

## Study on Comparative Knowledge Level about Improved Dairy Farming Practices of SHG & Non-SHG Members in West Bengal

Sukanta Biswas<sup>1</sup>, D. P. Sikdar<sup>2</sup> and A. Goswami<sup>3</sup>

1. . Lecturer/SMS (AnimalSc.), DDKVK, UBKV, Majhian, D. Dinajpur, W.B. 2. Asso. Prof., University of Kalyani, Kalyani, Nadia, W.B., 3. Director, Distance Education, University of Kalyani, Nadia, W.B.

Corresponding author e-mail: sbiswasvet@gmail.com

### ABSTRACT

*India is the land of diversified agrarian resources where livestock is an integral part of it. Majority (70%) of rural population are engaged in livestock based production system, as this is the only equitably distributed economic enterprise to address the issues of unemployment and poverty in rural areas. Considering this importance of livestock economy, government has initiated several rural developmental schemes for the socio-economic upliftment of rural poor since independence. To achieve better success in this sector government has launched more integrated developmental programme as Swarna Jayanti Gram Swarajgar Yojana (SGSY) in April, 1999. The study was conducted in purposively selected Dakshin Dinajpur district of West Bengal. The data was collected through personal interview with the help of tested structured schedule administered on randomly selected 80 SHG members from the 8 blocks of the district. Two villages from each block and from each village, five respondents were selected randomly. In this way, total 80 SHG beneficiaries and similar number of respondents (80) from same blocks as Non SHG beneficiaries rearing livestock were considered to make as control group for comparative study with the SHG beneficiaries. To judge the impact of the study, dependent variables such as- adoption Index and Knowledge level about improved Dairy farming practices were measured by using the available scales. The data thus generated was computed and analysed by various statistical methods for better interpretation of the result. The study depicted that higher Knowledge in IAHP, AI, Deworming, Vaccination, Feeding of Green Fodder and Concentrate feed were positively associated with increase occupational standard, caste, farm power, economic motivation, information sources utilization, urban contact, attitude in dairy farming and income generation for SHG dairy farmers. The study finally suggested that the overall knowledge gain of SHG farmers in IAHP is quite better than that of Non-SHG farmers due to their efficient training orientation, raised literacy level, Market orientation and Farm Power etc.*

**Key words:** Self Help Group (SHG); Knowledge level; Dairy Farming;

**I**ndia India is the land of diversified agrarian resources where livestock is an integral part of it. Majority (70%) of rural population are engaged in livestock based production system, as this is not only a economic enterprise but also linked with many other complex household requirements. This is the only equitably distributed economic enterprise to address the issues of unemployment and poverty in rural areas. Considering this importance of livestock economy, Government has initiated several rural developmental schemes for the socio-economic upliftment of rural poor since independence. To achieve better success in this sector Govt. has launched more integrated developmental programme as Swarna Jayanti Gram Swarajgar Yojana (SGSY) in April, 1999. This

programme is aimed at assisting the rural poor realizing their latent entrepreneurial potential to build sustainable self-employment through several micro-enterprises in which dairy farming is essentially a need based agrarian interventions (*Purushotham, 2005*). Since, SGSY is a process oriented development programme so, concurrent evaluation studies of the beneficiaries and Non-beneficiaries under the programme is very much needed. This may suggest that whether the development administration provided quality support and come out with innovative strategies of support or not with encouraging results. This may address the future planning to get better success of the programme which may be ultimately helpful to design the effective developmental strategies. Keeping this idea in mind an

attempt has been made to 'study on comparative knowledge level about improved dairy farming practices of SHG & Non-SHG members in West Bengal'.

## METHODOLOGY

The study was conducted in purposively selected Dakshin Dinajpur district of North Bengal region of West Bengal. The data was collected through personal interview with the help of pre-tested structured schedule administered on randomly selected 80 SHG members practicing dairy farming from selected blocks covered under SGSY programme in the district. From the 8 blocks of the district, 2 villages were selected from each block considering the entrepreneurial potentiality of SHG members practicing Dairy farming. From each village five respondents were selected randomly, so ten (10) respondents from each block ( $5 \times 2 = 10$ ) were selected for data collection. In this way, total  $10 \times 8 = 80$  SHG beneficiaries practicing Dairy farming from the district was considered for the study. Simultaneously, similar numbers of respondents ( $10 \times 8 = 80$ ) from same blocks as Non-SHG beneficiaries rearing livestock were selected to make as control group for comparative study with the SHG beneficiaries. To judge the impact of the study, dependent variables such as- Knowledge in improved Dairy farming practices was measured by using the available scale of Goswami (1987). Adequate numbers of independent variables were selected for the study under the various categories. The data thus generated was computed and analysed by various statistical method including correlation & Regression analysis for better interpretation of the results.

