CHAPTER 6
SUSTAINABILITY OF THE SELF HELP GROUPS UNDER SBLP'S THROUGH AGVB

6.1 Introduction

In the previous chapter, it was seen how different empowerment differs with respect to socio-economic and demographic variables. This chapter highlights the sustainability of the SHGs under SBLP through AGVB. Further, an attempt is made to assess the significant contributors to various sustainability indicators.

The chapter is divided into 4 sections. The first section is the introduction while the section discusses the methodology. The third section deals with the results and discussions while section four concludes the chapter.

6.2 Methodology

This section deals with the method of data collection and analysis of the collected data. The objective of the study is "**To find out the status of sustainability indicators and the factors determining the sustainability of SBLP in Assam"** is sought to be fulfilled through the analysis of the primary data. The unit of the study comprises of the SHGs linked to Assam Gramin Vikash Bank under SBLP. A structured questionnaire is used for collecting responses and for drawing conclusions for the study. The samples for the study are selected from five districts namely Barpeta, Baksa, Nalbari, Kamrup (R) and Kamrup (M), of the Lower Brahmaputra Valley. A total of 170 sample SHGs are collected from these five districts.

For analysing the objective, data from the **Annexure D, Part B,** of the questionnaire that is designed to analyse the sustainability of SHG are used. The sustainability is analysed through two dimensions namely social sustainability and economic sustainability on the basis of two indicators namely organisational sustainability indicator and financial sustainability indicator respectively.

The sustainability index for the SHGs is constructed for Organisational and Financial Sustainability. Organisational Sustainability has 8 variables namely- Articulation by the members, Regularity of meetings, Attendance at the meeting, Participation of members in decision making, Group Composition, Regularity of Savings, Rate of attendance in training, Dropout rate. Similarly, Financial Sustainability has 4 variables namely- Rotation of fund, Loan Disbursement to members, Repayment performance of members, Utilisation of common fund

Organisational and Financial Sustainability variables are calculated as follows:

Dimensions	**Indicators**	**Sl. No**	**Variables**	**Formula**	**Source**
Social Sustainability	**Organisational sustainability**	1	Articulation by the members	(No. Of members who can articulate/Total group Members)* 100	Sa-Dhan, 2005
		2	Regularity of meetings	(No. Of meetings conducted in the last 6 months/No. Of Scheduled Meetings)* 100	Rahman, 2011; SaDhan, 2005; Das, 2013

		3	Attendance at meeting	{Cumulative Attendance / (No. of Meetings Conducted*No. Of SHG members)}*100	Reddy et al, 2012; Rahman, 2011;
		4	Participation of members in decision making	(No. Members who participated in decision making/Total number of members)*100	Sa-Dhan, 2005; Das, 2013
		5	Group Composition	(No. Members with common Occupation/total group Members)*100	Sa-Dhan, 2005; Das, 2013
		6	Regularity of Savings	{Total savings collected (during 6 months)/(Monthly savings*total no. Of members*six months)}*100	Devaki, 2015; Rahman, 2011
		7	The rate of attendance in training	(No. Of members who attended all training programme held/ Total SHG members)*100	Sa-Dhan, 2005; Rahman 2011
		8	Dropout rate of SHG members	(Member Dropouts/ Total SHG members)*100	Rahman, 2011; Reddy et al 2012

Economic Sustainability	**Financial sustainability**	9	Rotation of fund	{Cumulative Loan Disbursed by the SHG (since inception)/Average Corpus}*100	Sa-Dhan, 2005; ARAVALI, 2008
		10	Loan Disbursement to members	(No. Of members having loan outstanding/Total SHG Members)*100	Sa-Dhan, 2005; Praveen, 2015
		11	Repayment performance of members	(Cumulative Loan Collection/Total Principal Due)*100	SaDhan, 2005;Feroze, 2010;Rahman, 2011;Devaki et at,2015;Das, 2013; Reddy et al, 2012
		12	Utilisation of common fund	(Fund utilised for productive purpose/common Fund)*100	Reddy et al, 2012; ARAVALI (2008)

The construction of the Composite Sustainability Index for the SHGs in terms of their performances consists of 3 steps viz. **Normalization, Weighting, Aggregation**. This three-step procedure of index formation is used in developing eleven sustainable development index viz. Living Planet Index (LPI), Ecological Footprint (EF),City Development Index (CDI), Human Development Index (HDI), Environmental Sustainability Index (ESI), Environmental Performance Index (EPI), Environmental Vulnerability Index (EVI), Index of Sustainable Economic Welfare/Genuine Progress

Index (ISEW/GPI), Well-Being Index (WI), Genuine Savings Index (GS), and Environmental Adjusted Domestic Product (EDP) (Böhringer, C. and Jochem, P., 2007).

