

The Role of Pharmaceutical Companies in Community Development in Sikkim: A CSR Perspective

Dolma Lama¹, Dr. Deepa Sharma²

¹Student, Department of Commerce, Sikkim Manipal Faculty of Humanities, Social Sciences and Liberal Arts (FHSS&LA), Sikkim Manipal University, Gangtok, Sikkim, India.

²Assistant Professor, Department of Commerce, Sikkim Manipal Faculty of Humanities, Social Sciences and Liberal Arts (FHSS&LA), Sikkim Manipal University, Gangtok, Sikkim, India.

Abstract

Corporate Social Responsibility (CSR) has become an important aspect of corporate functioning, particularly in industries that directly influence society and the environment. In Sikkim, the growth of pharmaceutical companies has increased the significance of CSR activities in supporting community development. The present study examines the CSR initiatives undertaken by pharmaceutical companies in Sikkim and analyzes their impact and community perception among local communities. The study is descriptive and analytical in nature and is based on both primary and secondary data. Primary data were collected from 100 respondents through a structured questionnaire. Secondary data were gathered from company websites and official social media sources. Statistical tools such as descriptive statistics, factor analysis, Independent Samples t-test, and One-way ANOVA were used for data analysis with the help of SPSS software. The findings reveal that pharmaceutical companies in Sikkim are actively involved in CSR activities related to healthcare, education, environmental protection, infrastructure development, and skill development. The study further indicates that respondents generally hold a positive perception regarding the role of pharmaceutical companies in community development. The study concludes that pharmaceutical companies are contributing positively towards community development in Sikkim; however, greater community participation and awareness are necessary to improve the overall effectiveness and sustainability of CSR activities.

Keywords: CSR, Pharmaceutical Companies, Community Development, CSR Activities, Community Perception

Date of Submission: 28-08-2026

Date of Acceptance: 07-09-2026

I. INTRODUCTION

Corporate Social Responsibility (CSR) has evolved significantly over time, particularly after businesses began recognizing their broader responsibilities towards society and the environment. Howard Bowen, often regarded as the “Father of CSR,” emphasized that businesses should align their decisions and policies with societal values (Masum et al., 2020). In the modern context, CSR is understood through the Triple Bottom Line approach, balancing economic, environmental, and societal responsibilities (Mahapatra, 2019). India became one of the first countries to mandate CSR spending through Section 135 and Schedule VII of the Companies Act, 2013. The Act requires eligible companies to spend at least 2% of their average net profits on CSR activities (Singh & Verma, 2014). Consequently, CSR initiatives in India have expanded into sectors such as healthcare, education, environmental sustainability, infrastructure development, and skill enhancement (Khandhar & Patel, 2023). The manufacturing sector, particularly pharmaceutical industries, plays a crucial role in CSR implementation due to its direct influence on society and the environment. Pharmaceutical companies increasingly undertake CSR activities related to healthcare services, waste management, environmental protection, sanitation, and community welfare (Shanmugam, 2013). Sikkim, an ecologically sensitive state in Northeast India, has experienced rapid industrialization after the implementation of the North East Industrial and Investment Promotion Policy (NEIIPP), 2007 (Subba, 2018). The pharmaceutical industry has emerged as one of the major industrial sectors in the state. While this industrial growth has contributed to economic development and employment generation, it has simultaneously increased the need for socially responsible business practices (Tamang et al., 2021). An analytical report published by The CSR Journal titled “Top CSR Initiatives in Sikkim” reported that 25 corporate entities operating in Sikkim contributed approximately ₹15.15 crore towards CSR activities during the financial year 2020-2021 (The CSR Journal, 2022). Major pharmaceutical companies such as Glenmark Pharmaceuticals Limited and Alkem Laboratories Limited emerged as key contributors towards healthcare, education, and community welfare initiatives. Despite the growing presence of CSR activities, limited studies have examined the role of pharmaceutical companies in community development from the perspective of local communities in

Sikkim. Therefore, the present study attempts to examine the CSR initiatives undertaken by pharmaceutical companies and analyze their impact and community perception among the local population.

Masum et al. (2020) examined the concept of CSR and its contribution towards community development. The study emphasized that businesses are increasingly expected to contribute towards environmental protection, social welfare, and sustainable development.

Mahapatra (2019) studied CSR practices among public and private sector companies in India and found that companies actively engaged in healthcare, education, women empowerment, and skill development activities to improve community welfare. It further revealed that private sector companies adopted a more strategic approach towards CSR implementation compared to public sector companies.

Singh and Verma (2014) analyzed the concept of mandatory CSR under the Companies Act, 2013 and highlighted that CSR shifted from traditional philanthropy to structured corporate responsibility focusing on healthcare, education, and environmental sustainability. The study concludes that CSR activities significantly contribute towards socio-economic development and community welfare.

Khandhar and Patel (2023) examined CSR practices in pharmaceutical companies such as Torrent Pharmaceutical Limited and Sun Pharmaceutical Industries Limited and found that these companies actively contributed towards healthcare, education, and environmental sustainability.

Shanmugam (2013) studied environmental CSR initiatives in Indian manufacturing industries and found that companies actively practiced waste management, pollution control, and environmental sustainability activities. The findings highlighted the growing importance of environmental sustainability and responsible industrial practices in corporate functioning.

Subba (2018) studied the socio-economic and environmental implications of pharmaceutical companies in Sikkim and highlighted both positive contributions and environmental concerns associated with industrial expansion.

Tamang et al. (2021) examined CSR thematic areas implemented in Sikkim and found that healthcare and education received the highest CSR attention in the state, highlighting the important role of CSR in socio-economic development.

Tamang et al. (2025) analyzed CSR awareness among local residents in East Sikkim and found that respondents were generally aware of CSR activities related to healthcare, education, and rural development.