## RESULTS AND DISCUSSION

*Correlation coefficient between Knowledge about IAHP (Y1), and selected independent variables of the sample Dairy farmers of SHG and Non-SHG:* A cursory view at Table 1 explained that in case of SHG sample dairy farmers there were significant relationship ( $p < 0.05$ ) between knowledge about IAHP and variables like- occupation and attitude in dairy farming, whereas highly significant relationship ( $p < 0.01$ ) with information sources utilization, urban contact and attitude in income generation. Exceptionally age was having negative but significant correlation ( $p < 0.05$ ) with knowledge in IAHP of SHG dairy farmers in both analysis. Singh & Godra (2002), Kanan et. al. (2004) revealed that age had significant but negative correlation with knowledge in IAHP. Almost similar findings were

reported in spearman correlation test in Table 1 except attitude in income generation which was having simply significant relationship ( $p < 0.05$ ) with the knowledge in IAHP. Kanan et. al. (2004), Chinadurai et. al. (2004) and Mande et. al. (2008) revealed positive significant association of occupation and knowledge level in improved dairy farming practices. The table again revealed the linear relationship between knowledge in IAHP and selected independent variables of Non-SHG livestock keepers. It was evident that there was significant relationship ( $p < 0.05$ ) between the Knowledge in IAHP and the variables such as- occupation and family education status and attitude in dairy farming, whereas highly significant relationship ( $p < 0.01$ ) with the factors such as - gross income and information sources utilization in pearson correlation. Gautam et. al. (2007) suggested that family education status was significantly correlated with the knowledge in dairy husbandry practices. Simultaneously a similar relationship was observed in spearman analysis, except -family education status and attitude in dairy farming where a highly significant relationship ( $p < 0.01$ ) were shown between knowledge in IAHP and those variables. In addition to that, farm power and decision making showed a negative significant relationship ( $p < 0.05$ ) with knowledge in IAHP and highly significant relationship ( $p < 0.01$ ) with urban contact through spearman correlation study.

*Correlation between knowledge about A.I. of the SHG & Non-SHG dairy stakeholders and the independent variables:* Table -1 indicated that the Knowledge in artificial insemination of the livestock owners was positively and significantly correlated with attitude in dairy farming and income generation at 5% level and information sources utilization and urban contact at 1% level for SHG dairy farmers in pearson correlation study. Similar findings were reported in spearman correlation study except attitude in dairy farming and income generation which were having highly significant relation ( $p < 0.01$ ) with knowledge in AI. But in Non-SHG dairy stakeholders, knowledge in AI was positively and significantly correlated ( $p < 0.05$ ) with occupation and risk orientation at 5% level and information sources utilization and urban contact at 1% level. Mande et. al. (2008) observed significant relations among land holding, annual income, Information sources and knowledge level about improved dairy farming practices. In spearman correlation analysis only information sources utilization was highly significantly correlated ( $p < 0.01$ ) and urban contact had significant ( $p < 0.05$ ) correlation with knowledge in AI of Non-SHG dairy entrepreneurs.

**Table 1. Relationship between selected independent & component of dependent variable (knowledge in IAHP & AI) of SHG & Non-SHG respondents (N=80)**