Normalization is used to eliminate any bias of scale in the indicators the formula used was-

$$\frac{\text{Xi} - \text{Xmin}}{\text{Xmax} - \text{Xmin}}$$

Where X_i is the value of the i^{th} indicator; X_{min} is the minimum value of all the indicator; X_{max} is the maximum value of all the indicators. The indicators were normalised by subtracting the minimum value of the indicator from its actual value and then dividing it by the range, which is the difference between the maximum and minimum value of the selected indicator. We have normalised the values to cast the data in a specific range of 0 and 1. Normalization is used to reduce differences in the range of different features.

Weights

The second step is to determine proper weights that are to be assigned to different indicators. After removing the bias in scale from the observations, appropriate weights to the selected indicators was assigned. An assignment of arbitrary weights mostly leads to error as such it is necessary to assign weights based on a particular method. There are various methods to assign weights. In this analysis, the weights of individual indicators have been assigned on the basis of the Principal Component Analysis (PCA). The argument here is that it maximizes the sum of squares of correlations (of the indicators with the composite index). The steps followed to attain the weights through PCA are:

First, the PCA is used to obtain Factor Loadings and Eigen Values. The Initial Eigen Values above 1 are identified. According to the number of Eigen Values above 1, the

same numbers of components are extracted for each variable through the rotational component matrix.

Second, the extracted component matrix is multiplied by the Eigen Values, i.e., the 1st Eigen Value is multiplied with the 1st extracted component column and 2nd Eigen value is multiplied with the 2nd extracted component column, considering only absolute values and so on.

Third, the values obtained are added in case of each indicator to get a weight for that particular indicator. Similarly, weights are obtained for other indicators, too.

Fourth, the Grand Total Weight is obtained by summing up all the weights.

Fifth, the normalized value of each indicator is multiplied by its respective weight.

Sixth, the sum of each multiplication is divided by the Grand Total Weight to obtain the index for a particular indicator. The formula used to determine the index is

$$I = \frac{\sum_{i=1}^{n} Xi[\sum_{j=1}^{n} |Lij|Ej]}{\sum_{i=1}^{n}[\sum_{j=1}^{n} |Lij|Ej]}$$

Where I is the index, Xi is the normalised value of the indicator, Lij is the factor loading value of the ith variable on the j-th factor, E j is the Eigen Value of the j-th factor (NUEPA, 2009).

With the help of the steps mentioned above the indices are obtained for each set of two indicators, viz., Organisational and Financial Sustainability. In the next step, PCA is run on these two indices viz., Organisational and Financial Sustainability and every index are treated as a variable. The same steps mentioned to obtain organisational and financial sustainability are repeated to get the overall Composite Sustainability Index (CSI). Based on CSIs, the SHGs are ranked, the highest index getting rank one (best performing SHG)

and lower index getting the last rank (worst performing SHG). It helps to identify the SHGs that need improvement.

Stratification of SHG

To identify the rate of sustainability, SHGs are divided into poor, average and good on the basis of stratification. For the construction of strata, the cumulative square root frequency method is used (Singh and Mangat, 1995). Cumulative square root frequency method is one of the highly reliable and suitable methods to determine stratum boundaries for accounting populations. Unlike setting the boundaries using judgment only which may not be free from bias, the cumulative square root frequency method has higher efficiency in the sampling process. This study has classified SHGs into low, medium and high strata with the help of this method.

Three strata with the help of cumulative square root frequency have been calculated with the help of the following basic steps.

First, the frequency $f(y)$ of sustainability index values is calculated.

Second, the square root of the frequency for the first sampled range is calculated.

Third, the square root for the next sample is calculated. To determine the cumulative value of the square root frequency, we need to add each result to the number before it. The process will be continued for each of the sampled strata. Once the cumulative square root of the frequency for the last sampled strata is calculated, the stratum can be determined.

Finally, the last cumulative square root of the frequency number is divided by the number of sampled strata desired (3 for the current study). In this way, we will be able to determine the stratum boundary for the data.

