



CONSTRAINTS TO CROP CULTIVATION IN RIVERINE CHARLANDS OF BANGLADESH: FARMERS' PERSPECTIVES FROM THE PADMA RIVER BASIN

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Abstract

The main purpose of this study was to assess the constraints to crop cultivation in Bangladesh from the perspectives of farmers in the charland of the Padma River under Faridpur district. Data were gathered randomly from 50 farmers out of 774 farmers of selected villages by using a semi-structured interview schedule during the period from 01 November 2024 to 15 June 2025. Descriptive statistics and the Pearson product-moment correlation coefficient were used for data analysis. The findings reveal that almost 98.0 percent of the respondents faced medium constraints to crop cultivation, such as insect and disease attacks, lack of storehouses, and inadequate training facilities, while 2.0 percent faced low hindrance in crop cultivation, i.e., degradation of crop cultivars and political disturbance. The statistical analysis exposed that age, crop cultivation experience, crop cultivation area, annual family income, income from crop cultivation, microfinance received, agricultural training exposure, agricultural extension media contact and input availability had a significant negative relationship with the hindrance faced by the farmers in crop cultivation, whereas age, crop cultivation experience, cropping area, annual family income, income from crop cultivation, agricultural training exposure, agricultural extension media contact and input availability had a significant negative relationship with the hindrance of crop cultivation.

Key words: Crop, Cultivation, Charland, DAE, HFI, Farmers.

Introduction

Bangladesh is the largest delta in the world. With the increasing population, Bangladesh is trying to use all types of unused land for agriculture. Char land is playing a very important role in the agriculture sector. The riverine charlands of Bangladesh, particularly those in the river basin, represent both a unique opportunity and a formidable challenge for agricultural cultivation. These dynamic floodplains, constantly reshaped by sediment deposition, flooding, and river erosion, are home to millions of rural farmers who rely on agriculture for their livelihoods. Char is a tract of land surrounded by the waters of an ocean, sea, lake, or stream; it usually means any accretion in a river course or estuary. It includes all types of bars including both lateral (point-bars) and medial (braid-bars). In the dynamics of erosion and accretion in the rivers of Bangladesh, the sand bars emerging as islands within the river channel (island chars) or as attached land to the riverbanks (attached chars), often create new opportunities to establish settlements and pursue agricultural activities on them. There is a little distinction between island and chars, which are surrounded by water year-round, and attached chars, which are connected to the mainland under normal flow. However, the island and attached chars appear to be less productive than adjacent mainland areas. The major reasons for this are the relatively less favorable soil conditions in some of the chars, uncertainties caused by erosion, and frequent floods. The chars, which may be defined as the lands developed due to accretion of mostly Himalayan sediments on the riverbed known as the island char or alongside the bank of rivers known as the attached char, are the byproduct of the hydro-morphological dynamics of the three great rivers of Bangladesh namely, the Brahmaputra-Jamuna, the Padma (Ganges) and the Meghna, and their more than 500 branch-rivers and tributaries. The char lands are also defined by Lahiri-Dutt and Samanta (2007) as the islands formed in the major rivers systems of the flat deltaic plains of eastern India and Bangladesh, and also by Rogers *et al.* (2013) as the temporary sandbars developed in the Bengal Delta, which are >100m across with a duration of around 10 years. Every year the three great rivers of Bangladesh carry about 1000-2500 million tons of sediment, mainly from the Himalayan Mountains (Milliman and Meade, 1983; UNEP/ GPA, 2006; Wasson, 2003). Approximately one third of the annual sediment load is deposited in the river flood-plain and the rest transported to the Bay of Bengal (Goodbred and Kuehl, 1998; 1999). Thus, the char lands are formed in the inside as well as in the coastal areas of Bangladesh. The total charlands area in Bangladesh is 1722 km², which makes up 1.7% of the total land area of Bangladesh. Rahman (2010) estimated an overall land area increase in Bangladesh by 4% from 1948 to 2006 mostly due to reclamation of char lands. There are about one million ha of char lands

