

# An Empirical Study on Problems and Prospects of Paddy Cultivators: A Case from West Bengal.

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**Abstract:** In this paper, an attempt has been made to find out the problems and prospects of paddy cultivation of Sitalkuchi block in Coochbehar district, West Bengal, India. Paddy is major one of the significant agricultural crop in country as well as World. *Oryza Sativa* is the scientific name of paddy. The main significant of paddy, it is agricultural product, half of the world peoples are directly or indirectly depend on rice cultivation, because it is one of significant food crop of peoples in the dynamic Earth. The peoples on the Globe, not easily forget that rice is common significant food crop of the World. Paddy is a large area source to maintain the food safety problem of the Earth. During the year 2017-2018, amount of rice crop cultivation in the country was 112.91 million metric tons (F.A.O), where India come second rank of the world.

The Sitalkuchi Block is a unit of an administrative division in Mathabhanga sub-division at Coochbehar district, in the Indian state of West Bengal. This block dominated by paddy cultivation (mainly Aman & Boro), there are direct or indirectly over all 90% population depend on paddy cultivation. This study showing that there are much effective factors for development of paddy cultivation in Sitalkuchi block, like that, irrigation problem, lack of proper marketing facilities, poor transportation system, lack of finance, labour migration, high rate of fertilizer, lack of Government policies etc. Concluding remarks delineated that there are huge prospects for paddy cultivation, like suitable weather condition, fertile soil, road connectivity, and market facilities, development of agro-based industry etc. which will increase a better scenario for paddy cultivation near future.

**Key Words:** Scientific, stable, prominent, average, growing.

## 1. INTRODUCTION:

The principle agricultural produce of the Coochbehar district is Rice. Mainly three types of paddy are found in the district like that Aus, Aman, and Boro. In the district maximum area concentrated under the Aman rice cultivation and followed by the Boro rice cultivation. Aman rice cultivated in the field from May to July (Monsoon Seasons) and Boro rice cultivated in the field from November to December (spring season). In the year 2011-2012 total 2,73,300 hectare land under the rice cultivation and total rice production 600700 million ton (Directorate of agriculture, Government of West Bengal, 2015).

Paddy is the chief crop of monsoon regions and it is also grown in tropical and temperate regions. It requires 24°C temperature and annual average rainfall ideal 150-200cm. It is grown in different soils, like alluvial, black & red soils. River deltas, floodplains & gentle slope are the most suitable lands for paddy cultivation. The Coochbehar district was situated the north-eastern part in India and Sitalkuchi block have situated southern part of the district, there are maximum fertile soil and huge amount labours available here, so developed the paddy cultivation.

