CHAPTER - V

Socio-Economic Profiles of Rural Women Participating in Livestock Enterprises

LIVELIHOOD SUSTAINABILITY OF RURAL WOMEN THROUGH LIVESTOCK ENTERPRISES - AN ANALYTICAL STUDY IN GOALPARA DISTRICT OF ASSAM

CHAPTER- V

SOCIO-ECONOMIC PROFILES OF RURAL WOMEN PARTICIPATING IN LIVESTOCK ENTERPRISES

Objectives: To find out the socio-economic profile of rural women participating in livestock enterprises.

Hypothesis: Socio-economic factors of rural women have sufficient impact on livestock production.

Socio-economic factors are the determinants of the status of women in the society and reflect their picture of livelihood and life. These traits need to be studied in order to know the pattern of changes and impact they create in individual as well as social change. Therefore, as many as nineteen such traits were studied and data on such variables were collected with the help of a structured interview schedule, which carried open ended questions and responses were elicited through direct questioning. Data thus collected were scrutinized, tabulated and subjected to statistical analysis. The results are presented in the following subheads:

5.1. AGE

Age plays a significant role in every aspect of life and livelihood as it indicates the degree of physical and mental maturity and ability to deal with the anticipating situations in and around the respondents' life and lifestyle is shown in the following table:

Table 5.1: Distribution of the respondents on the basis of their age:

Category	Tribal		Non -Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Young (<25 yrs)	22	6.29	28	8.00	50	14.29
Middle (>25-45 yrs)	120	34.29	119	34.00	239	68.29
Elder (45 yrs)	33	9.42	28	8.00	61	17.42
Mean (yrs)	36.85		37.35		37.10	
SD	8.10		7.75		7.92	
t value	0.55^{NS}					
Range	18-55 yrs.		19-56 yrs.		18-56 yrs.	

NS = Non-significant.

Table 5.1 indicated that majority of the tribal respondents (34.29 percent) fell in medium age group followed by 6.29 percent young and 9.42 percent elder in category. The mean age and SD were 36.85 years and 8.10 respectively. On the other hand, 34.00 percent of the non-tribal respondents were middle aged followed by an equal number of respondents (8.00percent) finding place in young and elder category. The mean and SD were 37.35 years and 7.75 respectively. In pooled sample, 68.29 percent respondents were middle aged, 17.42 percent elder and 14.29 were young. The mean age was 37.10 and SD was 7.92. The 't' value indicated that there was no significant difference between tribal and non-tribal respondents in respect of their age.
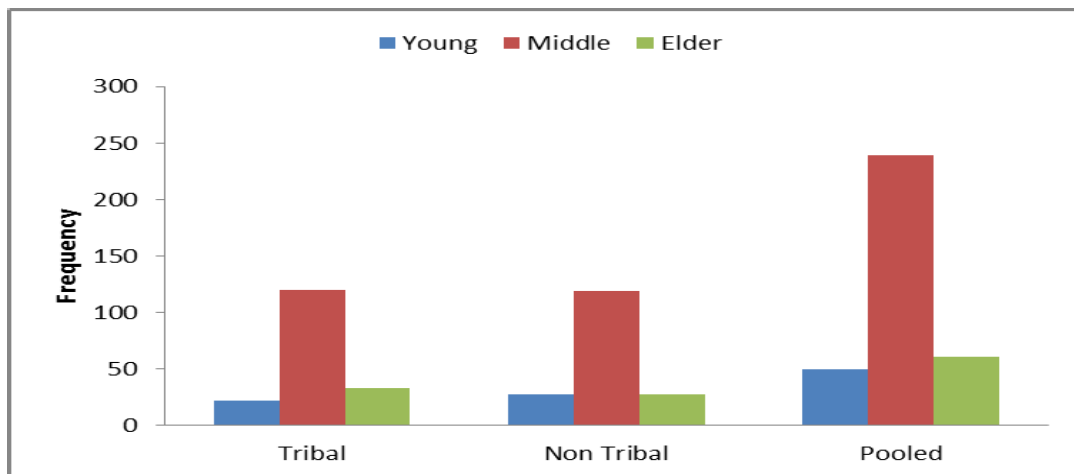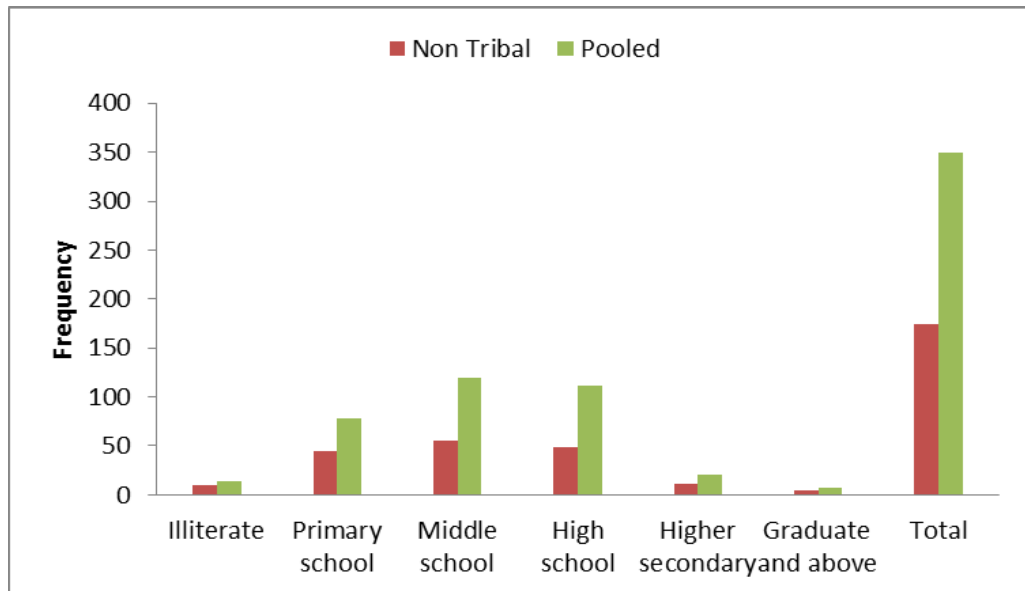

(Source: Table 5.1)

Fig.1. Distribution of the respondents on the basis of their age

5.2. EDUCATION (SELF)

One of the indicators of socio-economic advance is the spread of education, reflected in literacy percentage. For the spread of education, the facility of teaching should be available in the village itself as far as possible. Therefore, the present education level in the area under investigation throws some light as to the availability of such teaching facilities and also the affordability of the community is presented in the following table.

Table 5.2: Distribution of the respondents on the basis of their educational qualification.

Category	Tribal		Non –Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Illiterate	4	1.14	10	2.15	14	4.00
Primary school	33	9.42	45	12.86	78	22.28
Middle school	63	18.00	56	16.00	119	34.00
High school	62	17.71	49	14.00	111	36.70
Higher secondary	10	2.86	11	3.14	21	6.00
Graduate and above	3	0.56	4	1.14	7	2.00
Total	**175**	**50.00**	**175**	**50.00**	**350**	**100.00**

(Source: Table 5.2)

Fig. 2. Distribution of the respondents on the basis of their educational qualification.

A glance in Table 5.2 revealed that the respondents of both tribal and non-tribal group were classified into five categories. Majority (18.00 percent) of the tribal women were found to have read upto middle school closely followed by those who read upto high school (17.72 percent), and 9.42 percent read upto primary school, 2.86 percent read upto higher secondary, 1.14 percent were illiterate and only 0.86 percent were graduate. Almost a similar picture was viewed in non-tribal women where 16.00 percent of them read upto middle school, followed by 14.00 percent upto high school, 12.85 percent upto primary level and 3.14 percent upto higher secondary. The percentage of graduates was 1.14 percent whereas 2.85 percent were illiterate.

In pooled sample 34.00 percent of the respondents were found to have read upto middle school, followed by 31.70 percent read upto high school, 22.28 percent read upto primary school, 6.00 percent read upto higher secondary, 4.00 percent were illiterate and only 2.00 percent were graduates.

It is abundantly clear from the above figures that the literacy rate in the study area was much higher for both tribal and non-tribal women but their level of education was low as almost 60.00 percent of the respondents in pooled sample were below high school level. Therefore, it may well be surprised that female education in the study area received priority only in lower level *viz*., primary and middle school. But higher education for women is still a far cry. This may be either due to the non-availability of infrastructures for higher education or lack of interest or affordability for higher education. Alternately it may also be presumed that the girl students reading upto middle school get married putting a full stop in their education and making them housewives, who thus take up livestock enterprises along with their household chores.

5.3. FAMILY'S EDUCATIONAL QUALIFICATION

Besides assessing the educational qualification of the respondents, it was also thought prudent to measure the educational qualification of all the members of the family, and the level of education of the family was estimated by giving a score of 1, 2, 3, 4, 5 and 6 for illiterate, primary, middle school, high school, higher secondary and graduate and above respectively and later all the individual scores were summed up to get a total score for each family. By calculating the mean and SD the respondents were

categorized into low, medium and high category by the formula mean ± SD as presented in the Table 5.3

Table 5.3 : Distribution of the respondents on the basis of their family's educational level.

Category	Tribal		Non –Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Low (<8)	19	5.43	11	3.14	30	8.57
Medium (8-20)	130	37.14	153	43.72	283	80.86
High (>20)	26	7.43	11	3.14	37	10.57
Mean	13.14		14.46		13.78	
S.D.	5.02		6.73		5.96	
t value	2.12*					
Range	6-42		4-40		4-42	

*significant at 5percent level of probability.

Table 5.3 revealed that 37.14 percent of the respondents in tribal group fell in medium category in regards to family's education followed by 7.45 percent in high category and 5.43 percent in low category. The mean and SD were 13.14 and 5.03 respectively. But in non-tribal group 43.72 percent of the respondents fell in medium category of education and it was interesting to note that an equal number of respondents (3.14 percent) had low and high level of family's education. The mean and SD were 14.46 and 6.73 respectively.

In pooled sample, 80.86 percent of the respondents fell in medium category of family's education followed by 10.57 percent and 8.57 percent. The mean and SD were 13.78 and 5.96 respectively.

However, the 't' test revealed a significant difference (t = 2.12) between the tribal and non-tribal respondents. The higher mean value of family's education in non-tribal women bears much significance and may be explained by the fact that tribal families are still lagging behind in education in comparison to their non-tribal counterpart which may be attributed to lack of awareness for education many tribal people or lack of infrastructure. In either case it demands more attention from authorities concerned for the redressal of such in equality.

5.4. FAMILY TYPE

The family consists of husband, wife and children. If one or both grandparents are alive, they too are integral part of the family. The family forms the most important social unit. It is the integrating factor for all its members. It gives a sense of belongingness and also provides a profound sense of security to the young members. However, for better understanding families now are classified into two types-Nuclear family and Joint family. In nuclear family system, husband and wife with their children live under the same roof and take food of the same hearth. But in joint family system more couples may be present in the family which is shown in the Table 5.4.

Table 5.4: Distribution of the respondents on the basis of their family type

Category	Tribal		Non- Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Nuclear	133	38.00	138	39.42	271	77.43
Joint	42	12.00	37	10.58	79	22.57
Total	175	50.00	175	50.00	350	100.00

Table 5.4 revealed that in tribal group 38.00 percent of the respondents belonged to nuclear family, while only 12.00 percent belonged to joint family. In non-tribal group 39.42 percent of the respondents had nuclear family and 10.58 percent had joint family. An exactly similar trend was observed in the pooled sample with 77.43 percent of the respondents having nuclear family and 22.57 percent having joint family.