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in Bangladesh (Karim et al., 2014; Sattar and Islam, 2010) and the area is supposed to continue increasing due to the huge sedimentation from the Himalaya in every summer. The char lands of Bangladesh can broadly be divided into the Brahmaputra-Jamuna chars, Padma chars and Meghna chars. The old Brahmaputra and Tista also constitute some char lands. The char lands are sometimes grouped as temporary chars and established or permanent chars. Temporary chars may be defined as the chars that go every summer under flood water, which is deep enough to damage any crop therein, may be demolished within couple of years to decades, have sparse plantation, and minimum crops and cropping. People live there by making temporary houses. Contrary, established chars may be defined as those which have minimum vulnerability to flood damage, are not demolished even within several decades, have age-old trees, maximum crops and cropping, and the dwellers therein live on permanent or semi-permanent houses. However, it is not guaranteed that established chars will last like permanent main land. Even the chars of older than 100 years may be eroded due to natural geo-hydrological activities and changes in the river courses (Karim, 2014). Thus, an estimated 5 to 10 million char dwellers, who live mostly on agriculture, are some of the poorest and most vulnerable people particularly those who live on the island/attached river chars in Bangladesh (Ashley et al., 2000; Islam and Islam, 1985). The soils are deficient of most of the plant nutrients, have very low organic matter contents and minimum moisture holding capacity, especially in the northern and middle region chars (SRDI, 2001). Nonetheless, flood is very common in every summer in most of the chars, though Lewis (2011) reported that the quality of flooded soils remained fertile due to huge sedimentation and carbon flux. Many other reports are also available that sporadically revealed the prevailing situations of the char lands in general (Ahmed et al., 2013; Karim, 2014; Rahman and Davis, 2005; Rogers et al., 2013). The people living in the charland are very vulnerable to climate change and natural disaster. However, there are many constraints to crop cultivation in riverine charland of Bangladesh. Major limiting factors include sandy, nutrient deficient soil, lack of organic matter and irrigation infrastructure, limited access to modern inputs and difficult transportation etc. The present study was undertaken to identify the major problems faced by farmers in the Padma River charlands during crop cultivation and to examine the key constraints hindering agricultural production in these fragile environments. By documenting farmers' experiences and production challenges, the study aims to generate evidence-based insights that can support effective planning and policy formulation for sustainable agricultural development in the extensive charland areas of Bangladesh.

Materials and Methods

The location of the study

The study was conducted at Decreer char and North Channel union under Faridpur Sadar upazila of Faridpur district in Bangladesh. The selected villages were Taher Fakir Dangi, Goijoddin Munshi Dangi, Baliyaghat, Paldangi, Dudu Matubborer Dangi, Afsar Patadarer Dangi. Randomly 50 farmers were selected for the current study from the above villages. The sample size and population were shown in below:

| Union | Villages | Population (No. of total farmers) | Number of farmers included as sample |
|---------------|------------------------|-----------------------------------|--------------------------------------|
| Decreer char | Taher Fakir Dangi | 168 | 11 |
| | Goijoddin Munshi Dangi | 112 | 07 |
| | Baliyaghat | 48 | 02 |
| | Paldangi | 86 | 05 |
| North Channel | Dudu Matubborer Dangi | 184 | 13 |
| | Afsar Patadarer Dangi | 176 | 12 |
| Total | | 774 | 50 |

Data collection

To collect relevant information from the respondents, a structured interview schedule was prepared in Bengali considering the objectives of the study. The interview schedule was pre-tested in actual field situations before using the same for final data collection. Necessary correction, modification, and adjustment were made in the interview schedule based on results of pre-test. The modified and corrected interview schedule was then printed in final form in English. The schedule was then multiplied in its final form as per requirements to collect data from the respondents. Data were collected through personal interviewing by the researcher himself through face-to-face interview. The study was purposively conducted in the Faridpur district of Bangladesh. The interview was conducted confidentially. Collection of data took 60 days from 15 March to 15 May 2025.

Variable of the study

The researcher was selected ten characteristics of the farmers as the variables.

The characteristics includes age, level of education, crop cultivation experience, crop covering area, annual family income, annual income from crop, microfinance received, Agricultural training Exposure, agricultural extension media contact, and input availability. On the other hand, hindrance of crop cultivation as perceived by the farmers was the focus of the study.

Age: A score of one (1) was assigned for each year of age.

Level of education: The education of a farmer was measured by the number of years of schooling completed in an educational institution. A score of one (1) was assigned for each year of formal schooling completed by a respondent (Sharmin, 2005). If a grower could sign his/her name only a score of 0.5 was given to a farmer.

Crop cultivation experience: A score of one (1) was assigned for each year of experience. Crop covering area:



The unit of measurement was in Decimal.