Existing literature primarily focuses on CSR implementation, environmental sustainability, and socio-economic implications of pharmaceutical industries. However, limited attention has been given to examining the role of pharmaceutical companies in community development from the perspective of local communities in Sikkim. Therefore, the present study attempts to bridge this gap by analyzing CSR initiatives, their impact, and community perception among local residents.

1.1 Research Objectives

1. To identify the various CSR initiatives undertaken by pharmaceutical companies for community development in Sikkim.
2. To analyze the socio-demographic profile of the community and their level of awareness regarding pharmaceutical CSR activities in Sikkim.
3. To examine the impact and community perception of CSR activities undertaken by pharmaceutical companies in Sikkim.

1.2 Research Questions

1. What are the various CSR initiatives undertaken by pharmaceutical companies for community development in Sikkim?
2. What is the socio-demographic profile of the community, and what is their level of awareness regarding pharmaceutical CSR activities in Sikkim?
3. What is the impact and community perception of CSR activities undertaken by pharmaceutical companies in Sikkim?
4. How do socio-demographic factors such as gender, age, education, occupation, and area of residence influence the impact and perception of these CSR activities?

1.3 Research Methodology

The study adopts a descriptive and analytical research design to examine CSR activities and analyze their impact and community perception in Sikkim. A quantitative approach has been followed, and the nature of the study is cross-sectional since data was collected at a single point in time. Both primary and secondary sources of data were used in the study. Primary data was collected from respondents in East Sikkim through a structured questionnaire administered using Google Forms, while secondary data were collected from company websites and official social media sources. A purposive sampling technique was used to select respondents residing in areas influenced by pharmaceutical companies. The questionnaire included sections related to demographic profile,

awareness of CSR activities, impact of CSR activities, community perception of pharmaceutical companies, and developmental implications and strategic recommendations, using a 5-point Likert scale and objective-type questions to measure responses. The collected data were coded and analyzed using SPSS software. Descriptive statistics were used to analyze the demographic profile and awareness level of respondents. Factor analysis was applied to identify the major dimensions influencing CSR impact and community perception. Independent Samples t-test and One-way ANOVA were further used for hypothesis testing based on socio-demographic variables.

1.4 Hypothesis Formulation

To fulfil the research objectives, five sets of hypotheses have been developed, as outlined below:

Hypothesis-1

H₀: There is no significant difference between male & female respondents regarding the impact and community perception of pharmaceutical CSR activities.

H₁: There is a significant difference between male & female respondents regarding the impact and community perception of pharmaceutical CSR activities.

Hypothesis-2

H₀: There is no significant difference between rural and urban respondents regarding the impact and community perception of pharmaceutical CSR activities.

H₁: There is a significant difference between rural and urban respondents regarding the impact and community perception of pharmaceutical CSR activities.

Hypothesis-3

H₀: There is no significant difference among respondents of different age groups regarding the impact and community perception of pharmaceutical CSR activities.

H₁: There is a significant difference among respondents of different age groups regarding the impact and community perception of pharmaceutical CSR activities.

Hypothesis-4

H₀: There is no significant difference among respondents with different educational qualifications regarding the impact and community perception of pharmaceutical CSR activities.

H₁: There is a significant difference among respondents with different educational qualifications regarding the impact and community perception of pharmaceutical CSR activities.

Hypothesis-5

H₀: There is no significant difference among respondents with different occupations regarding the impact and community perception of pharmaceutical CSR activities.

H₁: There is a significant difference among respondents with different occupations regarding the impact and community perception of pharmaceutical CSR activities.

II. ANALYSIS AND DISCUSSION

2.1 Major CSR Initiatives Undertaken by Pharmaceutical Companies in Sikkim

This section presents an analysis of CSR initiatives undertaken by selected pharmaceutical companies operating in East Sikkim. Ten pharmaceutical companies located in Ranipool, Kumrek, Samlik-Marchak, and Majitar were selected for the study due to the higher concentration of pharmaceutical industries in the region. Data were collected from company websites and official social media sources.

Table 2.1: List of Selected Pharmaceutical Companies and Sources of CSR Information

Sl. No.	Name of Company	Location	Sources of CSR Information
1	Sun Pharmaceutical Industries Limited	Ranipool	Company website, official social media sources
2	Torrent Pharmaceuticals Limited	Ranipool	Company website, official social media sources
3	CIPLA Limited	Rangpo	Company website
4	Alkem Laboratories Limited	Kumrek	Company website
5	Lupin Limited	Rangpo	Company website
6	Glenmark Pharmaceuticals Limited	Samlik-Marchak	Company website
7	Macleods Pharmaceuticals Limited	Ranipool	Company website
8	Zydus Lifesciences Limited	Majitar	Company website
9	Intas Pharmaceuticals Limited	Majitar	Company website
10	Alembic Pharmaceuticals Limited	Rangpo	Company website

Source: Compiled by the Researcher

Sun Pharmaceutical Industries Limited focuses on mobile medical units, health camps, digital X-ray installations, and hospital ward renovations at STNM hospital. Its CSR initiatives also include support for smart classrooms, youth training under Project PAILA, solar street lighting, and plantation drives.

Torrent Pharmaceuticals Limited emphasizes public health support through Water ATMs at STNM Hospital, pediatric health screening programs, rural school infrastructure development, the Shiksha Setu teacher training initiatives, and plastic waste management activities.

CIPLA Limited undertakes rural emergency medical transport services, mobile healthcare outreach programs, palliative care support, disaster relief activities, AI-based mobile science laboratories under the “AI on Wheels” initiative, and localized water conservation efforts.

Alkem Laboratories Limited engages in tuberculosis screening programs, anemia awareness campaigns, COVID-19 relief support, rural sanitation infrastructure including public toilets, safe drinking water distribution, and scholarship support for underprivileged students.