The above findings indicate the preponderance of nuclear family system in both tribal and non tribal societies, which is attributed to the growing industrialization, urbanization and modernization. In the present case despite the rural background of the respondents the preference for nuclear family system was dominant, which might be due to the escalating price of essential commodities, higher level wants and needs and awareness for education and health facilities due to privatization and globalization touching event the remote areas.

5.5. POSSESSION OF CULTIVABLE LAND

Land is the most treasured gift of nature that serves the needs of human and other living creatures. During life time land becomes the most critical and unique resources for sustaining life. Possession of land also provides one with cherishing attributes of social status, respectability and identity. On the other hand, cultivable land is very valuable for rural people for sustainable livelihood and also for undertaking livestock enterprises. Details are presented in the Table 5.5

Table 5.5: Distribution of the respondents on the basis of their cultivable land holding

Category	Tribal		Non- Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Low (<1 bigha)	14	4.00	3	0.86	17	4.86
Medium (1-8 bigha)	152	43.43	150	42.86	302	86.29
Higher (>8 bigha)	9	2.57	22	6.28	31	8.86
Mean	5.24		3.56		4.33	
S.D.	4.36		3.23		3.22	
Range	05-30		0-25		0-30	
't' value	4.08**					

** Significant at 1 percent level of probability.
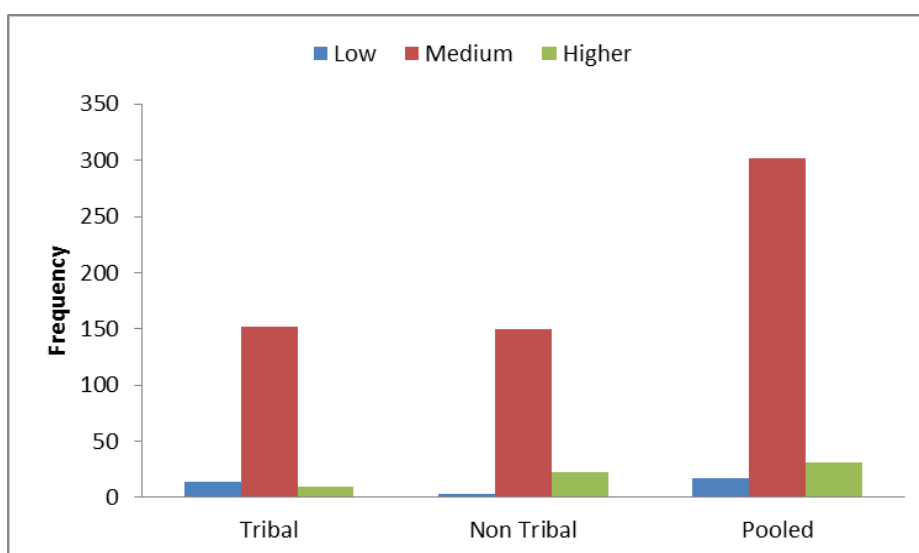
(Source: Table 5.5)

Fig. 3. Distribution of the respondents on the basis of their cultivable land holding.

Table 5.5 highlighted that majority of the tribal respondents (43.43 percent) had medium cultivable land holding followed by 4.00 percent having low and 2.57 percent high land holding while 42.86 percent of the non-tribal respondents had medium land holding followed by high (6.28 percent) and low (0.86 percent) land holding.

In pooled data majority of the respondents (86.28 percent) had medium land holding, followed by 8.86 percent having high and 4.86 percent having low land holding. The 't' test revealed that there existed a highly significant difference (t = 4.08) between tribal and non tribal people in respect of their cultivable land holding. The existence of significant difference in cultivable land holding might be attributed to the fact that the tribal people being indigenous inherited cultivable land from ancestors while some of the non tribal respondents might have owned their land by transfer of ownership by various means.

Moreover, the family size of the tribal household was smaller than that of the non tribal people. Therefore, the division of ancestral land in the case of non tribal people made them such significantly smaller. Therefore, the larger land holding of tribal people higher was natural.

5.6. POSSESSION OF TOTAL LAND

Total land in the study area was studied to find out the non-cultivable land as well as area covered by homestead and forest and bamboo etc. are shown in the Table 5.6

Table 5.6: Distribution of the respondents on the basis of their total land holding.

Category	Tribal		Non -Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Small (<1 bigha)	12	3.43	3	0.86	15	4.29
Medium (1-10 bigha)	156	44.57	151	43.14	307	87.71
Large (>10 bigha)	7	2.00	21	6.00	28	8.00
Mean	6.67		4.19		5.43	
S.D.	5.02		3.44		4.47	
't' value	5.40**					
Range	0.5-38		0-25		0-38	

** Significant at 1 percent level of probability.

Table 5.6 showed that majority of the tribal respondents (44.57 percent) possessed medium total land holding followed by those having low (3.43 percent) and high (2.00 percent) land holding. On the other hand, 43.14 percent of the respondents had medium land holding followed by 6.00 percent having high and 0.86 percent having low land holding.

In pooled sample 87.71 percent of the respondents had medium total land holding followed by 8.00 percent having high and 4.29 percent low land holding.

The 't' value (5.40 percent) indicated the existence of highly significant difference between tribal and non tribal respondents in respect of their total land holding. The explanation for such finding is similar to that of cultivable land holding.

5.7. CLASSIFICATION OF THE RESPONDENTS ON THE BASIS OF THEIR LAND SIZE

It is a general convention to classify the farmers on the basis of their land holding in order to facilitate their nomenclature for all practical purposes. This classification is used by economists, politicians, planners and policy makers. Category of the farmers detailing all are presented in the Table 5.7.

Table 5.7 : Classification of the respondents on the basis of their size of land holding.

Category	Tribal		Non −Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Landless < 3 bigha	40	11.43	80	22.86	120	34.29
Marginal < 7.5 bigha	113	32.29	86	24.57	199	56.86
Small 7.5-15 bigha	19	5.43	7	2.00	26	7.43
Medium 15-30 bigha	3	0.85	2	0.57	5	1.42
Big > 30 bigha	0	0	0	0	0	0
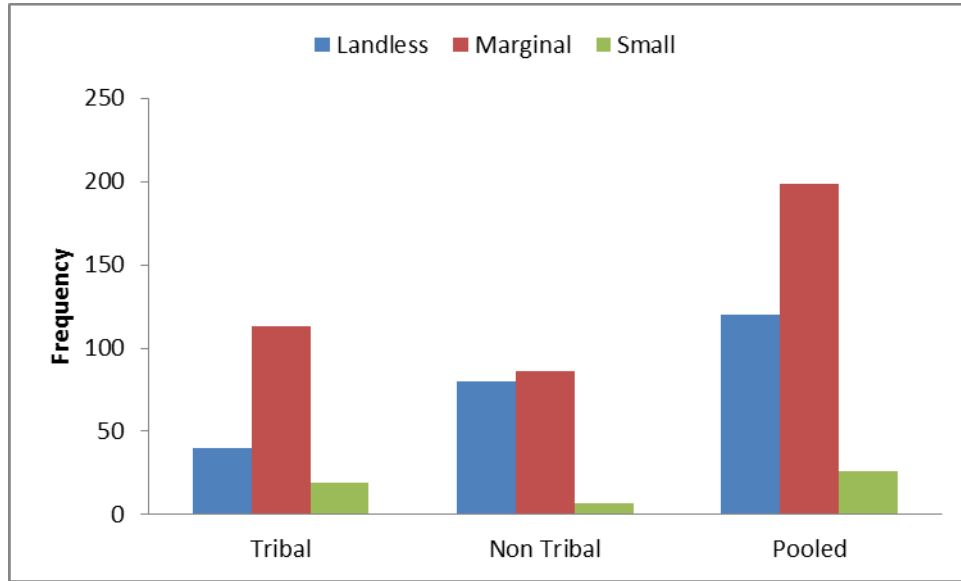
(Source: Table 5.7)

Fig.4. Classification of the respondents on the basis of their size of land holding.

Table 5.7 revealed that majority of the tribal respondents (32.29 percent) belonged to marginal farmers family, followed by 11.43 percent being landless, 5.43 percent small and 0.85 percent medium farmers. But in non-tribal group the majority (24.57 percent) were marginal farmers followed by a substantial segment (22.86 percent) being landless, 2.00 percent small farmers and 0.57 percent medium farmers.

In pooled sample 56.86 percent belonged to marginal farmer's family, followed by 34.29 percent landless, 7.43 percent small farmers and only 1.42 percent medium farmer's family. It is interesting to note that not even a single respondent found place in big farmer's family.
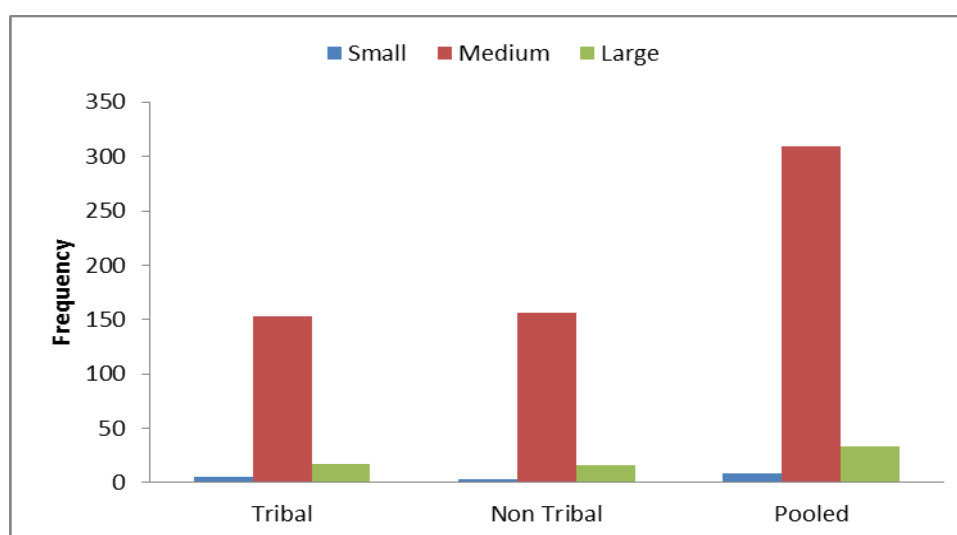
5.8. FAMILY SIZE OF RESPONDENTS

Family size of the respondents is important because how much labor and co-operation are available in the family and what proportion of family labor and support could be utilized for livestock enterprises are important factors that need to be taken care of are shown in the Table 5.8

Table 5.8 : Distribution of the respondents on the basis of their family size.

Category	Tribal		Non –Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Small (< 3)	5	1.43	3	0.86	8	2.29
Medium (3-6)	153	43.71	156	44.57	309	88.28
Large (> 6)	17	4.86	16	4.57	33	9.43
Mean	4.52		4.89		4.70	
S.D.	1.35		1.77		1.58	
t value	2.20*					
Range	1-9		2-14		1-14	

*significant at 5 percent level of probability.

(Source: Table 5.8)
Fig.5. Distribution of the respondents on the basis of their family size.

Table 5.8 exhibited that majority of the tribal respondents (43.71 percent) had medium sized family followed by 4.86 percent having large family and 1.43 percent with small sized family. An exactly similar trend was noticed in non-tribal respondents with 44.57 percent, 4.57 percent and 0.86 percent having medium, large and small sized family. The mean and standard deviation of tribal group were 4.52 and 1.35 respectively, while the corresponding figures for non-tribal group were 4.89 and 1.77 respectively.

