity
Marketed in Bee Keeping Enterprise

Types of Entrepreneur ---- >	Trained	Non - trained	Total
No. of Farm ----- >	24	12	36
Total Honey Production (Lt./Kg)	1,366.71	477.07	1,843.78
i. Home Consumption (Lt./Kg)	78.09	12.21	90.30
ii. Quantity Sold (Lt./Kg)	1,288.62	464.86	1,753.48
Quantity Sold through (%)			
i. Sold Locally & Local Market	50.05	100.00	62.17
ii. Local Traders / Middleman	49.05	0.00	37.83
Average Market Price (Rs.) /Lt./Kg	140.00	140.00	140.00

Annual Expenditure and Estimates of Benefit Cost Ratio : Bee Keeping Enterprise :

The annual expenditure and estimates of Benefit Cost Ratio in bee keeping enterprise for the trained women entrepreneurs are worked out and presented in Table 5.20. The Table revealed that taking all the variable costs together the expenditure is found to be 85.31 per cent of total cost. The cost involved in human labour is highest being 67.73 per cent followed by total cost on materials used (11.69 per cent).

So far as fixed costs is concerned, interest on different items of fixed capital comprising of bees including boxes, sheds, equipments etc. are found at 14.69 per cent, of which depreciation cost on bee sheds and equipments is estimated at 7.70 per cent.

The Benefit Cost Ratio (BCR) of Bee Keeping enterprises is worked out at 1.65:1. The analysis sufficiently established that the bee keeping enterprise is an

Table : 5.20

**Annual Expenditure and Estimates of Benefit- Cost Ratio
on Bee Keeping Enterprise**

Type of Entrepreneur ----->	Trained Women Entrepreneures	
Year ----->	2004 - 05	
Items of Costs	Value(Rs)	P.C
<u>A. Variable Costs.</u>		
1. Suger Per Farm	9,300 388	8.00
2 Mixed Feed Per Farm	0 0	0.00
3. Bottle / Container / Measuring Pot Per Farm	4,291 179	3.69
Total Raw Material Cost Per Farm	13,591 566	11.69
<u>Expenditure on Human Labour</u>		
1. Family Labour Per Farm	78,754 3,281	67.73
2. Hired Labour Per Farm	0 0	0.00
3. Veterinary Charge & Cost of Medicine Per Farm	1,020 43	0.88
4. Transportation Costs of Feed Per Farm	1,285 54	1.11
5. Misc. Costs Per Farm	1,200 50	1.03
6. Interest on Variable Costs @ 3.5 Per Farm	3,355 140	2.88
Total Variable Costs	99,205 4,134	85.31
<u>B. Fixed Costs</u>		
1. Depreciations on Bee @ 5% Per Farm	3,755 156	3.23
2. Appreciations on Bee @ 40%(-) Per Farm	3,067 128	2.64
3. Depreciation on Bee Shed & Equipments @ 10% Per Farm	8,954 373	7.70
4. Interest on Capital Cost @ 3.5 % Per Farm	7,437 310	6.40
Total Fixed Cost Per Farm	17,079 712	14.69
Total Costs (A+B) Per Farm	116,284 4,845	100.00
Total Return Per Farm	191,339 7,972	
B.C.R.	1.65	

Note : B.C.R. indicates Benefit Cost Ratio.

**Annual Expenditure and Estimates of Benefit- Cost Ratio
on Bee Keeping Enterprise**

Type of Entrepreneur ----->	Non -trained Women Entrepreneur	
Year ----->	2004 - 05	
Items of Costs	Value(Rs)	P.C
A. Variable Costs.		
1.Suger	3,875	7.81
Per Farm	323	
2 Mixed Feed	0	0.00
Per Farm	0	
3.Bottle / Container / Measuring Pot	3,185	6.42
Per Farm	265	
Total Raw Material Cost	7,060	14.22
Per Farm	588	
Expenditure on Human Labour		
1.Family Labour	36,150	72.83
Per Farm	3,013	
2.Hired Labour	0	0.00
Per Farm		
3.Veterinary Charge & Cost of Medicine	595	1.20
Per Farm	50	
4.Transportation Costs of Feed	259	0.52
Per Farm	22	
5.Misc. Costs	510	1.03
Per Farm	43	
6.Interest on Variable Costs@ 3.5	1,560	3.14
Per Farm	130	
Total Variable Costs	46,134	92.94
	3,845	
B.Fixed Costs		
1.Depreciations on Bee @ 5%	1,134	2.28
Per Farm	95	
2.Appreciations on Bee @ 40%(-)	2,123	4.28
Per Farm		
3.Depreciation on Bee Shed & Equipments@ 10%	3,293	6.63
Per Farm	274	
4.Interest on Capital Cost @3.5 %	1,201	2.42
Per Farm	100	
Total Fixed Cost	3,505	7.06
Per Farm	292	
Total Costs (A+B)	49,639	100.00
Per Farm	4,137	
Total Return	66,790	
Per Farm	5,566	
B.C.R.	1.35	

Note : B.C.R. indicates Benefit Cost Ratio.

of trained women and 8.33 per cent of non-trained women entrepreneurs opined to continue in the same level of operation due to marketing constraints. However, considering the local demand most of the trained women (45.83 per cent) and the non-trained women entrepreneurs (41.67 per cent) planned to expand their enterprise, as they have been able to increase their household income. A considerable portion of trained women entrepreneurs (41.67 per cent) and non-trained women entrepreneurs (41.67 per cent) opined that they are running their enterprises with some difficulties. They further opined that they can run the enterprises only if they get grants or some amount of subsidy as they are suffering from financial hardship. Among the non-trained samples 66.67 per cent women entrepreneurs are willing to get the training on bee keeping. Only 4.17 per cent of trained woman and 8.33 per cent of non-trained women entrepreneurs reported that they have decided to

Table: 5.22
Prospects of Bee Keeping Enterprise by Sample
Women Entrepreneurs

Types of Entrepreneur ---- >	(% Multiple Response)		
	Trained	Non - trained	Overall
No. of Farm ----- >	24	12	36
A. Planning to continue in the same Way	8.33	8.33	8.33
B. Planning to Expand same Enterprise	45.83	41.67	44.44
C. Planning to add new Products	-	-	-
D. Planning to continue if Govt. support available	41.67	41.67	41.67
E. Asking for Training	-	66.67	22.22
F. Planning to Close down	4.17	8.33	5.56

Note : The sum of A,B,D & F is 100.00 per cent

close down the enterprise due to some constraints. They reported that mortality of bees during rainy season (June to September) of the year is very high for which the entrepreneurs had to incurred heavy losses. Moreover, it is also reported that they do not have any male member in their households for selling of honey in different markets. Hence, they have decided to close down the enterprise.

It is observed that the bee keeping enterprise is suitable for the women entrepreneurs, as it requires no specific land or full time labour and requires small investment. Although the initial investment for acquiring beehives and other equipments is

high, but, in the long run there is little expenses for meeting the other maintenance. It is also observed and opined by the entrepreneurs that before starting the bee keeping enterprise the training on various aspects of bee keeping is essential. Nevertheless, bee keeping as secondary source of income and in providing part-time employment opportunity to the womenfolk in particular may be considered as viable enterprise.

Enterprise – III – Fruits and Vegetables Processing Enterprise:

There has been considerable increase in the consumption of fruits and vegetables juice, beverages and other products like jam/jelly, pickle etc. in the country. Fruits juice, beverages are considered more as occasional drinks of the people. But, jam/jelly and pickle are important as subsidiary food items in our every day diet. It is not denying the fact that with the growing urbanization and industrialization along with increasing health consciousness amongst the people, there is growing demand for these food items. Fruits and vegetables provide the nutritional requirement to the human body to a great extent.

Profile of Women Entrepreneurs:

As mentioned earlier the study on fruits and vegetables processing enterprise covered 24 women entrepreneurs, of which 16 are trained women entrepreneurs and 8 non-trained women entrepreneurs. The detail profile of women entrepreneurs like age, marital status, educational status, social class etc. is presented in Table 5.23. Table shows that 50.00 per cent of trained women entrepreneurs and 62.50 per cent of non-trained women entrepreneurs are above the age group of 36 years. Of the total trained women entrepreneurs, 43.75 per cent are married, 6.25 per cent are widowed and 50.00 per cent are unmarried. In the case of non-trained women entrepreneurs, 75.00 per cent are married 12.50 per cent widowed and 12.50 per cent are unmarried. Table 5.23 also shows the educational status of the sample women entrepreneurs. There is no illiterate trained woman entrepreneur in the sample. The percentage of trained women entrepreneurs having

educational qualification from primary to high school passed is 37.50 per cent and higher educational qualification is 62.50 per cent. In the case of non-trained women entrepreneurs, 25.00 per cent have no schooling or up to primary education and 37.50 per cent of women having educational qualification from primary to high school passed. The

Table: 5.23

Profile of Sample Women Entrepreneurs in Fruits & Vegetables Processing Enterprise

(In Percent)

Type of Entrepreneur ----->	Trained	Non - trained	Total
No. of Farms ----->	16	8	24
<u>Age group in Yrs.</u>			
15 to 25 Yrs.	12.50	12.50	12.50
26 to 35 Yrs.	37.50	25.00	33.33
36 to 55 Yrs.	50.00	50.00	50.00
56 Yrs. & above	0.00	12.50	4.17
<u>Marital Status</u>			
Married	43.75	75.00	54.17
Widowed	6.25	12.50	8.33
Separated	0.00	0.00	0.00
Un - married	50.00	12.50	37.50
<u>Educational Status</u>			
No Schooling or Primary	0.00	25.00	8.33
Primary to School Passed	37.50	37.50	37.50
Higher Education	62.50	37.50	54.17
At least Primary & Vocational Training	0.00	0.00	0.00
<u>Social Class</u>			
General	50.00	25.00	41.67
SC	0.00	0.00	0.00
ST	0.00	0.00	0.00
OBC	50.00	75.00	58.33
<u>Relation to Head</u>			
Self	6.25	12.50	8.33
Spouse	75.00	75.00	75.00
Daughter	18.75	12.50	16.67
Others	0.00	0.00	0.00
<u>House</u>			
Pucca	25.00	12.50	20.83
Semi - Pucca	43.75	37.50	41.67
Kutcha	31.25	50.00	37.50

remaining 37.50 per cent of women have higher standard of literacy. This shows that the highly qualified entrepreneurs are more in the category of trained women than in the group of non-trained women entrepreneurs.

