



EDUCATION AND SUSTAINABLE COMMUNITY PLANNING: AN EMPIRICAL STUDY IN THE DISTRICT OF BURDWAN, WEST BENGAL, INDIA

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ABSTRACT

Sustainable community planning looks at the long-standing economic, social and environmental well-being of our communities, with the aspire of improving the quality of life for citizens now and over the long period. These plans set a clear direction for the community that recognizes the diverse needs of existing and future residents. Through these plans, our communities coordinate and integrate development practices that build resiliency and a high quality of life for the community. The present paper attempts to analyze how does the use of eco-friendly commodities, the awareness of citizens on environmental pollution and proper resource management influence over sustainable community planning in the surveyed areas in Burdwan district in West Bengal. The study comprises of two hundred school students of few selected schools and one hundred fifty citizens other than selected school students in the district of Burdwan. This study covers the citizens consisting of different socio-economic status, educational status of the families, industry and agriculture prone areas of Burdwan district in West Bengal. A non-parametric chi-square test has been used to examine the relationship between the sustainable community planning and overall awareness to use eco-friendly commodities among the citizens of the surveyed areas. Apart from this, a logit regression model has been fitted to assess the degree and magnitude of dependence of sustainable community planning upon a set of factors (i.e., Use of Eco-friendly Commodities, Pollution Control, Proper Resource Management, Promotion of Environmental

Awareness, and Reorientation of Curriculum in School Education) associated with the society. Finally, student's t- test has been applied to know whether any significant differences exist among the citizens belongs to different socio-economic and educational status of the families about the sustainable community planning.

Key words: Sustainable community planning, socio-economic status, educational status, chi-square test, logit regression model, eco-friendly Commodities.

1. INTRODUCTION

The term “sustainable communities” has various definitions, but in essence refers to communities planned, built, or modified to promote sustainable living. Sustainable communities tend to focus on environmental and economic sustainability, urban infrastructure, social equity, and municipal government. The term is sometimes used synonymously with “green cities,” “eco-communities,” “livable cities” and “sustainable cities.” (Roseland. M, 2000)

Sustainable community initiatives have emerged in neighborhoods, cities, counties, metropolitan planning districts, and watershed districts at different scales pertaining to community needs. These initiatives are driven by various actor groups that have different methods of effectively planning out ways to create sustainable communities. Most often they are implemented by governments and non-profit organizations, but they also involve community members, academics, and create partnerships and coalitions.

Nonprofit organizations help to cultivate local talents and skills, empowering people to become more powerful and more involved in their own communities. Many also offer plans and guidance on improving the sustainability of various practices, such as land use and community design, transportation, energy efficiency, waste reduction, and climate friendly purchasing.

Some government groups will create partnerships where departments will work together using grants to provide resources to communities like clean air and water, community planning, economic development, equity and environmental justice, as well as housing and transportation choices. (Rich. M, 2008)

Social movements have gathered momentum, spreading sustainable community ideas around the world, not only through example, but also by offering classes and training on sustainable living, perm culture, and local economics.

2. OBJECTIVES

The following objectives are laid down to substantiate the present study

1. To examine the awareness of the students and other citizens about the environment and environmental challenges situated in their localities;
2. To acquire knowledge and understanding about the sustainable community planning, environment and environmental protection;
3. To make attitude about the environment of maintaining sustainable environmental quality of their life;
4. To encourage participation of students in environmental related programs;
5. To find out the factors this can influence sustainable community planning and sustainable quality of life.

3. HYPOTHESES

The present study includes the following hypotheses:

3.1 Null Hypotheses

H_0^1 : There is no significant difference between education and sustainable community planning among students and other citizens in the study area.

H_0^2 : There is no significant variation about sustainable community planning and overall awareness to use eco-friendly commodities among the citizens belongs to different educational status in the surveyed areas.

H_0^3 : There is no significant discrepancy exists among the students belongs to different socio-economic status of the families (i.e., APL & BPL category) about the sustainable community planning.

3.2 Alternative Hypotheses

H_1^1 : There exists significant difference between education and sustainable community planning among students and other citizens in the study area.

H₁²: There prevails significant variation about sustainable community planning and overall awareness to use eco-friendly commodities among the citizens belongs to different educational status in the surveyed areas.

H₁³: There exists significant discrepancy among the students belongs to different socio-economic status of the families (i.e., APL & BPL category) about the sustainable community planning.

4. METHODOLOGY

4.1 Sample

The study is mainly analytical in nature and the purposive sampling technique was used. A self made questionnaire has been used for the collection of primary data during 2015 - 2016 from 200 students of Secondary and Higher Secondary school students comprising in urban as well as in rural areas of Burdwan district in West Bengal and 150 citizens belongs to different socio-economic status of the families (i.e., APL & BPL category) in the study area.