In pooled sample a large majority (88.28 percent) fell in medium category of family size followed by large (9.43 percent) and small (2.29 percent) family holders. The 't' value (2.20 percent) indicated that there was a significant difference between the tribal and non tribal people in the study area in respect of their family size. The mean family size of the non tribal people was 4.89, which clearly was a pointer enough to indicate that the respondents having preponderance of nuclear family did possess family of more than 4 members. This might be due to the failure of the outreach of family planning program in the study area. Moreover, preference for male child was another cogent cause which attributed to larger family size of the non tribal respondents. On the other hand, the tribal people were completely free from such cultural or social dogma of preference for male child. Hence was the significant difference.

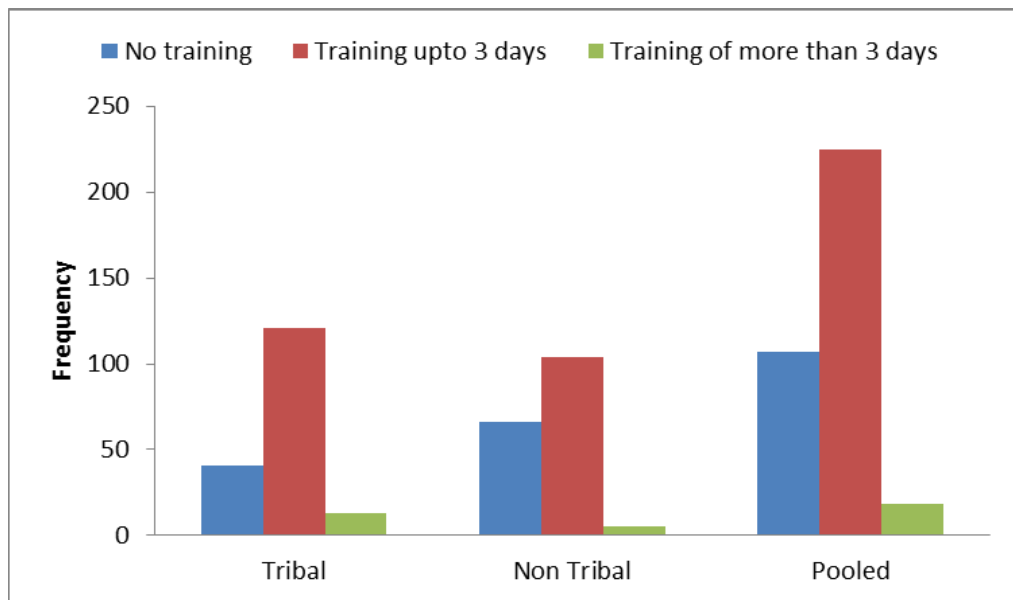## 5.9.   PARTICIPATION IN TRAINING PROGRAM OF LIVESTOCK AND POULTRY

Training programs are aimed at enhancing the knowledge level in particular area and to develop the skill of the participants, which can efficiently and effectively be utilized for higher production, productivity and the consequent escalating income generation. Training in livestock and poultry, therefore, was of utmost importance for the respondents who were involved with livestock enterprises. Details are presented in the Table 5.9.

Table 5.9:   Distribution of the respondents on the basis of their participation in training in Livestock / Animal Husbandry.

Category	Tribal		Non- Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
No training	41	11.71	66	18.86	107	30.58
Training upto 3 days	121	34.57	104	29.71	225	64.28
Training of more than 3 days	13	3.71	5	1.43	18	5.14
Total	**175**	**50.00**	**175**	**50.00**	**350**	**100.00**

Fig. 6. Women participating in A H developmental programmes

(Source: Table 5.9)

Fig. 7. Distribution of the respondents on the basis of their participation in training in Livestock / Animal Husbandry

Table 5.9 depicted that majority of the tribal respondents (34.58 percent) had participated training programs of up to 3 days followed by 11.71 percent undergoing no training at all and only 3.71 percent participated in training programs of more than 3 days. Similarly 29.71 percent of the non-tribal respondents had training of up to 3 days while a substantial segment (18.86 percent) could not avail any such training program and only 1.43 percent underwent training of more than 3 days.

In pooled sample 64.28 percent of the respondents had participated in training program of up to 3 days duration followed by 30.58 percent having no training at all and only 5.14 percent participated in training program with duration exceeding 3 days.

Therefore, the above picture presented a sad view regarding the participation of the respondents in training program. More number of non tribal respondents could not attend any training program, while in the pooled sample almost one third of them could not participate even in a single training program.

5.10. PRIMARY OCCUPATION OF THE RESPONDENTS

Primary occupation is the profession or field of activity wherefrom major income of the person concerned is generated on day-to-day basis. In the present study there were four such areas – agriculture, animal husbandry, daily wage earner and Govt. service are presented in the Table 5.10.

Table 5.10: Distribution of the respondents on the basis of their primary occupation.

Category	Tribal		Non -Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Agriculture	138	39.43	113	32.29	251	71.72
Animal Husbandry	30	8.57	5.3	15.14	83	23.71
Daily wage earner	3	0.86	6	1.71	9	2.57
Service	4	1.14	3	0.86	7	2.00
Total	**175**	**50.00**	**175**	**50.00**	**350**	**100.00**

Table 5.10 revealed that 39.43 percent of the tribal respondents had agriculture as their primary occupation followed by 8.57 percent with animal husbandry, 0.86 percent were daily wage earner and only 1.14 percent were Govt. service holders. An identical picture was viewed in non-tribal respondents with 32.29 percent, 15.14 percent, 1.71 percent and 0.86 percent having agriculture, animal husbandry, daily wage earner and Govt. job is their primary occupation.

In pooled sample 71.72 percent of the respondents had agriculture as primary occupation, while 23.71 percent had animal husbandry, 2.57 percent were daily wage earner and only 2.00 percent were Govt. service holders.
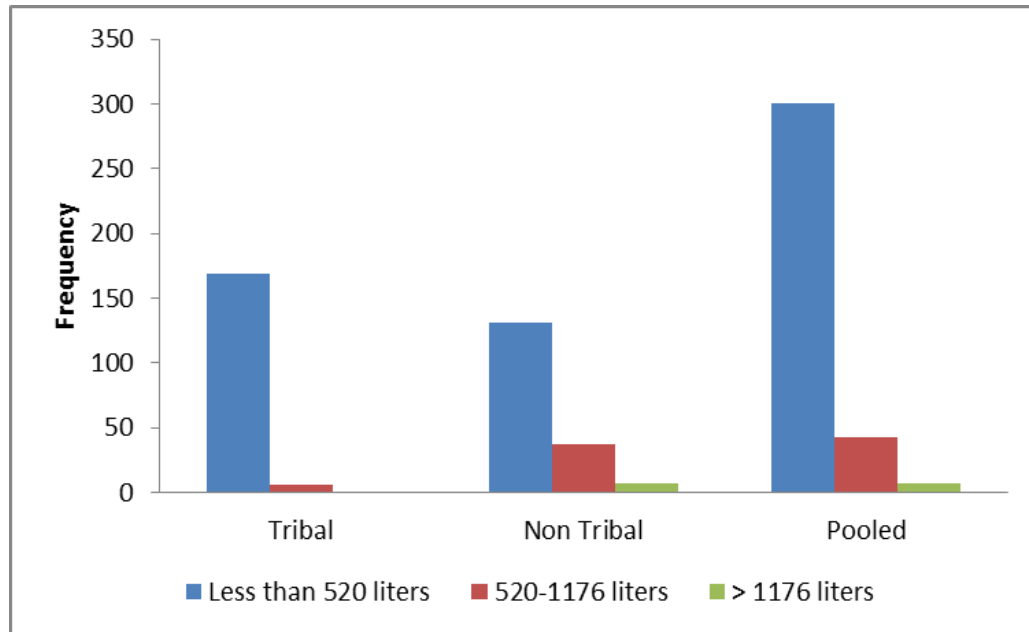
5.11. MILK YIELD OF THE RESPONDENTS

As the respondents were engaged in livestock enterprises, their milk production was an important determinant of socio-economic status. During data collection it was observed by the researcher that milk was mainly produced by cattle of indigenous breed and a very less number of respondents had crossbred cows. Therefore, it is not much difficult to surmise that cattle breeding program could not create much impact in the study area which is depicted in the Table 5.11

Table 5.11 : **Distribution of the respondents on the basis of their annual milk yield (Liters).**

Category	Tribal		Non- Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Less than (<520 liters)	169	48.29	131	37.43	300	85.17
520-1176 liters	6	1.71	37	10.57	43	12.23
(>1176 liters)	0	0	7	2.00	7	200
Mean (litres)	232.33		405.85		322.06	
SD	133.06		421.22		327.95	
't' value	4.90**					
Range	21-7900 ltrs.		60-2000		21-2600	

**significant at 1 percent level of probability.

Fig. 8. Distribution of the respondents on the basis of their annual milk yield (liters).

A glance in Table 5.11 revealed that annual milk production of an overwhelming majority tribal respondents (48.29 percent) was less than 520 litres, with only 1.71 percent produced milk annually ranging from 520 to 11.76 litres. However, in non tribal group 37.43 percent of the respondent had annual milk yield of less than 520 litres followed by 10.57 with milk production ranging from 520 to 1176 litres and only 2.00 percent produced more than 1176 litres annually. The mean and standard deviation in tribal group were 232.33 and 133.65 litres. The corresponding figures in non-tribal respondents were 405.85 and 421.22.

In pooled sample, 85.17 percent of the respondents produced milk annually of less than 520 litres, while 12.23 percent yielded milk ranging from 520-1176 litres and only 2.00 percent produced more than 1176 litres of milk annually.

The 't' value was significant which denoted that there was a highly significant difference between the tribal and non- tribal respondents. The average annual milk yield of the non-tribal respondents was 422.22 litres.
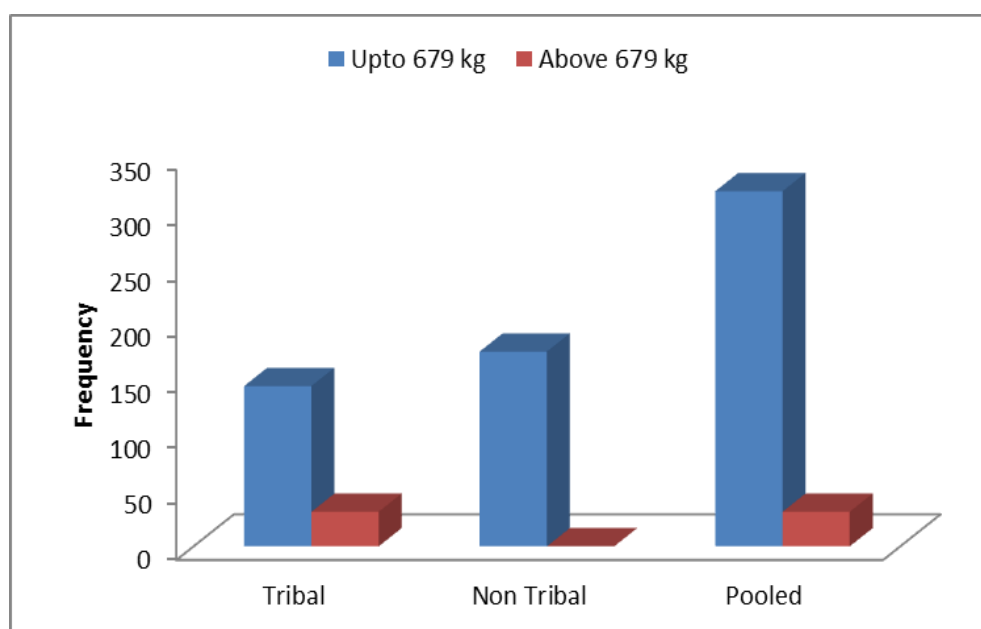
5.12. ANNUAL MEAT PRODUCTION BY THE RESPONDENTS

As the respondents were rearing livestock and poultry, their annual meat production was estimated by calculating their meat producing animals and birds reared and sold in a year. Detailing all these are presented in the Table 5.12.