Contributors to the Sustainability Indicators

To find out the contributors to the sustainability indicators of SBLP in Assam the technique of linear regression analysis is used.

In linear regressions, the linear combination of predictors that correlate maximally with the outcome variable is derived. The values of the regression coefficients depend upon the variables in the model. Therefore, the predictors selected, included and the way in which they are entered into the model can have a great impact. There are several ways in which variables can be entered into a model. For the present analysis, the normal multiple regression procedure is used.

6.3 Results and discussions

6.3.1. A Index Formation and SHG Ranking

With the help of data normalisation technique first, all the data's has been normalized to eliminate any bias of scale in the indicators which is shown in table 1 of **Annexure B, Appendix 1**. After normalisation, the PCA is used to obtain Factor Loadings and Eigen Values which is given in table 6.1. The PCA resulted in 3 Initial Eigen Values above one. According to the number of Eigen Values above 1, the same numbers of components i.e. 3 components are extracted for each variable through the rotational component matrix.

Table 6.1 Organisational Component Matrix and Eigen Values				
Social Sustainability Variables	**Components**			**Variable Weights (Component * Eigen Value)**
	Component 1	**Component 2**	**Component 3**	
Members can Articulate	0.699	0.111	0.254	**2.214**
Regularity of meetings	0.683	0.009	0.133	**1.914**
Attendance at meeting	0.761	0.198	0.175	**2.392**
Participation of members in decision making	0.106	0.826	0.184	**1.484**
Group Composition	0.018	0.032	0.878	**1.058**
Regularity of Savings	0.510	0.299	0.327	**2.039**
Rate of attendance in training	0.683	0.266	0.327	**2.440**
Dropout rate	0.052	0.679	0.289	**1.282**
Initial Eigen values	**2.568**	**1.217**	**1.107**	
Total Organisational Sustainability Weight (Summation of Individual Variable Weights)	**14.826**			

Source: Calculated by author from Primary data

The extracted component matrix is multiplied by the Eigen Values, i.e., the 1st Eigen Value is multiplied with the 1st extracted component column and 2nd Eigen value is

multiplied with the 2nd extracted component column, considering only absolute values and so on. The values obtained are added in case of each indicator to get weight for that particular indicator. As such we have 8 weights for the variables that together represent the social indicator. The Grand Total Weight of **14.826** for organisational sustainability indicator is obtained by summing up all the weights of the variables representing the organisational sustainability indicator.

The same procedure is followed to obtain the Grand Total Weight for Financial Sustainability Indicator the values for which are represented in table 6.2. For financial sustainability indicator, only one Eigen value greater than 1 were identified through PCA. As such only one component is extracted which is eventually used to obtain the Grand total Weight for Financial Sustainability Indicator.

Table 6.2 Financial Component Matrix and Eigen Values

	Component 1	Weight
Rotation of fund	0.807	1.825
Loan Disbursement to members	0.529	1.196
Repayment performance of members	0.871	1.969
Utilization of common fund	0.756	1.709
Eigen Value	**2.261**	
Total Financial Sustainability Weight (Summation of Individual Variable Weights)		**6.701**

Source: Calculated by the author from Primary data

The Grand Total Weight of **6.701** for financial sustainability indicator is obtained by summing up all the weights of the variables representing the financial sustainability indicator.

With the help of PCA the indices are obtained for each set of two indicators, viz., Organisational/Social and Financial/ Economic Sustainability.

In the next step, PCA is run on these two indices viz., Organisational and Financial Sustainability and every index are treated as a variable. The same steps mentioned to obtain organisational and financial sustainability are repeated to get the overall Composite Performance Index (CPI).

Table 6.3 Component Matrix and Eigen Values

Variables	**C1**	**Weights**
Organisational Indicators	0.898	1.449
Financial Indicators	0.898	1.449
Initial Eigen values	1.613	
Total Composite Sustainability Weight (Summation of Individual Variable Weights)		**2.898**

Source: Calculated by the author from Primary data

The Grand Total Weight of **2.898** based on organisational and financial sustainability indicators is obtained by summing up all the weights of the variables representing the Composite sustainability indicator which is represented in Table 6.3.

In the next step, the Sustainability index for all the districts is calculated based on the weights of organisational sustainability indicator, financial sustainability indicator and the composite sustainability indicator. The results for the same are represented in table 6.4.

