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## An empirical study on adoption of youth farm women towards livestock enterprises in Raichur district of Karnataka

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### Abstract

The study was carried out in Raichur district of Karnataka during the year 2013-14, with the sample size of 120 youth farm women. The ex-post-facto research design was used for the study. The study revealed that more than half (54.00%) of the youth farm women are having a medium level of adoption for dairy farm enterprise. With respect to cleaning and grooming of the dairy animals majority (76.00%) of the respondents were in the full adoption category. Majority 76.00% of the youth farm women did not adopt artificial insemination practices. As for sheep rearing enterprise more than half (52.00%) of the youth farm women were found belonging to the medium adoption category. With regards to vaccination 54.00% of the youth farm women fully adopted vaccination of sheep. Culling of adult stock was not adopted by 62.00% of the respondent With regards to vermicompost enterprise 40.00% of the youth farm women were under the medium adoption category. Use of recommended species of earthworm for vermicompost production was fully adopted by a majority (60.00%) of the respondents. Half (50.00%) did not adopted the practice of construction of ant well.

**Keywords:** Adoption, dairy enterprise, sheep rearing enterprise, vermicompost

### 1. Introduction

Women plays a predominant role in agriculture and food provisioning and subsistence agricultural activities. The role of women in agriculture ranges from managers to landless labourers. The extent of their involvement differs with the variation in agro-production system and land owning system of farm households. Various studies on women in agriculture point to the fact that women are generally employed in the operations which are either not mechanized or least mechanized and involve a lot of drudgery. As per the report of FAO women constitute about half of the world's population account for 60% of the working hours receive only 10% of the world's income own less than 1.0% of the world's property. About one third population of women (out of total population of women) is actively engaged in agricultural activities play important role in agricultural population. A study on rural women revealed that they help in producing up to eighty percent of food in developing countries. Yet they are entitled to only a fraction of farm land and access to just 10% of credit and five percent of extension advice [1]. Adopting to various farm enterprises will lead to the generation of subsidiary income thereby increasing the family income and sustaining livelihood security of farm women and her family.

### 2. Materials and Methods

#### 2.1 Research Design

Ex-post-facto research design is used for the present investigation. This design was considered appropriate as the phenomenon has already occurred. Ex-post-facto research is the most appropriate systematic empirical enquiry in which the researcher does not have any control over independent variables as their manifestation has already occurred or as they are inherent and not manipulatable thus, inferences about relations among variable were made without direct intervention from a concomitant variable of independent and dependent variable.

#### 2.2 Study Area and Sampling

The study was undertaken during the year 2013-2014 in Raichur district. Under the jurisdiction of University of Agricultural Sciences Raichur, there are six districts viz.

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Gulbarga, Bidar, Bellary, Raichur, Koppal and Yadgiri. Raichur district was selected purposefully as it had the second highest number of women Self Help Group and also because of various developmental projects taken in Raichur for empowering farm women with enterprise. Raichur district was selected due to convenience of the researcher.

### 2.3 Statistical Analysis

From the secondary data it was observed that most of the women undertook dairy and sheep rearing enterprise in the study area. Various practices relating to these enterprises were carefully framed in consultation with the experts and literature. The full adopted practice was given a score of 2 and

partial adopted was given a score of 1 and not adopted response was given a score 0. Thus, after computing the adoption scores the respondents were grouped into high, medium and low categories by considering the mean and standard deviation.

| Sl. No | Category | Score                            |
|--------|----------|----------------------------------|
| 1      | Low      | $< (\bar{X} - 0.425 \text{ SD})$ |
| 2      | Medium   | $(\bar{X} \pm 0.425 \text{ SD})$ |
| 3      | High     | $> (\bar{X} + 0.425 \text{ SD})$ |