Table 5.12: **Distribution of the respondents on the basis of their meat production (kg).**

Category	Tribal		Non- Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Upto 679 kg	144	41.14	175	50.00	319	91.14
Above 679 kg	31	8.86	0	0	31	8.86
Mean (kg)	347.93		39.46		224.76	
SD	782.65		83.74		626.72	
't' value	4.17**					
Range (kg)	0-3941		0-636		0-3941	

**significant at 5 percent level of probability.

(Source: Table 5.12)

Fig. 9. Distribution of the respondents on the basis of their meat production (kg)

Table 5.12 depicted that 41.14 percent of the tribal respondents produced meat upto 679 kg annually while 8.86 percent of their produced more than 679 kg meat annually. Their average annual meat production was 347.93 kg and SD was 782.65.; On the other hand, non-tribal respondents could produce 679 kg of meat annually and none could exceed it. The mean and SD were 39.46 kg and 83.74 kg respectively.

In pooled sample, an overwhelming majority (91.14 percent) produced meat of upto 679 kg annually and the remaining 8.86 percent produced more than 673 kg of meat annually. The mean and SD were 224.76 kg and 626.72 kg respectively.

The 't' value was significant, which implied that there was a significant difference between the tribal and non tribal respondents in respect of their meat production.
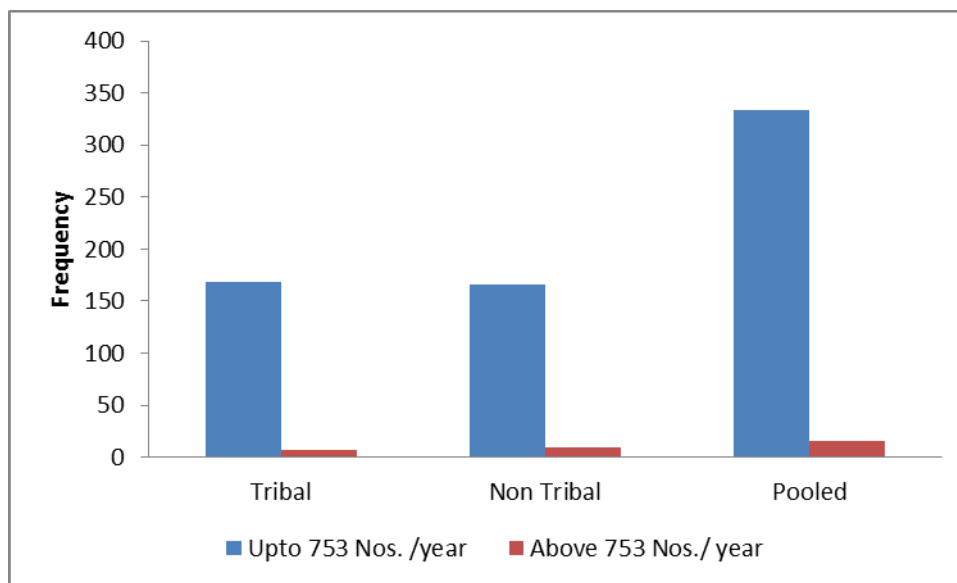
5.13. EGG PRODUCTION BY THE RESPONDENTS ANNUALLY

Egg production of the respondents was also a variable and they mainly received eggs from hen and duck. Distribution of the respondents on the basis of their Annual egg production are shown in the Table 5.13.

Table 5.13 : Distribution of the respondents on the basis of their annual egg production (nos.).

Category	Tribal		Non- Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Upto 753 Nos. /year	168	48.00	166	47.43	334	95.43
Above 753 Nos./ year	7	2.00	9	2.57	16	4.57
Mean	293.47		450.36		343.87	
SD	286.99		834.22		598.04	
t value	1.85 NS					
Range	0-3131		0-7000		0-8000	

NS = not significant

Fig. 10. Distribution of the respondents on the basis of their annual egg production (nos.)

Table 5.13 displayed the pattern of egg production. In tribal respondents 48.00 percent produced up to 753 nos. of eggs annually while only 2.00 percent produced more than 753 eggs annually. The average egg production was 293.47 and SD was 286.99.

In non-tribal respondents 47.43 percent of the respondents produced up to 753 nos. of eggs annually and 2.57 percent produced more than 753 nos. of eggs annually. The mean egg production in non-tribal women was 450.36 and SD was 834.22.

In pooled data 95.43 percent of the respondents produced up to 753 nos. of eggs annually while only 4.57 percent of them produced more than 753 eggs annually. The mean and SD were 343.87 and 598.04 respectively. However, the 't' value was non-significant, which implied that there was no significant difference between the tribal and non-tribal respondents in respect of their egg production.

5.14. LIVESTOCK POSSESSION OF THE RESPONDENTS

Livestock and poultry reared by the respondents were estimated and a score of 1 was assigned to each unit of livestock and poultry irrespective of their species. Thus total score of each respondent was worked out by summing the scores of each species and

with the help of Mean and Standard Deviation three categories were made – Low, Medium and High and are shown in the Table 5.14.

Table 5.14: **Distribution of the respondents on the basis of their possession of livestock (score).**

Category	Tribal		Non -Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Low (<11)	4	1.14	23	6.57	27	7.71
Medium (11-34)	77	22.00	107	30.57	184	52.57
High (>34)	94	26.86	45	12.86	139	39.71
Mean	21.57		20.89		22.73	
SD	2.77		15.32		11.05	
't' value	1.98*					
Range	7-633		2-430		2-633	

* Significant at 5 percent level of probabilily.

Table 5.14 revealed that majority of the tribal respondents (26.86 percent) found place in high category followed by medium (22.00 percent) and low (1.14 percent). On the other hand, majority of the non-tribal respondents (30.57 percent) fell in medium category followed by 12.86 percent in high and 6.57 percent in low category in respect of their livestock possession.

The mean and SD were 21.57 and 2.77 respectively in tribal group and the corresponding figures for non-tribal group were 20.89 and 15.32.

In pooled data 52.57 percent of the respondents had medium level of livestock strength followed by 39.71 percent high and only 7.71 percent low strength of livestock under their possession.

The mean and SD in overall sample were 22.73 and 11.05 respectively. The 't' value was significant which indicated that there was a significant difference between tribal and non-tribal people in the study area in respect of their possession of livestock and poultry. The higher mean value of livestock strength in tribal respondents could be explained by the fact that the total land holding as well as cultivable land holding of

tribal households were larger than those of the non-tribal households. The availability of larger land holding facilitated the tribal people for undertaking diversified farming system in livestock sector.

5.15. SPECIES-WISE LIVESTOCK POSSESSION

Species-wise livestock and poultry population in the study area was also estimated and these were arranged in total for tribal and non-tribal respondents as shown in the Table 5.15

Table 5.15: Possession of different species of livestock by the respondents.

Species	Total No.		
	Tribal	Non- Tribal	Pooled
Cattle	647	639	1286
Goat	267	500	767
Pig	520	12	532
Buffalo	6	0	6
Sheep	12	38	50
Duck	879	959	1838
Poultry (local)	3451	2576	6027
Poultry (Broiler)	9350	1680	11630

Table 5.15 revealed that the cattle population for both the group was almost same, while goat was larger in number for non-tribal respondents. On the contrary, the number of pigs were as high as 520 for tribal respondent and it was meagre 12 for non-tribal respondents. On the other hand, only six nos. of buffaloes were found in case of tribal respondents while no buffalo was found for non-tribal. The duck was almost same in number for both the groups, while local poultry was higher in number in tribal areas, contrary to this the number of broilers was many times larger in tribal areas.

From the above findings it could be assumed safely that the tribal women were less interested in goat rearing in comparison to their non-tribal counterparts. But they had a high inclination for pig rearing with which they are traditionally accustomed. Hence, their pig population was almost forty times higher than the non-tribal respondents.

As a matter of fact, there exists some sort of taboos in non-tribal areas particularly in caste Hindu societies against pig rearing. Similarly, the Muslim respondents keep themselves away from pig rearing and pork consumption due to the prevailing religious taboos. Hence, pig population for non-tribal respondents was meagre. Similar belief and custom prevail for fowl rearing in caste Hindu society. But the Muslim people traditionally go for fowl keeping. Hence, local fowl was smaller in number in non-tribal group. Similarly, sheep is less popular in tribal group. But for duck there was no noticeable difference. However, in respect of broiler farming the tribal respondents are marching ahead with the preponderance of broiler population.
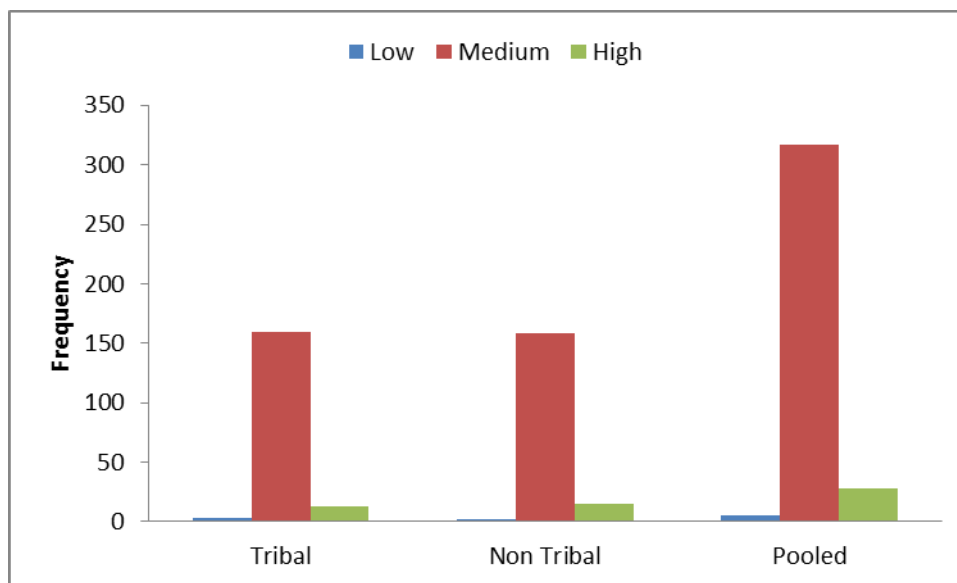
5.16. INCOME FROM LIVESTOCK

Income of the respondents generated from livestock and poultry and also from sources other than this was also estimated. Therefore, income had three categories – income from livestock, other sources and total income and is presented in the Table 5.16

Table 5.16: Distribution of the respondents on the basis of their income from livestock.

Category	Tribal		Non-Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Low (<Rs. 4290)	3	0.86	2	0.57	5	1.43
Medium (Rs. 4290-44632)	159	45.43	158	45.14	317	90.57
High (>Rs. 44632)	13	3.71	15	4.29	28	8.00
Mean (Rs.)	23954.44		24966.86		24460.65	
SD	22332.75		17799.88		20171.32	
't' value	0.47^{NS}					
Range (Rs.)	3000-127000		1700-120000		1700-127000	

NS : Non-significant.