Lupin Limited focuses on women empowerment through rural livelihood initiatives such as poultry farming, non-communicable disease screening programs in rural areas, and the development of Water, Sanitation, and Hygiene (WASH) infrastructure.

Glenmark Pharmaceuticals Limited implements mobile healthcare services, maternal and child health programs, COVID-19 pandemic relief distribution, and vocational training initiatives for local youth.

Macleods Pharmaceuticals Limited provides direct healthcare support, assistance to vulnerable populations, crisis-related financial and material relief, and local area community development initiatives.

Zydus Lifesciences Limited undertakes community wellness programs, school infrastructure development, student scholarship schemes, water conservation initiatives, and environmentally sustainable outreach activities.

Intas Pharmaceuticals Limited contributes to healthcare service delivery, emergency medical supply support during crises, youth education and learning initiatives, and basic community infrastructure development.

Alembic Pharmaceuticals Limited engages in community health programs, educational and skill development initiatives for youth, and environmental resources management activities.

The analysis of CSR initiatives undertaken by the selected pharmaceutical companies in Sikkim reveals that healthcare is the primary area of corporate focus, followed by educational support and rural infrastructure development. Key interventions include mobile medical services and diagnostic camps in remote areas, digital learning initiatives and skill development programs for youth, and infrastructure projects like sanitation units and drinking water systems. These CSR activities are broadly aligned with the provisions specified under Schedule VII of the Companies Act, 2013. Overall, they contribute significantly to the socio-economic development of local communities by strengthening healthcare delivery systems, enhancing access to education, and promoting rural infrastructure and environmental sustainability.

2.2 Socio-demographic Profile of Respondents

The socio-demographic characteristics of respondents were analyzed based on gender, age, educational qualification, occupation, and area of residence. The study is based on primary data collected from 100 respondents, and the distribution is presented in Table 2.2.

Table 2.2: Consolidated Socio-Demographic Profile of Respondents

Variable	Category	Frequency (N=100)	Percentage (%)
Gender	Male	40	40.0
	Female	60	60.0
	Others	0	0.0
Age	Below 20	22	22.0
	21-30	65	65.0
	31-40	11	11.0
	41-50	2	2.0
	Above 50	0	0.0
Educational Qualification	Primary	2	2.0
	Secondary	4	4.0
	Higher Secondary	35	35.0
	Graduate	50	50.0
	Post Graduate	9	9.0
Occupation	Student	68	68.0
	Self Employed	19	19.0
	Government Employee	5	5.0
	Private Employee	8	8.0
	Other	0	0.0
Area of Residence	Rural	40	40.0
	Urban	60	60.0

Source: Compiled by the Researcher based on Survey Data (N=100)

The results indicate that the sample is predominantly female (60%) and largely composed of young respondents, with the majority belonging to the 21-30 years age group (65%). In terms of education, most respondents are graduates (50%) followed by higher secondary educated individuals (35%). The occupational

structure is dominated by students (68%), while the remaining respondents are engaged in self-employment, private, and government sectors. The sample also shows a relatively balanced distribution between rural (40%) and urban (60%) areas. Overall, the respondent profile reflects a young, educated, and student-dominated sample.

2.3 Awareness of CSR Activities Among Respondents

This section examines the awareness level of respondents regarding CSR activities undertaken by pharmaceutical companies in Sikkim. The analysis is based on responses collected through structured questionnaires using descriptive statistics in SPSS, and the results are presented through graphical representations in the form of bar charts to provide better interpretation of the data. The details are presented below:

Table 2.3: Awareness of Pharmaceutical Companies Operating in Sikkim

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	62	62.0	62.0	62.0
No	38	38.0	38.0	100.0
Total	100	100.0	100.0	

Source: Primary Data

Figure 2.1: Graphical Presentation of Awareness of Pharmaceutical Companies Operating in Sikkim



Source: Primary Data

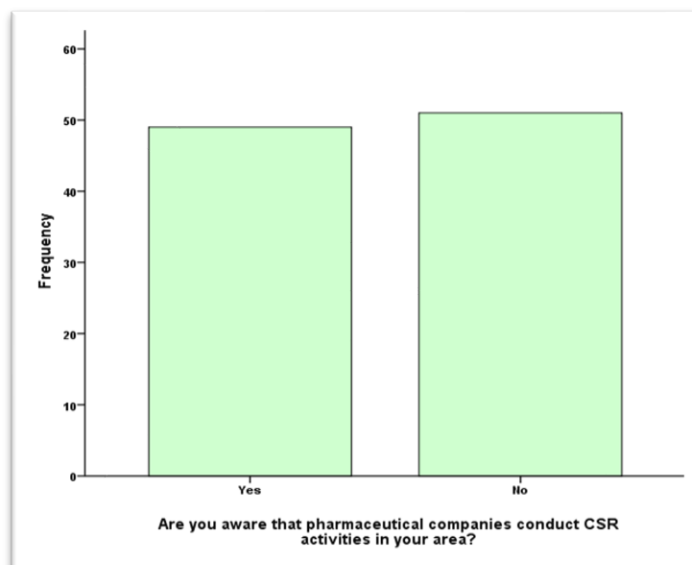
Interpretation: The findings indicate that 62% of respondents are aware of pharmaceutical companies operating in Sikkim, while 38% are not aware. This suggests that although awareness among the local community is relatively high, there is still a notable gap in general awareness regarding the presence and operations of these companies in the region.