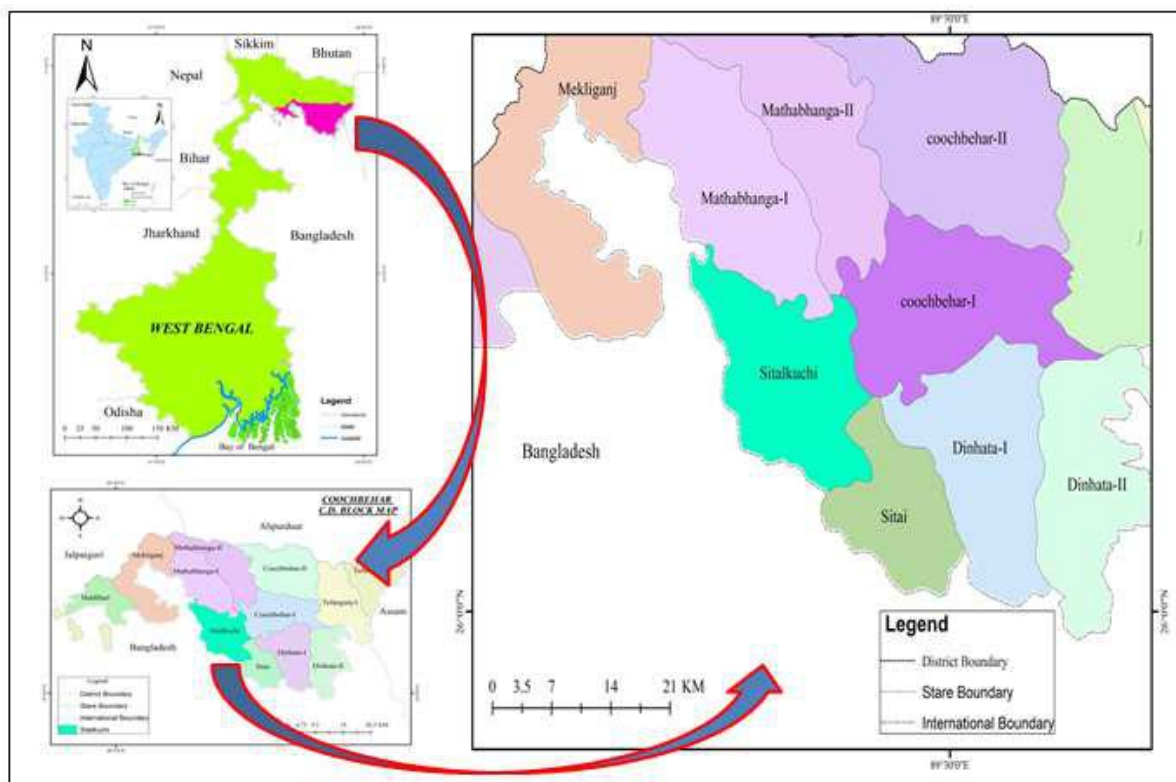


Figure: 1. Location Map of the Study Area

My study area of paddy cultivation has been selected in SitalKuchi block at coochbehar district. Geographically location of Sitalkuchi block (Figure-1) is  $26^{\circ}10'N-26^{\circ}16'N$  and  $89^{\circ}11'E-89^{\circ}19'E$ . Total area of the block is 101.53 sq.km. Topographically the block is totally plain respectful slope towards the North to South East. In this cause paddy cultivation has developed in the block. The maximum area have dominant by fertile land. So, maximum area has covered by paddy crops cultivation mainly Aman & boro in the block.

## 2. OBJECTIVES:

The Major purposes of area are explored and assess socio-economic position, problems and prospect of paddy cultivation of Sitalkuchi block. The major objectives are;

- ❖ To analysis the SEP (Socio-Economic Position) of peoples of the Sitalkuchi block.
- ❖ To find out the major problems and Prospects of paddy cultivation of the Sitalkuchi Block.
- ❖ To find out the different irrigation system, like well, tube well, pump pond, sallow etc.
- ❖ To indicate gratification position of cultivators about launch or implantation or developmental plan which adapted by the Government.
- ❖ To give appropriate suggestion or a few strategies for their development of paddy cultivation in the block.

## 3. Methodology and Data Source:

This research work depends on field survey and secondary data-

- The Sitalkuchi blocks, there are total 67 villages, chosen 20 villages are randomly. Five household's cultivators are randomly chosen from every village. Therefore total 100 household's paddy cultivators are randomly chosen.
- Sample survey at household level was done for collection of data related to trends of production of the regions.
- Different interview are taken from various level of people like wise very old aged man, famers, different main workers or farmers who are life time engaged traditionally in Paddy cultivation.

- There are used the different technique for data collection in the study area

#### 4. RESULTS AND DISCUSSION:

##### *(Socio-economic condition of Paddy Cultivator of Sitalkuchi Block)*

The socio-economic status (SES), it is prescribe as the location and personal or household occupipes with mention to the predominant average value of material and cultural domination, income and participation in community activity of the groups (Dr.M. Nayak).In the paper, an effort has been formed to prescribe SEP(Socio-Economic Position) and agricultural features of cultivators in Sitalkuchi block of Mathabhanga sub-division at Coochbehar district followed by a proposal of sustainable livelihood for them. Details discuss under below-

##### *Age Composition:*

In the sitalkuchi block there have different age group people engaged in paddy cultivation. The field survey result showing that 38 per cent farmers are fall under the age group 35-45 years, there 22 per cent farmers are engaged with in farming activities fall under age group 25-35 years, 21 per cent are fall under the age group 45-55, where 10 per cent peoples are fall under the age groups more than 55 years. At least 9 per cent sample farmers are fall under the age groups 0-25 years. In fields observation it results reveal that compare to adults or old peoples, the new generation people so slight engaged in paddy farming activities. In search the age group 25-35 and 45-55 which was respectively second and third rank farmer engaged in paddy cultivation. The maximum head of farmers are spending much time at farm land for purpose of farming activities (Fig-2).

*Table-1, Age composition, Gender & marital Status of study area*

<i>Age Groups</i>	<i>No of Farmers</i>	<i>% of Sample Farmers</i>
0-25	9	09
25-35	22	22
35-45	38	38
45-55	21	21
Above 55	10	10
<b><i>Gender</i></b>	<b><i>#</i></b>	<b><i>#</i></b>
Male	08	08
Female	92	92
<b><i>Marital Status</i></b>	<b><i>#</i></b>	<b><i>#</i></b>
Bachelor	09	09
Married	91	91

*Source: Field Survey, 2019*

The study area 91 per cent (Table-1) of the respondents farmers are male, there found only 9 per cent farmers are female. It is clear that the maximum females are engaged in household activities and housewife works. They are always helped the farmer man in primary stage of paddy cultivation and harvesting stage of paddy crop (Fig-3).

There are field sample survey reports, total 33.63 per cent (Table-2) of the sample farmers are having in the age groups 30-45 years, where male are 18.05 per cent and female are 15.58 per cent. Total 19.82 per cent respondents are fall under the age groups 45-60 years, where 10.09 per cent are male and 9.73 per cent are female respondents. In the study area total 19.12 per cent respondents are having in the age groups 15-30 years, where 10.27 per cent are male and 8.85 per cent are female respondents. Total 10.62 per cent sample cultivators are fall under the age groups above 60 years old, 6.37 per cent are male and 4.25 per cent are female. The lowest respondents' farmers are found in these age groups in the study area (Figure-4).