Fig.11 Distribution of the respondents on the basis of their income from livestock.

Table 5.16 exhibited that 45.43 percent of the tribal respondents had medium level of income from livestock followed by 3.71 percent having high income and only 0.86 percent having low income. The average annual income from livestock was Rs. 23954.44 with SD Rs. 22332.75.

Similarly, 45.14 percent of the non-tribal respondents earned medium level of annual income from livestock followed by 4.29 percent having high and 0.57 percent having low income. The average annual income from livestock was Rs. 24966.86 with SD Rs. 17799.88.

In pooled data 90.57 percent had medium annual income from livestock followed by high (8.00%) and low (1.43%). The mean was Rs. 24460.65 and SD was Rs. 20171.32. The 't' value was non-significant.

5.17. INCOME OF THE RESPONDENTS FROM SOURCES OTHER THAN LIVESTOCK

The income of the respondents generated from sources other than livestock was also assessed and with the help of mean and SD three categories were made – low, medium and high and is exhibited in the Table 5.17

Table 5.17: Distribution of the respondents on the basis of their income from other sources except livestock.

Category	Tribal		Non -Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Low (<Rs. 23406.07)	109	31.14	116	33.15	225	64.29
Medium (Rs. 23406.07 – Rs. 26454.00)	8	2.29	18	5.14	26	7.42
High (> Rs. 26454.00)	58	16.57	41	11.71	99	28.23
Mean (Rs.)	Rs. 26247.16		Rs. 23244.25		Rs. 24750.00	
SD	31107.26		32654.44		31206.06	
't' value	0.88^{NS}					
Range	1700 – 3000.00		Rs. 3000- Rs. 3400.00		Rs. 1700- Rs. 3400.00	

NS=Not significant.

Table 5.17 depicted that majority of the tribal respondents (31.14 percent) had low income from other sources followed by 16.57 percent having high and 2.29 percent having medium income. The average annual income from other sources was Rs. 26247.16 with SD 31107.26. Similarly, 33.14 percent of the non-tribal respondents had low income followed by 11.71 percent with high and 5.14 percent with low income from other sources. The mean and SD were Rs. 23244.25 and 32654.44 respectively.

In pooled data 64.29 percent of the respondent's derived low income followed by 28.29 percent having high income and only 7.42 percent having medium income from other sources of income. The mean and SD were respectively Rs. 24750.00 and 31206.00. The 't' value (0.88) was non-significant which indicated that the tribal and non-tribal women did not differ significantly in respect of their income from other sources.

5.18. TOTAL INCOME OF THE RESPONDENTS

Table 5.18: Distribution of the respondents on the basis of their total income.

Category	Tribal		Non –Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Low (<Rs. 10736.00)	3	0.86	2	0.58	5	1.44
Medium (Rs. 10736.00 – Rs. 85040.00)	155	44.28	160	45.71	315	90.00
High (> Rs. 85040.00)	17	4.86	13	3.71	30	8.57
Mean	Rs. 48793.05		Rs. 46384.00		Rs. 47888.52	
SD	36181.80		381179.32		37151.69	
't' value	0.45 NS					
Range	Rs. 10300-350000		Rs. 2200- Rs. 298000		Rs. 2200- Rs. 298000	

NS= Not significant.

A look at Table 5.18 depicted that majority of the tribal respondents (44.28percent) had medium total income followed by 4.86 percent having high income and only 0.86 percent having low income. The mean and SD were Rs. 48793.00 and 36181.80 respectively. The percentage of respondents in non-tribal group were 45.71, 3.71 and 0.57 falling in medium, high and low income group. The mean and SD were Rs. 46384.00 and 381179.32 respectively.

In pooled sample a large majority (90.00 percent) of the respondents fell in medium category of total annual income, while 8.57 percent had high and 1.43 percent had low income. The overall mean and SD were Rs. 47888.92 and 37151.69 respectively.

The 't' value was non-significant which implied that there existed no significant difference between the tribal and non-tribal respondents in respect of their total income.

5.19. SOCIAL PARTICIPATION

Human being is a social animal. The social participation is the main way of living as it helps to bring cohesion and co-operation among the members of a social system. Thus social participation helps the members to interact amongst them and participate in various social events. The more they interact the more they gain knowledge and skill, exchange thoughts, ideas and views in various fields. Therefore, social participation is more important in progressiveness and development of the family, society and the nation which is depicted in the Table 5.19

Table 5.19: Distribution of the respondents on the basis of their social participation.

Category	Tribal		Non -Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Low ($\leq$1)	26	7.43	20	2.71	46	13.14
Medium (2-3)	123	35.14	118	33.71	241	68.86
High (>3)	26	7.43	37	10.58	63	18.00
Mean	2.53		2.65		2.59	
SD	1.38		1.07		1.23	
't' value	0.86 Nos.					
Range	0-6		0-12		0-12	

The results in Table 5.19 revealed that as high as 35.14 percent of the tribal respondents fell in medium category of social participation followed by an equal number of respondents (7.43 percent) having low and high level of social participation. But in non-tribal respondents 33.71 percent found place in medium category while 10.58 percent had high and 2.71 percent had low social participation.

The mean and SD in tribal group were 2.53 and 1.38 and the corresponding figures in non-tribal group were 2.65 and 1.07.

In pooled sample 68.86 percent of the respondents had medium social participation while 18.00 percent and 13.14 percent had high and low level of social participation.

The 't' value (0.86) was non-significant which implied that the tribal and non-tribal respondents did not differ significantly in regard to their social participation.
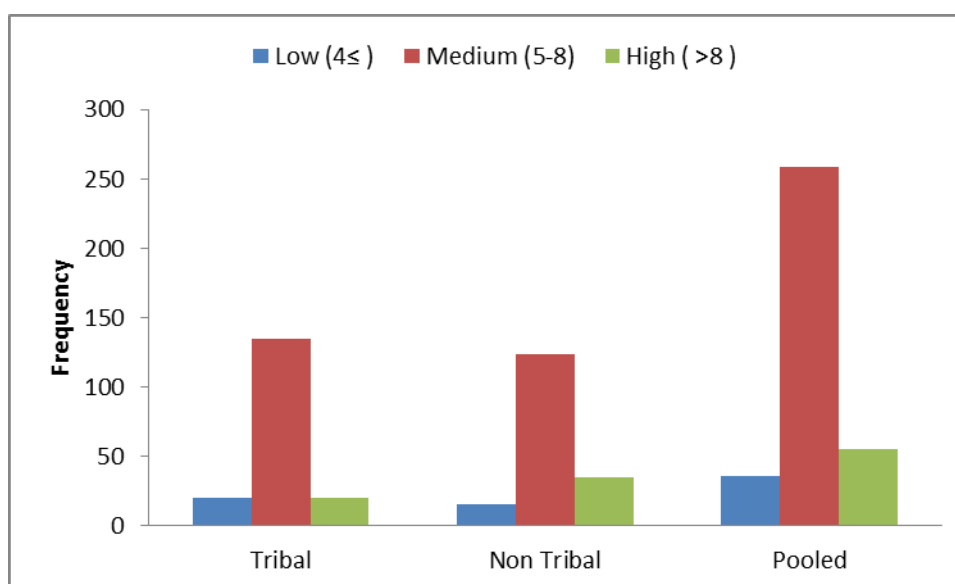
5.20. MASS MEDIA EXPOSURE OF THE RESPONDENTS

Mass media are those media which disseminate information simultaneously to large number of people located at different places. The glaring examples of mass media are T.V., radio, newspaper, mobile phone etc. which play vital role in disseminating information timely, educating the people and giving them entertainment. Thus, mass media have a significant role in educating the masses and also in moulding the public opinion and changing their attitude. This exhibited in the Table 5.20

Table 5.20: Distribution of the respondents on the basis of their mass media exposure.

Category	Tribal		Non –Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Low (4≤)	20	5.71	16	4.57	36	10.28
Medium (5-8)	135	38.57	124	35.43	259	74.00
High (>8)	20	5.71	35	10.00	55	15.72
Mean	6.28		6.81		6.84	
SD	1.32		2.19		2.08	
t value	2.41*					
Range	0-13		0-13		0-13	

*Significant at 5 percent level probability.

(Source: Table 5.20)

Fig. 12. Distribution of the respondents on the basis of their mass media exposure.

It was observed in Table 5.20 that 38.57 percent of the tribal respondents had medium level of mass media exposure, in comparison to an equal number of respondents (5.71percent) having low and high level of mass media exposure. The mean and SD were 6.28 and 1.32 respectively. But in non-tribal group 35.43 percent, 10.00 and 4.57 percent had medium, high and low level of mass media exposure respectively. The mean and SD were 6.81 and 2.19 respectively.

In the overall category 74.00 percent, 15.72 percent and 10.28 percent of the respondents had medium, high and low level of mass media exposure. The mean and SD were 6.84 and 2.08 respectively. The 't' value (2.41) was significant and therefore, indicated that there was a significant difference between the tribal and non-tribal respondents which might be attributed to the higher education of the non-tribal respondents. Moreover, the habitation of the tribal respondents in remote area also Preclude them from receiving mass media exposure.
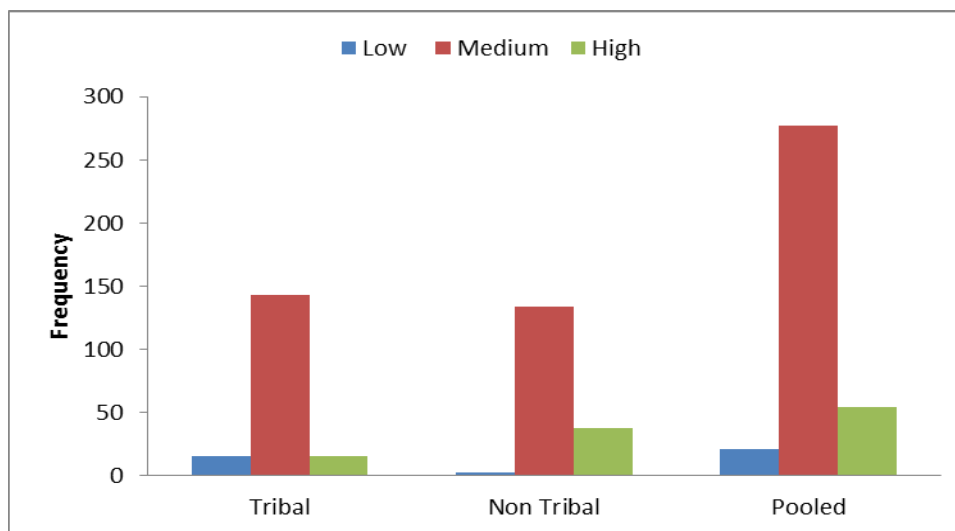
5.21 EXTENSION CONTACT

Extension contact is the interaction of the extension functionaries with the farmers and was operationalized in the present study as the visit made by the extension agents to the farmers at different point of time and at different interval. Therefore, extension contact plays an important role in diffusion of new technology and the technical know-how and it is shown in the Table 5.21

Table 5.21: Distribution of the respondents on the basis of their extension contact.