### 3. Results and Discussion

**Table 1:** Profile of the youth farm women

| I. Education                         |                    |                                  |          |       |
|--------------------------------------|--------------------|----------------------------------|----------|-------|
| Sl. No.                              | Particulars        | Category                         | Response |       |
|                                      |                    |                                  | f        | %     |
| 1                                    | Illiterate         | Cannot read and write            | 29       | 24.17 |
| 2                                    | Primary school     | 1 to 4 <sup>th</sup> standard    | 34       | 28.33 |
| 3                                    | Middle school      | 5 to 7 <sup>th</sup> standard    | 27       | 22.50 |
| 4                                    | High school        | 8 to 10 <sup>th</sup> standard   | 17       | 14.67 |
| 5                                    | Pre-university     | 11 and 12 <sup>th</sup> standard | 9        | 7.50  |
| 6                                    | Graduate           | Degree and above                 | 3        | 2.50  |
| f=frequency % = percentage           |                    |                                  |          |       |
| II. Land holding n=120               |                    |                                  |          |       |
| Sl. No.                              | Particulars        | Category                         | Response |       |
|                                      |                    |                                  | f        | %     |
| 1                                    | Landless           | Nil                              | 0        | 0     |
| 2                                    | Marginal farmer    | 0.1 – 2.5                        | 17       | 14.17 |
| 3                                    | Small farmer       | 2.51 – 5.0                       | 45       | 37.5  |
| 4                                    | Semi-medium farmer | 5.01 – 10.0                      | 41       | 34.17 |
| 5                                    | Medium farmer      | 10.01 – 25.0                     | 15       | 12.5  |
| 6                                    | Big farmer         | > 25                             | 2        | 1.67  |
| f=frequency % = percentage           |                    |                                  |          |       |
| III. Farming experience              |                    |                                  |          |       |
| Sl. No.                              | Particulars        | Category                         | Response |       |
|                                      |                    |                                  | f        | %     |
| 1                                    | Low                | Less than (Mean – 0.425*SD)      | 30       | 25.00 |
| 2                                    | Medium             | Between (Mean $\pm$ 0.425*SD)    | 41       | 34.17 |
| 3                                    | High               | More than (Mean + 0.425*SD)      | 26       | 21.37 |
| Mean = 11.15 SD = 2.85               |                    |                                  |          |       |
| VI. Annual income                    |                    |                                  |          |       |
| Sl. No.                              | Income category    | Category                         | Response |       |
|                                      |                    |                                  | f        | %     |
| 1                                    | Low                | Less than (Mean – 0.425*SD)      | 47       | 39.17 |
| 2                                    | Medium             | Between (Mean $\pm$ 0.425*SD)    | 51       | 42.50 |
| 3                                    | High               | More than (Mean + 0.425*SD)      | 22       | 18.33 |
| Mean = 66727.55 SD = 46573.05 n= 120 |                    |                                  |          |       |
| Risk Orientation                     |                    |                                  |          |       |
| Sl. No                               | Risk Orientation   | Category                         | Response |       |
|                                      |                    |                                  | f        | %     |
| 1                                    | Low                | Less than (Mean – 0.425*SD)      | 30       | 25.00 |
| 2                                    | Medium             | Between (Mean $\pm$ 0.425*SD)    | 41       | 34.17 |
| 3                                    | High               | More than (Mean + 0.425*SD)      | 26       | 21.37 |
| Mean = 11.15 SD = 2.85               |                    |                                  |          |       |

### 3.1 Overall adoption of dairy enterprise by youth farm women

Data in Table 2 reveals that more than half i.e. 54.00% of the farmers are having a medium level of adoption, followed by 30.00% with high level of adoption. Lastly 26.00% of the respondents came under low level of adoption category. The probable reason may be because of small (37.50%) and semi medium land holding (34.17%). Therefore in order to have subsidiary income they might have adopted to various farm enterprise to earn their livelihood security and most of

the youth farm women fell in the category of illiterate to high school as given in Table 1. And also it was observed from Table 1 that 34.17% had medium level of risk orientation, 25.00% and 21.37% had low and high risk orientation respectively. The findings were in consonance with the research findings of Singh and Chauhan who reported that majority of the respondents belonged to medium (56.00%) category of adoption followed by the high (30.00%) and low (14.00%) category of adoption. <sup>[9]</sup>