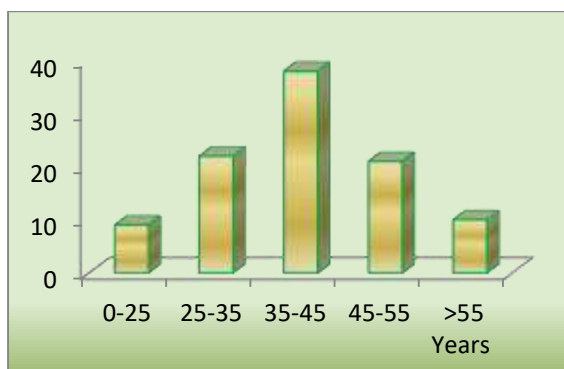


Figure-2, Age Wise Respondent Farmer

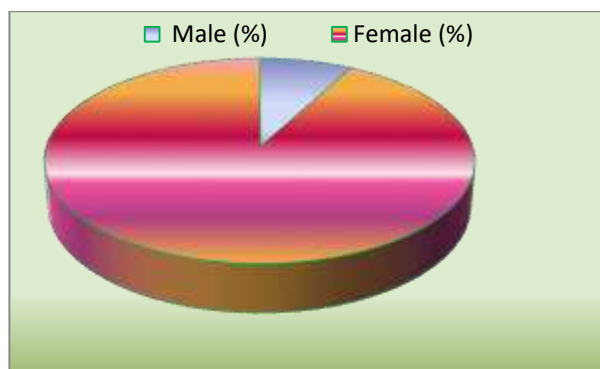


Figure-3, Gender Structure of Sample Farmer

Table-2, Age Wise Population Distribution by Sex

Age Groups	Male (%)	Female (%)	Total (%)
1-15	8.85	7.96	16.81
15-30	10.27	8.85	19.12
30-45	18.05	15.58	33.63
45-60	10.09	9.73	19.82
>60	6.37	4.25	10.62

Source: Field Survey, 2020

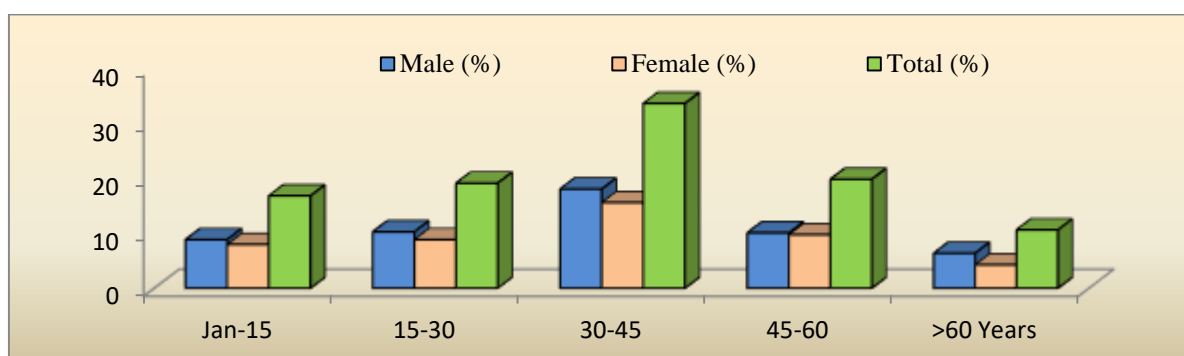


Figure-4, Age groups Wise Farmer Distribution by Sex

**Occupation-Wise Distribution of Respondents:**

The block sitalkuchi, there are different types of occupations are found. The peoples of study area engaged in various life earning economic activities. The present field survey result showing that there are total 20.35 per cent (Figure-5) respondents engaged in farming activities, where 18.23 per cent are male and 2.12 per cent are female respondents. Total 15.05 per cent of the respondents are engaged in agricultural labour, where 10.80 per cent are male labours and only 4.25 per cent are female labours. In the study area 8.26 per cent sample persons are engaged in casual labours, where 6.19 per cent are male and 2.07 per cent are female labours. There total 15.75 per cent of the persons are engaged in business/trade man, within 13.27 per cent are male and 2.48 per cent are female. Respectively 6.19 per cent and 7.79 per cent respondents are engaged in fishing activities and self-employment. There 11.57 respondents are engaged in private service, where 9.56 per cent are male and 2.01 per cent are female. 15.04 per cent are students, who are joined in learning activities (Table-3).