Table 6.4: Sustainability Index

Districts	Organisational Index	RANK	Financial Index	RANK	Composite Index	RANK
Barpeta	22.199	**4**	22.258	**3**	13.77	**3**
Baksa	22.196	**5**	21.668	**4**	13.59	**4**
Nalbari	22.471	**2**	22.698	**2**	14.00	**2**
Kamrup (M)	22.275	**3**	20.995	**5**	13.41	**5**
Kamrup (R)	22.801	**1**	24.199	**1**	14.56	**1**

Source: Calculated by the author from Primary data

From table 6.4 it is evident that Kamrup (R) is performing better than other districts in all the three indices with a composite index value of 14.56 followed closely by Nalbari with a composite index value of 14.00.

For the organisational index, it is seen that all the districts are more or less on the similar footing with Kamrup (R) having an organisational index of 22.801 closely followed by Nalbari with an organisational index value of 22.471 and Kamrup (M) being the third with an organisational index value of 22.275. As the same bank with the similar protocol is nurturing these SHG's with the help of various orientation and training programmes,

therefore the level of attainment to organisational sustainability is more or less same in all the five districts.

For the financial index, it is seen that the index value for the districts varies between 20-24 with Kamrup (R) having a financial index value of 24.199 closely followed by Nalbari with a financial index value of 22.698 and Barpeta being the third with a financial index value of 22.258. It can thus be inferred that organisational sustainability does not ensure financial sustainability for some of the sampled districts. The composite index is influenced more by financial sustainability indicators as such no difference in the ranking is observed for these two indices.

Based on the organisational, financial and composite sustainability index, the sampled 170 SHGs are ranked which is presented in **Annexure B in Appendix 1** (Table 1). The highest index getting rank one (best performing SHG) and lower index getting the last rank (worst performing SHG). It helps to identify the SHGs that need improvement. Some of the SHGSs have received similar ranks either in the organisational, financial or composite index. For Example in **Annexure B in Appendix 2** Table 2 shows SHG no 19 and SHG no 47 has received rank 1 on Organisational Index.

6.3.1. B Stratification of SHG

Merely ranking the SHGs is not sufficient to indicate if the SHGs are performing properly or not. As such the sampled SHGs are ranked based stratification which is with the help cumulative of the square root of the frequency method and the SHGs are distributed across performance categories. So based on the organisational, financial and composite sustainability index the strata for each indicator is determined and the SHGs are classified as Poor, Average and Good.

For all three sustainability indices and five districts minimum and maximum index values were used to find the stratification range. As the minimum and maximum values vary for all three indices for all five districts, the ranges of performance category also vary respectively.

Table 6.5: Frequency Of Sample SHGs According To Organisational Sustainability Index

Performance Category	**Frequency**	**Percentage to total**
Poor (<0.60)	49	28.82
Average (0.60 - 0.75)	69	40.59
Good (>0.75)	52	30.59
Overall	170	100

Source: Calculated by the author from Primary data

SHG's are organisationally performing better with 70% of total sampled SHG performing fairly. It is observed from the table 6.5 out of sampled 170 SHGs, 28.82% of the SHGs are performing poorly and needs special attention to enhance their performance socially. On the other hand, the performance of 40.59% SHGs is found to be average on the organisational sustainability index and as such if certain minor measures of corrections are incorporated their performance can improve and they can be socially sustainable in the long run. Finally, 30.59% SHGs are found to have a good organisational performance which can suggest these SHGs can be sustainable in the long

run provided they retain their current social performance and also design measures to perform even better in the long run.

Table 6.6: Frequency Of Sample SHGs According To Financial Sustainability Index

Performance Category	Frequency	Percentage to total
Poor (<0.60)	59	34.71
Average (0.60 - 0.85)	72	42.35
Good (>0.85)	39	22.94
Overall	170	100

Source: Calculated by the author from Primary data

It is observed from the table 6.6 that 34.71% of the SHGs are performing poorly and needs special attention to enhance their performance economically. On the other hand, the performance of 42.35% SHGs are found to be average on the financial sustainability index if AGVBs contribution to help them improve, their performance can be helpful to make them economically sustainable in the long run. Finally, 22.94% SHGs are found to have a good financial performance which suggests these SHGs can be sustainable in the long run provided they retain their current economic performance and also design measures to perform even better in the long run.