Category	Tribal		Non -Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Low (≤ 3)	16	4.57	3	0.86	21	5.43
Medium (10-14)	143	40.86	134	38.28	277	79.14
High (> 14)	16	4.57	38	10.86	54	15.43
Mean	11.66		12.65		12.16	
SD	2.08		2.18		2.19	
t value	4.32**					
Range	1-17		6-22		1-22	

**Significant at 1 percent level probability.

(Source: Table 5.21)

Fig. 13. Distribution of the respondents on the basis of their extension contact

A view in the Table 5.21 revealed that 40.86 percent of the tribal respondents had medium extension contact. It was interesting to note that an equal number of respondents (4.57 percent) had low and high level of extension contact. In case of non-tribal respondents 38.28 percent, 10.86 percent and 0.86 percent of the respondents had medium, high and low level of extension contact. The mean and SD were 11.66 and 2.08 in tribal group while the corresponding figures in non-tribal group were 12.65 and 2.18.

In pooled data. 79.14 percent, 15.43 and 5.43 percent of the respondents had medium, high and low level of extension contact. The overall mean was 12.16 with SD 2.19.

The significant 't' value revealed that the non-tribal respondents had highly significantly higher extension contact than their tribal counterpart. The shyness of the tribal people and their isolated nature at lack of interest might be contributing factor for their lower extension contact. Hence was the significant difference.

5.22. PARTICIPATION IN DECISION MAKING IN LIVESTOCK MANAGEMENT AND MARKETING
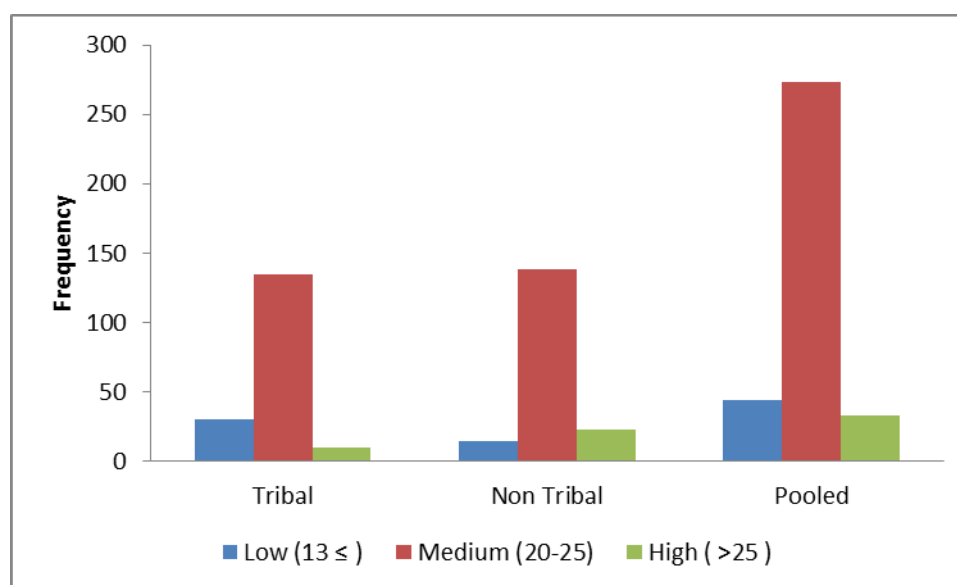
The decision making pattern of the respondents in livestock management and marketing was studied in order to enquire the level of female participation in decision making in the household. There were as many as twelve components where the

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respondents could take part in decision making. In each component decision making was measured in 3-point Likert Scale where scores of 1, 2 and 3 were assigned for "Does not participate", "Sometimes participate" and "Always participate" respectively. The scores of all the 12 components were summed up to yield the total score for an individual respondent. Thus, with the help of mean and SD, three categories were made – low, medium and high and is depicted in the Table 5.22

Table 5.22: Distribution of the respondents on the basis of their participation in decision making in livestock management and marketing.

Category	Tribal		Non -Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Low (13 ≤)	30	8.57	14	4.00	44	12.57
Medium (20-25)	135	38.57	138	33.43	273	72.00
High (>25)	10	2.86	23	6.37	33	9.23
Mean	21.57		22.88		22.22	
SD	2.77		3.07		2.99	
t value	4.18**					
Range	12.31		16.35		12.35	

**Significant at 1 percent level probability

(Source: Table 5.22)

Fig. 14. Distribution of the respondents on the basis of their participation in decision making in livestock management and marketing.

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It was clearly visible in Table 5.22 that majority of tribal respondents (38.57 percent) fell in medium level of decision making followed by 8.57 percent in low and 2.86 percent ion high level of decision making. Contrary to this in non-tribal respondents 33.43 percent fell in medium category followed by 6.37 percent in high category and 4.00 in low category of decision making. The mean and SD were 21.57 and 2.77 respectively in tribal and 22.88 and 3.07 respectively in non-tribal group.

In pooled sample 72.00 percent of the respondents had medium level participation in decision making while 12.57 percent had low level and 9.23 percent had high level participation in decision making. The mean and SD were 22.22 and 2.99 respectively. The significant 't' value (4.18) indicated the existence of highly significant difference between tribal and non-tribal respondents in respects of their female participation in decision making in livestock management and marketing. It was observed by the researcher during date collection that non-tribal women were more aware in livestock rearing for generating subsidiary income.

5.23. KNOWLEDGE IN IMPROVED LIVESTOCK FARMING

Knowledge is the sum total of what is known and usually entails a knower. It can be said as the organized information applicable to problem solving. In other words, information that has been organized and analyzed to make it understandable and applicable to problem solving and decision making is knowledge. Knowledge function is mainly cognitive or knowing. Knowledge seeking is initiated by an individual and is greatly influenced by one's predisposition.

In the present study knowledge of the respondents was measured with the help of open-ended and multiple choice questions in different areas of animal husbandry like breeding, feeding, disease control and management and indigenous technical knowledge. The scores of all the eleven items were summed up to yield the total score of knowledge for an individual respondent. Thus, with the help of mean and SD three categories were made – low, medium and high and are shown in the Table 5.23

Table 5.23: **Distribution of the respondents on the basis of their knowledge level on improved livestock farming**

Category	Tribal	Non- Tribal	Pooled
Low (≤ 10)	21 (6.00)	24 (6.86)	45 (12.85)
Medium (10-15)	111 (31.71)	128 (36.57)	239 (68.28)
High >155	43 (12.29)	23 (6.57)	66 (18.87)
Mean	13.44	12.63	13.03
SD	3.36	2.28	2.90
t value	2.62**		
Range	9-25	9-16	9-25

**Significant at 1 percent level probability
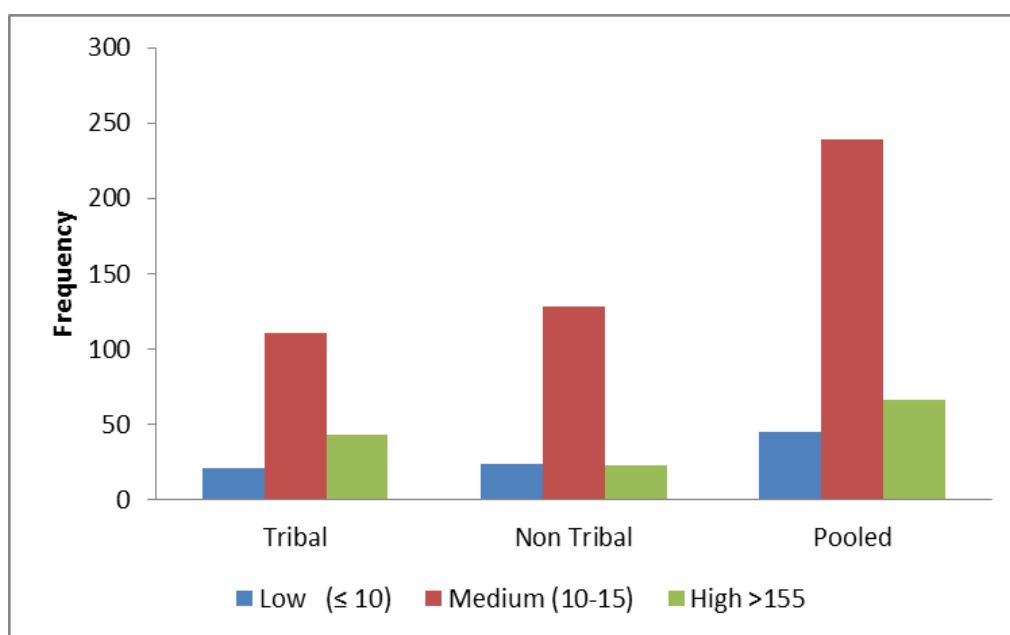
(Source: Table 5.23)

Fig. 15. Distribution of the respondents on the basis of their knowledge level on improved livestock farming

It was evident from Table 5.23 that majority of the tribal respondents (31.71percent) had medium knowledge level in improved animal husbandry, while 12.29 percent had high and 6.00 percent had low knowledge level. The mean and SD were 13.44 and 3.36 respectively.

On the other hand, in non-tribal respondents 36.57 percent had medium level of knowledge followed by 6.86 percent and 6.57 percent having low and high knowledge respectively. The mean and SD were 12.63 and 2.28 respectively.

In overall data, 68.28 percent had medium knowledge level, followed by 18.87 percent with high and 12.85 percent with low knowledge level. The mean and SD were 13.03 and 2.90 respectively. The 't' value (2.62) was highly significant which showed the significant difference between tribal and non-tribal respondents in respect of their knowledge level. The tribal respondents had significantly higher knowledge in improved animal husbandry because of the fact that different Govt. services, extension functionaries, planners and policy makers put more emphasis on tribal population as a result more programs for training skill development and capacity building are being conducted for tribal people. Consequently, their knowledge level in improved animal husbandry goes higher.

5.24. MODE OF PARTICIPATION IN DECISION MAKING IN LIVESTOCK MANAGEMENT AND MARKETING

Besides assessing the level of participation in decision making in livestock management and marketing the mode of participation was also studied. There were mainly three modes – does not participate, sometimes participate and always participate. Therefore, how frequently the respondents participated in decision making was estimated in eleven items and is presented in the Table 5.24.

Table 5.24: Decision making pattern of the respondents in respect of their livestock management and marketing.

Sl. No.	Components	Always participate			Does not participate			Sometime participate		
		Tribal	Non-Tribal	Pooled	Tribal	Non-Tribal	Pooled	Tribal	Non-Tribal	Pooled
1	Selection of breed	48	48	96	69	49	118	58	78	136
2	Feeding	86	83	169	8	2	10	80	91	171
3	Sale of animal	23	14	37	93	99	192	60	61	121
4	Purchase of animal	12	12	24	122	121	243	32	51	83
5	Sale milk	21	46	67	9	5	14	144	125	269
6	Sale of other livestock product	14	39	53	19	8	27	144	126	270
7	Treatment	143	138	281	11	0	11	22	36	58
8	A.I.	3	7	10	150	129	279	14	47	61
9	Fodder production	8	10	18	38	39	77	126	129	255
10	Animal Feed	58	75	133	14	9	23	101	93	194
11	Insurance	12	3	15	131	145	276	33	26	59

Table 5.24 indicated that majority of the tribal women did not participate in decision making in 'selection of breed'. But in non-tribal respondents the scenario was just reverse with majority having participated in such decision making.

Table 5.24 revealed that majority of the tribal respondents (26.86 percent) found place in high category followed by medium (22.00 percent) and low (1.14 percent). On the other hand, majority of the non-tribal respondents (30.57 percent) fell in medium category followed by 12.86 percent in high and 6.57 percent in low category in respect of their livestock possession.

The mean and SD were 21.57 and 2.77 respectively in tribal group and the corresponding figures for non-tribal group were 20.89 and 15.32.

Fig. 16. Women dairy farmer selling milk at farm complex.