Independent Variables	Knowledge in IAHP ( $\bar{a}$ )				Knowledge in AI ( $\bar{a}$ )			
	Pearson Coefficient		Spearman Coefficient		Pearson Coefficient		Spearman Coefficient	
	SHG	Non-SHG	SHG	Non-SHG	SHG	Non-SHG	SHG	Non-SHG
<i>Socio- Economic:</i>								
(x1) Age	-0.236*	0.009	-0.25*	0.014	-0.08	-0.07	-0.06	-0.06
(x2) Occupation	0.249*	0.245*	0.20	0.179*	0.10	0.23*	0.09	0.14
(x3) Caste	-0.170	-0.146	-0.07	-0.108	-0.04	-0.14	0.00	-0.10
(x4) Education	0.132	-0.094	0.09	-0.053	0.04	-0.09	0.04	-0.07
(x5) Family Edu. Stat.	-0.003	0.273*	-0.09	0.223**	-0.02	0.09	-0.05	0.09
(x6) Family type	-0.043	0.036	-0.06	0.024	-0.02	0.07	-0.04	0.07
(x7) Family size	-0.004	0.070	-0.05	-0.075	0.03	0.17	-0.01	0.17
(x8) Land Holding	0.122	0.015	0.12	0.019	-0.02	0.09	-0.05	0.10
(x9) House Type	0.006	0.200	0.01	0.169	-0.03	0.13	-0.03	0.13
(x10) Farm Power	-0.142	-0.255	-0.10	-0.184*	-0.20	-0.04	-0.20	-0.06
(x11) Mat. Poss.	0.149	0.205	0.14	0.170	0.08	0.17	-0.10	0.14
(x12) Gross Income	-0.031	0.308**	-0.06	0.280**	-0.21	0.15	-0.18	0.11
<i>Communication:</i>								
(x13) Inform. Sources	0.542**	0.290**	0.38**	0.244**	0.33**	0.34**	0.26**	0.27**
(x14) Urban Contact	0.477**	0.283**	0.39**	-0.229**	0.40**	0.23**	0.36**	0.17*
(x15) Social Particip.	-0.012	-0.010	-0.01	-0.017	0.08	0.02	0.04	0.05
(x16) Extn. Contact	0.130	0.078	0.14	0.079	0.10	0.09	0.10	0.07
<i>Administrative:</i>								
(x17) Market Orient.	-0.059	-0.031	-0.09	-0.077	0.04	-0.08	0.09	-0.08
(x18) Risk Orient.	-0.176	-0.079	-0.18	-0.065	-0.20	-0.22*	-0.18	-0.15
<i>Socio Psychological:</i>								
(x19) Eco. Motiv.	-0.271	-0.117	-0.19	-0.091	-0.21	-0.16	-0.20	-0.11
(X20) Innov. Pronnes	0.024	-0.019	0.01	-0.045	-0.09	-0.17	-0.11	-0.12
(X21) Dec. Making	0.089	-0.276*	-0.01	-0.273**	-0.05	-0.20	-0.07	-0.18
(X22) Attitude in Dairy	0.279*	0.352*	0.26*	0.283**	0.41*	0.21	0.42**	0.15
(x23) Attitude in Empl	-0.013	0.147	-0.09	0.084	-0.02	0.08	-0.03	0.04
(X24) Attitude in Income	0.294**	-0.060	0.23*	-0.043	0.39*	-0.01	0.36**	-0.01

Note : \* Significant at 0.05 level; \*\* Significant at 0.01 level

Therefore, Knowledge about AI was positively associated with increase in information sources utilization, urban contact, attitude in dairy farming and income generation for SHG dairy farmers but occupation, risk orientation, urban contact and information sources utilization in Non-SHG dairy farmers. *Kanan et. al. (2004)* found significant association among social participation, extension contact, urban contact and knowledge in IAHP. *Goswami (2010)* found significant relationship between income generation, occupation and Knowledge in A.H. practices.

*Correlation between knowledge about deworming of the SHG & Non-SHG dairy stakeholders:* The Table-2 expressed that Knowledge about Deworming

was positively and significantly correlated with occupation, caste, farm power, economic motivation and attitude in dairy farming at 5% level and information sources utilization, urban contact and attitude in income generation at 1% level for SHG dairy farmers in Pearson correlation. Similar findings were reported in spearman's correlation for SHG dairy owners. In addition to that knowledge about deworming was positively and significantly correlated ( $p < 0.05$ ) with market orientation and innovation proneness in spearman's correlation analysis. Exceptionally, Non-SHG dairy farmer's knowledge about deworming was not significantly correlated with any independent variables in both correlation analyses.