4.2 Data Source

Table- 1 represents sample distribution.

Table-1:

Sub Division	Respondents		Total
	Students	Other Citizens	
Burdwan North	35	25	60
Burdwan South	35	25	60
Kalna	30	25	55
Katwa	30	25	55
Durgapur	35	25	60
Asansole	35	25	60
Total	200	150	350

Source: Field Survey, 2015-16

4.3 Tools

The following tools were used for collection of data.

4.3.1 Questionnaire

The data was collected through a questionnaire of exclusive segments pertaining to ‘Education and Sustainable Community Planning’ in the study area having 30 question-statements. Equal numbers of positive and negative statements were included in the questionnaire. The respondents were asked to answer correctly and rate each of the statements accordingly. 25 question-statements in the questionnaire were finalized after a thorough review of literature and all the statements reflected to ‘Sustainable Community Planning’.

4.3.2 Interview Schedule

It was drafted on the basis of major variables, parameters and objectives of the study. Primary data was also collected from reputed educational experts and social workers using interview schedule. Secondary data was collected from Government agencies like office of DM, BDO/SDO, panchayets, different schools etc. and project reports related to environment given by various NGO’s.

4.4 Indicators selected to study the effect of education on sustainable community planning

The indicators selected to examine the effect of education and environmental awareness on sustainable community planning are (i) Use of Eco-friendly Commodities (UEC), (ii) Pollution Control (PC), (iii) Proper Resource Management (PRM), (iv) Promotion of Environmental Awareness (PEA), and (v) Reorientation of Curriculum in School Education (RCSE).

5. ANALYSIS AND INTERPRETATION OF THE DATA

The whole results and discussion have been carried out under the following heads:

1. Association between Education and Sustainable Community Planning among students and other citizens: A Non-Parametric Chi-square Analysis
2. Dependence of Sustainable Community Planning (SCP) on the selected indicators: An Analysis of Binary Logit Regression Model
3. Attitudes of citizens about sustainable community planning and overall awareness to use eco-friendly commodities in the surveyed areas: An Analysis in terms of Students’ t- Test
4. Attitude of students belong to different socio-economic status of the families about the sustainable community planning: An Analysis in terms of Students’ t-test

5.1 Association between Education and Sustainable Community Planning among students and other citizens: A Non-Parametric Chi-square Analysis

The present study has attempted to make an assessment of perceptions of the students and other citizens about the role of education to develop sustainable community planning among the students and other citizens in terms of non-parametric ‘Chi-square’ analysis. The opinions of the respondents collected from the field survey has been expressed in the following table

Table No – 2: Opinions of different Respondents under the present study

Respondents	Yes	Uncertain	No	Total
Students	170	21	09	200
Other Citizens	127	15	08	150
Total	297	36	17	350

Source: Field Survey, 2015-16

The calculated and observed value of ‘Chi-square’ are shown in the table below (vide table 3).

Table No - 3: Testing of the Hypothesis H_0^1 :

Variables compared	Calculated value (χ^2)	Critical value (5 % level)	Degrees of freedom	Level of Significance
Education and Sustainable Community Planning	0.1432	4.65	2	0.05

Source: Authors’ calculation based on field survey, 2015-16

It appears from the table- 3 that the observed value of Chi-square ($\chi^2_{,df-2}$) is 0.1432 and it is significant at 0.05 level for degrees of freedom 2, therefore the null hypothesis is accepted and the alternative hypothesis is rejected So, we may conclude that there exists significant association between education and sustainable community planning among students and citizens.

5.2 Dependence of Sustainable Community Planning (SCP) on the selected indicators: An Analysis of Binary Logit Regression Model

Environmental education indicates communication between education and nature. The sustainable quality of life of students through environmental education depends on the availability of different infrastructural facilities in the school. For the sake of analysis, we have selected a set of indicators influencing the sustainable community planning in the study area. These are Use of Eco-friendly Commodities, Pollution Control, Proper Resource Management, Promotion of Environmental Awareness, and Reorientation of Curriculum in School Education. Now an attempt has been made to explain the determinants of sustainable community planning on the basis of a set of selected variables by a binary logit regression model.

Table-4: Logit analysis explaining the dependence of Sustainable Community Planning (SCP) on the selected indicators for the study.