In respect of social class of the trained women entrepreneurs, Table 5.23 shows that 50.00 per cent are belonged to general caste and the rest 50.00 per cent belonged to OBC category. Similarly, in case of non – trained women 25.00 per cent of entrepreneurs belong to General caste and rest 75.00 per cent belong to OBC. There are 6.25 per cent of trained women entrepreneurs and 12.50 per cent of non-trained women entrepreneurs themselves are head of the households as they are widowed. Otherwise, either all the spouses or the fathers are head of the households (Table 5.23). Table also showed the house type of the women entrepreneurs. Out of total trained women, 25.00 per cent lives in pucca house, 43.75 per cent lives in semi-pucca house and remaining 31.25 per cent lives in kutchra house. Of the non-trained entrepreneurs, 12.50 per cent lives in pucca house, 37.50 per cent lives in semi-pucca house and 50.00 per cent lives in kutchra house.

Products of the Fruits and Vegetables Processing Enterprises:

The fruits and vegetables processing industries of Assam are still remained neglected. Even though the State has tremendous potentiality of horticultural crops yet the growing of fruits and vegetables based industry is not satisfactory in the State. However, the sample women entrepreneurs are actively involved in processing of the fruits and vegetables for preparation of fruits juice, beverages, jam/jelly, pickle etc. The products produced by the sample women entrepreneurs in fruits and vegetables processing enterprise is presented in Table 5.24. Table also reveals that all the products are new (100.00 per cent) in the sample enterprise. In nature all the products are fragile (100.00 per cent) which can be preserved for a long time to make use of them throughout the year. All the products are sold either to the local retailers or at the local markets at the predetermined price. Moreover, some of entrepreneurs reported that a small quantity of products is directly sold to the neighbors either at the production point or at the exhibitions / Kisan

Melas in the region. It is observed that the products in these enterprises have no band name due to lack of licence of the entrepreneurs.

Table: 5.24

Nature of Product Produced by the Sample Women Entrepreneurs in Fruits & Veg. Processing Enterprise

Nature of Product	(In Percentage)		
	Trained	Non - trained	Total
No. of Farms ----->	16	8	24
Processed	100.00	100.00	100.00
Medicinal	-	-	-
New	100.00	100.00	100.00
Traditional	-	-	-
Perishable	-	-	-
Fragile	100.00	100.00	100.00
Demand in Local Market	100.00	100.00	100.00

Table 5.25 gives the details of raw materials and equipments used by the sample entrepreneurs in fruits and vegetables processing enterprises. A total of 47.76 quintals of raw materials reported to have been processed during the reference year by the trained women entrepreneurs of which 13.55 (28.37 per cent) quintals are home produced and 34.21 (71.63 per cent) quintals are locally purchased. On the other hand, 20.57 quintals of raw materials are processed by the non-trained women entrepreneurs of which 6.98 quintals (33.93 per cent) are home produced and 13.59 quintals (66.07 per cent) purchased locally. Other raw materials like oil and vinegar, sugar and spices etc. are locally purchased by both trained and non-trained women entrepreneurs.

Table 5.25 also shows the expenditure on sheds and furniture, equipments and utensils that are required in processing enterprises. Average annual expenditure on sheds and furniture are found at Rs.4,845.00 and Rs.4,628.00 which are invested by the trained and non-trained women entrepreneurs respectively. The major equipments of the entrepreneurs are Refrigerator, Mixer and Grinder and some important utensils. The trained women entrepreneurs have owned 10 nos. of Refrigerator, 15 nos. of Mixer and Grinder and important utensils in their enterprises. On the other hand, 5 nos. of

Table: 5.25

**Raw Materials and Equipments Used by Sample Women Entrepreneures
in Fruits and Vegetable Processing Enterprise**

Raw Materials	Trained	Non - trained	Total
No. of Farms ----->	16	8	24
1. Fruits & Vegetables:			
Home / Farm Produced (qtl.)	13.55	6.98	20.53
Average Price (Rs. / qtl.)	1086.00	1086.00	1086.00
Purchase Locally (qtl.)	34.21	13.59	47.80
Average Price (Rs. / qtl.)	1086.00	1086.00	1086.00
Total Quantity	47.76	20.57	68.33
Average Price	1086.00	1086.00	1086.00
2. Oil and Vinegar :			
Home / Farm Produced (Lt.)	0.00	0.00	0.00
Average Price (Rs. / Lt.)	0.00	0.00	0.00
Purchase Locally (Lt.)	143.00	44.40	187.40
Average Price (Rs. / Lt.)	68.00	66.00	67.60
3. Sugar, Salt, Spices :			
Home / Farm Produced (qtl.)	0.00	0.00	0
Average Price (Rs. / qtl.)	0.00	0.00	0
Purchase Locally (qtl.)	0.50	0.30	0.80
Average Price (Rs. / qtl.)	1394.00	1394.00	1394.00
4. Bottle and Poly Bag :			
Home / Farm Produced (Nos.)	0.00	0.00	0.00
Average Price (Rs. / Nos.)	0.00	0.00	0.00
Purchase Locally (Nos.)	1290.00	530.00	1820.00
Average Price (Rs. / Nos.)	5.00	5.00	5.00
5. Other Expenses :			
a. Annual Exp. On Shed & Furniture (Rs.)	96893.00	36226.00	133119.00
Average Costs (Rs.)	4845.00	4628.00	4754.00
Major Equipments :			
A. Freeze			
Purchase Locally (Nos.)	10	5	15
Average Price (Rs. / Nos.)	9500.00	9600.00	9533.00
B. Mixer & Grinder			
Purchase Locally (Nos.)	15	6	21
Average Price (Rs. / Nos.)	3500.00	3500	3500
C. Other Utensils			
Purchase Locally (Nos.)	80	32	112
Average Price (Rs. / Nos.)	641.00	449.00	586.00

Refrigerator, 6 nos. of Mixer and Grinder and 32 nos. of utensils used by non-trained women entrepreneurs as major equipment. Table 5.25 indicated the average cost of these equipments used in the processing enterprises.

Processes:

The major activities involved in fruits and vegetables processing enterprises are collection of raw materials, cleaning, cutting, mixing, packaging and marketing of finished products. The resources used in fruits and vegetables processing enterprises are shown in the Table 5.26. It is found that majority of entrepreneurs themselves involved in the processing activities. Very limited numbers of hired skilled women are employed by the entrepreneurs in peak seasons. The raw materials, which are used in the enterprises, are

Table: 5.26
Intensity of Resource Use in Process Involved in Fruits and Vegetable Processing Enterprise

Particulars	Bringing the Raw Materials	Cleaning	Cutting	Mixing	Packaging	Marketing
Need for Family Labour	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Need for Hired Labour	Low	Moderate	Low	Low	Moderate	Low
Supervision	Low	Moderate	Low	Low	Moderate	Low
Skill	Low	Low	Low	Low	Moderate	Moderate
Equipment	Low	Moderate	Moderate	Moderate	Moderate	Low
Time	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Labour Intensive	Low	Low	Low	Low	Low	Low

partly home produced and partly purchased from the local markets. Collection of raw materials is mostly done by the male members of the household. The cleaning, cutting and mixing of the raw materials are done mostly by the entrepreneurs themselves or by the hired women. The packaging materials are purchased by the male members of the entrepreneurs and packaging is usually done by the entrepreneurs themselves. The

marketing of the products are done by the women entrepreneurs themselves. The entrepreneurs reported that very limited quantity of pickles and beverages are supplied to the local traders. Majority of produces of the enterprises are sold either at the production point or at various exhibitions and kisan malas in the region by the entrepreneurs themselves. It is also reported by almost all the trained women entrepreneurs that they attended all exhibitions/malas in the region for disposal of products of their enterprises, which indicate that the marketing skill of the trained women entrepreneurs are satisfactory.

Initial investments on fruits and vegetables processing enterprises by the trained and non-trained entrepreneurs are presented in Table 5.27. The amount they invested are classified as own source, loan from banks, loans received as member of SHGs, subsidy and

Table - 5.27
Initial Investment on Fruits and Vegetables Processing Enterprise

Name of Enterprise	Fruits and Vegetables Processing				Total	
	Trained Women		Non - trained Women			
Type of Entrepreneur						
No. of Farm	16		8		24	
Sources of Investment	Value (Rs.)	P.C.	Value (Rs.)	P.C.	Value (Rs.)	P.C.
A. Own	152,913	45.97	60,482	41.99	213,395	45.92
B. Loan	167,744	50.43	83,560	58.01	251,304	54.08
C. Subsidy	0	0.00	0	0.00	0	0.00
D. Grant	0	0.00	0	0.00	0	0.00
E. Loan From SHG	12,000	3.61	0	0.00	0	0.00
Total (Rs.)	332,657	100.00	144,042	100.00	464,699	100.00
Per Farm	20,791		18,005		19,362	

grants. Table reveals that in aggregate Rs.3, 32,657.00 is invested by the trained women entrepreneurs of which 45.97 per cent are from own sources, 50.43 per cent are loan from banks and 3.61 per cent of loan from SHGs. In case of non-trained women entrepreneurs the Table (5.27) indicates that of the total investments, 41.99 per cent are own fund and 58.01 per cent loan taken from the banks. The rate of interest on bank loan is 8.50 percent per annum as reported by the trained and non-trained women entrepreneurs. Total investment in the non-trained sample fruits and vegetable processing enterprises was Rs.1, 44,042.00. Per farm investments are worked out at Rs.20, 791.00 and Rs.18, 005.00 for the trained and non-trained women entrepreneurs, which indicates that per farm average

investment of trained women is higher by Rs.2,786.00 (13.40 per cent) over the non-trained women entrepreneurs.