In pooled data 52.57 percent of the respondents had medium level of livestock strength followed by 39.71 percent high and only 7.71 percent low strength of livestock under their possession.

In respect of 'feeding and animal feed' majority respondent in both tribal and non-tribal group participated in decision making. In case of marketing, there were four items – sale of animal, purchase of animal, sale of milk and sale of other livestock products. In all these activities the decision making process witnessed less female participation in both tribal and non-tribal respondents.

Contrary to this an overwhelming majority in both tribal and non-tribal respondents participated in decision making in respect of treatment of animals.

Lastly regarding insurance of animal decision making witnessed less participation in both tribal and non-tribal respondents.

5.25. AWARENESS OF THE RESPONDENTS TOWARDS GOVT. PROGRAMS FOR LIVESTOCK DEVELOPMENT.

Table 5.25. **Frequency distribution of the respondents on the basis of their participation in Govt. Programs for livestock development.**

Categories	Tribal		Non- Tribal		Pooled	
	Fre	P.C.	Fre	P.C.	Fre	P.C.
Aware	55	31.42	60	34.28	115	32.85
Not aware	120	68.58	115	65.72	235	67.15
Total	175	100.00	175	100.00	350	100.00

Table 5.25 revealed that 31.42 percent of the tribal women were aware about the govt. programs/schemes for livestock development, while 68.58 percent were not aware about it. On the other hand, 34.28 percent of the non-tribal women aware about such programs, whereas 65.72 percent were unaware about it. In the pooled data 32.85 percent aware about such scheme while 67.15 percent were unaware.

Fig. 17. Women beneficiaries for poultry farming under Govt. sponsored scheme.

5.26 . DISTRIBUTION OF THE RESPONDENTS ON THE BASIS OF THEIR RECEIPT/NON-RECEIPT OF GOVT. SUBSIDIES THROUGH BANK LINKAGE/ OTHER FINANCIAL INSTITUTIONS FOR LIVESTOCK DEVELOPMENT

Government subsidy and linkage with the Banks / financial institutions under livestock development schemes of the respondents are depicted in the Table 5.26.

Table 5.26. Frequency distribution of the respondents on the basis of their receipt /not receipt of Govt. subsidy through bank linkes / other financial institution for livestock development schemes.

Categories	Tribal		Non- Tribal		Pooled	
	Frequency	P.C.	Frequency	P.C.	Frequency	P.C.
Subsidy received	95	54.29	45	25.72	140	40
Subsidy not received	80	45.71	130	74.28	210	60
Total	175	100.00	175	100.00	350	100.00

It is observed in the Table 5.26 that 54.9 percent of the tribal women received subsidies from banks or other financial institutions while 45.71 percent did not receive any subsidies. The corresponding figures for non-tribal were 25.72 percent and 74.28 percent. In poled sample 40 percent received subsidy whereas 60 percent did not receive any subsidies.

Testing of the Hypothesis

5.27. RELATIONAL ANALYSIS OF SOCIO-ECONOMIC VARIABLES OF THE RESPONDENTS WITH THEIR TOTAL LIVESTOCK POPULATION

The socio-economic profile of the rural women participating in livestock enterprises have been covered by explaining both the qualitative and quantitative variables in order to enquire the impact these factors exert upon livestock production statistical analyse like correlation and regression have been conducted between the quantitative variables with livestock population, milk production, meat production, egg production and income from livestock are presented the Table 5.27.

Table 5.27: **Relational analysis of Socio-economic variables of the respondents with their total livestock population.**

Independent Variables	'r' value		
	Tribal	Non-Tribal	Pooled
Age (Yrs)	-0.1059	-0.018	-0.0371
Education (self)	0.134	-0.123	-0.0319
Education (family)	-0.065	-0.080	-0.086
Family size	-0.045	0.166	0.055
Land holding (cultivated) in Bigha	0.059	0.0171	0.076
Land Holding (total)	0.099	-0.0052	0.080
Social participation (score)	-0.091	-0.0984	-0.097
Mass media exposure (Score)	0.032	0.0877	0.026
Extension contact	-0.022	0.298**	0.126
Decision making in livestock management and marketing	0.0503	0.018	-0.038
Knowledge in improved animal husbandry	0.134	0.388**	0.349**

*Significant 5 percent level of probability.
** Significant 1 percent level of probability.

A scrutiny in Table 5.27 revealed that out of eleven quantitative variables of the tribal women none could show significant relationship with livestock population. On the contrary extension contact and knowledge in improved animal husbandry of the non-tribal women exhibited highly significant positive correlation with livestock population. Likewise, in pooled sample knowledge in improved animal husbandry was found to have positive and highly significant correlation with livestock population. This phenomenon could be examined by the fact that higher extension contact by the non-tribal women escalated their knowledge level in improved animal husbandry which was utilized in real life situation for rearing small livestock and poultry by them, hence, was the positive and significant correlation. Therefore, it can be presumed that with higher extension contact and by enhancing knowledge level of rural women by various means they could be motivated for adopting different livestock enterprises as they gain confidence regarding improved management practices, disease control and first aid measures. However, the failure of tribal women to exhibit such positive relation is paradoxical.

5.28. REGRESSION ANALYSIS OF SOCIO-ECONOMIC VARIABLE OF THE RESPONDENTS ON THEIR LIVESTOCK POPULATION

Regression analysis of the independent variables of the respondents with respect to their livestock population are presented in the Table 5.28.

Table 5.28: Regression analysis of socio-economic variable of the respondents on their livestock population.

Independent	Tribal		Non- Tribal		Pooled	
	b value	t value	b value	t value	b value	t value
Age	-0.2465	-0.64	-0.6911	-0.52	-0.8314	-1.08
Education (self)	3.9374	1.30	-16.9971	-1.43	-3.0558	-0.48
Family (education)	-0.5254	-1.05	-3.8918	-1.46	-2.7107	-2.29*
Family size	-0.0734	-0.04	25.7773	2.66	8.7239	1.97*
Land holding	-5.7913	-1.59	9.4897	1.26	2.4104	0.48
Social Participation	-4.1838	-1.38	-1.5164	-0.20	-7.0738	-1.47
Mass Media exposure	0.4291	0.62	6.9422	1.27	2.2063	0.74
Extension contact	0.5277	0.37	19.6195	4.02**	6.7804	2.52
Knowledge level in improved animal husbandry	1.1083	0.92	15.1030	4.87**	12.8036	6.47**
	$R^2 = 0.07$ F value for R = 1.38		$R^2 = 0.28$ F value for R = 6.69		$R^2 = 0.16$ F value for R = 6.83	

Further, a glance at Table 5.28 made it clear that out of the eleven variables of the tribal women none was found to have significant contributory effect on livestock population. But, in non-tribal women extension contact and knowledge level in improved animal husbandry had significant contributory effect. The co-efficient of determination (R2) was 0.28 which indicated that only 28 percent of variation in livestock population could be explained by these variables. The F value for R was 6.69 which was highly significant which implied that these two variables were the good predictors of livestock population. In pooled sample R^2 value was 0.16 which implied that only 16percent of variation could be explain by this variables. The F Value for R was 6.83 which indicated that knowledge in Animal Husbandry, family Education and family size were the good indicators for predicting livestock population.

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5.29. RELATIONAL ANALYSIS OF SOCIO-ECONOMIC VARIABLES WITH MILK PRODUCTIONS

Relational analysis of the independent variables of the respondents with respect to their milk production are shown in the Table 5.29

Table 5.29: Relational analysis of Socio-economic variables of the respondents with their milk productions (litters)

Independent Variables	"r" value		
	Tribal	Non-Tribal	Pooled
Age (yrs)	0.017	0.210	0.066
Education (self)	0.055	-0.112	-0.0079
Education family (Score)	0.280**	0.076	0.25**
Family size	0.253	-0.060	0.208
Land holding (cultivated) in bigha	0.191	-0.007	0.052
Land holding (total) in bigha	0.206*	-0.011	0.033
Social participation	0.181	0.059	0.117
Mass media exposure	-0.115	0.214*	-0.025
Extension contact	0.324**	0.068	0.28**
Decision making in livestock management & marketing	0.215*	-0.112	0.186
Knowledge in improve animal husbandry	0.033	0.061	-0.007

*Significant 5 percent level of probability.
** Significant 1 percent level of probability.

It was visible in Table 5.29 that 'family education', 'land holding', 'extension contact' and 'decision making' exhibited positive significant correlation with milk production, in case of tribal women, while only mass media exposure of the non-tribal women had positive correlation with milk yield. However, in overall sample family education and extension contact displayed positive significant correlation with milk.

In tribal women higher family education had bearing on milk yield as there was growing awareness in respect of milk consumption for human health among the family members. On the other hand, higher land holding was an advantage for them for utilizing their crop residues and other by-products from agricultural yield in those land for dairy animals. Moreover, they could also explore the possibilities of fodder cultivation. Higher participation in decision making in livestock management and marketing only enabled the tribal women in contributing to milk production as it was revealed that rural women were concerned with feeding and animal feed as also with treatment of animals.

It needs no explanation in respect of positive relation of extension contact and mass media exposure with milk production. These are well known factors in dairying which are taken care of by both govt. and private agencies.

5.30. REGRESSION ANALYSIS OF THE SOCIO-ECONOMIC VARIABLES ON MILK PRODUCTION

Table 5.30: Regression analysis of socio-economic variables of the respondents on their milk production.

Independent Variable	Tribal		Non -Tribal		Pooled	
	b value	t value	b value	t value	b value	t value
Age	1.3052	0.31	1.6989	0.72	2.2790	1.67
Education (self)	12.2207	0.37	-14.1339	0.73	-26.9534	-2.16
Family education	8.4166	1.54	9.7411	2.73**	5.6023	2.12
Family size	23.2673	1.15	14.6139	1.10	20.4133	-2.06*
Land holding	-17.0536	0.41	11.9732	0.79	8.3018	1.03
Land holding (total)	34.7361	0.90	-10.2745	-0.78	-632709	0.36
Social participation	56.4757	1.57	26.3362	1.76	7.2149	0.33
Mass media exposure	53.1203	-3.17**	-17.3133	-1.78	16.0783	2.50*
Extension contact	45.7644	2.89	35.4474	44.2**	4.2736	0.89
Knowledge in improved animal husbandry	6.4439	0.48	2.7747	0.47	3.1486	1.00
	$R^2 = 0.23$ F value for R = 4.79		$R^2 = 0.14$ F value for R = 2.35		$R^2 = 0.14$ F value for R = 5.45	

*Significant 5 percent level of probability.
** Significant 1 percent level of probability.

A close look in Table 5.30 exhibited that mass media exposure in tribal women was found to have significant contributory effect on milk production. The co-efficient of determination (R^2) was 0.23 which indicated that only 23 percent variation in milk production could be explained by these variables. However, the 'F' value was highly significant, which implied that mass media exposure was a good predictor of milk production.

In non-tribal women 'family education' and 'extension contact' had significant contributory effect on milk production. The co-efficient of determination was 0.14 which indicated that only 14 percent variation in milk production could be explained by these variables. However, significant 'F' value implied that these two variables were good predictors of milk production. In pooled sample R^2 value was 0.14 which implied that only 14percent of valuation could be explained by these variables. F value for R was 5.45 which indicated that mass media exposer and family size were the good predictors of milk production.

5.31. RELATIONAL ANALYSIS OF SOCIO-ECONOMIC VARIABLES WITH EGG PRODUCTION

A look in Table 5.31 revealed that for tribal women their education and mass media exposure had positive significant relationship with egg production. Similarly for non-tribal women land holding and knowledge in improved animal husbandry exhibited positive significant relation with egg production. But in overall sample only the participation in 'decision making in livestock management and marketing' was found to have significant positive relation with egg production.