Table 6.7: Frequency Of Sample SHGs According To Composite Sustainability Index

Performance Category	Frequency	Percentage to total
Poor (<0.50)	87	51.18
Average (0.50 - 0.75)	61	35.88
Good (>0.75)	22	12.94
Overall	170	100

Source: Calculated by the author from Primary data

Table 6.7 shows merely 12.94 SHGs are found to have good performance in terms of composite sustainability index, however, more than 50% of the total sample SHGs are a poor performer in overall sustainability. This suggests their inability to come out of poverty despite getting financial assistance from the bank. AGVB needs to nurture its SHG continuously and dedicatedly to make SHG sustainable in the long- run.

6.3.1. C. District-wise Stratification

Further to make our study more comprehensive the sampled SHGs for the five districts are ranked based stratification which is with the help cumulative of the square root of the frequency method and the SHGs are distributed across performance categories. So based on the financial, organisational and composite performance indicators, the strata for each indicator for each district was determined and the SHGs are classified as Poor, Average and Good.

Table 6.8 Frequency Of Sample SHGs According To Composite Sustainability Index Of Kamrup (M) District

Performance Category	Frequency	Percentage to total
Poor (<0.50)	12	35.29
Average (0.50 - 0.65)	16	47.06
Good (>0.65)	6	17.65
Overall	34	100

Source: Calculated by the author from Primary data

It is observed from the table 6.8 out of sampled 34 SHGs in Kamrup (M) District, 17.65% SHGs are found to have good performance in terms of overall sustainability and these SHGs can be sustainable in the long run.

Table 6.9: Frequency Of Sample SHG's According To Composite Sustainability Index Of Baksa District

Performance Category	Frequency	Percentage to total
Poor (<0.40)	11	32.35
Average (0.40 - 0.50)	15	44.12
Good (>0.50)	8	23.53
Overall	34	100

Source: Calculated by the author from Primary data

Out of sampled 34 SHGs in Baksa District, 23.53% SHGs are found to have good performance in terms of composite sustainability Index which suggests these SHGs can be sustainable in the long run.

Table 6.10. Frequency Of Sample SHGs According To Composite Sustainability Index Of Kamrup (R) District

Performance Category	Frequency	Percentage to total
Poor (<0.35)	10	29.41
Average (0.35 - 0.40)	12	35.29
Good (>0.40)	12	35.29
Overall	34	100

Source: Calculated by the author from Primary data

Out of sampled 34 SHGs in Kamrup (R) district, 35.29% SHGs are found to have a good performance which suggests these SHGs can be sustainable in the long run.

Table 6.11. Frequency Of Sample SHGs According To Composite Sustainability Index Of Barpeta District

Performance Category	Frequency	Percentage to total
Poor (<0.60)	12	35.29
Average (0.60 - 0.75)	15	44.12
Good (>0.75)	7	20.59
Overall	34	100

Source: Calculated by the author from Primary data

It is observed from the table 6.11 that in the Barpeta district, 20.59% SHGs are found to have a good performance which suggests these SHGs can be sustainable in the long run.

Table 6.12: Frequency Of Sample SHGs According To Composite Sustainability Index Of Nalbari District

Performance Category	Frequency	Percentage to total
Poor (<0.65)	11	32.35
Average (0.65 - 0.85)	12	35.29
Good (>0.85)	11	32.35
Overall	34	100

Source: Calculated by the author from Primary data

It is observed from the table 7.13 that in the Nalbari district, 32.35% SHGs are found to have good performance in terms of composite sustainability index which suggests these SHGs can be sustainable in the long run.

Among these five sample districts, Kamrup (R) has the highest number of good performing SHG (35.29%) followed by Nalbari district (32.35%). It may be because of the fact that Kamrup (R) and Nalbari has the highest number of AGVB bank branches working in the rural area. Both the districts have 16 branches each working in the rural area. Among these five districts, Kamrup (M)'s performance is lowest in the sustainability index followed by Barpeta district. It may be again attributed to the spread of AGVB bank branch pattern. Only 12 branches of AGVB are working in rural areas of Barperta district which has a fourth highest population in the state (www.assam.org). Kamrup (M) has only 3 rural bank branch which is indicative of the fact that there are

less remote areas in this district. Besides, the prime motive of all 15 bank branches operating in Kamrup (M) is to catch the high-income group as their customers. They have little interest in sanctioning micro loan and rather they prefer to give big loans with the high return as this is the state capital and all big business flourish in this district.