The utilization pattern of investments in enterprises by the trained and non-trained women entrepreneurs is shown in Table 5.28. Item-wise investments are categorized as investment on furniture, shed/buildings, equipments and others. Out of the total investment, 7.65 per cent are invested in furniture, 29.13 per cent on shed/buildings, 59.76 per cent on equipments and 3.46 per cent in other items by the trained women entrepreneurs. Similarly, in case of non-trained women entrepreneurs, the percentages of investment are found to be 13.95 per cent on furniture, 25.15 per cent on buildings, 57.88 per cent on equipments and only 3.02 per cent on other items. It is

Table: 5.28
Item wise Investment on Fruits & Vegetables Processing Enterprise

Type of Entrepreneur ---->	Trained Women		Non - trained Women		Total	
No. of Farms	16		8		24	
Items Used	Value in Rs.	P.C.	Value in Rs.	P.C.	Value in Rs.	P.C.
Furniture	25,453	7.65	20,090	13.95	45,543	9.55
Shed / Buildings	96,893	29.13	36,226	25.15	133,119	27.93
Equipment	198,811	59.76	83,376	57.88	282,187	59.20
Other Investment	11,500	3.46	4,350	3.02	15,850	3.32
Total Investment	332,657	100.00	144,042	100.00	476,699	100.00
Per Farm	20,791		18,005		19,862	

Note: Other Investment includes Transportation and some Minor Costs.

observed that as the equipments like refrigerator, mixer and grinder and some other items are costly, the entrepreneurs invested a considerable amount on such equipments.

The selected women enterprises have generated part-time and whole time employment opportunity to the workers engaged in these enterprises and thus enhanced the household income. On the basis of information gathered from the respondents, the additional employment potentiality created by the enterprises to the trained and non-trained women entrepreneurs is presented in Table 5.29. Table reveals that a few enterprises created wage employment opportunity to the skilled woman workers. The entrepreneurs used to engage skilled woman laborers on daily wage basis when there is more demand for

their products. The Table shows that of the total 1,000 man/woman days engaged, in such enterprises of which 27.60 per cent contributed by men and 56.00 per cent are contributed by the trained women entrepreneurs. In addition to this, 16.40 per cent additional hired mandays are created in this enterprise. In the category of non-trained women enterprises the Table (5.29) shows that out of total 453 man/woman days, 34.22 per cent are contributed by men and 44.81 per cent are contributed by women. Besides 20.97 per cent of additional man/woman days are contributed by hired workers (female) in this enterprise. This shows that the generation of employment opportunity created by the trained women

Table: 5.29

Employment of Labour in Fruits and Vegetables Processing Enterprise

(8 hours a Day)

Type of Entrepreneur ----->	Trained Women		Non - trained Women		Total	
No. of Farms ----->	16		8		24	
Employment	Man/Woman Days	P.C.	Man/Woman Days	P.C.	Man/Woman Days	P.C.
Adult Family Labour (Days)						
Male	276	27.60	155	34.22	431	29.66
Female	560	56.00	203	44.81	763	52.51
Adult Hired Labour						
Male	0	0.00	0	0.00	0	0
Female	164	16.40	95	20.97	259	17.17
Children Family Labour (Days)						
Male	0	0.00	0	0.00	0	0
Female	0	0.00	0	0.00	0	0
Adult Female Family Supervision (Days)	0	0.00	0	0.00	0	0.00
Total Days Employment in a Year	1,000	100.00	453	100.00	1,453	100.00

is higher by only 11.19 per cent than that of the non-trained women. It is reported by the entrepreneurs that due to seasonal nature of horticultural crops, the enterprises are seasonally operated which provided employment opportunity seasonally.

Generation of income from the women enterprises is most important aspect of the study. It is, therefore, essential to examine the volume of produce, quantum of home consumption and quantity marketed in different women enterprises. Distribution of total production, home consumption and quantity marketed by the sample fruits and vegetables processing enterprises are presented in Table 5.30. Out of total marketable surplus, 76.00

per cent of Jam/Jelly/Pickles and 81.00 per cent of beverages are sold either at the production site or at various exhibitions/malas and rest 24.00 per cent Jam/Jelly/Pickles and 19.00 per cent of beverages are supplied to local traders by the trained women entrepreneurs. On the other hand, of the total marketable surplus generated by the non-trained women entrepreneurs 100.00 per cent of jam/jelly/pickles and 100.00 per cent of beverages are sold in the local markets.

Table: 5.30

Distribution of Production, Consumption and Quantity Marketed in Fruits & Vegetables Processing Enterprise

Types of Entrepreneur --- >	Trained	Non - trained	Total
No. of Farm ---- >	16	8	24
1. Production of:			
Jam / Jelly / Pickle (Kg.)	1,411.00	663.00	2,074.00
i. Home Consumption (Kg.)	147.00	76.00	223.00
ii. Quantity Sold (Kg.)	1,264.00	587.00	1,851.00
Quantity Sold through (%)			
i. Sold Locally & Local Market	76.00	100.00	176.00
ii. Local Traders / Middleman	24.00	0.00	0.00
Average Market Price (Rs.) / Kg.	100.00	100.00	100.00
2. Production of Beverages (Lt.)	1,085.00	387.00	1,472.00
i. Home Consumption (Lt.)	57.00	19.00	76.00
ii. Quantity Sold (Lt.)	1,028.00	368.00	1,396.00
ii. Quantity Sold through (%)			
i. Sold Locally & Local Market	81.00	100.00	181.00
ii. Local Traders / Middleman	19.00	0.00	19.00
Average Market Price (Rs.) / Kg.	45.00	45.00	45.00

Annual Expenditure and Estimates of Benefit Cost Ratio on Fruits and Vegetables Processing Enterprise:

The annual expenditure and estimates of benefit-cost ratio of the trained women entrepreneurs are worked out and presented in Table 5.31.

Table revealed that taking all the expenditure together, expenditure on variable costs is 76.85 per cent of total cost. The raw materials cost is found to be highest being 36.39 per cent of the total variable costs of which 29.15 per cent of cost are incurred on the

**Annual Expenditure and Estimates of Benefit- Cost Ratio on
Fruits and Vegetables Processing Enterprise**

Type of Entrepreneurs -----> Year ----->	Trained Women Entrepreneurs	
	2004 - 05	
Items of Costs	Value(Rs)	P.C
<u>A. Variable Costs.</u>		
1. (a).Fruits and Vegetables (Purchased) Per Farm	37,152 920	20.88
(b).Fruits and Vegetables (Farm Produced) Per Farm	14,715 370	8.27
2 Oil and Vinegar Per Farm	5,925 370	3.33
3.Sugar, Salt, Spices, Bottle & Poly bag etc. Per Farm	6,936 434	3.90
Total Raw Material Cost Per Farm	64,728 4,046	36.39
<u>Expenditure on Human Labour</u>		
1.Family Labour Per Farm	49,750 3,109	27.96
2.Hired Labour Per Farm	8,159 510	4.59
4.Transportation Costs of Raw Materials & Finished Products Per Farm	4,225 264	2.37
5.Miscellaneous Costs Per Farm	5,221 326	2.93
6.Interest on Variable Costs @ 3.5 Per Farm	4,623 289	2.60
Total Variable Costs Per Farm	136,706 8,544	76.85
<u>B.Fixed Costs</u>		
3.Depreciation on Shed & Equipments@ 10% Per Farm	29,570 1,848	16.62
4.Interest on Capital Cost @3.5 % Per Farm	11,643 728	6.54
Total Fixed Cost Per Farm	41,213 2,576	23.16
Total Costs (A+B) Per Farm	177,919 11,120	100.00
Total Return Per Farm	189,900 11,869	
B.C.R.	1.07	

Note : B.C.R. indicates Benefit Cost Ratio.

procuring raw materials i.e. fruits and vegetables. The overall expenditure on human labour is estimated at 32.55 per cent of which involvement of family labour is 27.96 per cent and the hired labour is 4.59 per cent. The other expenses are nominal.

So far as the fixed costs are concerned the depreciation on sheds, equipments, furniture etc. are found to be 16.62 per cent followed by interest on capital costs 6.54 per cent amounting a total of 23.16 per cent as fixed cost.

The estimated BCR for the trained women entrepreneurs is worked out at 1.07:1 as shown in Table 5.31. The analysis showed that the BCR during the reference year of the study (2004-05) is found to be marginally positive. In this respect the entrepreneurs reported that among all the constraints the major problem is the marketing of the produces. Due to lack of licence, the entrepreneurs are not qualified to use brand name on their produces. As a result the entrepreneurs are not in a position to generate the expected income from the enterprise.

The annual expenditure and estimates of BCR on fruits and vegetables processing enterprise for the non-trained women entrepreneurs are worked out and presented in Table 5.32. Table shows that of the total annual expenditure on the enterprises, 76.30 per cent are variable cost of which the cost of raw materials is found at 36.18 per cent. Taking both family and hired labour together the expenses on human labour is found to be 27.46 per cent.

The total fixed cost is estimated at 23.70 per cent of which depreciation on sheds and equipments is highest i.e. 17.55 per cent followed by interest on capital cost 6.14 per cent. The estimated Benefit Cost Ratio (BCR) for the non-trained women entrepreneurs is worked out at 1.02:1 in the reference year 2004-05. This shows that the fruits and vegetables processing enterprises are marginally successful for the non-trained women entrepreneurs but, slightly lower than that of the trained women entrepreneurs. In this respect, almost all the entrepreneurs reported that due to lack of proper training on various technologies, lack of assured marketing facilities, lack of financial assistance etc. are the causes of low income of their enterprises.

Table : 5.32

**Annual Expenditure and Estimates of Benefit- Cost Ratio on
Fruits and Vegetables Processing Enterprise**

Type of Entrepreneurs ----->	Non - trained Women Entrepreneurs	
Year ----->	2004 - 05	
Items of Costs	Value (Rs)	P.C
<u>A. Variable Costs.</u>		
1. (a).Fruits and Vegetables (Purchased)	14,759	17.99
Per Farm	1,845	
(b).Fruits and Vegetables (Farm Produced)	7,580	9.24
Per Farm	948	
2 Oil and Vinegar	2,930	3.57
Per Farm	366	
3.Sugar, Salt, Spices, Bottle & Poly bag etc.	4,421	5.39
Per Farm	553	
Total Raw Material Cost	29,690	36.18
Per Farm	3,711	
<u>Expenditure on Human Labour</u>		
1.Family Labour	17,811	21.70
Per Farm	2,226	
2.Hired Labour	4,726	5.76
Per Farm	591	
4.Transportation Costs of Raw Materials & Finished Products	3,160	3.85
Per Farm	395	
5.Miscellaneous Costs	5,000	6.09
Per Farm	625	
6.Interest on Variable Costs @ 3.5	2,228	2.72
Per Farm	279	
Total Variable Costs	62,615	76.30
Per Farm	7,827	
<u>B.Fixed Costs</u>		
3.Depreciation on Shed & Equipments@ 10%	14,404	17.55
Per Farm	1,801	
4.Interest on Capital Cost @3.5 %	5,041	6.14
Per Farm	630	
Total Fixed Cost	19,446	23.70
Per Farm	2,431	
Total Costs (A+B)	82,061	100.00
Per Farm	10,258	
Total Return	83,691	
Per Farm	10,461	
B.C.R.	1.02	

Note : B.C.R. indicates Benefit Cost Ratio.