**Table 2. Relationship between selected independent & component of dependent variables (knowledge in deworming & vaccination) of SHG & Non-SHG respondents (N=80)**

Independent Variables	Knowledge in Deworming ( $\bar{a}$ )				Knowledge in Vaccination ( $\bar{a}$ )			
	Pearson Coefficient		Spearman Coefficient		Pearson Coefficient		Spearman Coefficient	
	SHG	Non-SHG	SHG	Non-SHG	SHG	Non-SHG	SHG	Non-SHG
<i>Socio- Economic:</i>								
(x1) Age	-0.13	-0.02	-0.11	-0.01	-0.16	-0.12	-0.16	-0.10
(x2) Occupation	0.24*	0.09	0.25*	0.05	0.27*	0.07	0.23*	0.10
(x3) Caste	-0.25*	-0.10	-0.23*	-0.10	-0.19	-0.14	-0.12	-0.05
(x4) Education	0.08	-0.03	0.08	-0.05	0.08	-0.10	0.03	-0.07
(x5) Family Edu. Stat.	0.03	0.07	-0.01	0.07	0.02	0.24*	-0.06	0.18*
(x6) Family type	0.03	-0.03	0.03	-0.06	-0.04	0.02	-0.01	0.03
(x7) Family size	0.17	-0.08	0.16	-0.10	-0.06	0.03	-0.08	0.05
(x8) Land Holding	0.16	-0.01	0.16	-0.02	0.01	0.00	0.01	0.02
(x9) House Type	0.03	0.15	0.08	0.12	0.05	0.01	0.09	0.03
(x10) Farm Power	-0.24*	0.04	-0.24*	-0.01	-0.22*	-0.12	-0.20	-0.12
(x11) Mat. Poss.	0.18	-0.01	0.19	0.00	0.11	0.26*	0.11	0.24**
(x12) Gross Income	-0.05	0.08	-0.05	0.07	0.04	0.20	0.04	0.19*
<i>Communication:</i>								
(x13) Inform. Sources	0.46**	0.06	0.33**	0.05	0.55**	0.25*	0.45**	0.23**
(x14) Urban Contact	0.47**	-0.02	0.42**	-0.02	0.52**	0.12	0.43**	0.07
(x15) Social Particip.	0.03	-0.03	0.01	-0.08	-0.05	-0.09	-0.06	-0.06
(x16) Extn. Contact	0.01	-0.12	0.01	-0.13	0.08	0.14	0.12	0.13
<i>Administrative:</i>								
(x17) Market Orient.	0.18	-0.04	0.26*	-0.05	0.03	-0.05	0.04	-0.10
(x18) Risk Orient.	-0.01	-0.01	-0.02	0.01	-0.03	0.05	-0.03	-0.02
<i>Socio Psychological:</i>								
(x19) Eco. Motiv.	-0.22*	0.06	-0.20	0.05	-0.28*	-0.01	-0.23*	-0.02
(X20) Innov. Pronnes	-0.21	-0.02	-0.24*	-0.03	-0.08	0.15	-0.10	0.11
(X21) Dec. Making	-0.18	-0.26	-0.17	-0.18	-0.12	-0.24*	-0.08	-0.23*
(X22) Attitude in Dairy	0.26*	-0.06	0.25*	-0.04	0.34**	0.31**	0.35**	0.25**
(x23) Atitude in Empla	-0.13	0.13	-0.17	0.08	0.04	0.17	0.03	0.11
(X24) Attitude in Income	0.41**	-0.09	0.40**	-0.05	0.24*	0.21	0.23*	0.17*

Note: \* Significant at 0.05 level; \*\* Significant at 0.01 level

*Correlation between the knowledge about vaccination of the SHG & Non-SHG dairy farmers and the independent variables :* The study explored that Knowledge about vaccination against contagious diseases of Livestock of SHG dairy farmers was positively and significantly correlated with the occupation, farm power, economic motivation and attitude in income generation at 5% level and information source utilization, urban contact and attitude in dairy farming at 1% level in Pearson correlation analysis. Similar findings were reported in spearman’s analysis for SHG dairy farmers.

The table again indicated that the knowledge about vaccination against contagious diseases of the Non-SHG dairy owners was positively and significantly correlated with family education status, material possession, and

information sources utilization at 5% level and with attitude in dairy farming at 1% level in Pearson analysis, but negatively correlated with decision making in both Pearson and spearman correlation analysis of Non-SHG livestock owners. Similar findings were reported in spearman’s analysis. But in addition to that, the spearman’s analysis also showed significant relationship between knowledge about vaccination and gross income, attitude in income generation. *Singh & Verma (2004)* found a significant association between education level, information sources and knowledge in dairy farming. The table also showed insignificant relationship between knowledge about vaccination against contagious diseases and other independent variables for Non-SHG dairy owners.