Table-3, Occupation Wise Distribution of Respondents (By Sex)

Type of Occupations	Number of Respondents in %		Total (In Percent)
	Male (In %)	Female (In %)	
Farmers	18.23	2.12	20.35

Agricultural labour	10.80	4.25	15.05
Casual Labour	6.19	2.07	8.26
Business/Tradesman	13.27	2.48	15.75
Fishing inland	6.19	0.00	6.19
Self-Employment	6.37	1.42	7.79
Private Service	9.56	2.01	11.57
Students	7.96	7.08	15.04

Source: Households Survey, 2020

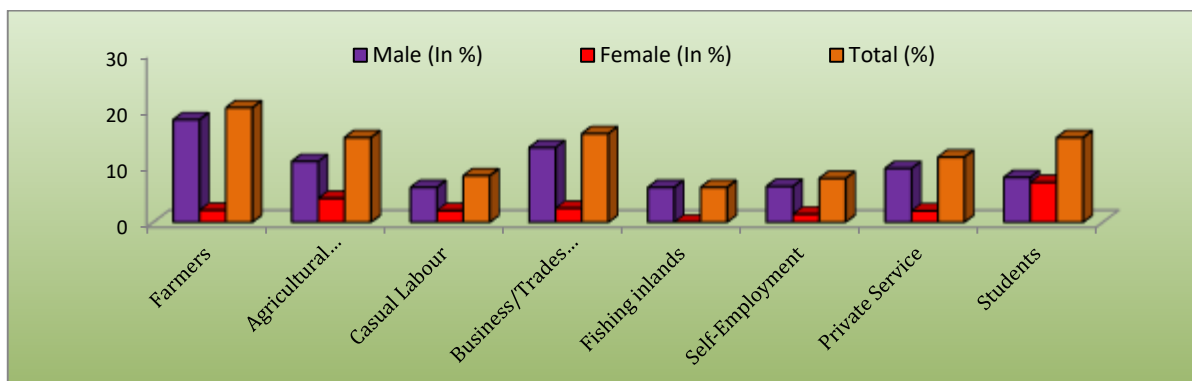


Figure- 5, Showing the Different Types of Occupation in the Study Area

**Level of education:**

According to the census report 2011, the male literacy rate is 77.03 per cent and female literacy rate is 63.41 per cent in the block (District Statistical Hand Book 2013).

Pilot survey in sitalkuchi block, the results reveal that maximum number of respondents .i.e.33.44 per cent (Figure-6) are illiterate, where 18.58 per cent are male and 14.86 per cent are female. Total 25.66 per cent were having primary level education. Where 13.81 per cent are male and 11.85 per cent are female. There Total 20.53 per cent & 15.04 per cent respondents are respectively having Madhyamik & Higher Secondary level of education. Only 5.31 per cent respondents having in Bachelor and above level of educations, where 3.03 per cent are male and 2.30 per cent are female(Table-4).

Table-4, Level of Education in the Study Area

Level of Education	Number of Persons in Percent		Total ( In Percent)
	Male (In Percent)	Female ( In Percent)	
Illiterates	18.58	14.86	33.44
Primary	13.81	11.85	25.66
MP	10.80	9.73	20.53
HS	8.14	6.90	15.04
Bachelor & above	3.03	2.30	5.33

Source: Pilots Survey, 2020

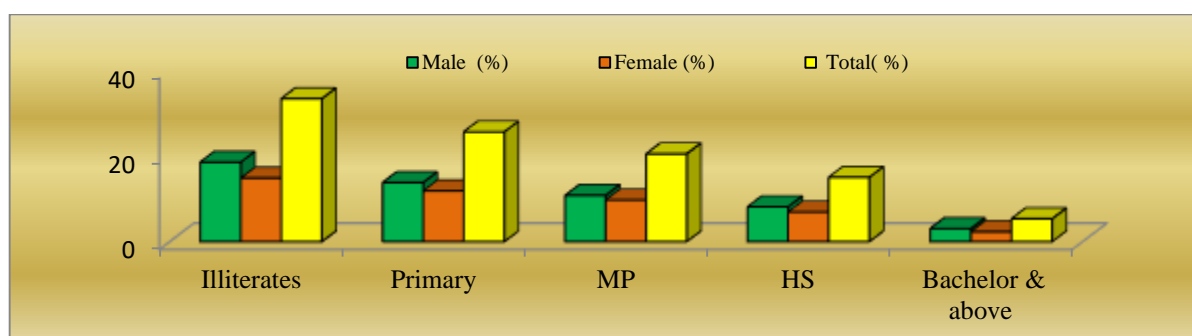


Figure-6, Showing the Different Educational Level in the Study Area

**Uses Irrigation System in the Study area:**

The study area there is showing the different types of irrigation system. The paddy farmer uses the different type of irrigation system for their agricultural purpose (Figure-7). The Sitalkuchi block, from household’s survey, its result showing that, There 47 per cent respondents sample paddy farmer are used the shallow tube-well irrigation for cultivation purpose, this type of irrigation is used maximum in the study area. Their 11 per cent sample farmers are used the river lift irrigation system which used second rank irrigation system in study area. Respectively name of the irrigation system was tube-well (9 per cent), open dug well (5 per cent), which used for agricultural purpose. At least 4 per cent respondents are used the well irrigation system in the study area.

