



# Physiological Problems Faced by Tribal Farm Women in Performing the Selected Farming Activities

Rashmi Rekha Kalita <sup>a++</sup>, Sayanika Borah <sup>b++\*</sup>  
and H. C. Kalita <sup>c</sup>

<sup>a</sup> Department of Home Science, Rupahi College, India.

<sup>b</sup> Department of Extension and Communication Management, College of Community Science,  
Assam Agricultural University, India.

<sup>c</sup> SMS (Agronomy), ICAR- KVK Goalpara, Assam, India.

## Authors' contributions

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## ABSTRACT

Agriculture is the basic livelihood provider for most of the world's population. Most of the people use traditional farming tools in their farming. Because traditional tools are heavy in weight, they face different types of physiological health problems. In this paper we discussed the physiological problems faced by tribal farm women in performing the selected farming activities that were carried out in the Majuli district of Assam. From the selected district, one subdivision and from one subdivision, one block was selected. From the selected block, three villages were selected randomly. One hundred (100) respondents were selected randomly from each of the villages. Data collection was done using an interview cum questionnaire. A total of 300 tribal farm women were selected who were engaged in farming activities for the present study. The study revealed that the

<sup>++</sup> Assistant Professor;

\*Corresponding author: E-mail: sayanika.borah@aaau.ac.in;

majority of the tribal farm women (85.00%) faced headaches in doing different farming activities. The data also stated that headache ranked as I with a mean score of 0.93; followed by cuts and wounds; Swollen and sore hands; feet, dizziness, insect bite; Irritation in eyes, nose, throat; Lethargic; Allergy; Coughing; Chest pain & Vomiting and Suffocation ranked as II, III, IV, V, VI, VII, VIII, IX and X with a mean score of 0.90, 0.88, 0.87, 0.86, 0.85, 0.71, 0.67 and 0.63 respectively. Data also revealed that significant association between respondents' physiological problems and selected farming activities because the calculated "F" value of physiological problems (2.219\*) is lower than the tabulated "F" value of physiological problems (845.245).

*Keywords: Physiological problems; farming tools; agriculture; farming activities; traditional tools.*

## 1. INTRODUCTION

Agriculture is the basic source of people's livelihoods. It acts as a livelihood provider to the world population. All the people are directly or indirectly dependent upon agricultural production. Man cannot live in a society or a nation without agricultural production. So, agriculture is called the provider of the livelihood security of the world's population.

In the traditional social system, only men could be involved in agricultural production. But in today's period of time, this system is totally changing. Women play a dual role in society because they are not only involved in household activities but also equally involved in farm activities [1-4].

Sundhesha et al. (2018) argue that women are the backbone of the agricultural workforce because they perform more than 80 per cent of farm activities (Sundhesha, et al., 2018). Women's participation in agricultural work has become more visible over the last few decades. Even though cultural anthropological literature suggests that agriculture is an invention of women, it is gradually increasing. Rural women are extensively involved in agricultural activities compared to urban women [5,6].

Women's participation rates are gradually increasing in farming. Women are doing almost all the agricultural work, starting from the pre-harvesting activities to post-harvesting activities, on their farms [7-10]. Though the women are actively involved in various agricultural activities, they still face extreme disadvantages. Disadvantages include lower pay rates compared to male farmers, land rights, and representation. Although they also face problems regarding lack of empowerment, lack of decision-making abilities, and ignorance from their family members etc [11-15].

Like other rural farming women, tribal women also play an important role in agricultural activities. They play a vital role within the house as housewives and also work as co-partners in the farming activities. Besides this, they make important decisions in the home and outside the home. In the present period of time, the rural household scenario is gradually changing. Currently, they are more educated compared to the past period of time. It may affect the growth of a society or nation.

Basically, most of the tribal people live in the hilly areas or far away from the main town areas. So, in most cases, we can see that they are not fully aware of the new world. Tribal farm women are using traditional farming tools and working in the wrong posture in their farming. Traditional tools are heavy in weight and time-consuming to finish their farming tasks [16,17]. Due to the lifting of heavy-weight farming tools and working in the wrong posture, they may cause lots of health problems.

Acquiring knowledge is required to adopt new tools and technology. Due to a lack of knowledge, the majority of tribal farm women use traditional farming tools in their farming. The agriculture department, agricultural universities, and agriculture scientists are trying to produce some improved agricultural tools and technology. Keeping this in view, the present study was planned to analyze the "Physiological problems faced by tribal farm women in performing the selected farming activities" with the following objectives:

1. To analyze the participation of tribal farm women in major areas of farming activities.
2. To examine the physiological problems faced by tribal farm women in performing the selected farming activities.