Annual family income: total yearly earnings from agricultural and non-agricultural sources (service, business, daily labor etc.) by the respondent himself and other family members. Annual income from crop cultivation: measured in Taka.

Microfinance received: Credit received of a respondent was measured in taka.

Agricultural training exposure: Determined by total number of days of training received by the respondent. A zero (0) score was assigned for no training.

Agricultural extension media contact: This variable was measured by computing an extension contact score based on a farmer extent of contact with 10 selected agro based media with four alternative responses such as 'regularly', 'occasionally', 'rarely' and 'never' basis and weights were assigned as 3, 2, 1 and 0 respectively. The extension contact score of a respondent was determined by summing up his/her scores for contact with all the selected media. Thus, possible extension contact score could range from zero (0) to 30, where zero (0) indicated no extension contact and 30 indicated the highest level of extension contact.

Input availability: Input availability refers to the availability of five selected inputs for crop cultivation, like modern varieties, fertilizers, insecticides, irrigation water, and farm implements scores were assigned as 4, 3, 2, 1 and 0 for regular, oftenly, fair, seldom and not at all availability respectively. Thus, input availability score of the farmers could range from 0 to 20, where 0 indicated no input availability and 20 indicated highest input availability.

Constraints to crop cultivation: Hindrance faced by the farmers in cultivation was the dependent variable of the study. A scale was used for measuring hindrance faced by the farmers in cultivation. The scale contained ten probable hindrances, which the farmers might face in respect of cultivation. Each respondent was asked to indicate the extent of difficulty faced by each of the hindrance by checking any one of the five alternative responses as "severe hindrance", "moderate hindrance", "low hindrance", "very low hindrance" and no hindrance. Weights were assigned to these responses as 4, 3, 2, 1 and 0 respectively. Weights for responses against all the 10 problem-items of a respondent were added together to obtain his hindrance faced score. Therefore, the hindrance faced score of the farmers could range from 0 to 40, where 0 indicated facing no hindrance and 40 indicated facing of sever hindrance.

To compare the severity among the hindrance, Hindrance Faced Index (HFI) was computed for each hindrance-item with help of the following formula:

$$\text{HFI} = (\text{H}_s \times 4) + (\text{H}_m \times 3) + (\text{H}_l \times 2) + (\text{H}_{vl} \times 1) + (\text{H}_n \times 0)$$

Where,

H_s = Number of respondents faced sever hindrance

H_m = Number of respondents faced moderate hindrance

H_l = Number of respondents faced low hindrance

H_{vl} = Number of respondents faced very low hindrance

H_n = Number of respondents faced no hindrance at all

HFI in cultivation of each item was computed by adding all the scores obtained by the responses from all the respondents. Thus, HFI could range from 0 to 200 where '0' indicated no hindrance at all and '200' indicated highest hindrance in cultivation.

Data processing and statistical procedures

After completion of field survey, all the data were coded, compiled tabulated and analyzed in accordance with the objectives of the study.

The statistical measures such as range, means, standard deviation, number and percentage distribution were used to describe the variables. "Pearson's Product Moment Correlation" was used to explore the relationships between the concerned variables. Five percent (0.05) level of significance was the basis for rejecting any null hypothesis throughout the study. The SPSS computer package was used to perform all those processes.

Results and Discussion

This chapter has been discussed in two sections such as (1) Hindrance of crop cultivation as distinguished by farmers and (2) relationship of the selected characteristics of farmers and hindrance of crop cultivation as distinguished by farmers.

Hindrance faced in crop cultivation

The respondents' hindrance faced scores in all 10 selected items ranged from 25-28 against the possible range of 0 to 40 with an average of 24.69 and standard deviation of 4.71. Based on their overall problems faced scores, the respondents were classified into three categories as shown in table 1.

Table 1: Distribution of the farmers according to their hindrance faced in cultivation

| Categories | Basis of categorization (score) | Respondents | | Mean | Standard deviation |
|------------------|---------------------------------|-------------|---------|-------|--------------------|
| | | Number | Percent | | |
| Low hindrance | Low (Up to 20) (mean-1sd) | 1 | 2 | 24.69 | 4.71 |
| Medium hindrance | Medium (>20-29) (mean±1sd) | 49 | 98 | | |
| High hindrance | High (above 29) | 0 | 0 | | |
| Total | | 50 | 100 | | |

About 98.0 percent of the farmers faced medium hindrance compared to 2.0% of them faced low hindrance and 0.0 farmers had high hindrance. From the above table 1, farmers faced medium hindrance due to lack of agricultural training, education, proper media contact etc. In spite of all these hindrances, farmers cultivate for its high demand in consumer level and high profit. Similar findings were obtained by Rahman (2004) and Salam (2013) in the study.