**Table 2:** Overall adoption of dairy enterprise technology by youth farm women, n=50

| Sl. No. | Dairy practices              | Response |       |
|---------|------------------------------|----------|-------|
|         |                              | f        | %     |
| 1       | Low(mean-0.425*SD)           | 13       | 26.00 |
| 2       | Medium (mean $\pm$ 0.425*SD) | 22       | 54.00 |
| 3       | High (mean+0.425*SD)         | 15       | 30.00 |

Mean= 7.10 SD= 2.08 f= Frequency % = percentage

### 3.2 Extent of adoption of dairy enterprise technologies by youth farm women

It was observed from Table 3 that, the practices like cleaning and grooming of dairy animals, vaccination and feeding sufficient colostrums were fully adopted by 76.00 per cent, 64.00 per cent and 60.00 per cent of the respondents respectively. The practices cleaning and grooming of dairy animals and feeding sufficient colostrums to their livestock were very simple practices known to almost all the dairy farmers. These practices were very easy to carry out and did not involve any expenditure on the part of dairy farmers to perform

With respect to use of Molasses and urea in dry fodder, 20.00 per cent and 56.00 per cent of the respondents were fully and partially adopted it respectively. It might be due to lack of awareness about the practice among youth farm women and irregular availability of urea and molasses created hindrance

in adopting it. Most (76.00%) of the respondents did not adopt the artificial insemination practice and only a meager (24.00%) per cent were found fully adopted the practice. The probable reason may be the non-availability of veterinary hospital nearby village and also lack of awareness and willingness to adopt this practice. In case of record keeping about 40.00 per cent of the respondents did not adopt record keeping followed by partial adoption (38.00%) and full adoption (22.00%). The reason behind it may be that, most of the respondents had lower levels of education background more particularly almost one fourth of the respondents were illiterate and they did not consider the practice as important. The practices like calf rearing and clean milk production were partially adopted by 78.00 and 80.00 per cent of the respondents respectively. This may be due to every respondent at their individual level had adapted some practices for proper management of the dairy enterprise in order to get sustainable income and good quality milk. Similar results were obtained by Kim Mar Oo in his study on Knowledge and adoption of improved dairy management practices by women dairy farmers in Dharwad District where he found out 81.66 percentages of women adopted vaccination program. He also observed that 12.50 percentage of women dairy farmer only adopted expenditure record whereas milk record and health record was maintained by only 55.83 and 31.67 percentage respectively. [3]