## 2. MATERIALS AND METHODS

The present study was conducted in the Majuli District of Assam. For the subdivision and block

selection, a multi-stage purposive simple random sampling design was used. From the Majuli district, Majuli subdivision and Ujani Majuli block were selected purposively, where the maximum number of tribal people lived. For the present study, 300 respondents were selected from three villages of the Ujani Majuli block, who were engaged in different farming activities. Data collection was done by using a structured interview schedule.

### **2.1 Participation of Tribal Farm Women in Selected Farming Activities**

In this study, participation is operationally defined as the actual role played by tribal farm women in selected farming activities. And also, the tribal farm women are involved in different types and extents of participation in farming activities.

Participation was measured in this study by using a 3-point continuum: no participation, joint participation (husband/children/relatives/hired labour) and independent participation with respective weightage of 1, 2 and 3.

### **2.2 Physiological Problems among Tribal Farm Women in Performing the Selected Farming Activities**

In this study, Physiological Problems such as Irritation in eyes, nose, throat, Allergy, Headache, Vomiting, Nausea, Swollen and sore hands and feet, Suffocation, Coughing, Dizziness, Chest Pain, Insect bite, Cuts and Wounds and Fatigue.

Physiological problems were measured in this study by using 3 point continuum were rarely, sometimes with respective weightage of 1, 2, 3.

## **3. RESULTS AND DISCUSSION**

### **3.1 Participation of Tribal Farm Women in Selected Farming Activities**

The data presented in Table 1 indicates that the majority of tribal farm women participate independently in seed cleaning (86.67%), mulching (71.00%), earthing up (69.33%) and storing of harvested crops (66.00%). Furthermore, it appears that the respondents participated jointly in seed collection from harvested crops (82.33%), transplanting/planting/sowing of seeds (70.00%), land preparation (69.33%), fencing (67.33%) and

compost pit making (67.00%). This may be due to the majority of the respondents had farming is the main family occupation so most them engaged in different farming activities.

### **3.2 Physiological Problems among Tribal Farm Women in Performing the Selected Farming Activities**

The data in Table 2 reveals that Headache ranks as I with a mean score of 0.93; followed by Cuts and Wounds, Dizziness, Insect bite rank as II; Swollen and Sore hands and feet rank as III; Irritation in eyes, nose and throat rank as IV; Lethargic rank as V; Allergy rank as VI; Coughing rank as VII; Nausea rank as VIII; Vomiting rank as IX and Suffocation rank as X with a mean score (0.9), (0.88), (0.87), (0.86), (0.85), (0.71), (0.67), (0.63) and (0.61) respectively. It might be due the lack of awareness regarding the use of improved farming tools and lack of taking initiatives by the extension functionaries for inclusion of farmers in farming training.

### **3.3 Association between Selected Independent Variables with Dependent Variables**

The association between selected dependent and independent variables was examined by using One-Way ANOVA. In the present study, two (02) independent variables (pre-harvesting activities and post-harvesting activities) were selected with two dependent variables (time utilization and body discomfort).

The significance of the association was ascertained by calculating "F" values using One Way ANOVA for independence of attribute and thereby verifying the directional hypothesis formulated in this regard.

### **3.4 Association between Selected Farming Activities with Physiological Problems among Tribal Farm Women of Assam**

Table 3 shows that significant association between respondents' physiological problems and selected farming activities because the calculated "F" value of physiological problems (2.219\*) is lower than the tabulated "F" value of physiological problems (845.245). Therefore, we can conclude that there is a significant difference in terms of physiological problems among tribal farm women of Assam in selected farming activities.