Table 2.4: Awareness of CSR Activities Conducted by Pharmaceutical Companies

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	49	49.0	49.0	49.0
No	51	51.0	51.0	100.0
Total	100	100.0	100.0	

Source: Primary Data

Figure 2.2: Graphical Presentation of Awareness of CSR Activities Conducted by Pharmaceutical Companies



Source: Primary Data

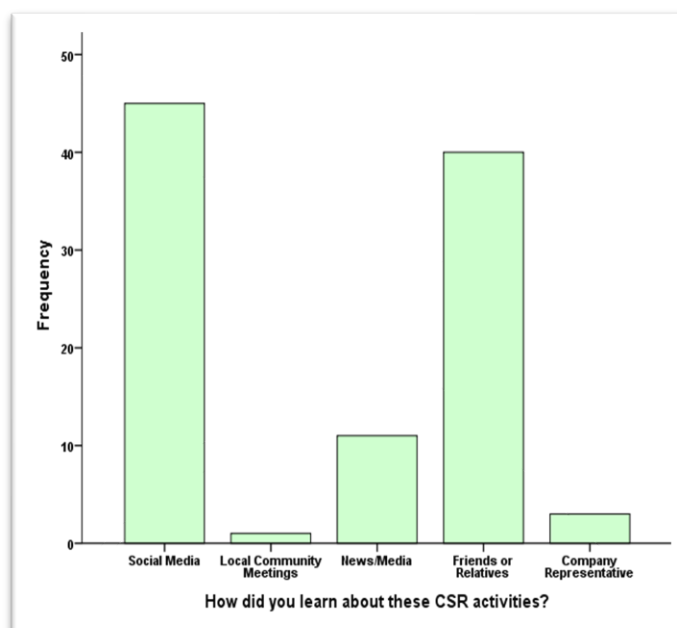
Interpretation: The findings reveal that 49% of respondents are aware of CSR activities conducted by pharmaceutical companies, while 51% are not aware of such activities. This indicates that awareness regarding CSR activities among the local community is moderate.

Table 2.5: Sources of Awareness about CSR Activities

Sources	Frequency	Percent	Valid Percent	Cumulative Percent
Social media	45	45.0	45.0	45.0
Local community meetings	1	1.0	1.0	46.0
News/media	11	11.0	11.0	57.0
Friends or Relatives	40	40.0	40.0	97.0
Company Representative	3	3.0	3.0	100.0
Total	100	100.0	100.0	

Source: Primary Data

Figure 2.3: Graphical Presentation of Sources of Awareness about CSR Activities



Source: Primary Data

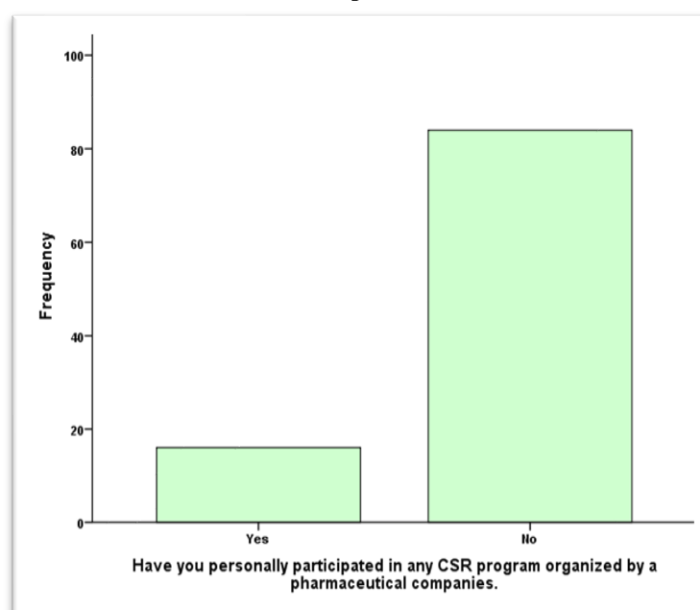
Interpretation: The findings indicate that social media (45%) and friends or relatives (40%) are the major sources of awareness regarding CSR activities among respondents. Comparatively fewer respondents reported news/media, company representatives, and local community meetings as sources of awareness. This suggests that informal and digital communication channels play an important role in spreading awareness about CSR activities in Sikkim.

Table 2.6: Participation in CSR Programs Organized by Pharmaceutical Companies

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	16	16.0	16.0	16.0
No	84	84.0	84.0	100.0
Total	100	100.0	100.0	

Source: Primary Data

Figure 2.4: Graphical Presentation of Participation in CSR Programs Organized by Pharmaceutical Companies



Source: Primary Data

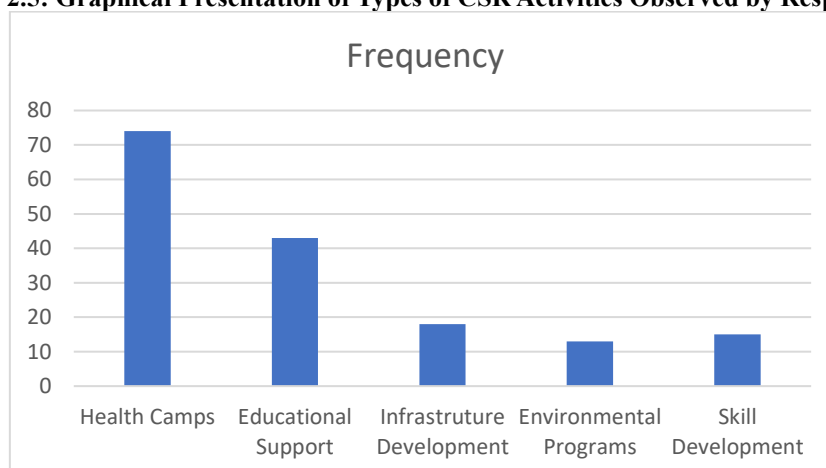
Interpretation: The findings indicate that only 16% of respondents have participated in CSR programs organized by pharmaceutical companies, whereas 84% reported no participation. This suggests that community participation in CSR activities remains comparatively low in the study area.