Prospects:

Although there is tremendous scope and opportunities for the development of fruits and vegetables processing industries, yet, such industries are not coming up in a big way. The opinion on prospects of these enterprises are collected from the sample trained and non-trained women entrepreneurs and presented in the Table 5.33. The Table revealed that none of them have planned to expand their enterprises or to add any new product in the enterprises due to marketing constraint. Only 31.25 per cent of trained women

Table: 5.33
Prospects of Fruits and Vegetables Processing Enterprise
Enterprise by Sample Women Entrepreneurs

Types of Entrepreneur ---- >	(% Multiple Response)		
	Trained	Non - trained	Overall
No. of Farm ----- >	16	8	24
A. Planning to continue in the same Way	31.25	-	20.83
B. Planning to Expand same Enterprise	-	-	-
C. Planning to add new Products	-	-	-
D. Planning to continue if Govt. support available	37.50	87.50	54.17
E. Asking for Training	-	87.50	29.17
F. Planning to Close down	31.25	12.50	25.00

Note : The sum of A,B,D & F is 100.00 per cent

entrepreneurs wanted to continue with their enterprises in the same way. Again, 37.50 per cent of trained women entrepreneurs and 87.50 per cent of non-trained women entrepreneurs asked for Government's help to continue the enterprise as they have been facing financial hardship. Out of total non-trained women entrepreneurs, 87.50 per cent of them are willing to get the training on various aspects on processing technologies to be used in the enterprise. The remaining 31.25 per cent of trained women entrepreneurs and 12.50 per cent of non-trained women entrepreneurs are even thinking of the closing down the enterprises due to increasing competition in the markets from the outside. Besides, due to lack of license, the entrepreneurs are not qualified to use a brand name of their produce. As a result the entrepreneurs are not in a position to generate the expected income from their enterprises.

Chapter VI

Viability of Enterprises

The viability is generally considered as the situation where the resources generated from a particular enterprise is sufficient to accrue some amount of profit from the investment. To find out the viability of the sample woman enterprise, different aspects like profitability, capital requirement, availability of raw materials, employment potential, resource uses and the problems faced by the entrepreneurs are studied and presented in this Chapter.

Profitability :

Costs and profits of different enterprises of the selected women entrepreneurs are worked out and presented in Table 6.1. Table revealed that the annual net return amongst the sample enterprises is highest in livestock enterprise (Rs.3,660.00 per farm) followed by bee keeping enterprise (Rs.3,127.00 per farm) and lowest in fruits and vegetables processing enterprise (Rs.748.00 per farm).

Livestock is considered to be the highest profitable enterprise for the women entrepreneurs amongst different enterprises covered by the study. The livestock products like milk, meat, eggs etc. have regular demand in the market, which are met in the rural areas by rearing of livestock. The details profit and loss account of livestock enterprises are worked out and presented in Table 6.1. Table shows that after deducting all expenditures on livestock farming, the annual net profit accrued is Rs. 3,660.00 per farm; while by deducting only paid out cost, the profit is worked out at Rs.12,039.00 per farm as this is a labour intensive enterprise. The entrepreneurs reported that they spent a considerable time in management of the enterprise. On the other hand, the spouses/other male members of the entrepreneurs' families have helped them in outdoor activities of the enterprise.

It is mentioned earlier that due to non-existence of Milk Processing Plants or Milk Purchasing Booths in the study area, major portion of milk are sold to the middlemen at a lower rate, hence the entrepreneurs are deprived of getting remunerative price on

Table: 6.1
Costs and Profits Associated with Different Enterprises
for Women Entrepreneurs

Types of Entrepreneur ---->	(Value inRs.)		
	Livestock	Bee-keeping	Fruits &Veg. processing
No. of Enterprise ---->	60	24	16
1. Total cost involved (Rs.)			
i. Total Cost Actual (A)	374,017	37,530	91,017
Average (Rs.)	6,234	1,564	5,689
ii. Total Cost imputed material & labour (B)	889,281	116,284	177,928
Average (Rs.)	14,821	4,845	11,121
iii. Total Cost actual material and imputed labour (C)	544,862	37,530	128,178
Average (Rs.)	9,081	1,564	8,011
iv. Total Cost without resource overhead (D)	804,951	99,205	136,715
Average (Rs.)	13,416	4,134	8,545
2. Gross Returns (Rs.) (E)	1,108,892	191,339	189,900
Average (Rs.)	18,482	7,972	11,869
3. Total profits gained (Rs.)			
i. Total profits imputed output actual cost (E-A)	734,875	153,809	98,883
Average (Rs.)	12,248	6,409	6,180
ii. Total profits imputed output imputed material & labour cost (E-B)	219,611	75,055	11,972
Average (Rs.)	3,660	3,127	748
iii. Total profits imputed output imputed labour cost (E-C)	564,030	153,809	61,722
Average (Rs.)	9,401	6,409	3,858
iv. Total profits imputed output resource overhead cost (E-D)	303,941	92,134	53,194
Average (Rs.)	5,066	3,839	3,325

Note : A= Total Costs excluding the cost of home / own farm produced Material & Family Labour.

B = Total Costs including the cost of home / own farm produced Material & Family/Hired Labour valued at market price (All Expenditures are Included)

C = Total Costs including the cost of home / own farm produced Material & excluding the cost of Family Labour

D = Total Costs excluding the fixed cost

milk. The disposal of meat and eggs are not a problem in the study area. The marketable surplus of meat and eggs are sold directly to consumers either by the entrepreneurs themselves or by the spouses and got remunerative price on their produces, as there are good demands for such items. Therefore, the viability of livestock enterprise in the region is found positive.

Bee keeping is also a profitable enterprise for the selected women entrepreneurs. Table 6.1 shows that after deducting the total production cost, the annual net profit is worked out at Rs.3,127.00 per unit. However, by deducting only the paid out cost, the profit of the enterprise is found at Rs.6,922.00 per unit. This is because of less cash investment and engagement of own labour in the enterprise. Besides, these women entrepreneurs need not have to devote full time in the enterprise and can take care of the children and household activities along with running the enterprise. Bee hives are needed to be opened once in a week when natural feeding items are available. When natural feeding for bees is not easily available then the women entrepreneurs have to supply feed (sugar) frequently to the bees. Although marketing of honey in the urban centres is a problem due to lack of brand name of the product, majority of women entrepreneurs directly sold the honey to the consumers and thus earned good prices and makes significant profit. It is observed that the bee keeping enterprise is considered to be viable as local honey has good demand in the market.

It is stated earlier that the fruits and vegetables processing enterprises of Assam are still in its infant stage although the state has tremendous treasure of horticultural products. However, the sample women entrepreneurs are actively involved in the processing enterprise for preparation of jam/jelly/pickles and some beverages. The details of profit and loss account of women entrepreneurs in fruits and vegetables processing enterprise is presented in Table 6.1. Table shows that after deducting all expenditure on the production processes, the annual per farm net profit is worked out at Rs.748.00 only. On the other hand, when deducting only paid out cost on production processes, the profit is found at Rs.6,502.00 per unit. Hence, it is observed that the enterprises are marginally profitable. In this respect, the women entrepreneurs reported that the disposal of processed

products is the main constraint in running the enterprise. The entrepreneurs used poor quality of packaging and labeling materials, which is not attractive to the customers. The local dealers and wholesalers do not patronage the local products due to absence of suitable selling scheme. It is also to be noted that the psychological attitude of the local buyers is that the local products are not as standard as comparison to the outside products, which creates the problem in marketing. Therefore, the financial viability of the enterprises is observed to be marginal.

Table 6.2 shows the standard deviations and co-efficient of variations at different profit levels within the enterprises and across the enterprises. Part-I of the Table shows standard deviations and co-efficient of variations within the enterprises from which it becomes clear that standard deviations and co-efficient of variations are found higher in the livestock enterprise as compared to the other two enterprises i.e. bee-keeping and fruits & vegetables processing. In livestock enterprise standard deviations have fluctuated between Rs. 9,323.00 to Rs. 2,739.00 and co-efficient of variations have fluctuated between 76.12 per cent to 51.73 per cent. This indicates that within the livestock enterprise the profit levels deviate significantly, that means some entrepreneurs are earning much more profit than the others. On the other hand, the entrepreneurs of bee keeping and fruits and vegetables processing enterprises are earning almost equal profits which shows almost equal in efficiency, low standard deviations and low co-efficient of variations.

Part II of the Table shows standard deviations and co-efficient of variations at different profit levels across the enterprises. It is seen that standard deviation is highest in Profit -1 (Rs. 2,808.00) whereas co-efficient of variation is highest (50.36 per cent) in Profit - 2.

Capital Inputs :

It is found that the scale of operation of majority of women entrepreneurs in the livestock enterprise is smaller. Due to mortality of calf/piglets/chicks etc. the size of enterprise becomes smaller. Hence, majority of women entrepreneurs have to purchase the milch cows/piglets/poultry by paying cash payments every year. Usually the cash payments for purchase the animals are made from the income of the enterprise. Recently, a

Table : 6.2

Standard Deviations and Coefficient of Variations in Annual Profit within the Enterprises and across the Enterprises

Enterprises ---->	Part - I (Within the enterprise)						Part - II	
	Livestock		Bee-keeping		Fruits & Veg. Processing		Across the Enterprises	Co. eff of Var.(%)
	Standard Deviation	Co. eff of Var.(%)	Standard Deviation	Co. eff of Var.(%)	Standard Deviation	Co. eff of Var.(%)		
Profits :								
1. Total profit imputed output actual cost	9,323	76.12	1,726	26.92	1,855	30.02	2,808	33.92
2. Total profits imputed output imputed material labour cost	2,756	75.29	1,355	43.32	302	40.33	1,265	50.36
3. Total profits imputed output imputed labour cost	4,863	51.73	1,726	26.92	863	22.33	2,265	34.55
4. Total profits imputed output resource overhead cost	2,739	54.07	1,318	34.34	1,200	36.07	730	17.99

Note: Coefficient of Variation = Standard Deviation / Mean

few of the entrepreneurs availed loan as member of SHGs at nominal rate of interest i.e. 3.50 per cent.