Comparative severity among the hindrance faced by the farmers in cultivation

The observed Hindrance Faced Index of the hindrance ranged from 89 to 186 against the possible range of 0-200. Hindrance Faced Index (HFI) of the selected hindrance are shown in table 2. Based on HFI, it was observed that " Insect and disease attack " ranked first followed by " Lack of storehouse", Short shelf life of crop", " Lack of proper marketing facilities ", " Poor transportation system ", "Inadequate training facilities ", " High production cost", " Lack of money/credit ", " Degeneration of crop cultivar " and " Political disturbance ".

Table 2: Hindrance Faced Index (HFI) with Rank Order

| Problems | Extent of hindrances | | | | | HFI | Rank Order |
|-------------------------------------|----------------------|--------------|---------|--------------|----------------|-----|------------|
| | Severe (4) | Moderate (3) | Low (2) | Very low (1) | Not at all (0) | | |
| Degeneration of crop cultivar | 0 | 28 | 12 | 10 | 0 | 118 | 9 |
| High production cost | 15 | 19 | 16 | 0 | 0 | 149 | 6 |
| Short shelf life of Crop | 32 | 14 | 4 | 0 | 0 | 178 | 3 |
| Lack of storehouse | 36 | 11 | 3 | 0 | 0 | 183 | 2 |
| Lack of money/credit | 15 | 18 | 5 | 6 | 6 | 130 | 7 |
| Inadequate training facilities | 34 | 8 | 3 | 5 | 0 | 171 | 4 |
| Insect and disease attack | 40 | 6 | 4 | 0 | 0 | 186 | 1 |
| Lack of proper marketing facilities | 15 | 27 | 4 | 4 | 0 | 126 | 8 |
| Poor transportation system | 16 | 26 | 2 | 6 | 0 | 152 | 5 |
| Political disturbance | 5 | 17 | 5 | 8 | 15 | 89 | 10 |

Relationship between the Selected Characteristics of the Farmers and their Hindrance Faced in Cultivation

Coefficient of correlation was computed to explore the relationship between the selected characteristics of the farmers and their hindrance faced in crop cultivation. To determine the relationship of each of 10 selected characteristics of the farmers (age, level of education, cultivation experience, covering area, annual family income, income from, microfinance received, agricultural training exposure, agricultural extension media contact and input availability) with hindrance faced by the farmers in cultivation. Pearson's Product Moment Correlation was used. Co-efficient of correlation (r) has been used to test the null hypothesis concerning the relationship between the concerned variables. 5% level of significance was used as the basis for rejection of any null hypothesis. The summary of the results of the Co-efficient of Correlation indicating the relationship between each of the selected characteristics of the farmers and their hindrance faced in crop cultivation are shown in table 3.

Table 3: Results of Co-efficient of Correlation Showing Relationship between each of the Selected Characteristics of the Farmers and their Hindrance Faced in crop Cultivation (n=50)

| | Selected characteristics | Computed 'r' values |
|--|--------------------------------------|---------------------|
| Hindrance faced by the farmers in crop cultivation | Age | -.038 ^{NS} |
| | Level of education | -.580 ^{**} |
| | Crop cultivation experience | -.453 ^{**} |
| | Cropping area | -.195 ^{NS} |
| | Annual family income | -.317 [*] |
| | Income from crop cultivation | -.297 [*] |
| | Microfinance received | -.284 [*] |
| | Agricultural training exposure | -.553 ^{**} |
| | Agricultural extension media contact | -.449 ^{**} |
| | Input availability | -.294 [*] |

** Correlation is significant at 0.01 level of probability (table value 0.354) with 48 df.

* Correlation is significant at 0.05 level of probability (table value 0.273) with 48 df

^{NS} Not significant

Relationship between age of the farmers and their hindrance faced in crop cultivation