**Table 3:** Extent of adoption of dairy enterprise technology by youth farm women

| Sl. No. | Practice                                                   | Respondents |            |
|---------|------------------------------------------------------------|-------------|------------|
|         |                                                            | Frequency   | Percentage |
| 1       | Vaccination of Dairy animals                               |             |            |
|         | a. Fully Adopted                                           | 32          | 64.00      |
|         | b. Partially Adopted                                       | 0           | 0.00       |
|         | c. Not Adopted                                             | 18          | 36.00      |
| 2       | Cleaning and grooming of Dairy animals                     |             |            |
|         | a. Fully Adopted                                           | 38          | 76.00      |
|         | b. Partially Adopted                                       | 0           | 0.00       |
|         | c. Not Adopted                                             | 12          | 24.00      |
| 3       | Use of Molasses and urea in Dry Fodder                     |             |            |
|         | a. Fully Adopted Fully Adopted                             | 10          | 20         |
|         | b. Partially Adopted                                       | 27          | 56         |
|         | c. Not Adopted                                             | 13          | 34         |
| 4       | Feeding of Sufficient Colostrum's                          |             |            |
|         | a. Fully Adopted Fully Adopted                             | 30          | 60.00      |
|         | b. Partially Adopted                                       | 16          | 32.00      |
|         | c. Not Adopted                                             | 4           | 8.00       |
| 5       | Artificial Insemination                                    |             |            |
|         | a. Fully Adopted                                           | 12          | 24.00      |
|         | b. Partially Adopted                                       | 0           | 00.00      |
|         | c. Not Adopted                                             | 38          | 76.00      |
| 6       | Record keeping for Dairy Enterprise                        |             |            |
|         | a. Fully Adopted                                           | 11          | 22.00      |
|         | b. Partially Adopted                                       | 19          | 38.00      |
|         | c. Not Adopted                                             | 20          | 40.00      |
| 7       | Do you adopt recommended practices for Calf rearing        |             |            |
|         | a. Fully Adopted                                           | 7           | 14.00      |
|         | b. Partially Adopted                                       | 39          | 78.00      |
|         | c. Not Adopted                                             | 4           | 8          |
| 8       | Do you adopt recommended practices for clean milk products |             |            |
|         | a. Fully Adopted                                           | 1           | 2          |
|         | b. Partially Adopted                                       | 40          | 80         |
|         | c. Not Adopted                                             | 9           | 18         |

### 3.3 Overall adoption of sheep rearing enterprise by youth farm women

As presented in Table 4, more than half (52.00%) of the youth

farm women were found in medium adoption category, followed by low (34.00%) and high (14.00%) adoption categories. Wilkening described the adoption of a specific

practice is not the result of a single decision to act but series of actions and meaningful decision [5]. Therefore, various factors like medium level of annual income might have influenced the adoption of sheep rearing enterprise. Another factor may be that 34.17 percentages of the youth farm women had medium level of risk orientation whereas 25.00 percent had low level of risk orientation as observed from table 1.

Similar results were obtained by Meena and Singh in their study on adoption level of sheep farming practices in arid zone of Rajasthan, where he found 48% of the belong to medium adoption level [6].

**Table 4:** Overall adoption of sheep rearing enterprise, n=50

| Sl. No. | Sheep rearing practices | Response  |            |
|---------|-------------------------|-----------|------------|
|         |                         | Frequency | Percentage |
| 1       | Low (mean-0.425*SD)     | 17        | 34.00      |
| 2       | Medium(mean ± 0.425*SD) | 26        | 52.00      |
| 3       | High (mean+0.425*SD)    | 7         | 14.00      |

Mean= 7.78 SD= 2.24 f= Frequency % = percentage

**3.4 Extent of adoption of sheep rearing enterprise technologies by youth farm women**

From the seven practices selected, two practices namely vaccination and feeding of colostrums were fully adopted by 54.00 and 44.00 per cent of the respondents respectively. The reason may be awareness of respondents about various vaccinations available for protecting their animal against diseases most of them occasionally contacted veterinary officials. Feeding sufficient colostrum to the newly born limbs was fully adopted by 44.00 per cent of the youth farm

women. It is a common practice which did not involve any financial burden on the part of the youth farm women. But more than half of the respondent partially adopted it. As they did not feed colostrum within half an hour after it was born. They used to give it to the limbs next day and did not used to feed the full amount of colostrums.

Culling of adult stock was fully adopted by 38.00 per cent of the youth farm women. More than sixty (62.00%) per cent of the respondents did not adopted the practice. This may be due to lack of awareness and proper knowledge about this practice and to reduce the financial and management burden. More than half (56.00%) of the respondents did not use mineral feed supplement for their sheep may be because they considered it expensive to follow this practice and also may be due to lack of awareness about various mineral feed supplement. Provision of proper housing facility was partially adopted by 92.00 per cent of the respondents as most of the respondents constructed houses for their sheep according to their convenience and financial capacity. Only a few (6.00%) per cent of them were found fully adopted it. Probably it may be due to lack of awareness and knowledge about proper housing facility. The practice of de worming and de ticking were partially followed by 64.00 and 62.00 per cent of the respondents respectively. They were most probably not aware of advantages of these simple practices and also lack of veterinary hospital nearby village might have made the youth farm women unwilling to adopt these practices. There is a need to sensitize the youth farm women by educating them about the advantages of taking up such activities on regular basis.