It is found that the average initial investments in bee keeping enterprises are small. On the other hand, mortality of bees and abandoning of bee hives by a part of bees, the scale of operation became smaller. So the entrepreneurs have to add new bee hives and bee colonies annually from the amount earned through the sale of honey.

The initial investments on fruits and vegetables processing enterprises are comparatively higher than the other sample enterprises. This enterprise requires some items like refrigerator, mixer and grinder etc. for which the women entrepreneurs had to invest a considerable amount of money for starting the enterprise. But, due to marketing and raw material constraints the entrepreneurs did not invest additional amount to expand the enterprises.

Availability of Raw Materials (Advantage) :

Green fodder, dry fodder and cattle feed, feed concentrates are the main raw materials used in livestock enterprise by the women entrepreneurs. Table 6.3 gives the sources of raw materials used by the sample women entrepreneurs in respective

Table: 6.3
Sources of Raw Materials Used by Sample Entrepreneurs
in Different Enterprises

Name of Enterprise ---->	Livestock			Bee Keeping		Fruits & Veg Processing		
	Green Fodder	Dry Fodder	Cattle Feed & Feed Concentrate	Sugar	Medicine	Fruits / Veg.	Salt / Sugar / Spices	Oil / Vinegar
Farm Produced	Mostly	Mostly	None	None	None	Partly	None	None
Locally Produced / Procured	Partly	Partly	None	None	None	Partly	None	None
Purchase from outside	Partly	Partly	All	Partly	All	None	All	All
Supplied by Agencies	None	None	None	Partly	None	None	None	None

enterprises. The green fodder and the dry fodder are the common feed items used by the livestock entrepreneurs for rearing the milch animals. The major portions of green and dry fodder are collected by the entrepreneurs from their own crop fields. Sometimes they had to collect these items from their neighbours farm. The cattle feed and feed concentrates are

used by all the women entrepreneurs for their cows, pigs and poultry birds. These feed concentrates are available in the local markets. The entrepreneurs purchased the feed items from the markets as and when required.

The State is considered a paradise for honey bees as it has moderate climate and green vegetation. Due to intensive crop cultivation in the study area the natural feeds are available for about 7 to 8 months in a year. Generally the honey bees collect honey from the flowers available in the area. For the remaining 4 to 5 months the bees have to be provided with molasses and sugar when natural sources are not available. Molasses and Sugar are purchased locally. The equipments used in the bee-keeping enterprise are mostly indigenous and available in the local markets.

Fruits, mainly banana, mango, pineapple, orange, litchi, jackfruit etc. and some seasonal vegetables are the main raw materials for the fruits and vegetables processing enterprise. Most of the entrepreneurs collected a part of the items from their own farm. and partly collected from the local markets. Oil, vinegar, salt, sugar and spices etc. are the ingredients required for the enterprise which are available in the market.

Employment Potential:

Generation of employment in different women enterprises depends on the scale of operation and viability of the enterprise. The Table 6.4 shows the labour used and employment potential created by different enterprises of sample women entrepreneurs. Table indicates that out of the total employment in respective enterprises, generation of employment of female workers is the highest in bee keeping enterprise (83.64 per cent) followed by livestock enterprise (83.04 per cent) and then fruits and vegetables processing enterprise (56.00 per cent).

Bee keeping enterprises generally created part time employment opportunities to the women entrepreneurs. In active season the bee hives are opened twice in a week by the entrepreneurs for checking the growth of bees. During this season the honey extraction is done for 2 to 3 times in a month. But in the rainy season (June to September), when the natural sources are not available, molasses and sugar are provided to the bees, and honey extraction is done once in a month. These works are performed by the women

entrepreneurs themselves. Occasionally the male members of the household also helped the entrepreneurs. The male members of the entrepreneurs' family are mainly involved in arranging the bee colonies like re-queening/de-queening of the bee hives. In marketing of honey, the male members of the entrepreneurs' family are involved. This shows that the enterprise required labour on the seasonal basis and the women entrepreneurs themselves perform almost 75.00 per cent of the labour required for performing various operations in the enterprise.

Table: 6.4
Labour Use and Employment Potential Created by
Different Women Entrepreneurs

Name of Enterprise -->	Livestock	P.C.	Bee Keeping	P.C.	(No. of Man / Woman days)		Total	P.C.
					Fruits & Veg Processing	P.C.		
No. of Farm ---- >	60		24		16		100	
<u>Family Labour</u>								
Male	1,174	16.96	259	16.36	276	27.60	1,709	17.98
Female	5,749	83.04	1,324	83.64	560	56.00	7,633	80.30
Total	6,923	100.00	1,583	100.00	836	83.60	9,342	98.27
<u>Hired Labour</u>								
Male	0	0.00	0	0.00	0	0.00	0	0.00
Female	0	0.00	0	0.00	164	16.40	164	1.73
Total	0	0.00	0	0.00	164	16.40	164	1.73
<u>Overall</u>								
Male	1,174	16.96	259	16.36	276	27.60	1,709	17.98
Female	5,749	83.04	1,324	83.64	724	72.40	7,797	82.02
Total	6,923	100.00	1,583	100.00	1,000	100.00	9,506	100.00

Note : P.C. indicates percentage.

So far as livestock enterprise is concerned the family members themselves perform all the activities and no hired labour is engaged. The study area is flood affected and resource poor. Most of the entrepreneurs (except dairy enterprise) are from lower income group. In such situation, the tendency of the migration of male members to the urban centres in search of work opportunities is very high and hence the women are performing almost all the activities. All indoor activities of these enterprises such as cleaning and preparing feed, feeding, milking, collection of eggs, attending to sick and

pregnant animals etc. are performed by the entrepreneurs themselves. Of the total employment of men/women days in the sample enterprises, the women entrepreneurs engaged themselves for a considerable time i.e. 83.04 per cent and the rest 16.96 per cent is supported by their male counter part. The outdoor activities such as purchase of fodder, collection of fodder, purchase and sale of animals, grazing of animals, artificial insemination etc. are undertaken by the spouses or other male members of the family. On an average, the women entrepreneurs are needed to spend 1 hour to 2 hours daily for performing various day-to-day operations in the livestock enterprise.

In fruits and vegetables processing enterprise, out of the total labour requirement, 56.00 per cent of labour is contributed by the entrepreneurs themselves in preparation of jam/jelly/pickles/beverages (Table 6.4). The activities like cutting, mixing, packaging and marketing of produce are mainly done by the entrepreneurs themselves. On the other hand, collection of raw materials, cleaning of raw materials and purchase of oil, salt, sugar, spices etc. are the works of the male members of the households. The skilled female hired labours are also employed by the entrepreneurs as and when required. The women entrepreneurs are actively involved in various activities of the enterprise including supervision work.

Gender Dimension in Resource use Tendency and Employment :

All enterprises of the present study are female oriented and the sample women entrepreneurs contributed 83.64 per cent in bee keeping enterprise, 83.04 per cent in livestock enterprise and 72.40 per cent in fruits and vegetables processing enterprise of the respective total labour force of the sample enterprises (Table 6.4). Requirement of male labour is found to be low in all the enterprises covered by the study. It is observed that the livestock enterprise is moderate land intensive enterprise, as it requires separate shed for keeping the animals and separate grass land for grazing the animals (Table 6.5). The other enterprises are low land intensive to carry out their operations. It is found that the majority of bee hives are placed on open frame structure with reeds serving as cover. Fruits and vegetables processing enterprises are mainly household activities and different operations are performed inside the entrepreneur's house. Very limited stalls for selling of

produces in the fruits and vegetables processing enterprise are found during the field survey. All the enterprises are low water intensive. Power is the most important input for fruits and vegetables processing enterprise, as all the processing activities in the enterprise

Table: 6.5
Gender Dimension in Resource Use Tendency and
Employment for Different Enterprises

Particulars	Livestock	Bee Keeping	Fruits & Veg. Processing
Labour (Male) intensive	Low	Low	Moderate
Labour (Female) intensive	High	High	High
Land intensive	Moderate	Low	Low
Water intensive	Low	Not Use	Low
Electricity / Power intensive	Low	Not Use	High

are done by electrical machine. Hence, this enterprise is considered as high power intensive and other two enterprises are low power intensive.

Nature of Problems Faced :

Constraints, which prevented the growth and development of enterprises of sample women, are classified in 12 categories like capital paucity, marketing problem, raw material problem etc. Perception on the magnitude of constraints faced by the sample entrepreneurs are collected and presented in Table 6.6. The Table shows that among all other problems, marketing of products and capital crunch are the major problems faced by the sample women entrepreneurs.

The highly perishable products like milk, meat and eggs require either quick disposal or conversion into other processed items or require cold storage facility. But due to lack of organized marketing facility in the study area 40.00 per cent women entrepreneurs faced problem in disposal of produce. Moreover, 35.00 per cent entrepreneurs reported that the marketing outlays are not favourable to them because of lesser demand of meat, whenever there is large scale production of pigs and poultry, the entrepreneurs are facing problem of disposal of their produce at remunerative price in market. A major portion of women entrepreneurs 46.67 per cent suffered in financial crisis, as majority of them belong to lower income group. Again, 23.33 per cent of women

entrepreneurs opined that they are facing scarcity of raw materials/animal feed during rainy season and 41.67 per cent women entrepreneurs felt transport problem. It is observed that majority of entrepreneurs are house wife and hence they had to spend a considerable amount of time in teaching of their children and to look after the other family members. Agriculture being primary occupation to the majority of sample entrepreneurs, 23.33 per cent of women got hardly time to devote in the enterprise and hence they opined farm work constraint.

Table: 6.6
Nature of Problems Faced by the Sample
Women Entrepreneurs

Name of Enterprise -->	(% Multiple Response)			
	Livestock	Bee Keeping	Fruits & Veg Processing	Total
<u>Particulars :</u>				
Lack of Capital	46.67	25.00	68.75	45.00
Unfavourable Market	35.00	0.00	0.00	21.00
Technical Deficiency	10.00	16.67	37.50	16.00
Packaging	0.00	0.00	43.75	7.00
Marketing Problem	40.00	37.50	81.25	46.00
Raw Material/Animal feed	23.33	0.00	0.00	14.00
Labour Problem	0.00	0.00	18.75	3.00
Transport	41.67	0.00	6.25	26.00
Power / Water	0.00	0.00	68.75	11.00
Safety	0.00	0.00	0.00	0.00
Problems as Women	26.67	0.00	0.00	16.00
Farm Work	23.33	0.00	18.75	17.00

Table 6.6 represents that 37.50 per cent of bee keeping entrepreneurs opined that marketing of produce is the main problem for the enterprise. They reported that due to lack of brand name on their produce, the produce could not be sold in the urban centres, resulting they had to visit different markets for disposal of honey. Similarly, 25.00 per cent of women entrepreneurs reported that they are facing financial hardship as they had to add more bee hives and bee colonies annually. Only 16.67 per cent of entrepreneurs informed that they had not gain expertise to be protected in extreme weather conditions during dearth periods and from diseases and enemies of the bees.