Table 2.7: Types of CSR Activities Observed by Respondents

CSR Activities	Responses		Percent of Cases
	N	Percent	
Health Camps	74	45.4%	74.0%
Educational Support	43	26.4%	43.0%
Infrastructure Development	18	11.0%	18.0%
Environmental Programs	13	8.0%	13.0%
Skill Development	15	9.2%	15.0%
Total	163	100.0%	163.0%

Source: Primary Data

Figure 2.5: Graphical Presentation of Types of CSR Activities Observed by Respondents



Source: Primary Data

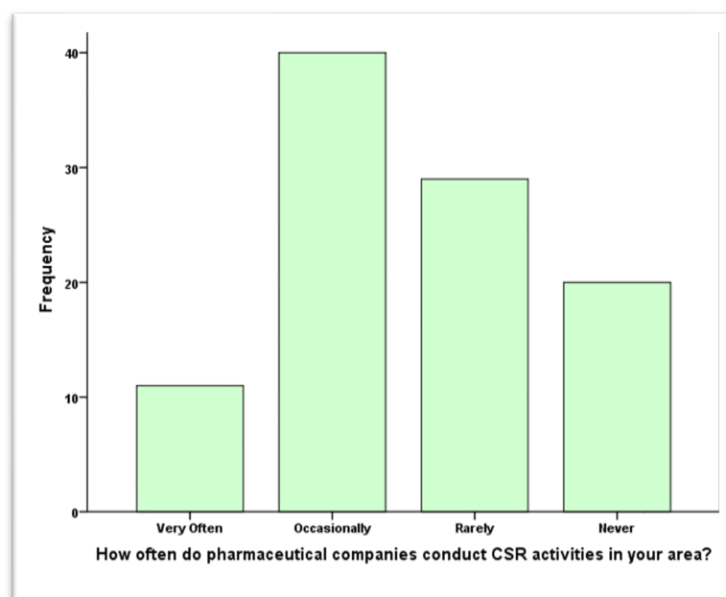
Interpretation: The findings indicate that health camps (74%) are the most commonly observed CSR activity among respondents, followed by educational support (43%). Comparatively fewer respondents observed infrastructure development, skill development, and environmental programs. This suggests that healthcare and educational initiatives are the most visible CSR activities undertaken by pharmaceutical companies in Sikkim.

Table 2.8: Frequency of CSR Activities Conducted by Pharmaceutical Companies

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Very Often	11	11.0	11.0	11.0
Occasionally	40	40.0	40.0	51.0
Rarely	29	29.0	29.0	80.0
Never	20	20.0	20.0	100.0
Total	100	100.0	100.0	

Source: Primary Data

Figure 2.6: Graphical Presentation of Frequency of CSR Activities Conducted by Pharmaceutical Companies



Source: Primary Data

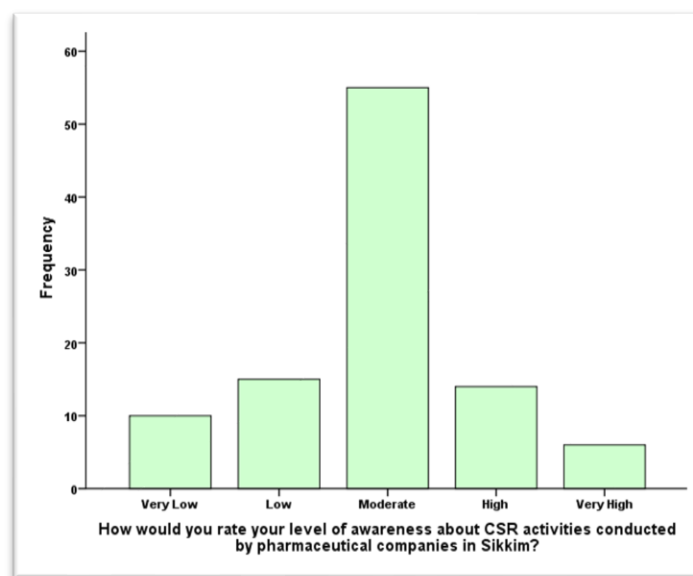
Interpretation: The findings reveal that most respondents (40%) reported that pharmaceutical companies conduct CSR activities occasionally, followed by rarely (29%) and never (20%). Only 11% of respondents stated that such activities are conducted very often. This indicates that CSR activities are conducted in the area, but not on a regular basis.

Table 2.9: Level of Awareness about CSR Activities Conducted by Pharmaceutical Companies in Sikkim

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Very Low	10	10.0	10.0	10.0
Low	15	15.0	15.0	25.0
Moderate	55	55.0	55.0	80.0
High	14	14.0	14.0	94.0
Very High	6	6.0	6.0	100.0
Total	100	100.0	100.0	

Source: Primary Data

Figure 2.7: Graphical Presentation of Level of Awareness about CSR Activities Conducted by Pharmaceutical Companies in Sikkim



Source: Primary Data

Interpretation: The findings indicate that the majority of respondents (55%) reported a moderate level of awareness regarding CSR activities conducted by pharmaceutical companies in Sikkim. Smaller proportions of respondents reported low, high, very low, and very high levels of awareness. Overall, the results suggest that awareness regarding CSR activities among respondents is moderate.

2.4 Impact and Community Perception of CSR Activities

This section examines the impact and community perception of CSR activities undertaken by pharmaceutical companies operating in Sikkim. For the analysis, variables related to the impact of CSR activities and community perception of pharmaceutical companies were combined and analyzed using Exploratory Factor Analysis (EFA). A total of 16 variables measured on a 5-point Likert scale were included in the analysis to identify the major dimensions influencing respondents' perception regarding CSR activities.

1. KMO and Bartlett's Test

Before conducting factor analysis, the suitability of the data was examined using the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. These tests were conducted to determine whether the selected variables were appropriate for factor analysis. The results are presented in Table 2.10.

