Table 4: The Rank Order of Problems is Based on The Problem Confrontation Index

Sl. No.	Problems	Magnitude of Problems				PCI			
		Severe (3)	Moderately Severe (2)	Negligible (1)	Not at All (0)	Total	Score	Percent	Rank
1.	Lack of Cultivable Land	0	0	9	54	63	9	4.761	14th
2.	Lack of Quality Seed or Seedling	17	45	1	0	63	142	75.132	2nd
3.	High Price of Seed or Seedling	3	18	4	38	63	49	25.925	6th
4.	Lack of Proper Training	17	40	6	0	63	137	72.486	3rd
5.	High Price of Organic or Chemical Fertilizer	0	0	7	56	63	7	3.703	16th
6.	Lack of Quality Pesticide	0	3	8	52	63	14	7.407	11th
7.	High Price of Pesticide	0	6	3	54	63	15	7.936	10th
8.	Cashew Tree Is More Susceptible to Pest	0	1	8	54	63	10	5.291	13th
9.	Insect in Fruit	0	1	6	56	63	8	4.232	15th
10.	Less Production	2	4	18	39	63	32	16.93	7th
11.	Fruit Dropping		4	9	50	63	17	8.994	9th
12.	Less Market Price	16	43	3	1	63	132	69.841	4th
13.	Thief		1	9	53	63	11	5.820	12th
14.	Lack of Storage	9	11	10	33	63	59	31.217	5th
15.	Lack of Processing Industry	52	6	2	3	63	170	89.947	1st
16.	Natural Calamities or Disaster	3	8	5	47	63	30	15.873	8th

Source: Field Survey, 2019

3.16.2 Problem Confrontation Categories

The problem confrontation scores of the cashew farmers ranged from 7 to 29, with a mean and standard deviation of 13.17 and 5.07, respectively. Based on possible problem confrontation scores, the 63 cashew farmers have been classified into three categories, as shown in Table 5. Most of the farmers (79.4%) had low problem confrontation, while 20.6% of the farmers had medium problem confrontation. None of the farmers had high problem confrontation.

Table 5: Distribution of The Respondents According to Their Problem Confrontation Score.

Categories	Score	Distribution of Respondents (N=63)		Mean	SD	Range	
		Number	Percentages			Min.	Max.
Low Problem confrontation	1-16	50	79.4	13.17	5.07	7	29
Medium Problem confrontation	17-32	13	20.6				
High Problem confrontation	>32	0	0				

Source: Field survey, 2019

Many unsolved issues regarding cashew nut production are the outcomes of the prevalence of existing problems. Therefore, good government policy and extension measures should be undertaken to help the cashew farmers to overcome those problems so that cashew nut production gets popular and higher production could be obtained in terms of both quality and quantity for export.

3.17 Personal Socio-Economic Characteristics

In the stud area, different groups of tribal people considered 'jhum' cultivation as a part of their means of living and culture. However, as population pressure increases with time, the increasing demand for food and other necessary amenities for modern life cannot be met by outdated 'jhum' cultivation. Therefore, many farmers have started using a modern system of crop cultivation. To increase income by decreasing soil nutrition and water availability, they are cultivating high-value horticulture crops; Fruit species are familiar sources of household foods and cash incomes in the region. The principal fruit crops are banana, pineapple, papaya, jackfruit, guava, lemon, litchi, mango, cashew apple, and orange.

It was found that the majority of the respondents (66.7%) were middle-aged as compared to (6.3%) young aged and (27 %) old aged. It might be said that middle-aged people are more engaged in cashew cultivation (Table 6).Cashew farming requires laborers, which is also gender-sensitive. The entire respondent in the study was male. (Uwagboe et al., 2010) also found that most of the cashew farmers were male in a case study of Orire L.G.A of O.Y.O. state, Nigeria. Male domain cashew farming activities were also observed in the study area because women can cultivate arable crops on their husbands' plots, while access to permanent crop production is usually restricted to men (Abubakar, 2013).

About one-fifth (23.8%) of the respondents had primary and secondary levels of education, followed by illiterate (22.2%) and (19%) can sign only. Only 3.21% of the respondents had above higher secondary level and 8% had a higher secondary level of education. It has been clear from the study that all the respondents involved in cashew production had not been highly educated (Table 6). It reveals that farmers' level of education would enhance their farming activities and level of awareness.