Performance pattern of SBLP in these five districts is indicative of the fact that the bank's role as a nurturer and loan provider with individual attention to SHG is very much essential for the sustainability of these groups.

6.3.2 Contributors to the Sustainability Indicators

To find out the contributors to the sustainability indicators of SBLP in Assam the technique of multiple regression analysis is used.

6.3.2. A Contributors to Organisational Sustainability

This section of output describes the overall model and it provides with some very important information about the model: the coefficients values, t-values, R^2–value, F value and VIF value.

Table 6.13 Model Summary: Organisational Sustainability

	Variables	Coefficients	T	VIF
	(Constant)	0.214	5.056	
1	Members can Articulate	0.153	4.284	1.367
2	Regularity of meetings	0.139	4.75***	1.313
3	Attendance at meeting	0.097	1.887	1.820
4	Participation of members in decision making	0.074	3.203***	1.189

5	Group Composition	0.074	1.609	1.147
6	Regularity of Savings	0.003	0.106	1.385
7	Rate of attendance in training	0.097	2.395**	1.494
8	Dropout rate	0.077	2.23**	1.142

,,*** indicate level of significance at 0.1, 0.05 and 0.01 respectively*

Dependent Variable: Organisational Sustainability

Source: Calculated by the author from Primary data

Breusch-pagan/Cook-Weiberg test has been used to check heteroscedasticity and it has been found that heteroscedasticity is present (χ^2 = 6.85). Accordingly, as a measure robust standard error has been used. The value of R^2 is 0.490, which means the model explains 49.0% of the variability in data. F value is 19.362 at 1% level of significance.

Table 6.13 represents the coefficients and t-values and collinearity coefficients for the model with the significant predictors of organisational sustainability. The beta weights help us interpret the unique contribution of the predictors on the dependent variables. The significance value for t-values for the predictors are denoted by more than one level of significance to ascertain the contribution of the predictors and thereby their statistical significance, which is denoted with multiple asterisks. Of the 8 variables of organisational sustainability, "Regularity of meetings" and "Participation of members in decision making" are significant 0.01% level of Significance. On the other hand "Rate of attendance in training" and "dropout rate" is significant at 0.05 (5%) level of significance.

For our current model from the VIF values, we can safely conclude that there is no collinearity within data. Thus, we can conclude that for the organisational sustainability

the “Regularity of meetings”,” Members can articulate”, “Participation of members in decision making” and “Group Composition” are the significant contributors.

6.3.2. B Contributors to Financial Sustainability

This section of output describes the overall model for financial sustainability and it provides with some very important information about the model: the coefficients values, t-values, significance value and VIF value.

Table 6.14 Model Summary: Financial Sustainability

	Variables	Coefficients	T	VIF
	(Constant)	0.282	5.613	
1	Rotation of fund	0.155	2.459***	1.640
2	Loan Disbursement to members	0.058	1.280	1.178
3	Repayment performance of members	0.224	3.360***	2.103
4	Utilisation of common fund	0.134	2.001**	1.649

, **,* indicate level of significance at 0.1, 0.05 and 0.01 respectively*

Dependent Variable: Financial sustainability

Source: Calculated by the author from Primary data

Breusch-pagan/Cook-Weiberg test has been used to check heteroscedasticity and it has been found that heteroscedasticity is absent ($\chi 2=1.87$). The value of R^2 is 0.355 which means the model explained 35.5% of the variability in data. F value is 22.676 at 1% level of significance.

Table 6.14 represents the coefficients and t-values and collinearity coefficients for the model with the significant predictors of financial sustainability. The beta weights help us interpret the unique contribution of the predictors on the dependent variables. The significance value for t-values for the predictors are denoted by more than one level of significance to ascertain the contribution of the predictors and thereby their statistical significance, which is denoted with multiple asterisks. Of the 4 variables of financial sustainability, "Rotation of Funds" and "Repayment Performance" are significant 0.01% level of significance and "Utilization of common fund" is significant at 0.05 (5%) level of significance. For our current model from the VIF values, we can safely conclude that there is no collinearity within our data.

Thus, we can conclude that for the financial sustainability the Rotation of Funds, Repayment Performance and Utilisation of common fund are the significant contributors

6.3.2. C Contributors to Composite Sustainability

This section of output describes the overall model for composite sustainability and it provides with some very important information about the model.