**Table 5:** Extent of adoption of sheep rearing enterprise technologies by youth farm women

| Sl. No | Practice                         | Respondents |            |
|--------|----------------------------------|-------------|------------|
|        |                                  | Frequency   | Percentage |
| 1      | Culling of adult stock           |             |            |
|        | a. Fully Adopted                 | 19          | 38.00      |
|        | b. Partially Adopted             | 0           | 00.00      |
|        | c. Not Adopted                   | 31          | 62.00      |
| 2      | Vaccination of Sheep             |             |            |
|        | a. Fully Adopted                 | 27          | 54         |
|        | b. Partially Adopted             | 0           | 0          |
|        | c. Not Adopted                   | 23          | 46         |
| 3      | Use of Mineral Feed Supplement   |             |            |
|        | a. Fully Adopted                 | 5           | 10         |
|        | b. Partially Adopted             | 17          | 34         |
|        | c. Not Adopted                   | 28          | 56         |
| 4      | Following of proper housing      |             |            |
|        | a. Fully Adopted                 | 3           | 6          |
|        | b. Partially Adopted             | 46          | 92         |
|        | c. Not Adopted                   | 1           | 2          |
| 5      | Feeding of sufficient Colostrums |             |            |
|        | a. Fully Adopted                 | 22          | 44         |
|        | b. Partially Adopted             | 26          | 52.00      |
|        | c. Not Adopted                   | 2           | 4.00       |
| 6      | Practice of deworming            |             |            |
|        | a. Fully Adopted                 | 10          | 20         |
|        | b. Partially Adopted             | 32          | 64         |
|        | c. Not Adopted                   | 8           | 16         |
| 7      | Practice of de ticking           |             |            |
|        | a. Fully Adopted                 | 13          | 26         |
|        | b. Partially Adopted             | 31          | 62         |
|        | c. Not Adopted                   | 6           | 12         |

### 3.5 Overall adoption of vermicompost enterprise technology by youth farm women

The findings from the Table 6 revealed that, majority (40.00%) of the youth farm women were under medium adoption category followed by equal (30.00%) per cent of them in high and low level of adoption category. The probable reason may be due to fact that, vermicompost producing youth farm women were regularly and occasionally in contact with the scientists of UAS, Raichur and also may be due to their medium level of risk orientation and achievement motivation which motivated them to adopt a different form of farm enterprise. The observations were in line with Sankaratti [8]. Sankaratti in her study on Adoption of vermicomposting technology by farmers of Gulbarga district in Karnataka also found out that 36.67 of the farmers belonged to medium level of adoption followed by 32.50 with high level of adoption. [8]

**Table 6:** Overall adoption of vermicompost enterprise technology by youth farm women n=20

| Sl. No.                                         | Vermicompost enterprise      | Response |       |
|-------------------------------------------------|------------------------------|----------|-------|
|                                                 |                              | f        | %     |
| 1                                               | Low (mean-0.425*SD)          | 6        | 30.00 |
| 2                                               | Medium (mean $\pm$ 0.425*SD) | 8        | 40.00 |
| 3                                               | High (mean+0.425*SD)         | 6        | 30.00 |
| Mean= 8.20 SD= 1.69 f= Frequency % = percentage |                              |          |       |