*Correlation between the knowledge about feeding of green fodder & concentrate feed of the SHG & Non-SHG dairy stakeholders and the independent variables :* The Table 3 revealed that knowledge about feeding of green fodder was positively and significantly correlated with urban contact and attitude in income generation at 5% level and with information Source utilization at 1% level for SHG dairy farmers in Pearson analysis. Same result was expressed by the spearman's analysis where the knowledge about feeding of green fodder was positively and significantly correlated ( $P < 0.05$ ) with information sources utilization, urban contact and attitude in dairy farming. Exceptionally, risk orientation was negatively but significantly correlated with knowledge about feeding of green fodder for SHG

dairy farmers. In case of Non-SHG dairy farmers, the knowledge about feeding of green fodder was positively and significantly correlated with Family size and Gross income at 5% level and House type, urban contact, Attitude in dairy farming at 1% level in both analytical studies.

Knowledge about feeding of green fodder of SHG dairy farmer was positively and significantly correlated with increase Information sources utilization, urban contact, attitude in dairy farming and income generation where as negatively but significantly related with risk orientation. Simultaneously, it had significant association with house type, family size, gross income, urban contact and attitude in dairy farming for Non-SHG dairy farmers.

The Table 3 depicted that knowledge about feeding

**Table 3. Relationship between selected independent & component of dependent variables (knowledge in feeding of GF & feeding of CF) of SHG & Non-SHG respondents (N=80)**

Independent Variables	Knowledge in Feeding of GF ( $\bar{a}$ )				Knowledge in Feeding of CF ( $\bar{a}$ )			
	Pearson Coefficient		Spearman Coefficient		Pearson Coefficient		Spearman Coefficient	
	SHG	Non-SHG	SHG	Non-SHG	SHG	Non-SHG	SHG	Non-SHG
<b>Socio-Economic:</b>								
(x1) Age	-0.20	0.12	-0.19	0.10	-0.26*	0.11	-0.26*	0.10
(x2) Occupation	0.13	0.16	0.15	0.06	0.20	0.21	0.21	0.11
(x3) Caste	-0.10	0.07	-0.07	0.06	-0.12	-0.07	-0.12	-0.08
(x4) Education	0.10	-0.03	0.06	-0.02	0.16	-0.07	0.11	0.08
(x5) Family Edu. Stat.	-0.05	0.05	-0.10	0.03	0.00	0.28**	-0.03	0.20*
(x6) Family type	-0.04	0.21	-0.08	0.19	-0.04	0.01	-0.04	0.01
(x7) Family size	0.02	0.27*	-0.01	0.23*	-0.03	0.02	-0.02	0.02
(x8) Land Holding	0.06	0.03	0.07	0.02	0.21	-0.02	0.22*	-0.04
(x9) House Type	-0.08	0.32**	-0.05	0.26**	0.03	0.11	0.00	0.09
(x10) Farm Power	-0.10	-0.19	-0.10	-0.17	0.03	-0.25	0.02	-0.19*
(x11) Mat. Poss.	0.03	0.19	0.05	0.13	0.17	0.01	0.20	-0.03
(x12) Gross Income	-0.08	0.22*	-0.10	0.18	0.03	0.24*	0.03	0.19*
<b>Communication:</b>								
(x13) Inform. Sources	0.40**	0.19	0.28*	0.12	0.37**	0.14	0.32**	0.08
(x14) Urban Contact	0.28*	0.29**	0.27*	0.21*	0.28*	0.24*	0.25	0.19*
(x15) Social Particip.	0.06	0.06	0.07	0.02	-0.08	-0.01	-0.09	0.04
(x16) Extn. Contact	0.16	0.13	0.14	0.12	0.14	-0.07	0.15	-0.07
<b>Administrative:</b>								
(x17) Market Orient.	-0.09	0.01	-0.11	-0.01	-0.19	0.13	-0.22*	0.07
(x18) Risk Orient.	-0.29**	-0.11	-0.23*	-0.10	-0.15	-0.09	-0.10	-0.06
<b>Socio Psychological:</b>								
(x19) Eco. Motiv.	-0.20	-0.15	-0.16	-0.09	-0.16	-0.06	-0.15	-0.03
(X20) Innov. Pronnes	0.13	-0.12	0.09	-0.11	0.16	-0.01	0.15	-0.02
(X21) Dec. Making	-0.10	-0.04	-0.04	-0.03	0.02	-0.18	0.01	-0.16
(X22) Attitude in Dairy	0.20	0.29**	0.22*	0.24**	0.06	0.29**	0.08	0.23**
(x23) Attitude in Emplo	0.02	-0.05	-0.06	-0.04	-0.05	0.04	-0.06	0.02
(X24) Attitude in Income	0.22*	-0.02	0.21	-0.03	0.10	-0.25	0.11	-0.20*

