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2 **Original Research Article**

3 **Farmers' perception on constraints in adoption of**

4 **double cropping in Upper Brahmaputra Valley Zone**

5 **of Assam**

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7

8 **ABSTRACT**

9 **Introduction:** Out of the total net cropped area of 28.10 lakh hectares in Assam, only 1.96 lakh  
10 hectares is under double cropping despite the implementation of "Mission Double Cropping" with a  
11 target fixed of covering 2.09 lakh hectares in the state. Double cropping is not a new concept in  
12 Assam, because the cropping intensity has increased to 155.81 per cent in 2013-14 from 152.29 per  
13 cent in 2012-13 (Economic survey of Assam 2014-15). However, there is still some inhibitions on the  
14 part of the farmers in going for double cropping though it gives the farmers an increasing cash flow.

15 **Aims:** The present study was conducted to identify the major socio-economic constraints in adoption  
16 of double cropping

17 **Study design:** Original Research

18 **Place and Duration of Study:** The study was conducted in Jorhat and Golaghat districts of Upper  
19 Brahmaputra Valley Zone (UBVZ) of Assam during 2016 where government programmes of double  
20 cropping are in operation.

21 **Methodology:** The study based on primary data collected through personal interview from a sample  
22 of 120 farmers. The sample was drawn through multistage stratified random sampling technique.  
23 Simple percentage analysis was used.

24 **Results:** The study revealed the non-availability of water supply in the crop field as the major  
25 constraint faced by the highest number of farmers during Rabi season followed by shortage of labour  
26 and stray cattle problem. Some other problems like non-availability of credit, shortage of water supply  
27 to the crop field, high fuel cost, shortage of credit, high wage rate, transportation cost etc were also  
28 reported by the study as constraints in adopting double cropping in the zone.

29 **Conclusion:** There is need to enhance awareness among the farmers to overcome their problems in  
30 adopting double cropping.

31 **Keywords:** Double cropping, socio-economic constraints, UBVZ, Assam

32 **1. INTRODUCTION**

33 Double cropping is the practice of growing a second crop immediately following the harvest of the first  
34 *kharif* crop, thus harvesting two or more crops from the same field in one year. Both economic and  
35 environmental concerns motivate the interest in double cropping (Searchinger *et al.*, 2013; Siebert *et*  
36 *al.*, 2010). The economy of Assam is largely rural and agrarian. Agriculture is still the principal  
37 occupation of majority of the rural population in the state in terms of employment and livelihood. In  
38 Assam, there is ample scope for increasing agricultural production by raising the cropping intensity

39 which is very low compared to some other states and India. Assam has abundant rainfall per year, yet  
 40 there are very large fallow lands in post monsoon period. The total net sown area of Assam is 28.10  
 41 lakh hectares of which farmers are using 16.22 lakh hectares for single crop. The area under mono  
 42 cropping in Upper Brahmaputra Valley Zone is 4.23 lakh hectares which is 26 per cent of total mono  
 43 cropped area of the state and it is very high as compared to double cropped area (1.96 lakh hectares)  
 44 according to Economic survey of Assam, 2014-15. In order to popularize growing a second crop, to  
 45 improve the economic status of the farming community in general and the poverty stricken marginal  
 46 farmers, the Government of Assam has launched a mega project entitled "Mission Double Cropping"  
 47 with a target fixed of covering 2.09 lakh hectares of land to be covered under mustard, pea, potato,  
 48 summer paddy, coriander and hybrid brinjal. The cropping intensity of the state has increased to  
 49 155.81 per cent in 2013-14 from 152.29 per cent in 2012-13 (Economic survey of Assam 2014-15).  
 50 But however, in spite of having lots of benefits from double cropping, the most of the farmers of  
 51 Assam are reluctant to go for double cropping. Therefore, the present study made an attempt to  
 52 identify the socio-economic constraints in adoption of double cropping in Upper Brahmaputra Valley  
 53 Zone of Assam.

## 54 1. METHODOLOGY

55 The study was carried out in the Jorhat and Golaghat districts of Upper Brahmaputra  
 56 Valley Zone of Assam during the year of 2016. The study area was selected based on criteria viz.,  
 57 areas where double/ multi crops are grown, areas where government programmes of double cropping  
 58 are in operation, convenience of the researchers. Multistage stratified random sampling technique  
 59 was used to draw a sample of 120 farmers for the purpose of the study. A pretested schedule was  
 60 used to collect the necessary data from the sample farmers through personal interview method. The  
 61 data included reasons for not adapting double cropping fully in their available land holding, ways to  
 62 overcome the problems etc. Simple percentage analysis was used to fulfil the objective of the present  
 63 study.