### 3.6 Extent of adoption of vermicompost production enterprise by youth farm women.

The data furnished in Table 7 revealed that, 60.00 per cent of the respondents were fully adopted the practice of using recommended species of earthworm. The probable reason may be that, the respondents were aware of using recommended species will lead to better harvest of vermicompost. With regard to filling up the vermicompost pit 50.00 per cent of the respondents were found partially adopted. The probable reason may be unavailability of raw material at proper time and filling up the pit according to their convenience. With regard to construction of the vermicompost pit, 50.00 per cent of the youth farm women were in full adoption category and 40.00 per cent were in partial adoption category. The probable reason may be training under gone by the respondents which helped them to do so. Maintaining of proper proportion of filling material was partially adopted by half (50.00%) of the respondents due to unavailability of sufficient filing material.

The practice of watering and use of chemicals for protection of the earthworm against pest were fully adopted by 40.00 per cent and 50.00 per cent respectively. The probable reason behind it may be unavailability of sufficient water for regular watering and moderate willingness of the respondent to spend money for chemicals. Half of the respondents did not adopt the practice of construction of ant well. This could be probably due to the unwillingness of the respondents and lack of awareness about the practice.

**Table 7:** Extent of adoption of vermicompost production enterprise by youth farm women

| Sl. No | Practice                                             | Respondents |       |
|--------|------------------------------------------------------|-------------|-------|
|        |                                                      | f           | %     |
| 1      | Size of the pit (10 x 1 x 0.3 meter)                 |             |       |
|        | a. Full Adoption                                     | 5           | 50.00 |
|        | b. Partial Adoption                                  | 4           | 40.00 |
|        | c. No Adoption                                       | 1           | 10.00 |
| 2      | Species of earth worms used                          |             |       |
|        | a. Full Adoption                                     | 6           | 60.00 |
|        | b. Partial Adoption                                  | 2           | 20.00 |
|        | c. No Adoption                                       | 2           | 20.00 |
| 3      | Type of material used for construction of pit        |             |       |
|        | a. Full Adoption                                     | 2           | 20.00 |
|        | b. Partial Adoption                                  | 4           | 40.00 |
|        | c. No Adoption                                       | 4           | 40.00 |
| 4      | Chemical used for pit to avoid pest problem          |             |       |
|        | a. Full Adoption                                     | 5           | 50.00 |
|        | b. Partial Adoption                                  | 3           | 30.00 |
|        | c. No Adoption                                       | 2           | 20.00 |
| 5      | Quantity of watering done once in 3days till harvest |             |       |
|        | a. Full Adoption                                     | 4           | 40.00 |
|        | b. Partial Adoption                                  | 3           | 30.00 |
|        | c. No Adoption                                       | 3           | 30.00 |
| 6      | Proper Proportion of filling of pit                  |             |       |
|        | a. Full Adoption                                     | 1           | 10.00 |
|        | b. Partial Adoption                                  | 5           | 50.00 |
|        | c. No Adoption                                       | 4           | 40.00 |
| 7      | construction ant well                                |             |       |
|        | a. Full Adoption                                     | 4           | 40.00 |
|        | b. Partial Adoption                                  | 1           | 10.00 |
|        | c. No Adoption                                       | 5           | 50.00 |

### 4. Conclusion

From the study conducted it was observed that youth farm women did not have full discretionary power over farm enterprises. Many important aspects like marketing of the

produce were mainly performed by their male counterparts. Since ancient time farm women play a pivotal role in agriculture. As it was observed as majority of the youth farm women came under the category of medium level of adoption

in Dairy (54.00%), Sheep (52.00%) and Vermicompost (40.00%) enterprise, motivating them to adopt various farm enterprises will help them to develop self-confidence, improve their leadership quality and become economically stable. Entrepreneurship is one of the most critical inputs in the economic development of a region and for farm women nothing best suits like adopting to farm enterprises as farm enterprises can be easily involved in the daily routine of a youth farm women. Establishment of farm enterprises in village would lead to the development of the region. It analyzes the resource availability and proper utilization of the same for the development of the area.

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