Note: \* Significant at 0.05 level; \*\* Significant at 0.01 level

of concentrate of SHG dairy farming was positively and significantly ( $P < 0.05$ ) correlated with urban contact and highly significantly ( $P < 0.01$ ) correlated with information sources utilization, but negatively correlated with age at 5% level in both Pearson and spearman analysis and with market orientation in spearman analysis. At the same time the knowledge about feeding of concentrate was positively and significantly correlated with land holding at 5% level and information sources utilization at 1% level in spearman analysis for SHG livestock owners.

A perusal of that table again expressed that in case of Non-SHG dairy owners the knowledge about feeding of concentrate was positively and significantly correlated with gross income and urban contact at 5% level and with attitude in dairy farming and family education status at 1% level. But in spearman's correlation analysis more significant relationship was found with the independent variables. The result showed that the knowledge about feeding of concentrate was positively and significantly correlated ( $P < 0.05$ ) with family education status, gross income, urban contact and highly significantly correlated ( $P < 0.01$ ) with attitude in dairy farming. But in contrary, farm power and attitude towards income generation shows significantly negative correlation with knowledge about feeding of concentrate for Non-SHG dairy stake holders.

## CONCLUSION

The study depicted that Knowledge in IAHP of SHG had to depend principally on occupation, information sources utilization, urban contact along with attitude towards dairy farming and income generation of livestock owners which was very much indicative in the study. Similarly, the result indicated that higher Knowledge in AI, deworming, vaccination, feeding of green fodder & concentrate feed were positively associated with increase occupational standard, caste, farm power, economic motivation, information sources utilization, urban contact, attitude in dairy farming and income generation for SHG dairy farmers. The knowledge in feeding of concentrate expressed negative significant correlation with age and market orientation for SHG dairy farmers. The study finally suggested that, the overall knowledge gain of SHG dairy farmers in Improved A.H. practices is quite better than Non-SHG due to their efficient training orientation, raised literacy level, market orientation and farm power etc. and this could be helpful for the SHG dairy farmers to overcome various social cognitive constraints to realize Govt. Policies & technical know-how and to gain required skills.

Paper received on : July 07, 2010  
 Received after revision : August 23, 2011  
 Accepted on : October 30, 2011

## REFERENCES

1. Chinnadurai, S., Chinnadurai, P., and K. Singh (2004). Relationship between Socio Economic characteristics & Knowledge level of Women practicing Dairy farming. *Indian Res. J. Ext. Edu.* **4** (1 & 2): 37-40.
2. Gautam, U.S., Chand, R. and Singh, D.K. (2007). Socio-personal correlations for decision making & adoption of dairy practices. *Indian Res. J. Ext. Edu.* **7**(2 & 3): 27-30.
3. Goswami, A. (1987). A Study of the Knowledge level of the Livestock owners about selected A. H. practices. M. V. Sc. Thesis submitted to IVRI, Izatnagar, U.P.
4. Goswami, A. (2010). Study on impact knowledge level of livestock owners about selected IAHP in relation to different ACZ of W.B. *J. of dairying, Food & Home Sc.* **5**(2): 35-38.
5. Kanan M., Sankhala G. and Das B.C. (2004). Knowledge level of Dairy entrepreneurs about improved Dairy farming practices *Indian Res. J. Ext. Edu.* **4**(3): 21-24
6. Mande J.V., Rajput R.D., Thombare B.M. (2008). Knowledge of cattle owners about improved cattle rearing practices. *J. dairying, Foods & Home Sc.* **27**(1):38-42.
7. Puroshothom, D. P. (2005). Self-Employment Programme for Rural poor. Rural Industries & Employment, NIRD, Hyderabad. *Employment News.* **XXIX** (46).
8. Singh, G. & Verma, N. (2004). Utilisation of source of farm information in relation to adoption of improved agril. Practices. *Indian J. Extn. Education.* **4**(3):43-46
9. Singh, S. P. and Godra, S. P. (2002). Knowledge of improved A. H. practices among cattle owners of Haryana. *Indian J. Dairy Sc.* **55** (5): 47-49

\*\*\*\*\*