**Table 1. Distribution of respondents according to participation of tribal farm women in selected farming activities**

| Farming Activities                       | Type of Participation of farming activities |       |                     |       |                  |       |
|--|---|-------|---------------------|-------|------------------|-------|
|  | Independent Participation                   |       | Joint Participation |       | No Participation |       |
|  | f   | %     | f                   | %     | f                | %     |
| Land Preparation                         | 62  | 20.67 | 208                 | 69.33 | 30               | 10.00 |
| Layout of plot                           | 35  | 11.67 | 197                 | 65.67 | 68               | 22.66 |
| Compost pit making                       | 93  | 31.00 | 201                 | 67.00 | 6                | 2.00  |
| Fencing                                  | 46  | 15.33 | 202                 | 67.33 | 52               | 17.34 |
| Buying of seeds                          | 151   | 50.33 | 102                 | 34.00 | 57               | 19.00 |
| Seed treatment                           | 99  | 33.00 | 194                 | 64.67 | 7                | 2.33  |
| Nursery raising of seedlings             | 98  | 32.67 | 198                 | 66.00 | 4                | 1.33  |
| Transplanting/ Planting/ sowing of seeds | 87  | 29.00 | 210                 | 70.00 | 3                | 1.00  |
| Intercultural operations                 | 64  | 21.33 | 192                 | 64.00 | 44               | 14.67 |
| Irrigation                               | 70  | 23.33 | 180                 | 60.00 | 50               | 16.67 |
| Weeding                                  | 94  | 31.33 | 199                 | 66.34 | 7                | 2.33  |
| Earthing up                              | 208   | 69.33 | 79                  | 26.33 | 4                | 1.34  |
| Mulching                                 | 213   | 71.00 | 81                  | 27.00 | 6                | 2.00  |
| Drainage                                 | 177   | 59.00 | 120                 | 40.00 | 3                | 1.00  |
| Pruning                                  | 140   | 46.67 | 155                 | 51.66 | 5                | 1.67  |
| Application of fertilizer                | 141   | 47.00 | 153                 | 51.00 | 6                | 2.00  |
| Application of plant protection measure  | 113   | 37.67 | 181                 | 60.33 | 6                | 2.00  |
| Threshing                                | -   | -     | 32                  | 10.67 | 268              | 89.33 |
| Harvesting                               | 175   | 58.33 | 125                 | 41.67 | 4                | -1.34 |
| Cleaning of harvested crop               | 160   | 53.33 | 136                 | 45.33 |                  |       |
| Grading of harvested crop                | 155   | 51.67 | 130                 | 43.33 | 15               | 5.00  |
| Storing of harvested crop                | 198   | 66.00 | 99                  | 33.00 | 3                | 1.00  |
| Seed collection from harvested crops     | 10  | 3.33  | 247                 | 82.33 | 43               | 14.33 |
| Seed Cleaning                            | 260   | 86.66 | 36                  | 12.00 | 4                | 1.34  |
| Packaging/Marketing                      | 152   | 50.67 | 118                 | 39.33 | 30               | 10.00 |
| Storing of seed                          | 150   | 50.00 | 147                 | 49.00 | 3                | 1.00  |

**Table 2. Distribution of respondents according to the physiological problems faced in performing the selected farming activities**

| Problems Perceived               | Extent of Occurrence |           |        |            |      |
|----------------------------------|----------------------|-----------|--------|------------|------|
|                                  | Frequently           | Sometimes | Rarely | Mean Score | Rank |
| <b>Physiological Problems</b>    |                      |           |        |            |      |
| Headache                         | 85.00                | 10.00     | 5.00   | 0.93       | I    |
| Cuts and wounds                  | 80.00                | 10.00     | 10.00  | 0.90       | II   |
| Swollen and sore hands and feet  | 70.00                | 25.00     | 5.00   | 0.88       | III  |
| Dizziness                        | 70.00                | 25.00     | 5.00   | 0.88       | III  |
| Insect bite                      | 70.00                | 25.00     | 5.00   | 0.88       | III  |
| Irritation in eyes, nose, throat | 70.00                | 20.00     | 10.00  | 0.87       | IV   |
| Lethargic                        | 70.00                | 20.00     | 10.00  | 0.86       | V    |
| Allergy                          | 60.00                | 35.00     | 5.00   | 0.85       | VI   |
| Coughing                         | 25.00                | 65.00     | 10.00  | 0.71       | VII  |
| Nausea                           | 15.00                | 70.00     | 15.00  | 0.67       | VIII |
| Chest pain                       | 15.00                | 60.00     | 25.00  | 0.63       | IX   |
| Vomiting                         | 15.00                | 60.00     | 25.00  | 0.63       | IX   |
| Suffocation                      | 15.00                | 55.00     | 30.00  | 0.61       | X    |

**Table 3. One way ANOVA test result between selected independent variables with body discomfort among tribal farm women of Assam**

| Variables              | Tabulated “F” value | Calculated “F” value |
|------------------------|---------------------|----------------------|
| Physiological Problems | 845.245             | 2.219*               |

\* 5% level of significant

#### 4. CONCLUSION

The findings presented in this study show that the participation of tribal farm women in major areas of farming activities seemed to be high. They had experienced a variety of physiological problems such as headache; cuts and wounds; swollen and sore hands; dizziness; insect bite; irritation in eyes, nose, throat; lethargic; coughing; nausea; chest pain; vomiting and suffocation. To reduce the health problems, they introduced different types of improved farming tools. But due to a lack of awareness, they use traditional farming and household tools and technology. These tools are heavy in weight and not appropriate for all age groups. The analysis of the situation suggested that they organize an awareness programme, skill development training and continuous assistance from extension personnel about the use of improved agricultural tools and technology so that they can be relieved from the health hazards. These improved tools are extremely beneficial because they are simple to use, save time, are light in weight and are appropriate for people of all ages who are involved in farming and household activities.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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