More than half (52.38%) of the respondents' families belonged to a medium-sized family, followed by a small family (41.27%), while only 6.35% belonged to a large family. It can be suggested that there is a great scope for using family labor for cultivating cashew as horticultural crops; many of the operations can be done by women and some by household children along with the other family members. In the Gambia, cashew nut production is men's domain activity while women are engaged in nut picking and collection (Saikou and Ebrima, 2018). In Kogi State, Nigeria, the same result was observed) (Jacob et al., 2019). The majority (65.1%) of the respondents had medium farm sizes equally to small and large (17.5%). None of the respondents belongs to the landless and marginal farm categories. This result represents the study area's great scope for commercial cashew cultivation. Banerjee also suggested that the Chittagong Division in southeast Bangladesh is an area where an integrated cashew plantation project should be initiated (Banerjee, 2016). The area already has a few cashew plantations.

Most of the respondents (98%) had medium to high experience in farming, with an average experience of 27.16 years in agriculture. Moreover, 60.3% had medium and 31.8% of respondents had high experience in cashew farming, followed by low experience (7.9%) (Table 6). Agriculture farming is an already established enterprise in hill tracks, but commercial cashew

farming is a comparatively new approach for ensuring the utilization of the fallow hilly areas. These findings are in line with that of (Shivaramu et al., 2004; Veerkar et al., 2006; Venkattakumar, 2006, 2008, 2009). On the other hand, the majority (41%) had low experience in cashew farming with an average experience of 10.5years only.

These findings align with Venkattakumar but contrast with studies conducted in the same region (Venkattakumar, 2006; Veerkar et al., 2006). The majority (46.0%) of the respondents belonged to the higher income group as compared to the medium (33.3%) income group and low income (20.6%). Most (100%) of the respondents had low organizational participation. The majority of the respondents (54.8%) had medium-scale extension media contact, followed by low scale extension media contact (45.2%). None of the respondents belongs to the high contact categories (Table 6). Extension media contact was insufficient, which caused difficulty in overcoming agriculture and cashew production problems. The majority (96.8%) of the respondents expressed a favorable attitude, while 3.20% were moderately favorable and there were no respondents with a less favorable attitude. This finding also indicates prospects for cashew cultivation.

Table 6: Distribution of The Respondents Based on Selected Socio-Economic Characteristics.

Characteristics	Categories	Score	Respondents (N= 63)		Min.	Max.	Mean±SD
			Number	Percent			
Age (Year)	Young Middle Old	≤35 36-50 >50	4 42 17	6.3 66.7 27	32	68	46.66±7.87
Educational qualification (Schooling year)	Illiterate Can sign only Primary Secondary Higher Secondary > Higher Secondary	0 0.5 1-5 6-10 11-12 >12	14 12 15 15 5 2	22.2 19 23.80 23.80 8 3.20	0	14	4.45±4.42
Family size (Number)	Small Medium High	≤4 5-6 >6	26 33 4	41.27 52.38 6.35	2	12	4.94±1.44
Farm size (ha)	Landless Marginal Small Medium Large	<0.02 0.02-0.20 0.21-1.00 1.01-3.00 >3.00	0 0 11 41 11	0 0 17.5 65.1 17.5	0.24	7.00	2.19±1.35
Experience in agriculture (Year)	Low Medium High	≤10 11-20 >20	1 14 48	1.59 22.22 76.19	5	45	27.16±7.58
Experience in cashew cultivation (Year)	Low Medium High	≤5 6-10 >10	5 38 20	7.9 60.30 31.80	4	20	9.83±3.36
Annual income ('000'BDT)	Low Medium High	≤120 120.001-150 ≥150	13 21 29	20.60 33.30 46.00	100	626	221.777± 122.434
Organizational participation (Score)	Low Medium High	≤7 8-14 >14	63	100	0	5.00	1.06±1.50
Extension Contact (Score)	Low Medium High	≤13 14-26 >26	53 10 0	84.12 15.87 0	1	3	1.31±0.53
Attitude towards cashew cultivation (Score)	Less favorable Moderate Favorable Favorable	≤7 8-14 >14	0 2 61	0 3.20 96.80	12	25	19.85±2.16