Table 2.10: KMO and Bartlett's Test

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.908
Bartlett's Test of Sphericity	Approx. Chi-Square
	1269.077
	df
	120
	Sig.
	.000

Source: SPSS Output

Interpretation: The KMO value of 0.908 indicates excellent sampling adequacy for factor analysis. Bartlett's Test of Sphericity was found to be statistically significant ($p < 0.05$), confirming the presence of sufficient correlation among the variables. Therefore, the data is suitable for conducting factor analysis.

2. Communalities

The communalities table presents the proportion of variance in each variable explained by the extracted factors. The extraction values indicate how well each variable is represented within the factor solution derived through Principal Component Analysis. The results are presented in Table 2.11.

Table 2.11: Communalities

Sl. No.	Variables	Initial	Extraction
1	CSR activities benefit the local community.	1.000	0.601
2	Improvement of healthcare facilities in the local community.	1.000	0.681
3	Contribution to improving education in the community.	1.000	0.739
4	Creation of employment or skill development opportunities.	1.000	0.764
5	Contribution to environmental protection in Sikkim.	1.000	0.780
6	Improvement of sanitation and hygiene conditions.	1.000	0.677
7	Addressing the real needs and priorities of the community.	1.000	0.833
8	Involvement of local communities in planning and implementation.	1.000	0.732
9	Contribution to the overall quality of life in the community.	1.000	0.738
10	Responsible behavior of companies towards the community.	1.000	0.779
11	Improvement of corporate public image through CSR.	1.000	0.734
12	Need for increased CSR activities in Sikkim.	1.000	0.722
13	Clear Communication of CSR activities to the public.	1.000	0.754
14	Involvement of local government and NGOs for effectiveness.	1.000	0.699
15	Benefits reaching both rural and urban communities.	1.000	0.709
16	Trust in companies to contribute positively to development.	1.000	0.722

Extraction Method: Principal Component Analysis

Source: SPSS Output

Interpretation: The results indicate that all variables have communality values above 0.50, ranging from 0.601 to 0.833. This suggests that all variables are adequately represented by the extracted factors and contribute meaningfully to the factor structure. Overall, the communality values confirm that the variables are suitable for factor analysis.

3. Total Variance Explained

The Total Variance Explained table is used to determine the number of factors retained for further analysis. Following the Kaiser Criterion, only those components with Eigenvalues greater than 1 were considered significant and retained for interpretation. The results are presented in Table 2.12.

Table 2.12: Total Variance Explained

Component	Initial Eigenvalue	% of Variance	Cumulative %	Rotation Sums of Squared Loadings (Cumulative %)
1	9.384	58.651	58.651	29.466
2	1.225	7.656	66.308	52.229
3	1.054	6.589	72.897	72.897

Extraction Method: Principal Component Analysis

Source: SPSS Output

Interpretation: The results indicate that three factors recorded Eigenvalues greater than 1 and were therefore retained for further analysis. Together, the three extracted factors explain 72.897% of the total variance, indicating that the model adequately represents the underlying structure of the variables. This suggests that the extracted factors capture a substantial proportion of the information contained in the dataset.

4. Rotated Component Matrix

The Rotated Component Matrix presents the factor loadings of variables after applying Varimax Rotation. The rotation process helps in grouping variables into meaningful dimensions and provides a clearer interpretation of the underlying factors related to the impact and community perception of CSR activities undertaken by pharmaceutical companies in Sikkim. Variables with factor loadings above 0.50 were considered significant for interpretation.

Table 2.13: Rotated Component Matrix

Sl. No.	Variable	F1	F2	F3
1	Contribution to the overall quality of life in the community.	.762		
2	Involvement of local communities in planning and implementation.	.753		
3	Clear Communication of CSR activities to the public.	.728		
4	Addressing the real needs and priorities of the community.	.725		

5	Benefits reaching both rural and urban communities.	.697		
6	Responsible behavior of companies towards the community.	.645		
7	Improvement of corporate public image through CSR.	.625		
8	Trust in companies to contribute positively to development.	.565		
9	CSR activities benefit the local community.		.737	
10	Contribution to improving education in the community.		.710	
11	Need for increased CSR activities in Sikkim.		.698	
12	Involvement of local government and NGOs for effectiveness.		.643	
13	Contribution to environmental protection in Sikkim.			.781
14	Creation of employment or skill development opportunities.			.724
15	Improvement of sanitation and hygiene conditions.			.720
16	Improvement of healthcare facilities in the local community.			.616

Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser Normalization

Source: SPSS Output

Interpretation: The rotated component matrix identifies three major factors representing the impact and community perception of CSR activities undertaken by pharmaceutical companies in Sikkim.

Factor 1: Corporate Trust and Community Integration

This is the most significant factor, comprising eight variables (Variables 1-8). It includes variables related to community participation, communication of CSR activities, quality of life improvement, responsible corporate behavior, public image and trust towards pharmaceutical companies. This factor reflects the overall perception and relationship between pharmaceutical companies and the local communities.

Factor 2: Social Welfare and Institutional Collaboration

This factor consists of four variables (Variables 9-12) associated with community benefits, educational improvement, increased CSR initiatives, and involvement of local government and NGOs. This factor highlights the collaborative and welfare-oriented nature of CSR initiatives.

Factor 3: Sustainable Development and Livelihood Enhancement

This factor includes four variables (Variables 13-16) related to environmental protection, healthcare improvement, sanitation and hygiene, and employment or skill development opportunities. This factor represents the developmental impact of CSR activities on the local community. Overall, the findings indicate that CSR activities undertaken by pharmaceutical companies in Sikkim are multidimensional in nature and significantly influence community welfare, public perception, and sustainable development.

2.5 Hypothesis Testing

This section examines whether socio-demographic variables such as gender, area of residence, age, educational qualification, and occupation significantly influence the impact and community perception of CSR activities undertaken by pharmaceutical companies in Sikkim. Independent Samples t-test and One-way ANOVA were used for hypothesis testing at a 5% level of significance.