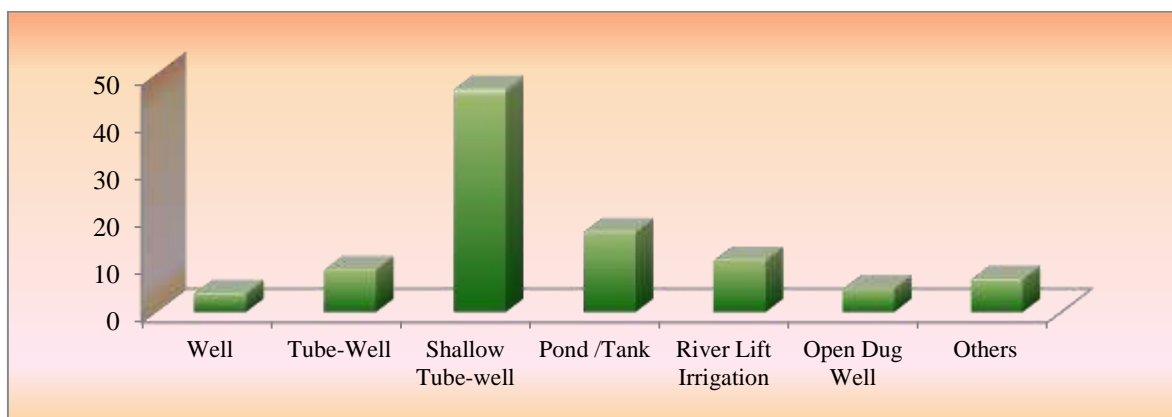


Figure-7, Using Various Irrigation Systems in the Study Area

**Size of Cultivated Land:**

The Sitalkuchi block was a totally rural area, there were maximum people lived in the villages area.95 per cent peoples have engaged in agricultural activities. In field study results showing that maximum of the sample farmers are having small land holdings. Where 38 per cent respondent’s farmers are cultivating 1-2.5 acres land, 32 per cent farmers are cultivating 2.5-5 acres land (Table-5), 13 per cent farmers are cultivating more than 5 acres lands and At least 17 per cent farmers are cultivating below 1 acres lands(Figure-8).

Table-5, Size of Cultivated Land in the study Area

Size of Cultivated land (In Acre)	< 1 acre	1 – 2.5	2.5 - 5	>5 acre
No of Sample Farmers (%)	18.10	37.14	32.38	12.38

Source: Households Survey, 2020

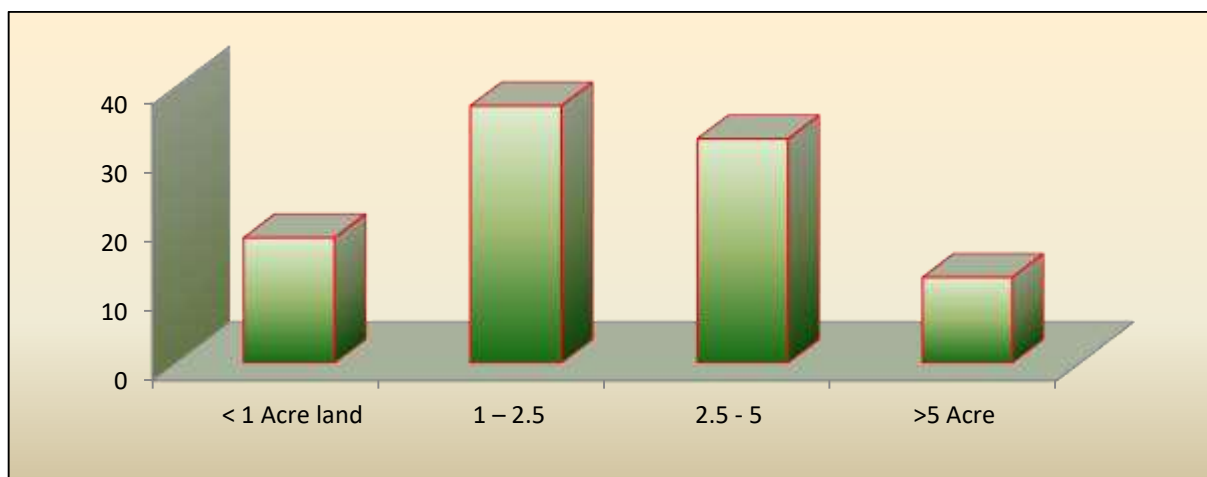


Figure-8, Showing the Different Size Farming Land of the Farmers

### Major Problems of Paddy Cultivation in Sitalkuchi Block :

The farmers of Sitalkuchi block have been facing a number of problems involved in paddy cultivation. Some of major problems in paddy farming as revealed by the present investigation are the following....