Relationship between age of the farmers and their hindrance faced in crop cultivation was determined by testing



the null hypothesis: "There is no relationship between age of the farmers and their hindrance faced in crop cultivation". The computed value of the co-efficient of correlation (r) between the concerned variables was -0.038 as shown in table 3. The following observations were made regarding the relationship between the two variables on basis of the Coefficient of correlation (r). The computed value of " r " (-0.038^{NS}) was found smaller than that of the tabulated value (0.273) with 48 df at 0.05 level of probability. The relationship between the concerned variables was negative but not significant. The null hypothesis was accepted. So, there is negative relationship at age of the farmers with their hindrance in crop cultivation. Rahman (2015) found that age of the farmer had no significant relationship with their problem faced in jackfruit commercialization. Baten (2014), found the similar result on his study about problem faced in cotton cultivation.

Relationship between level of education of the farmers and their hindrance faced in crop cultivation

Computed value of the co-efficient of correlation between education of the farmers and their hindrance faced in crop cultivation was found to be -0.580 . The following observation was recorded regarding the relationship between the two variables under consideration: The computed value of " r " (-0.580^{**}) was found larger than that of the tabulated value (0.354) with 48 df at 0.01 level of probability. The relationship between the concerned variables was negatively significant. The null hypothesis was rejected. Based on the above findings, it can be concluded that education of the farmers had significant and negative relationship with their hindrance faced in crop cultivation. Mortuza (2015) found that education of the farmers was negatively and insignificant related with problem faced in his research work. Islam (2008), found that negatively significant relationship of the farmers with their level of education on problem faced in sugarcane cultivation.

Relationship between cultivation experience of the farmers and their hindrance faced in crop cultivation

Computed value of the co-efficient of correlation between farming experience of the farmers and their hindrance faced in crop cultivation was found to be -0.453 . The following observation was recorded regarding the relationship between the two variables under consideration: The computed value of " r " (-0.453^{**}) was found larger than that of the tabulated value (0.354) with 48 df at 0.01 level of probability. The relationship between the concerned variables was negatively significant. The null hypothesis was rejected. Based on the above findings, it can be concluded that the respondent having negative and significant relationship between farming experience in cultivation with their hindrance faced in cultivation. Rahman (2015), found that similar result on his research work.

Relationship between cropping area of the farmers and their hindrance faced in crop cultivation

Computed value of the co-efficient of correlation between covering area of the farmers and their hindrance faced in crop cultivation was found to be -0.195 . The following observation was recorded regarding the relationship between the two variables under consideration: The computed value of " r " (-0.195^{NS}) was found smaller than that of the tabulated value (0.273) with 48 df at 0.05 level of probability. The relationship between the concerned variables was negatively insignificant. The null hypothesis was accepted. Based on the above findings, it can be concluded that the cropping area of the farmers had an insignificant and negative relationship with their hindrance faced in crop cultivation. Islam (2008) was found same result that sugarcane cultivation area had a negative and insignificant relationship with problem faced in sugarcane cultivation.

Relationship between annual family income of the farmers and their hindrance faced in crop cultivation

The co-efficient of correlation between the concerned variables was found to be -0.317 as shown in table 3. This led to the following observations regarding the relationship between the two variables under consideration. The computed value of " r " (-0.317^{**}) was found greater than that of the tabulated value (0.273) with 48 df at 0.05 level of probability. The relationship between the concerned variables was negatively significant. The null hypothesis was rejected. Based on the above findings, it can be concluded that the annual family income of the farmers had significant and negative relationship with their hindrance faced in crop cultivation. Baten (2014), found that income of the contact and non-contact farmers had insignificant negative contribution of their problem faced in crop cultivation.

Relationship between income from crop cultivation of the farmers and their hindrance faced in crop cultivation

The co-efficient of correlation between the concerned variables was found to be -0.297 as shown in table 3. This led to the following observations regarding the relationship between the two variables under consideration. The computed value of " r " (-0.297^{*}) was found greater than that of the tabulated value (0.273) with 48 df at 0.05 level of probability. The relationship between the concerned variables was negatively significant. The null hypothesis was rejected. Based on the above findings, it can be concluded that the farmers having more income from cultivation tend to more opportunity to overcome hindrance faced in crop cultivation for more production. It indicates that the income from crop cultivation of the farmers had significant and negative relationship with their hindrance faced in crop cultivation. Rahman (2015) was found that income from jackfruit cultivation had a negative and substantial significant relationship with problem faced in his research work.