Table 6.15 Model Summary: Composite Sustainability

	Variables	Coefficients	T	VIF
	(Constant)	-0.001	-0.443	
1	Organisational Sustainability	0.001	0.629	1.604
2	Financial Sustainability	0.344	252.358***	1.604

, **,* indicate level of significance at 0.1, 0.05 and 0.01 respectively*

Dependent Variable: Composite Sustainability

Source: Calculated by the author from Primary data

Breusch-pagan/Cook-Weiberg test has been used to check heteroscedasticity and it has been found that heteroscedasticity is absent ($\chi 2$=0.49). The value of R^2 is 0.998 which explain 99.8% variability in data. F value is 5.124 at 1% level of significance.

Table 6.14 represents the coefficients and t-values and collinearity coefficients for the model with the significant predictors for composite sustainability. The beta weights help us interpret the unique contribution of the predictors on the dependent variables. The significance value for t-values for the predictors are denoted by more than one level of significance to ascertain the contribution of the predictors and thereby their statistical significance, which is denoted with multiple asterisks. Of the 2 indicators of composite sustainability, "financial sustainability" is significant 0.01% level of Significance.

For our current model from the VIF values, we can safely conclude that there is no collinearity within our data. Thus, we can conclude that for composite sustainability, financial sustainability is a significant contributor. For SHG's to become sustainable in the long run, they will have to perform better in managing their finances and earn a good return from their investment in income-generating activities.

Model 6.16: Model Summary: Composite Sustainability for 12 Variables of Sustainability

	Variables	**Coefficients**	**T**	**VIF**
	(Constant)	0.117	4.155	
1	Members can Articulate	0.011	0.514	1.457
2	Regularity of meetings	0.049	2.802***	1.351
3	Attendance at meeting	-0.006	-0.190	1.947
4	Participation of members in decision making	-0.003	-0.253	1.255

5	Group Composition	-0.007	-0.388	1.306
6	Regularity of Savings	-0.058	-2.660***	1.859
7	The rate of attendance in training	-0.019	-0.804	1.565
8	Dropout rate	0.004	0.188	1.159
9	Rotation of fund	0.055	2.360***	2.011
10	Loan Disbursement to members	0.008	0.479	1.320
11	Repayment performance of members	0.108	4.197***	2.756
12	Utilisation of common fund	0.040	1.695*	1.803

, **,* indicate level of significance at 0.1, 0.05 and 0.01 respectively*

Dependent Variable: Composite Sustainability

Source: Calculated by the author from Primary data

Again table 6.15 represents the model for composite sustainability using all the 12 variables of sustainability.

Breusch-pagan/Cook-Weiberg test has been used to check heteroscedasticity and it has been found that heteroscedasticity is absent ($\chi 2=2.11$). The value of R^2 is 0.419 which explains 41.9% variability in data. F value is 9.418 at 1% level of significance.

Of the 12 variables of composite sustainability, "Regularity of meetings", "Regularity of savings", "repayment performance of members" and "rotation of fund" are significant at 0.01 (1%) level of significance. On the other hand, "Utilization of common fund" is significant at 0.1 (10%) level of significance.

Here we can see that though "Regularity of meetings", "Participation of members in decision making" and "Rate of attendance" and "Dropout rate" are the significant contributors to obtain organisational sustainability. But for the sustainability of the group as a whole, only two factors of organisational sustainability viz. "Regularity of

meetings", "Regularity of savings" are significant contributors and out of four variables of financial sustainability "repayment performance of members", "rotation of fund" and "Utilization of common fund" are significant contributors of the overall sustainability of the group. This again indicates the higher role of financial performance in the overall performances of groups.

6.4 Conclusion

Based on the composite sustainability index for each district it can be concluded that Kamrup (M) is at the bottom of the sustainability index. It is closely followed by Barpeta. On the contrary to this Kamrup (R) is the best performer with as high as 12 SHGs each performing between good and average.

Further for the organisational sustainability, the "Regularity of meetings" and "Participation of members in decision making" are the significant contributors. For the financial sustainability the "Rotation of Funds", "Repayment Performance" and "Utilisation of common fund" are the significant contributors. For the composite sustainability "Financial Sustainability" is the significant contributors. Out of 12 variables of organisational and financial sustainability, "Repayment performance of members", "Rotation of Fund", "regularity of savings", and "regularity of meetings" are the significant contributors to composite sustainability.