#### High rate of crop failure:

Table-6, Different Causes of Crop Failure in the Study Area

Major causes of Crop Failure	Plant Diseases	Suddenly Heavy Rainfall	Incidence Of pests	Adverse Climatic Condition	Poor Farming Practices	Low Fertility Of Soil	Other s
No of Respondents (%)	25	07	34	12	09	05	08

Source: Field Survey, 2020

One of the crucial major problems of paddy cultivation in the Sitalkuchi block is high rate of crop failure. For In these problems, many crop destroyed each of the year during the paddy cultivating time. There are many different causes for crop failure in the study area, 34 per cent respondent's sample farmers said that one of the major factor of crop failure is incidence of pests for in this factor every years maximum amount of crops is destroyed. Other second major cause for crops failure is different plants diseases, 25 per cent farmers indicated that for in this causes big amount of crops every year fall under ground. Third major cause of crop failure is adverse climatic condition, 12 per cent respondents farmer responded that for in this cause large portion of field crops are eradicated. 09 per cent farmers indicate that poor farming practice is another cause for crop failure. Respectively 07 per cent and 05 per cent respondent's farmers said that suddenly heavy rainfall and low fertility of soil are other important causes for crop failure. Overall 08 per cent respondents sample farmers said that little amount of crops lost for others different causes.

#### High cost of Fertilizer:

In the Sitalkuchi block, there are 67 villages. All most 90% respondent farmers said that maximum high price of fertilizer as one of the crucial problem, this problem highlighted in cultivator, the initial stage of paddy cultivation. Where maximum farmer own opinion that for in this cause, total cultivation cost is increased as a result farmer total profit margins is decreased. There are 58.10 per cent respondents said that high cost of fertilizer, 17.14 per cent respondents farmer indicated that very high cost of fertilizer, 19.05 per cent farmer said that medium cost of fertilizer and at least only 5.71 per cent farmer said that low cost of fertilizer. There are also observed that the high value of chemical fertilizer as another importance factor faced by cultivator in block area (Figure-9).

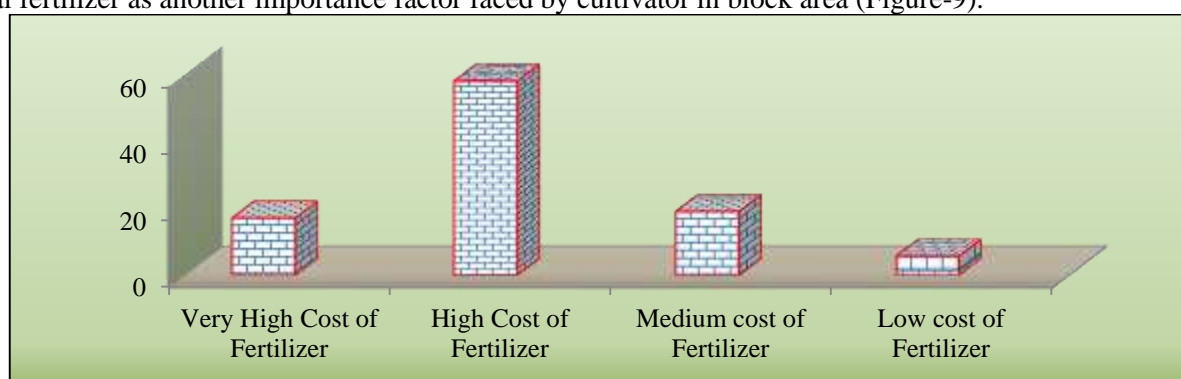


Figure-9, Showing the Different Fertilizer Cost of the Study Area

#### Communication Problems:

Table-7, Road Condition of the Study Area

Roads Condition	Very good Condition	Good Road Condition	Bad Road Condition	Very Bad Condition
No of Respondents	08	13	52	32
% of Respondents	7.62	12.38	49.52	30.48