It is observed during field investigation that the most serious problem to the fruits and vegetables processing entrepreneurs is the marketing of produce. The Table 6.6 shows that 81.25 per cent of entrepreneurs faced the constraint in marketing of produce. Usually the produce like jam/jelly/pickles/beverages in the enterprise has no brand name. Hence, the entrepreneurs found it difficult to sell the produce in cities and towns. In order to sell their produce in cities and towns, they require licence and getting licence is very difficult. Moreover, 68.75 per cent of entrepreneurs reported the constraint of lack of capital. Table (6.5) shows that the technical deficiency and packaging of produce are also important constraints to the entrepreneurs. Processing of raw materials are mostly done by the machine (mixer & grinder) hence the power is very essential input for the enterprise. So, 68.75 per cent of women entrepreneurs reported that due to frequent failure of power in the region, the entrepreneurs are facing a great trouble in power use.

Particulars	Percentage
Lack of Capital	68.75
Technical Deficiency	68.75
Marketing of Produce	81.25
Power Use	68.75
Problems as Women	68.75
Labour Problem	68.75
Transport	68.75
Raw Materials	68.75
Packaging	68.75
Other	68.75

Table 6.6 shows that 81.25 per cent of entrepreneurs faced the constraint in marketing of produce. Usually the produce like jam/jelly/pickles/beverages in the enterprise has no brand name. Hence, the entrepreneurs found it difficult to sell the produce in cities and towns. In order to sell their produce in cities and towns, they require licence and getting licence is very difficult. Moreover, 68.75 per cent of entrepreneurs reported the constraint of lack of capital. Table (6.5) shows that the technical deficiency and packaging of produce are also important constraints to the entrepreneurs. Processing of raw materials are mostly done by the machine (mixer & grinder) hence the power is very essential input for the enterprise. So, 68.75 per cent of women entrepreneurs reported that due to frequent failure of power in the region, the entrepreneurs are facing a great trouble in power use.

Chapter – VII

Training

The success or failure of any enterprise depends upon knowledge of entrepreneurs on different aspects like technical, financial management and marketing. Role of training in up gradation of skill/knowledge of the women entrepreneurs and its impact on improving the production processes and marketing of the products are analysed in this Chapter.

Training Programme :

Assam Agricultural University (AAU) is the pioneering institution of evolving new farm technology in the fields of agriculture, horticulture, animal husbandry and dairy, poultry, piggery etc. Besides teaching and research, extension services like organization of training programmes for the farmers, Agricultural Extension Officers, VLEWs and Gram Sevaks are some of the basic objectives of Extension Education of the University. The Directorate of Extension Education, AAU has the network of imparting training to the farm women on different aspects. Institutional farm women trainings (ICAR sponsored) are on campus training organized in the main campus of the Assam Agricultural University for up-gradation of skills of farm women in different fields like livestock farming, bee keeping, fruits and vegetables processing, sericulture, fishery, commercial cultivation of vegetables in their kitchen garden etc.

The selected entrepreneurial trades like livestock and bee keeping enterprises are the traditional occupation of the rural women, which requires up-gradation of skills in management and marketing of the produce of their enterprise. Training received from different institutions by the sample women entrepreneurs is presented in Table – 7.1. Table shows that 100 per cent sample women entrepreneurs of livestock enterprises received classroom training on different areas of management of their enterprises. The training programmes are organized by the AAU for 3 to 7 days. Similarly, 100 per cent of bee

keeping women entrepreneurs had attended 3 to 7 days training programmes, which are also organized by AAU, Jorhat. Pickle is prepared from various fruits and vegetables;

Table:7.1

**Training Received from Different Institutions by
the Sample Women Entrepreneurs**

(Per cent)

Departments	Livestock	Bee Keeping	Fruits & Veg. Processing	Total
State Agril. Deptt.	-	-	-	-
Assam Agril. Univ. Extension Deptt.	100	100	100	100
Central Govt.	-	-	-	-
Any other	-	-	-	-

which is also prepared from wild fruits in the rural households by women. So, the younger generation gets more or less informal training from the senior family members itself. But the preparation of jam/jelly/beverage etc. are required practical training to the women entrepreneurs. Table 7.1 indicates that in these regards 100 per cent of sample women had attended 3 to 7 days classroom training programmes organized by the Directorate of Extension Education at AAU, Jorhat. After getting the training the sample women entrepreneurs have started the fruits and vegetables processing enterprises.

Usefulness of Training :

The success of training depends upon its utilization. The woman trainees expressed their opinions about the benefits of training received in the AAU (Table 7.2). Majority of the woman trainees opined that they learnt something new in the training which is certainly helpful in improving the quality of products including marketing aspects of their produces. Table – 7.2 indicates that the positive response of the training is highest for fruits and vegetables processing trainees, as 100 per cent of entrepreneurs started their enterprises only after completion of the training. On the other hand, the livestock farming entrepreneurs and bee keeping entrepreneurs started their enterprises prior to getting the training. Out of total women entrepreneurs, 75.00 per cent of bee keeping entrepreneurs, 66.67 per cent of livestock entrepreneurs and 56.25 per cent of fruits and vegetables

processing entrepreneurs opined that they learnt some new techniques in management of their enterprises. Of the total samples, 40.00 per cent of livestock trainees, 37.50 per cent of fruits and vegetables processing trainees and 16.67 per cent of bee keeping trainees

Table: 7.2

Usefulness of Training Programme as Perceived by the Trained Sample Women Entrepreneurs

Usefulness	(% Multiple Response)			
	Livestock	Bee Keeping	Fruits & Veg. Processing	Total
For initiating Enterprise	0.00	0.00	100.00	16.00
Up gradation of Skill	66.67	75.00	56.25	67.00
Easy access to Credit	40.00	16.67	37.50	34.00
Not Useful	15.00	0.00	18.75	12.00
To gain Knowledge of Product, Process and Market	43.33	58.33	37.50	46.00

opined that training had helped them in getting access to credit. Only 15.00 per cent of livestock trainees and 18.75 per cent of fruits and vegetables processing trainees expressed negative attitude of the training. Most of the bee keeping trainees (58.33 per cent), livestock trainees (43.33 per cent) and fruits and vegetables processing trainees (37.50 per cent) opined that they acquire useful knowledge about improvement of production techniques including marketing aspects of their produces.

Effect of Training:

(a) Livestock Enterprise:

In order to get a comprehensive idea of effect of training on the success of the enterprises of trained women entrepreneurs is compared with the non-trained women entrepreneurs regarding the success or failure in running their enterprises. Table – 7.3 shows a comparison of profitability between livestock enterprises run by trained and non-trained women entrepreneurs. The Table indicates that average productivity in the enterprises of trained women entrepreneurs is considerably higher than that of non-trained women entrepreneurs. The average annual net return from the livestock enterprises of the

trained women entrepreneurs is Rs.3,660.00 and for the non-trained women entrepreneurs is Rs.1,284.00. This shows that the income earned by the trained women entrepreneurs is significantly higher in comparison to the non-trained women entrepreneurs. This is due to higher production from livestock enterprises per annum and higher prices fetched by the trained women entrepreneurs from the livestock enterprise.

Table : 7.3

**Comparison of Trained and Non - trained Women Entrepreneurs
in Livestock Enterprise**

Types of Entrepreneur ----->	Trained	Non - trained	Overall
Sample size (No.)	60	30	90
Particulars:			
Average Production of Milk (Lt.)	351.67	268.53	324.07
Average Production of Meat (Qtl.)	1.33	1.08	1.24
Average Production of Egg (000 nos..)	1.54	1.14	1.41
Profitability (Average return in Rs)			
Total profit imputed output actual cost	12,248	9,912	11,469
Total profits imputed output imputed material & labour cost	3,660	1,284	2,868
Total profits imputed output imputed labour cost	9,401	6,629	8,477
Total profits imputed output resource overhead cost	5,066	2,545	4,225
Per cent of entrepreneurs procured raw material from the market			
Local	100.00	100.00	100.00
Nearby	-	-	-
National	-	-	-
Per cent of entrepreneurs sold products in the market			
Local	28.11	46.25	33.12
Nearby	71.89	53.75	66.88
National	-	-	-

Bee-keeping Enterprise :

Table – 7.4 presents a comparison of profits earned by trained and the non-trained women entrepreneurs in bee keeping enterprise. Table shows that annual average production of honey is 56.95 kgs and 39.76 kgs in the enterprises of trained and non-trained women entrepreneurs respectively. The per farm net return received by the sample

trained women entrepreneurs is Rs. 3,127.00 while the net return of non-trained women entrepreneurs is Rs. 1,429.00. This indicates that the profit gained by the trained

Table : 7.4
Comparison of Trained and Non - trained Women
Entrepreneurs in Bee Keeping Enterprise

Types of Entrepreneur ----->	Trained	Non - trained	Overall
Sample size (No.)	24	12	36
Particulars :			
Average Production of Honey (Kg.)	56.95	39.76	51.22
Profitability (Average return in Rs)			
Total profit imputed output actual cost	6,409	4,442	5,753
Total profits imputed output imputed material labour cost	3,127	1,429	2,561
Total profits imputed output imputed labour cost	6,409	4,442	5,753
Total profits imputed output resource overhead cost	3,839	1,721	3,133
Per cent of entrepreneurs procured raw material from the market			
Local	100.00	100.00	100.00
Nearby	-	-	-
National	-	-	-
Per cent of entrepreneurs sold products in the market			
Local	76.00	100.00	89.00
Nearby	24.00	-	11.00
National	-	-	-

women entrepreneurs is higher as compared to the non-trained women entrepreneurs. This is due to production of honey is increased in the trained woman enterprises as they used some new practices in management of bees. Moreover, majority of trained women entrepreneurs are directly sold the honey to the consumers at the local markets or at the exhibitions/melas in the region, hence they are able to fetching a good price on their produce. It is observed that the training has an impact on the scale of production and the marketing skills of the bee-keeping entrepreneurs. On the other hand, due to lack of scientific bee management knowledge, the production of honey is found to be lower in the farms of non-trained woman entrepreneurs. Moreover, they did not attend any melas/exhibition for direct sell of their produce to the consumers. Hence, profitability of

non-trained women entrepreneurs is found to be lower in comparison to trained women entrepreneurs.