From the above findings it is abundantly clear that higher level of education and mass media exposure in tribal women led them to higher egg production, which was obviously due to their growing awareness about the health outcome of egg. These two variables were the motivating factors for augmenting egg production. But in non-tribal women land holding and knowledge level in improved animal husbandry had a bearing with egg production.

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Table 5.31: Relational analysis of Socio-economic variables of the respondents, Egg production (nos.)

Independent Variable	"r" value		
	Tribal	**Non -Tribal**	**Pooled**
Age (Year)	-0.081	0.070	-0.031
Education (self)	0.295**	0.095	0.210
Education (family)	0.106	0.123	0.103
Family size	-0.019	-0.005	-0.0122
Land holding (cultivated) in bigha	0.133	0.240**	0.1191
Land holding (total)	0.146	0.258**	0.1194
Social participation	0.134	0.008	0.0741
Mass media exposure	0.362**	0.120	0.282
Extension contact	0.096	0.014	0.083
Decision making pattern in livestock management and marketing	0.001	0.025	0.218*
Knowledge level in improved animal husbandry	0.003	-0.198*	0.012

*Significant 5 percent level of probability.
** Significant 1 percent level of probability.

The positive relation of higher knowledge level in improved animal husbandry with egg production is easily understandable. But the relationship of land holding with egg production seems *prime facie* paradoxical. A close scrutiny might lead one to see a deeper relationship. With higher land holding the rural women might be motivated to extend their venture for undertaking some domestic birds for egg production both for domestic consumption as well as sale.

5.32. REGRESSION ANALYSIS OF SOCIO-ECONOMIC VARIABLES WITH EGG PRODUCTION

A view in Table 5.32 revealed that mass media exposure of the tribal women had a significant contributory effect on egg production. The co-efficient of determination (R^2) was 0.18 which implied that only 18 percent of variation in egg production could be explained by these variables. The 'F' value was 2.33 which was significant. Therefore, mass media exposure was a good predictor of egg production for tribal women.

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On the other hand, knowledge level in improved animal husbandry of the non-tribal women was found to have a significant contributory effect on egg production. The R^2 value was 0.13 which indicated that only 13.00 percent of variation could be explained by these variables. The significant 'F' value implied that it was a good predictor of egg production for non-tribal women. However, in pooled data only mass media exposure had positive impact on egg production. The R^2 value was 0.12 which indicated that only 12 percent of variation in egg production could explain by these variables together and their significant 'F' value indicated that mass media exposure was a good predictor of egg production.

Table 5.32: **Regression analysis of the socio-economic variable of the respondents on their egg production.**

Industrial variable	Tribal		Non –Tribal		Pooled	
	b value	t value	b value	t value	b value	t value
Age	1.9269	0.19	1.4659	0.51	-1.9475	-0.43
Education (self)	121.3544	0.51	7.0283	0.27	65.698	1.72
Family education	8.0389	0.54	6.4898	0.14	7.2649	0.92
Family size	-48.0257	-0.90	-335284	-1.62	-347401	-1.21
Land holding	-136.1667	1.46	2.4857	0.14	-8.7527	-0.28
Land holding (total)	134.3707	1.53	13.5597	0.86	21.3622	0.79
Social participation	-30.6435	0.41	1.7674	0.11	-4.8605	-0.18
Mass media exposure	141.771	3.47**	17.5250	1.53	72.6786	4.12**
Extension contact	-18.7849	0.50	0.9539	0.09	-1.06955	-0.06
Knowledge level in improve animal husbandry	-22.6628	0.75	-13.1925	-1.98*	-15.7037	-1.38
	$R^2 = 0.18$ F value for R = 2.33*		$R^2 = 0.13$ F value for R = 2.48**		$R^2 = 1.12$ F value for R = 24.06**	

*Significant 5 percent level of probability.
** Significant 1 percent level of probability.

5.33. RELATIONAL ANALYSIS OF SOCIO-ECONOMIC VARIABLES WITH INCOME FROM LIVESTOCK

Table 5.33 revealed that out of eleven variables only three family education, extension contact and decision making of the tribal women were found to be positively and highly significantly correlated with income from livestock. On the other hand, mass

media exposure, extension contact and knowledge in improved animal husbandry of the non-tribal women were highly significantly but positively correlated with their income from livestock. Similar phenomenon was displayed in overall data.

From the above findings it can be inferred that with the increase in the level of family education, extension contact and participation in decision making in livestock management and decision making there was a corresponding increase in income of the tribal women from livestock. These three factors had positive impact on income level of the tribal rural women.

Table 5.33 : Relational analysis of socio-economic variables of the respondents and their income from livestock (Rs.)

Independent Variable	"r" value		
	Tribal	Non- Tribal	Pooled
Age (year)	0.120	-0.034	0.033
Education (self)	-0.047	-0.125	-0.088
Education (family)	0.202*	-0.151	0.0337
Family size	0.182	-0.070	0.059
Land holding (cultivated) in Bigha	0.184	-0.147	-0.0285
Land Holding (total)	0.157	-0.124	-0.0306
Social participation	0.1811	0.026	0.086
Mass media exposure	0.0009	0.297**	0.156
Extension contact	0.3463**	0.228*	0.277**
Decision making pattern and marketing	0.333**	-0.008	0.151
Knowledge in improved in animal husbandry	0.056	0.557**	0.373**

*Significant 5 percent level of probability.
** Significant 1 percent level of probability.

Similar explanation was found to hold good for non-tribal women. Their mass media exposure, extension contact and knowledge in improved animal husbandry had positive impact on income from livestock. The same explanation could be put forward in case of overall data also.

5.34. REGRESSION ANALYSIS OF SOCIO-ECONOMIC VARIABLES WITH INCOME FROM LIVESTOCK

Table 5.34: Regression analysis of the socio-economic variable of the respondents on their income from livestock production.

Independent variable	Tribal		Non-tribal		Pooled	
	b value	t value	b value	t value	b value	t value
Age	174.72	0.96	146.20	0.85	73.26	0.56
Education (self)	1047.36	0.74	3561.52	2.31	3211	3.01
Family education	237.01	1.01	25.39	0.07	139.03	0.63
Family size	731.67	0.85	455	0.36	575.55	0.77
Land holding (cultivable)	2723.95	1.53	165	0.17	97.26	0.12
Land holding total	1927.31	1.22	44.48	0.05	228.58	0.31
Social participation	1169	0.82	1435.10	1.47	1337.86	1.64
Mass media exposure	1023.94	1.45	3300.17	4.66**	1353.52	2.68**
Extension contact	2230.68	3.38**	1915.69	3.02**	2065.25	4.57**
Knowledge in improved in animal husbandry	462.52	0.82	3475.94	8.62	2628.72	7.89
	$R^2 = 0.78$ F value for R = 3.79**		$R^2 = 0.4504$ F value for R = 13.44**		$R^2 = 0.2512$ F value for R = 11.37**	

*Significant 5 percent level of probability.
** Significant 1 percent level of probability.

It was revealed from Table 5.34 that extension contact of tribal women was found to have a contributory effect on income from livestock. It was interesting to note that the co-efficient of determination (R^2) was as high as 0.78 which clearly indicated that 78.00 percent of variation in income from livestock could be explained by these variables

together. The significant 'F' value implied that extension contact was a good predictor of income from livestock for tribal women.

But, in non-tribal women mass media exposure and extension contact exhibited significant contributory effect on income from livestock. The R^2 value was 0.45 which indicated that only 45.00 percent of variation could be explained by these variables together. The significant F value indicated that these two variables were good predictors of income from livestock for non-tribal women. Similar findings were displayed in overall data also.

In pooled sample mass media exposure and extension contact had significant contributory effect on income from livestock. The R2 value was 0.25, which implied that 25 percent of the variation in income from livestock could be explain by this variables together. The significant f value indicated that mass media exposure and extension contact were the good predictors of income from livestock.

5.35. RELATIONAL ANALYSIS OF SOCIO-ECONOMIC VARIABLES WITH MEAT PRODUCTION

Table 5.35: **Relational analysis of socio-economic variable of the respondents with their meat production (kg)**

Independent variable	"r" value		
	Tribal	Non-Tribal	Pooled
Age (year)	0.0433	0.01144	0.0129
Education (self)	0.0711	-0.00009	0.231
Education family	-0.070	-0.12184	-0.113
Family size	-0.099	0.0698	0.0041
Land holding (cultivated) in bigha	0.026	0.0781	0.1044
Land holding (total) in bigha	0.0112	-0.037	0.0262
Social participation	0.0928	0.0293	0.0311
Mass media exposure	-0.0016	0.088	0.0498
Extension contact	0.0793	0.211*	0.1087
Total (score)	-0.0020	-0.0716	-0.084
Knowledge level in improved animal husbandry	-0.1063	-0.0531	-0.0193

*Significant 5 percent level of probability.

Table 5.35 displayed that none of the variables in tribal women could show significant relation with meat production. But in non-tribal women extension contact had a significant and positive correlation with meat production. Therefore, the explanation of such positive relation is easily understandable as it had positive effect upon production.

5.36. REGRESSION ANALYSIS OF SOCIO-ECONOMIC VARIABLES WITH MEAT PRODUCTION

Table 5.36: Regression analysis of the socio-economic variable on meat production of the respondents

Independent variable	Tribal		Non -Tribal		Pooled	
	b value	t value	b value	t value	b value	t value
Age	1.6083	0.42	4.9738	-1.32	3.3526	0.47
Education (self)	15.4638	1.43	+8.3223	0.68	30.5161	0.82
Family education	-1.1525	0.86	-33.0801	-2.26*	-20.5935	-2.78**
Family size	-6.4888	1.30	87.6960	1.66	13.3360	0.51
Land holding cultivation	8.8825	0.86	192.2683	4.69**	135.0692	4.55**
Land holding Total	-7.5391	0.78	-165.8336	-4.70**	-109.3422	-4.19**
Social participation	3.5228	0.40	28.0169	0.67	2.9740	0.10
Mass media exposure	-5.2855	-1.12	38.4393	1.28	3.9222	0.70
Extension contact	4.5853	1.25	86.6424	3.22**	35.2340	2.11*
Knowledge level in improved animal husbandry	-5.4974	-1.52	-18.7243	-1.06	-4.4053	0.35
	$R^2 = 0.08$ F value for R = 0.85		$R^2 = 0.22$ F value for R = 4.60**		$R^2 = 0.11$ F value for R = 3.42**	

*Significant 5 percent level of probability.
** Significant 1 percent level of probability.

A close scrutiny in Table 5.36 revealed that none of the socio-economic variables of the tribal women was found to have contributory effect on meat production. But in non-tribal women family education, land holding and extension contact exhibited

significant contributory impact on meat production. Almost similar phenomenon was depicted in the overall data.

The tribal people were traditionally meat eaters and meat producers as meat was associated with their socio-cultural and religious functions. Hence, no socio-economic factors needed to motivate or demotivate them for or against meat production. However, in non-tribal women and pooled sample the three variables family education, land holding and extension contact exhibited significant positive impact on meat production.

The co-efficient of determination (R^2) in non-tribal respondents was 0.22 which indicated that 22 percent of variation in meat production could be explained by these variables together. Moreover, the high significant 'F' value indicated that the above mentioned three variables were the good predictors of meat production for non-tribal women. Similar explanation did hold good for overall data