Source: Primary Survey, 2019-2020

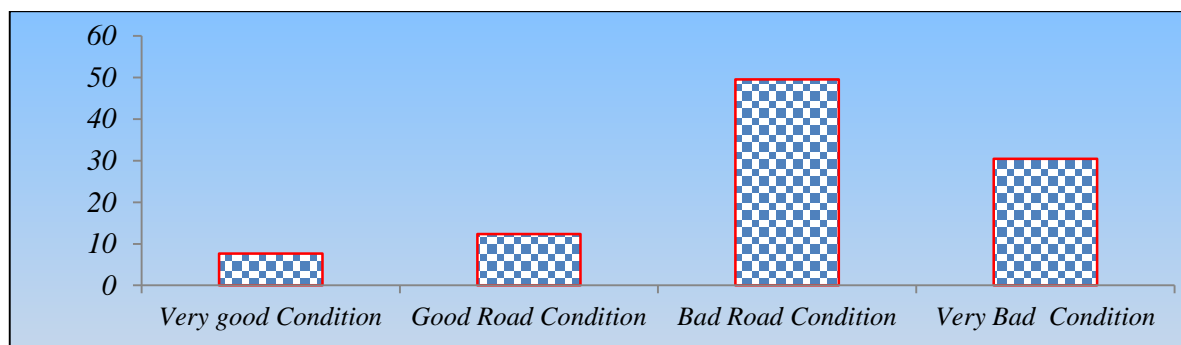


Figure-10, Showing Different Road Condition of the Study Area

One of crucial problem in the sitalkuchi block farmers have lack of proper communication system. The block have no connected with national highway also state highway. Only Some Villages touched with district road like that, sitalkuchi, Gosairhat, Bara Maricha, and Lalbazar. The block maximum villages have Kutcha road, which condition is very bad. The primary survey result showing (Table-7) that 49.52 per cent respondent's farmer said that road condition is bad, 30.48 per cent respondents mentioned that road is very bad condition and 12.38 per cent peoples mentioned that road is good condition. There only 7.62 per cent respondents farmer mentioned that road is very good condition. The maximum village is road kutcha, which are situated in end part of the block. This road is not connected with national highway or district road. Many roads in the block are Kutcha, mainly rainy-season this road is become critical condition (Figure-10).

#### Irrigation Problems in the Study Area:

The present situation irrigation is one of most important essential elements for development of cultivation. Paddy cultivation like that Boro, Aman cultivation is totally depending on irrigation systems. In the study area irrigation related lot of problems are found, which are mention under below.

Table-8, Major Irrigation Problems in the Study Area

Problems of Irrigation	Number of Respondents	Number of Respondents in Per cent
Low voltage of Electricity	24	22.86
High Electric Bill	18	17.14
Old Diesel Pump set	12	11.43
Mechanical Problems of Pump set	08	7.62
Problems of Tank Irrigation	11	10.48
Minimum Coverage of RLI	09	8.57
Water crisis in Wetland	07	6.67
Problems of Tube-Well Irrigation	10	9.52
Others Problems	06	5.71

Source: Prepared by Researcher based on Field Study 2019-2020

Boro, Aman paddy cultivation is totally depending on irrigation systems. Out of 105 selected respondent farmers for field survey, overall 82 per cent (Table-8) sample farmers declared that many farmers facing irrigation problem during the time of Boro and Aman cultivation. Where 22.86 per cent sample farmers are facing low voltage problems, 17.14 per cent farmers said that high electric bill during the paddy cultivation time, 11.14 per cent cultivator said that old diesel pump set problems, 10.48 per cent respondent indicated that



Tank irrigation problems, 6.67 per cent respondents indicated that water crises in wetland, 9.52 per cent farmers said that problems of tube-well irrigation and 5.71 per cent sample farmer have facing other problems during the paddy cultivation time. As a result increased their production cost and decrease the profit margins (Figure-11).

**Lack of Proper Marketing system:**

Lack of proper marketing system is still to be very poor figure in rural area, not except in Sitalkuchi blocks. In the fields investigation time 62% respondents and outer in the blocks 50 farmers said that there have many marketing problems. There have no daily regular market in many villages, in this block there have one weekly blocks market. Maximum farmer carries to long distance (10-15 km) for sale their paddy rice.

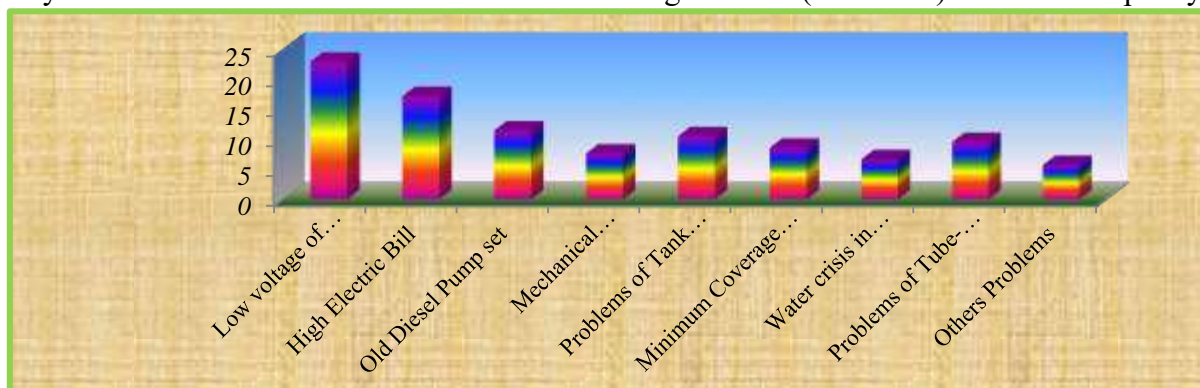


Figure-11, Showing the Different Types of Irrigation Problems in the Study Area

**Lack of Governmental policies in the Study Area:**

Table-9, Satisfaction level of farmers

Variables	Satisfied	Dissatisfied	Neutral	Extremely Satisfied
No of Farmers	21	65	06	08
In % of Farmers	21	65	06	08

Source: Field Survey, 2020

In the field study, find out that famers are given their feedback about the effectiveness of the steps taken by the government policies in the study area. The responses of farmer are recorded on four category scale i.e. dissatisfied, neutral, satisfied and extremely satisfied. results showing (Table-9) that 65% farmers are dissatisfied & 21 % farmers are satisfied respectively with the initiatives taken by concerned government authorities to solve their problems. Only 6% respondents' farmers are neutral, where 8% farmers are extremely satisfied opinion toward the initiatives of government policies (Figure-12).