Relationship between microfinance received of the farmers and their hindrance faced in crop cultivation

The co-efficient of correlation between the concerned variables was found to be -0.284 as shown in table 3. This led to the following observations regarding the relationship between the two variables under consideration. The computed value of " r " (-0.284^{*}) was found larger than that of the tabulated value (0.273) with 48 df at 0.05 level of probability. The relationship between the concerned variables was negatively significant. The null hypothesis

was rejected. The findings indicated that the microfinance received of the growers had significant and negative relationship with their hindrance faced in crop cultivation. Islam (2008) found that credit availability of sugarcane farmers had a significant and negative relationship with their problem faced.

Relationship between agricultural training exposure of the farmers and their hindrance faced in crop cultivation

The co-efficient of correlation between the concerned variables was found to be - 0.533 as shown in table 3. This led to the following observations regarding the relationship between the two variables under consideration: The computed value of “r” (-0.533**) was found greater than that of the tabulated value (0.354) with 48 df at 0.01 level of probability. The relationship between the concerned variables was negatively significant. The null hypothesis was rejected. This means that farmers who were more trained they have less hindrance in crop cultivation and that helped the farmers to increase the production. Baten (2014), and Islam (2008), found that training exposure of the farmers had a negative significant relationship with their problem faced.

Relationship between agricultural extension media contact of the farmers and their hindrance faced in crop cultivation

The co-efficient of correlation between the concerned variables was found to be -0.449 as shown in table 3. This led to the following observations regarding the relationship between the two variables under consideration: The computed value of “r” (-0.449**) was found larger than that of the tabulated value (0.354) with 48 df at 0.01 level of probability. The relationship between the concerned variables was negatively significant. The null hypothesis was accepted. According to the above findings it indicates that more agricultural extension media contact helped the farmers to expose him toward different source of information through direct contact with different persons which helped him to decrease his hindrance. Baten (2014), observed in his study extension contact of farmers had negative significant relationship with problem faced in cotton cultivation. This finding aligns with previous studies on smallholder constraints in flood-prone regions, where education and training significantly reduced production barriers (Rahman, 2015; Rogers et al., 2013).

Relationship between input availability of the farmers and their hindrance faced in crop cultivation

The co-efficient of correlation between the concerned variables was found to be -0.294 as shown in table 3. This led to the following observations regarding the relationship between the two variables under consideration: The computed value of “r” (-0.294**) was found greater than that of the tabulated value (0.273) with 48 df at 0.05 level of probability. The relationship between the concerned variables was negatively significant. The null hypothesis was rejected. The findings demonstrate that input availability of the farmers had high significant negative relationship with their hindrance faced in crop cultivation. This meant that the farmers having more input availability face fewer problems in crop cultivation. Lack of proper input in time is a hindrance. This was might be the reason for the negative relationship of the input availability of the farmers with their hindrance faced in cultivation. Baten (2014) found that the same result on his research work.

Conclusion

Based on findings of the study, the majority (98.0%) of the farmers faced medium constraints to crop cultivation in charland. There was a negative significant relationship of level of education of the farmers with their hindrance in crop cultivation. Therefore, it can be concluded that educated farmers faced low hindrance in crop cultivation than the illiterate farmers. Experience in crop cultivation of the farmers had a significant negative relationship with the hindrance of crop cultivation such as insect and disease attack were severe hindrance of this study. So, it can be concluded that with the increase of experience in crop cultivation, hindrance of crop cultivation decreased.

High production cost, low annual family income and income from crop cultivation of the farmers had negative significant relationship with their hindrance faced in crop cultivation. So, it may be concluded that the low production cost, high annual income and income from crop of the farmers significantly contributes to decreasing the hindrance in crop cultivation. Poor communication and transportation system, lack of marketing facilities, agricultural training exposure and agricultural extension media contact of the farmers had negative significant relationship with their hindrance faced in crop cultivation. Therefore, it may be concluded that improve communication and transportation system, developed marketing facilities, more agricultural training exposure and more agricultural extension media contact of the farmers significantly contributes to decrease the hindrance in crop cultivation.

Recommendations

We can be recommended that new technology transfer, supply inputs and credit availability, improved storage and irrigation facilities, organized market system, or cooperative market, multidimensional or necessary steps should be taken by concerned departments like DAE and NGOs to remove those hindrances so that they could make their crop cultivation profitable by increasing yield with less production cost in charland farmers.

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