Fruits and Vegetables Processing Enterprise :

Table – 7.5 shows a comparison of profitability between trained and non-trained women entrepreneurs in fruits and vegetables processing enterprises. Table reveals that annual average production of different processed items like jam/jelly/pickles etc. are slightly higher in the enterprises of trained woman entrepreneurs than that of the

Table : 7.5

**Comparison of Trained and Non - trained Women Entrepreneurs
in Fruits & Vegetables Processing Enterprise**

Types of Entrepreneur ----->	Trained	Non - trained	Overall
Sample size (No.)	16	8	24
Particulars :			
Average Production of Jam / Jelly / Pickles (Kg.)	88.19	82.88	86.42
Average Production of Beverages (Lt.)	67.81	48.37	61.33
Profitability (Average return in Rs)			
Total profit imputed output actual cost	6,180	4,275	5,545
Total profits imputed output imputed material labour cost	749	204	567
Total profits imputed output imputed labour cost	3,858	2,430	3,382
Total profits imputed output resource overhead cost	3,325	2,635	3,095
Per cent of entrepreneurs procured raw material from the market			
Local	27.93	33.93	30.93
Nearby	72.07	66.07	69.07
National			
Per cent of entrepreneurs sold products in the market			
Local	76.00	100.00	87.89
Nearby	24.00	-	12.11
National	-	-	-

non-trained women entrepreneurs. The per farm net profits are Rs.749.00 and Rs.204.00 in the enterprises of the trained and non-trained women entrepreneurs respectively. This indicates that the enterprises of the trained women are more successful than the non-trained woman enterprises. It is observed that training has moderate impact on the scale of

production, packaging of produces and marketing skills of the trained women entrepreneurs. They attended various exhibitions/melas in the State for direct sale of their produces to the consumers. But due to limited demand for the local products in comparison to the outside products which are marketed with reputed trade name, the women entrepreneurs are not in a position to gain a good profit from their enterprises. In case of non-trained women entrepreneurs, it is observed that they have not developed the production and marketing skills. The qualities of produce and the packaging of produces are not up to the standard in comparison to the outside products. They did not attend any melas/exhibition for direct selling of their produce to the consumers. So, the non-trained entrepreneurs are producing the jam/jelly/pickles in smaller scale due to limited demand in the region. Therefore, it is observed that the fruits and vegetables processing enterprises are not very successful enterprise in the region.

Chapter - VIII

Conclusion

Women are playing an important role in economic development of the sample families. The survey indicates that women contribute a significant share of the labour force used in crop production and also spend considerable amount of time in their entrepreneurial activities like livestock enterprise, bee keeping enterprise and fruits & vegetables processing enterprise. These commitments are in addition to the amount of time spent in household chores, the invariable responsibility of women. Based on the findings of the study, the present Chapter has attempted to highlight the impact of enterprises in the socio-economic life of the sample entrepreneurs and the role of different enterprises in making the sample enterprises viable.

Assessment of impact of women enterprises in generation of income and contribution towards household's income is the main objective of the study. The findings of the study showed that the shares of women enterprise income towards their households income are meager one, as the shares of enterprise income to total household income are 22.68 per cent for the livestock enterprise, 14.74 per cent for the bee keeping enterprise and 9.49 per cent for the fruits and vegetables processing enterprise. The overall economic contribution of the enterprises towards family income stands at 18.20 per cent.

Trade-wise Impact of Enterprises:

Livestock Enterprise :

Livestock enterprise is a labour intensive enterprise. The study indicates that the livestock enterprises are able to generate employment for the trained women entrepreneurs 5,749 days (95.82 days per head) while in case of non-trained women entrepreneurs it is 2,138 days (71.27 days per head). This shows that per head employment of trained women entrepreneurs is higher by 24.55 days over the non-trained women entrepreneurs.

The overall Benefit Cost Ratio (BCR) for the livestock enterprises of the trained women entrepreneurs is estimated at 1.25:1 indicating the enterprises by and large as an economically viable enterprise. The BCR in the enterprises of non-trained women entrepreneurs is found at 1.10:1, which shows that their enterprises are marginally successful. Income earned by the trained women entrepreneurs is significantly higher while compared to non-trained women entrepreneurs.

Bee Keeping Enterprise :

The bee keeping enterprise provides much self-employment opportunity to both trained and non-trained women entrepreneurs. The enterprises generally require less working hours per day. The study shows that overall employment generation in the selected enterprises by the trained women entrepreneurs is 1,324 days (average 55.17 days) and by the non-trained women entrepreneurs, it is 501 days (average 41.75 days). It is found that the average employment days for the trained women entrepreneurs is 13.42 days per head more than that of the non-trained woman counterparts.

The BCR in the enterprises of the trained women entrepreneurs is found at 1.65:1, which significantly established that the bee keeping enterprises are remunerative and economically viable enterprise. In case of non-trained women enterprises, the BCR is worked out at 1.35:1, which also shows that the enterprise is economically viable, but comparatively less viable than that of the trained women entrepreneurs. It is observed that due to lack of scientific bee management knowledge of the non-trained women entrepreneurs, it yielded low income.

Fruits and Vegetables Processing Enterprise:

The selected women enterprises have generated both part-time and whole time employment opportunity and thereby enhancing household's income. The women enterprises generated employment opportunity for the trained women entrepreneurs is 560 days (35 days per head) and for the non-trained women entrepreneurs it is 203 days (25.38 days per head). This shows that the generation of per head employment of the trained women enterprises is higher by 10.38 days per head than that of the non-trained women entrepreneurs. It is found that due to seasonal nature of horticultural crops, the enterprises are seasonally active in providing employment to the women entrepreneurs.

The estimated BCR in the enterprises of the trained women entrepreneurs is found at 1.07:1 indicating the enterprises as marginally viable. On the other hand, the BCR in the enterprises of the non-trained women entrepreneurs is worked out at 1.02:1, which shows that the enterprises are not much remunerative for the non trained women entrepreneurs. It is observed that lack of proper training on various technologies; lack of assured marketing facilities, lack of financial assistance etc. are the causes of low income of their enterprises.

Viability of Enterprises:

Livestock Enterprise:

The findings of the study showed that the livestock enterprise is a profitable enterprise for the rural women entrepreneurs. The livestock production like milk, meat, eggs etc. have regular demand in the region which is met in the rural areas through rearing of livestock. Although, marketing of milk is a problem in the study area due to lack of Milk Processing Plants or Milk Purchase Booths, there is no marketing problem for meat and eggs. Major portion of marketable surplus of meat and eggs are sold directly to the consumers either by entrepreneurs themselves or by the spouse having good price on their produces. The annual average net profit (Rs.3, 660.00 per farm) of the sample women entrepreneurs showed that the livestock enterprises are financially viable enterprise in the region.

Bee Keeping Enterprise :

The findings of the study indicated that bee keeping is also another profitable enterprise amongst the different women entrepreneurs covered by the study. Bee keeping enterprises are less labour intensive. The women entrepreneurs do not require to devote full time in the enterprise and can take care of their children and households activities along with making profit from the enterprise. Bee hives are needed to be opened once in a week when natural feeding is available. While natural feeding for the bees are not available then only the women entrepreneurs have to supply the artificial feed (sugar) to the bees frequently. Although, marketing of honey in the urban markets is a problem due to lack of product name on their produce, majority of women entrepreneurs themselves directly sell the honey to the consumers and earning good

profits. Annual average net profit (Rs.3, 127.00 per farm) of the enterprise showed that the bee keeping enterprise in the region is a economically viable undertaking.

Fruits and Vegetables Processing Enterprise:

The fruits and vegetables processing enterprises in the sample are still in initial stage. However, the selected women entrepreneurs are actively involved in the processing enterprises for preparation of different items like jam/jelly/pickles etc. But, the study showed that the women entrepreneurs are not very successful; as they earned net profit only Rs.749.00 per farm from the enterprises. It is found that majority of women entrepreneurs are producing jam/jelly/pickles etc. on smaller scale due to limited demand in the region. Only a few women entrepreneurs, who have local retail shops or attend various melas/exhibitions in the region, are able to produce the processing items on medium scale and earn good profits from the enterprises. Therefore, the overall financial viability of the enterprises is found to be of marginal range.

Effect of Training:

Training has positive impact on the sample livestock enterprise, although the livestock enterprise is the traditional occupation for majority of the women entrepreneurs. It is found that training has improved the knowledge of technique for higher production and marketing skills amongst the trained women entrepreneurs. On the other hand, due to lack of scientific knowledge of livestock management, the production is found to be lower in the category of enterprises owned by the non-trained women entrepreneurs.

Training has significant impact on the scale of production and marketing skills of the bee keeping trained women entrepreneurs. The scale of production of honey has increased in the trained women enterprises as they used some new practices in management of bees. Moreover, most of the trained women entrepreneurs directly sold the honey to the consumers at the local markets or at the exhibitions/melas in the region and thereby fetching a good price on their produce. On the other hand, due to lack of scientific bee management knowledge and inadequate marketing skills amongst the non-trained women entrepreneurs, the production of honey and income are found to be lower while compared with the trained women entrepreneurs.

Training has moderate effect on the scale of produce of different process items in the fruits and vegetables processing women enterprises. It is found that training has moderately improved the scale of production, packaging of produces and marketing skills of the trained women entrepreneurs. They attended various exhibitions/melas in different regions of the State for direct sale of their produces to the consumers. But, due to limited demand for the local products in comparison to the outside products which are marketed with reputed trade name, the women entrepreneurs are not in a position to gain a good profit from their enterprises. So, the enterprises are only marginally successful. In case of non-trained women entrepreneurs, as they have not developed the production and marketing skills, the qualities of produce and packaging of produce are not up to the standard in comparison the outside products. As a result, the entrepreneurs are producing different items in small scale due to limited demand in the region.