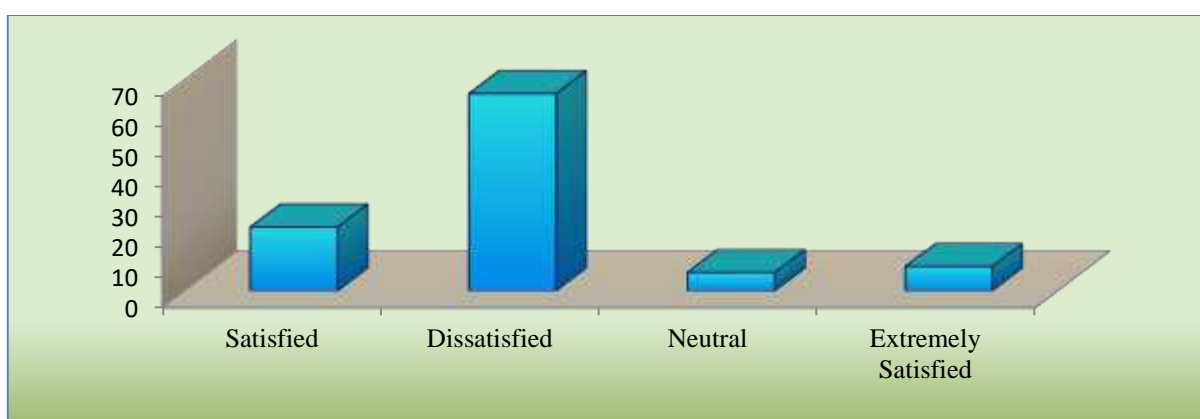


Figure-12, Farmers Satisfaction level of the Study area

### ***Major Prospects of paddy Cultivation in the Study Area***

There are discussed the many issue of paddy cultivation, like that different problems of paddy cultivation in Sitalkuchi block. But there are good prospects of paddy cultivation in the region. The following major prospects are...

1. In the Blocks having huge amount (22,210 hectare land) of cultivable fertile land area. The proper use and administration of this land may be increased the agricultural production.
2. There have different types of traditional varieties of paddy crops like that Bhog Jhashowa, Khatisail, Harinkhol, Dhudsar, Panisail, Shilkomar, Soru Bhog, Kala Bhog, Bosidhan, Jholdapa, Das Dhan, Holdizone etc having high commercial potential are also available which can be advanced for better revenue generation in Sitalkuchi block.
3. North-Eastern site of the block is following the two most important rivers i.e. River Mansai and River Khutamara. The land of block is supported with two Rivers like Mansai and Khutamara which can be used as a source of irrigation for paddy cultivation. The fertile lands irrigated properly by this water source would increase the productivity.
4. The agro-climatic condition is much supported for Paddy cultivation and some selected cash crops like that jute, maize, potato, wheat. This will be improving the local economy in the study area.
5. The block there have huge amount of skill and unstill labour force, which can be properly used then the study area improvement the paddy cultivation and huge amount of paddy crops production of every year.
6. In the block, as the farmers continuing the traditional farming systems with available organic manure mostly in the form of cow-dung , the region can lead to organic farming by adopting proper technology of decomposition and vermin-composting.

### **5. RECOMMENDATION:**

1. The water management has to be improved to consent a more skillful management of the resource at the farm level.
2. In the study area farmer should be trained to carefully select and manage their own seed production field.
3. The farmer should use more organic fertilizer in the fields. The Sitalkuchi block is needed higher amount of chemical fertilizer and organic fertilizer.
4. Improve the education system in the block, because due to lack of education, the peoples are could not adopt new modern technique of paddy cultivation.
5. Pesticide, fungicide and herbicides uses should be decreased in the block.
6. The government should be accepting measures to minimize the various costs of people which they have to carry by paddy production time.

### **6. CONCLUSION:**

The above based on fields observation report, I can conclude that there are many factors which most important problem involved in paddy cultivation in sitalkuchi block, Like high price of fertilizer, high rate of crop failures, lack of finance, lake of proper marketing system, poor transportation system, lack of mechanization, lack of government policy, lack of education, irrigation problems and plant diseases etc. The very low amount of fertilizer that is at presently used to paddy cultivation which is likely the major causes for the low production of rice in the study area. But now day increasing are the use of chemical fertilizer, likely of N, P, K and organic fertilizer, manure etc in agricultural field. As a results increasing the essential rice production in sitalkuchi block. If the Government takes attention on above problem and factor, I think they will be able to search the solution. It is almost crucial to protection the paddy cultivation because paddy cultivation is most importance economic field in the Sitalkuchi block as well as all over the district.

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