Independent Samples t-test

1. Gender

Hypothesis-1

H₀: There is no significant difference between male and female respondents regarding the impact and community perception of pharmaceutical CSR activities.

H₁: There is a significant difference between male and female respondents regarding the impact and community perception of pharmaceutical CSR activities.

Table 2.14: Independent Samples t-test Results for Gender

Factor	Gender	N	Mean	Std. Deviation	t-value	df	Sig. (2-tailed)
Factor 1	Male	40	-0.119	1.094	-0.976	98	0.331
	Female	60	0.079	0.932			
Factor 2	Male	40	0.193	0.912	1.593	98	0.114
	Female	60	-0.129	1.041			
Factor 3	Male	40	-0.046	1.193	-0.382	98	0.704
	Female	60	0.031	0.857			

Source: SPSS Output

Interpretation: The Independent Samples t-test results indicate that the significance values for all three factors are greater than 0.05. Therefore, the study failed to reject the null hypothesis, indicating that gender does not significantly influence respondents' perception regarding pharmaceutical CSR activities in Sikkim.

2. Area of Residence

Hypothesis-2

H₀: There is no significant difference between rural and urban respondents regarding the impact and community perception of pharmaceutical CSR activities.

H₁: There is a significant difference between rural and urban respondents regarding the impact and community perception of pharmaceutical CSR activities.

Table 2.15: Independent Samples t-test Results for Area of Residence

Factor	Area of Residence	N	Mean	Std. Deviation	t-value	df	Sig. (2-tailed)
Factor 1	Rural	40	0.046	0.865	0.381	98	0.704
	Urban	60	-0.031	1.086			
Factor 2	Rural	40	-0.150	1.051	-1.232	98	0.221
	Urban	60	0.100	0.959			
Factor 3	Rural	40	-0.157	1.088	-1.287	98	0.201
	Urban	60	0.104	0.930			

Source: SPSS Output

Interpretation: The Independent Samples t-test results indicate that the significance values for all three factors are greater than 0.05. Therefore, the study failed to reject the null hypothesis, indicating that area of residence does not significantly influence respondents' perception regarding pharmaceutical CSR activities in Sikkim.

3. Age

Hypothesis-3

H₀: There is no significant difference among respondents of different age groups regarding the impact and community perception of pharmaceutical CSR activities.

H₁: There is a significant difference among respondents of different age groups regarding the impact and community perception of pharmaceutical CSR activities.

Table 2.16: One-way ANOVA Results for Age

Factor	Age Group	N	Mean	Std. Deviation	F-value	Sig.
Factor 1	Below 20	22	-0.002	0.773	0.135	0.939
	21-30	65	-0.012	1.044		
	31-40	11	0.137	1.150		
	41-50	2	-0.314	1.695		
Factor 2	Below 20	22	-0.046	0.504	0.596	0.619
	21-30	65	0.078	0.967		
	31-40	11	-0.281	1.786		
	41-50	2	-0.495	0.136		
Factor 3	Below 20	22	0.253	0.802	0.823	0.484
	21-30	65	-0.110	1.071		
	31-40	11	0.088	0.912		
	41-50	2	0.312	1.065		

Source: SPSS Output

Interpretation: The One-way ANOVA results indicate that the significance values for all three factors are greater than 0.05. Therefore, the study failed to reject the null hypothesis, indicating that age group does not significantly influence respondents' perception regarding pharmaceutical CSR activities in Sikkim.

4. Education

Hypothesis-4

H₀: There is no significant difference among respondents with different educational qualifications regarding the impact and community perception of pharmaceutical CSR activities.

H₁: There is a significant difference among respondents with different educational qualifications regarding the impact and community perception of pharmaceutical CSR activities.

Table 2.17: One-way ANOVA Results for Educational Qualification

Factor	Educational Qualification	N	Mean	Std. Deviation	F-value	Sig.
Factor 1	Primary	2	-0.872	0.911	2.186	0.076
	Secondary	4	-1.044	1.851		
	Higher Secondary	35	0.001	0.798		
	Graduate	50	0.023	0.968		
	Post Graduate	9	0.519	1.221		
Factor 2	Primary	2	0.912	0.786	1.466	0.219
	Secondary	4	0.243	0.813		
	Higher Secondary	35	0.127	0.803		

	Graduate	50	-0.037	0.897		
	Post Graduate	9	-0.597	1.912		
Factor 3	Primary	2	-1.221	0.508	2.548	0.044
	Secondary	4	0.713	0.863		
	Higher Secondary	35	0.104	0.940		
	Graduate	50	-0.178	1.037		
	Post Graduate	9	0.538	0.709		

Source: SPSS Output

Interpretation: The One-way ANOVA results indicate that Factors 1 and 2 are not statistically significant as the significance values are greater than 0.05. However, Factor 3 shows a statistically significant difference with a significance value less than 0.05. Therefore, the study failed to reject the null hypothesis for Factors 1 and 2, but rejected the null hypothesis for Factor 3. This indicates that educational qualification significantly influences respondents' perception regarding sustainable development and livelihood enhancement outcomes of pharmaceutical CSR activities in Sikkim.

5. Occupation

Hypothesis-5

H₀: There is no significant difference among respondents with different occupations regarding the impact and community perception of pharmaceutical CSR activities.

H₁: There is a significant difference among respondents with different occupations regarding the impact and community perception of pharmaceutical CSR activities.