## 64 2. RESULTS AND DISCUSSION

65 The present study has identified total 11 numbers of social economic constraints  
 66 faced by the sample farmers and listed in table 1 according to ranks.

67

68 **Table 1. Socio Economic Constraints in adoption of double cropping in the study area**

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**N=120**

| Sl. No. | Constraints                      | Frequency | (%) share | Rank |
|---------|----------------------------------|-----------|-----------|------|
| 1.      | Non availability of water supply | 114       | 95.00     | I    |
| 2.      | Shortage of labour               | 113       | 94.17     | II   |

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|     |  |     |       |      |
|-----|--|-----|-------|------|
| 3.  | Stray cattle                           | 113 | 94.17 | II   |
| 4.  | Non availability of credit             | 103 | 85.83 | III  |
| 5.  | Shortage of water supply               | 101 | 84.17 | IV   |
| 6.  | High fuel cost                         | 94  | 78.33 | V    |
| 7.  | Shortage of credit                     | 94  | 78.33 | V    |
| 8.  | Non availability of labour             | 92  | 76.67 | VI   |
| 9.  | Non adequate demand in the nearby area | 86  | 71.67 | VII  |
| 10. | High wage rates                        | 84  | 70.00 | VIII |
| 11. | High transportation cost               | 84  | 70.00 | VIII |

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70 It was observed that non-availability of water supply in the crop field was the major  
71 constraint faced by the highest number of farmers (95.00 per cent) during *Rabi* season. It was due to  
72 lack of proper irrigation facilities and no measures were taken up by the farmers for rain water  
73 harvesting. Then, shortage of labour and stray cattle problem constituting 94.17 per cent of total  
74 sampled farmers each, respectively were reported as second major constraint. Shortage of labour is  
75 a major growing concern for the state agriculture due to labour migration, implementation of  
76 MGNREGA scheme etc and making it challenging to perform crop cultivation throughout the year.  
77 Stray cattle are also highly encountered problem in Assam. Due to the scarcity of fodder crops and  
78 grazing land, peoples' negligence etc stray cattle problem is arising and harm the crop field.

79 Non-availability of credit for growing more than one crop was also reported as a  
80 constraint of double cropping by 85.83 per cent farmers. Shortage of water supply to the crop field,  
81 high fuel cost used in irrigation and shortage of credit were some of the other major problems which  
82 were faced by 84.17, 78.33 and 78.33 per cent farmers, respectively. Beside these, non-availability of  
83 labour when needed in the nearby area, high wage rates of labour and high transportation cost were  
84 also indicated by the many of farmers which constituted 76.67 per cent, 71.67 per cent, 70.00 and  
85 70.00 per cent of total respondent farmers, respectively.

86 Similar studies have been done and observed the major problems faced by the  
87 farmers in the production front were shortage of labour during peak season [Naik (1998); Basavaraj  
88 and Kunnal(2002); Hiralal and Verma (2004)]. Gavisiddappa *et al.* (2001) identified the problems in  
89 Gherkin production and trade in Haveri district of Karnataka and observed that, lack of irrigation  
90 facilities and lack of cheap labours were the major problems.

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93        **3. CONCLUSION**

94        The present study revealed that, the farmers of Upper Brahmaputra Valley zone of Assam were not  
95        willing to adopt double cropping fully on their land holding because of some major problems like non  
96        availability or shortage of required water supply, non availability or shortage of labour, higher wage  
97        rate of labour, stray cattle, non availability of credit, high transportation cost etc. Therefore, to promote  
98        double cropping in Assam, only distribution of seeds and fertilizer, boosting productivity of crops etc  
99        are not sufficient. There is need to enhance awareness among the farmers to overcome their  
100       problems in adopting double cropping. The present study suggests some measures to overcome  
101       these reported problems like ensuring adequate irrigation facilities, proper awareness among the  
102       famers regarding water harvesting, acquiring credit facilities offered by different financial institutes  
103       specially for farmers, proper fencing around the field to avoid stray cattle, facilitate construction of  
104       sufficient godowns and cold storages by Agriculture Department of the state to promote marketing as  
105       well as to reduce transportation cost etc.

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