Suggestions :

The present study indicates that despite so much effort have been made in different plan periods for all round development of women, the socio-economic condition of sample women entrepreneurs have not improved as expected. The study shows that the share of enterprise income to the respective household's incomes are 22.68 per cent for the livestock enterprise, 14.74 per cent for the bee-keeping enterprise and 9.49 per cent for the fruits and vegetable processing enterprise which shows that the enterprise income is meager one. The field investigation on various enterprises indicates that lack of capital, technical deficiency; marketing, transport, etc. are major obstacles in progress of the enterprises. On the basis of findings and observations, following suggestions are made enterprise-wise for development of these enterprises.

Livestock Enterprise:

(1) The financial institution should come forward to lend credit at a lower rate of interest for purchasing exotic cows and other improved breeds of animals which will encourage the women entrepreneurs to start livestock enterprise on large scale for their self-employment and economic upliftment. Government sponsored schemes of providing exotic cows and other improved livestock at subsidized rate should be offered to economically weak women entrepreneurs. (**Attention: Directorate of Animal**

husbandry & Veterinary, Regional Rural Banks and District Rural Development Agency, Govt. of Assam.)

(2) Considering the importance of livestock enterprise, pasture and other grazing land should not be allowed for other uses (agricultural or non-agricultural). The pasture and other grazing land should be scientifically utilized by cultivating different forage crops of high nutritious value green fodder. **(Attention: Directorate of Animal husbandry, Govt. of Assam. & College of Veterinary Science, Assam Agricultural University.)**

(3) Present poor veterinary facilities and extension services need to be improved. **(Attention: Directorate of Animal husbandry & Veterinary, Directorate of Dairy Development, Govt. of Assam.)**

(4) Supply of improved breed of piglets, poultry birds, goat, duck etc. and making available of these breeds at reasonable rate followed by necessary guideline on rearing of livestock in a scientific way should be assured. **(Attention: Directorate of Animal husbandry & Veterinary, Directorate of Dairy Development, Govt. of Assam.)**

(5) Supply of balance feed at reasonable prices and within easy reach of the women entrepreneurs are urgent needs for viable livestock enterprise. **(Attention: Directorate of Animal husbandry & Veterinary, Directorate of Dairy Development, Govt. of Assam.)**

(6) Training should be of short duration with practical demonstration, because women cannot stay away from home for longer period and cannot remain attentive to long lecture. To make the training more attractive and fruitful, arrangement should be made to take the trainees to scientifically managed livestock farms which will help them to acquire practical knowledge on various aspects like health and hygiene, management and nutritional care of livestock. **(Attention: Directorate of Extension Education Institute, Assam Agricultural University.)**

Bee-Keeping Enterprise:

(1) Plantation of sufficient number of bee foraging crop plants like Mustard, Niger, Sunflower, Sesamum, Bottle gourd, Pointed Gourd, Pumpkin, Maize, Litchi, Mango, Eucalyptus, Acacia, Bottle brush, Teak, etc. in suitable and potential areas may encourage the women entrepreneurs to take up the enterprise in large scale. Production

of sufficient feed in turn would lead to higher return. (**Attention: Directorate of Agriculture & Department of Social / Agro Forestry, Govt. of Assam.**)

(2) Investment strategy should be broad-based and the assets provided by the different Departments should be sufficient enough to generate income and employment to help the women entrepreneurs in raising their living standard. (**Attention: Department of Small Scale Industries & District Rural Development Agency, Govt. of Assam.**)

(3) Introduction of improved rearing techniques, establishment of retail selling counter for honey in important honey producing areas will attract the women entrepreneurs in taking up bee keeping in extensive form. (**Attention: Department of Small Scale Industries & Khadi Board, Govt. of Assam.**)

(4) Supply of healthy and disease free bee broods, equipment and sugar to the women entrepreneurs at a low cost would encourage the entrepreneurs to take up bee keeping in large scale. (**Attention: Department of Small Scale Industries & Khadi Board, Govt. of Assam and Department of Entomology (Apiculture Wing), Assam Agricultural University.**)

(5) Considering the mortality of bees the institutional sources of finance should come out with minimum formalities so that the women entrepreneurs could get the financial help in time. (**Attention: Scheduled Commercial Banks, Regional Rural Banks & Department of Entomology (Apiculture Wing), Assam Agricultural University.**)

Fruits and Vegetables Processing Enterprise:

(1) Considering the potentiality of horticultural and vegetable crops in the region appropriate investment strategy should be evolved, so that the enterprise can be made a viable one to attract the youth women to take up the venture on large scale. (**Attention: Directorate of Agriculture, Govt. of Assam.**)

(2) Creation of basic infrastructural facilities such as connecting roads, transport, marketing facility, electricity, cold storage facilities, etc. are considered as most essential to draw the attention of the women entrepreneurs in to this enterprise. (**Attention: Directorate of Agriculture, Department of P.W.D. & Department of Power and Electricity Board, Govt. of Assam.**)

- (3) In order to increase productivity in the enterprise and to meet demand of consumers, it is essential to upgrade the production technology. (**Attention: Directorate of Extension Education Institute, Assam Agricultural University.**)
- (4) The financial institutions should liberalize the loan formalities and speed up the disposal of loans, so that the women entrepreneurs could get the financial help in due time. (**Attention: Scheduled Commercial Banks & Regional Rural Banks.**)
- (5) The Government should take initiative in the establishment of FPO (food processing order) office in the state and should provide licence to local women entrepreneurs as well as encourage them to take up the enterprise in large scale. (**Attention: Directorate of Agriculture, Govt. of Assam.**)
- (6) Fair and exhibitions should be arranged to popularize local products through display or advertisement, as the consumers are less aware of the locally manufactured products. This will help in changing the attitude of the local people that the local products are inferior in comparison to the outside products. (**Attention: Directorate of Agriculture, Govt. of Assam.**)
- (7) Local entrepreneurs should visit industrially developed states of the country to gather fair knowledge on latest developments in the process of production and marketing channels which will help the entrepreneurs in enhancing their profits and making the enterprise viable one. In this regard government organized educational tour will help the enthusiastic entrepreneurs to great extent. (**Attention: Directorate of Agriculture, Govt. of Assam, Directorate of Extension Education, Assam Agricultural University.**)

Conclusion:

Even though the women entrepreneurs played an important role in various economic activities in the study area, it is found that the contribution of enterprise income to the respective household's income is meager one. The training programme could help the women entrepreneurs in development of self-confidence and communication skill to interact with various financial organizations, marketing agencies and also help to form Self Help Groups. Due to inadequate infrastructural supports, lack of capital, inadequate marketing facilities etc., majority of women entrepreneurs are failed to expand their existing ventures or start new ones. The setting up of women

development and finance corporations, departments of women development and reservation in anti-poverty schemes and new schemes of grants-in-aid are yet to lead to perceptible changes in the empowerment and status of women though those steps have extended economic and social assistance to women entrepreneurs. To pave the path of independency in economic sphere for these women entrepreneurs, development of infrastructure is necessary and it also requires efficient planning and sincere execution of the policies by the Government agencies to make the entrepreneurial trades viable one. Moreover, steps should be taken by the Government to develop social support system for women employment including caring of children, health care, maternity benefits, productive insurance and a congenial and peaceful working atmosphere.

Appendix – I

Comments on Project on Viable Entrepreneurial Trades of Women in Agriculture A Study in Assam

General Comments: The report is well written and provides much of the information expected. The quality of work is good.

Some suggestions for improvement:

1. Chapters I and II:

- You may mention some other common women's enterprises of the area but which are not studied in this Report. Are the selected enterprises more popular?

2. Chapter II:

- Please provide statistics on farm class distribution of the area if any available.
- Table 2.3 – Can you please also give the share (%) in GCA or in the 16 crops total Area in brackets/column?

3. Chapter I Page 16:-

- Please provide a Table giving the sample sizes by enterprise, trained/non-trained/total of all. This is important.

4. Chapter III Page 39 Table 3.9:-

- Please give a few more (higher) income classes to identify the modal income class with both limits Rs.11000 seems too low to stop at. This is important.

5. Chapter III Page 35 Table 3.4:-

- Please give rows to provide the percentages of households growing commercial crops and percentage of households with >70% irrigated land (if possible).

(ii)

- Page 37 Table 3.6 – Can you give agricultural income Rs./hectare also (if possible) ?

6. Chapter III Page 43 Table 3.12:-

- Check the units. Please give both hours and percentage of time spent. Important.

7. Chapter V (e.g. Table 5.5 also others):-

- Who gives grants- how much – in what way? Please explain.
- What is the interest rate for borrowing Bank/SHG/Commercial?
- Please elaborate on role and contribution of the SHG.
- Is any equipment provided free?

This is important.

8. Chapter V Page 66 (Table 5.11 and others):-

- Since the numbers, may be justifiably, do not add to 100 please give for easy understanding some clarifications of the individual decisions in text or in note. It is hard to understand.

9. Chapter VI Page 103 Table 6.5:-

- Please check if electricity use intensity for fruits and vegetable should be low.

Dr. Nilabja Ghose,

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Appendix – II

Action taken on the Comments of Co-ordinating Centre, Agro-Economic Research Unit, Institute of Economic Growth, University of Delhi Enclave, Delhi.

Comment – 1 - Information on some other women enterprises of the area are presented in the Table - 1.5 (Chapter -- I), which are not studied in this Report. The selected women enterprises are more popular than others.

Comment – 2 - The farm class distribution of area is presented in the Table - 2.5. The percentage shares to GCA of 16 crops are shown in the Table - 2.3 (Chapter – II).

Comment – 3 - The tabular form of sample sizes by enterprise for the trained and non-trained women entrepreneurs is presented in Table 1.6 (Chapter – 1).

Comment – 4 - A few of more income classes are identified and presented in the Table 3.9 (Chapter III).

Comment – 5 - No households having >70 per cent of irrigated land is found in the sample. Per hectare agricultural income is shown in the Table 3.6 (Chapter III).

Comment – 6 - The hours and percentages of time spent by the women entrepreneurs are presented in Table 3.12 (Chapter – III).

Comment – 7 - The Integrated Tribal Development Project, Scheduled Caste Component Plan and District Rural Development Agency are the organizations who provided grants-in-aid to the women entrepreneurs either in terms of cash or kind (i.e. equipment). The rate of interest on loan and the role of SHGs are taken into consideration and incorporated, wherever necessary, in the relevant Chapters.

Comment – 8 - Some clarifications for easy understanding of the individual decisions by Note are presented in Tables - 5.11, 5.22 and 5.33 (Chapter - IV).

Comment – 9 - Electricity use intensity for fruits and vegetables processing enterprise is high and presented in Table - 6.5 (Chapter - VI).

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AERC, Jorhat.

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