Table 2.18: One-way ANOVA Results for Occupation

Factor	Occupation	N	Mean	Std. Deviation	F-value	Sig.
Factor 1	Student	68	0.057	0.849	0.269	0.847
	Self Employed	19	-0.113	1.252		
	Government Employee	5	-0.015	1.553		
	Private Employee	8	-0.210	1.304		
Factor 2	Student	68	0.104	0.832	1.524	0.213
	Self Employed	19	-0.005	0.915		
	Government Employee	5	-0.553	2.727		
	Private Employee	8	-0.527	0.675		
Factor 3	Student	68	-0.053	1.038	0.638	0.593
	Self Employed	19	0.268	1.045		
	Government Employee	5	-0.271	0.938		
	Private Employee	8	-0.010	0.489		

Source: SPSS Output

Interpretation: The One-way ANOVA results indicate that the significance values for all three factors are greater than 0.05. Therefore, the study failed to reject the null hypothesis, indicating that occupation does not significantly influence respondents' perception regarding pharmaceutical CSR activities in Sikkim.

III. CONCLUSION AND RECOMMENDATIONS

The study examined the CSR activities undertaken by pharmaceutical companies in Sikkim and analyzed their impact and community perception. The findings revealed that pharmaceutical companies are actively involved in CSR initiatives related to healthcare, education, environmental sustainability, sanitation, and skill development. Among these initiatives, healthcare-related programs such as health camps, medical support, and awareness programs emerged as the most visible CSR activities observed by respondents. The study further found that although awareness regarding pharmaceutical companies operating in the region was relatively high, awareness regarding CSR activities remained moderate, while community participation in CSR programs was comparatively low. Exploratory Factor Analysis (EFA) identified three major dimensions explaining respondents' perceptions regarding CSR activities, namely Corporate Trust and Community Integration, Social Welfare and Institutional Collaboration, and Sustainable Development and Livelihood Enhancement.

The results of hypothesis testing indicated that socio-demographic variables such as gender, area of residence, age, and occupation did not significantly influence respondents' perceptions regarding pharmaceutical CSR activities. However, educational qualification showed a significant difference with respect to Sustainable Development and Livelihood Enhancement, indicating variation in perception regarding developmental outcomes of CSR activities among respondents with different educational backgrounds. Overall, the study concludes that pharmaceutical companies are contributing positively towards community welfare and development through CSR initiatives in East Sikkim. However, there is a need for better public communication, regular community engagement, and increased community participation to improve the effectiveness of CSR initiatives. Since the study was limited to selected pharmaceutical companies and a sample size of 100 respondents, future studies may

be conducted with larger sample sizes and wider geographical coverage to obtain broader insights into CSR practices and community development.

REFERENCES

- [1]. Masum, A., Aziz, H. H. H. A. A., & Ahmad, M. H. (2020). Corporate Social Responsibility and its effect on Community Development: An Overview. *IOSR Journal of Business and Management (IOSR-JBM)*, 22(1), 35-40.
- [2]. Mahapatra, M. (2019). CSR Practices among Public and Private Sector Companies: A Community Development Approach in Indian Context. *Journal of Management & Public Policy*, 10(2), 33-42. <https://doi.org/10.5958/0976-0148.2019.00003.9>
- [3]. Singh, A., & Verma, P. (2014). CSR@ 2%: A New Model of Corporate Social Responsibility in India. *International Journal of Academic Research in Business and Social Sciences*, 4(10), 455-464. <https://doi.org/10.6007/IJARBS/v4-i10/1243>
- [4]. Khandhar, U. A., & Patel, R. K. (2023). A Study of CSR Practice in Pharmaceutical Companies in India. *GAP INTERDISCIPLINARITIES: A Global Journal of Interdisciplinary Studies*, 6(4), 35-42.
- [5]. Shanmugam, K. (2013). Environmental CSR initiatives of Manufacturing Units in India- An Empirical Study. *African Journal of Business Management*, 7(16), 1560-1570. <https://doi.org/10.5897/AJBM2013.6881>
- [6]. Subba, D. (2018). Socio Economic and Environmental Implications of Pharmaceutical Companies in Sikkim. *Journal of Politics & Governance*, 7(2), 29-38. <https://doi.org/10.5958/2456-8023.2018.00008.6>
- [7]. Tamang, P., Johry, G. S., & Gangte, H. (2021). The Study of Thematic Area of Corporate Social Responsibility Framework Implemented in the State of Sikkim. *Multi-Disciplinary Research Series 2021*. Amazon Kindle Direct Publishing.
- [8]. Tamang, P., Johry, G. S., Gangte, H., & Chiru, P. R. (2025). Unveiling Corporate Social Responsibility Consciousness in East Sikkim: A Comprehensive Analysis. *International Journal for Research Trends and Innovation*, 10(3), 229-245.
- [9]. The CSR Journal. (2022, November 3). *Top CSR initiatives in Sikkim*. <https://thecsrjournal.in>
- [10]. Sun Pharmaceutical Industries Limited. (n.d.). Official website and official social media sources. <https://www.sunpharma.com>
- [11]. Torrent Pharmaceuticals Limited. (n.d.). Official website and official social media sources. <https://www.torrentpharma.com>
- [12]. CIPLA Limited. (n.d.). Official website. <https://www.cipla.com>
- [13]. Alkem Laboratories Limited. (n.d.). Official website. <https://www.alkemlabs.com>
- [14]. Lupin Limited. (n.d.). Official website. <https://www.lupin.com>
- [15]. Glenmark Pharmaceuticals Limited. (n.d.). Official website. <https://www.glenmarkpharma.com>
- [16]. Macleods Pharmaceuticals Limited. (n.d.). Official website. <https://www.macleodspharma.com>
- [17]. Zydus Lifesciences Limited. (n.d.). Official website. <https://www.zyduslife.com>
- [18]. Intas Pharmaceuticals Limited. (n.d.). Official website. <https://www.intaspharma.com>
- [19]. Alembic Pharmaceuticals Limited. (n.d.). Official website. <https://www.alembicpharmaceuticals.com>