Source: Field survey, 2019

3.18 Relationship and Contribution of Variables Towards Income From Cashew

The findings related to the relationship of selected characteristics and their contribution toward farmers' earned money from cashew and the problem score appear in Table 7. Among 19 selected characteristics, farmers' education, annual income, income from agriculture, farm size, land suitable for cashew, land under cashew, Number of the cashew tree, Number of the fruiting cashew tree, total production(t),sold cashew (kg) attitude and income from cashew (B.D.T.ha^{-1}) had a significant positive contribution towards earned money from cashew. Sajeev also found cultivable land available, the Number of yielding cashew trees, net income from agriculture, and significant relationship with the socio-economic impact of cashew cultivation (Sajeev, 2015). Land under fruit at home had a significant negative relation with income from cashew. This result implies that land under the home is already occupied by different fruit trees in the study area. The Number of fruit per kg showed a negative Correlation with earned money from cashew indicates the quality of fruits, which means less Number of fruits in a kg get more prices in the market. The problem score had only a significant negative Correlation with land suitable for cashew cultivation (ha) which indicates that as suitable land is available for cashew cultivation, the problem score is less and there is an excellent scope for cashew cultivation.

Table 7: Relationship and Contribution of Selected Characteristics Towards Farmers' Income from Cashew and Problems (Pearson's Product Moment Coefficient of Correlation).

Personal Socio-economic Characteristics and Cashew Tree Characteristics (Independent Issues)	Correlation Coefficient (r) of Earned Money from Cashew	Correlation Coefficient (r) of Problem Score
Education (Years)	0.473**	-.152 NS
Annual Income (BDT)	0.696**	.118 NS
Income From Agriculture (BDT)	0.824**	.104 NS
Farm Size (Ha)	0.415**	-177 NS
Land Suitable for Cashew Cultivation (Ha)	0.854**	-.263*
Land Under Cashew Cultivation (Ha)	0.982**	-.155 NS
Land Under Fruit at Home (Ha)	-0.291*	-.017 NS
Number of Cashew Tree	0.800**	-.209 N.S.
Number of Fruiting Trees	0.982**	-.155 NS
Age of Tree (Years)	0.103NS	-.039 NS
Yield Tree^{-1}kg	0.216NS	.010 NS
Fruit Number Kg^{-1}	-0.287*	-.204 NS
Total Production(T)	1.000**	-.140 NS
Sold Cashew (Kg)	1.000**	-.140 NS
Attitude (Score)	0.377**	-.045 NS
Earned Money from Cashew (BDT)	1	-.140NS
Problem Confrontation (Score)	-0.140NS	1
Yield (Tha^{-1})	0.216NS	-.028 NS
Income from Cashew (BDT Ha^{-1})	.281*	-.119 NS

NS=Non-significant.*Correlation is significant at the 0.05 level (2tailed).**Correlation is significant at the 0.01 level (2tailed).

4. Conclusions and Recommendations

Cashew cultivation status was found 'not up to the mark' in the study area. Most of the farmers (65%) owned medium-size farms, and cultivated cashew varieties were local (89%) in origin. The cashew yield was medium (1.40 to 1.80 t ha^{-1}), with an individual tree yield ranging from 3 to 8 kg. More than two-thirds (68.3%) of the farmers earned BDT 1,20,001-1,80,000 ha^{-1} from cashew cultivation. An average of 0.89 ha of land could still be taken under cashew cultivation. The net profit potential of 8,34,242 BDT ha^{-1} (equivalent to 9,706.69 USD) is possible from cashew cultivation which is much higher than other crops. This proves that the prospect of cashew cultivation is of high economic potential. Farmers confronted problems medium. Lack of processing for nuts and apples was the highly severe problem, followed by lack of quality seed or seedlings. Among 19 selected characteristics of the respondents, education, annual income, income from agriculture, farm size, land suitable for cashew, land under cashew, cashew variety, number of the cashew tree, fruiting tree, total production per tree and attitude had a significant positive relationship and home under fruit showed a significant negative relationship with income from cashew. So there is an excellent scope for cashew cultivation in Bangladesh. If the government takes the necessary step to ensure the correct market price of cashew throw the processing center or industry and the proper marketing channel, then cashew will be an essential cash crop for Bangladesh. Furthermore, the findings suggest that the government should improve knowledge, adoption and attitude towards cashew cultivation and increase cashew yield in Bangladesh.

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