SCP = C₀ + C₁*UEC + C₂*PC + C₃*PRM + C₄*PEA + C₅*RCSE				
Variable	Coefficient	Std. Error	Z-Stat	Prob.
C ₀	-7.154236	2.142543	-4.214536	0.0000
UEC	0.012345	0.154236	4.124756	0.0000
PC	0.158526	0.175864	0.254316	0.0000
PRM	3.241578	0.423561	5.145326	0.0000
PEA	4.254613	1.154236	4.125864	0.1200
RCSE	1.652187	0.156342	3.154236	0.3546
Mean dependent var	0.123456	SD dependent var		0.231546

Source: Authors' calculation based on field survey, 2015-16

Dependent Variable = Sustainable Community Planning

Total number of observations = 200

Note: UEC = Use of Eco-friendly Commodities; PC = Pollution Control; PRM = Proper Resource Management; PEA = Promotion of Environmental Awareness; RCSE = Reorientation of Curriculum in School Education.

Table-3 provides an indication about the role of education associated with sustainable community planning influencing sustainable quality of life of the citizens including students in the surveyed areas of Burdwan district. The findings implied that all the indicators (e.g. Use of Eco-friendly Commodities, Pollution Controls and Promotion of Environmental Awareness) have been found to be positively associated with the sustainable community planning in term of education among the students and other citizens although there occurs some extent of insignificance. The values of probabilities of all the factors except Promotion of Environmental Awareness and Reorientation of Curriculum in School Education have been estimated to be highly significant. These findings recommend one important view that in order to achieve the quality of life through awareness in use of eco-friendly commodities in relation to sustainable community planning among the citizens and students with the help of proper education, proper use of school's infrastructure and suitable home environment must be ensured (Paul and Mondal, 2012).

5.3 Attitudes of citizens about sustainable community planning and overall awareness to use eco-friendly commodities in the surveyed areas: An Analysis in terms of Students't-Test

Sustainable community planning and overall awareness to use eco-friendly commodities has had a positive impact on the quality of life of the citizens in the surveyed areas. This can be expressed in terms of the calculated values of students't-test.

Table - 5: Attitudes of citizens of high qualification and citizens of low qualification about sustainable community planning and overall awareness to use eco-friendly commodities in terms of calculated values of mean, S.D., t values and level of statistical significance.

Educational status of citizens	N	Mean	S.D.	SEM	't' Value	Level of Significance
high qualification	75	35.36	5.57	0.6432		

low qualification	75	32.96	5.01	0.5785	2.77	0.01
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Source: Author's calculation based on field survey, 2015-16

Table- 5 provides an explanation about the relative comparison of values of mean, S.D. and calculated t values of highly qualified and low qualified citizens. The value of 't' is 2.77 which is significant at 0.01 level, indicating that there exists significant variation of awareness to use eco-friendly commodities which facilitates sustainable community planning among the citizens having high qualification as well as citizens having low qualification. . During the field survey, it has been observed that although most of the citizens in the study area in Burdwan district are not well acquainted with the use of eco-friendly commodities, highly qualified citizens have positive attitude towards the use of eco-friendly commodities than the citizens having low qualification. Thus null hypothesis is rejected and alternative hypothesis is accepted. (Ferraro. P.J ; Uchida. T, 2005)

5.4: Attitudes of APL and BPL category students about the sustainable community planning: An Analysis in terms of Students't- Test

In this section, attitudes of APL and BPL category students about the sustainable community planning have been measured by students't- Test. This can be expressed by the following table.

Table - 6: Attitudes of APL and BPL category students about the sustainable community planning in terms of calculated mean, S.D., t values and level of statistical significance

Socio-economic status of students	N	Mean	S.D.	SEM	't' Value	Level of Significance
APL	100	28.37	3.07	0.307	3.71	0.01
BPL	100	26.72	3.21	0.321		

Source: Author's calculation based on field survey, 2015-16

Table- 6 provides an explanation about the relative comparison of values of mean, S.D. and calculated t values of APL and BPL category students. The value of 't' is 3.71 which is significant at 0.01 level, indicating that there exists significant variation of awareness towards the sustainable community planning among the students of different socio-economic status i.e., APL and BPL category students. Therefore null hypothesis is rejected and the alternative hypothesis is accepted. During the field survey, it has been observed that APL category students have more awareness than BPL category students about sustainable community planning. This finding is again consistent with the study of Paul & Baskey (2012).

6. Conclusion

The present paper describes the role of education in enhancing quality of life through promoting awareness to use eco-friendly commodities of the secondary and higher secondary level school students as well as other citizens of the study area of the district of Burdwan in the state of West Bengal. The result exposed a significant relationship between education and sustainable community planning. There has been occurred significant positive influence on sustainable quality of life of citizens including students by taking into consideration the factors like use of eco-friendly commodities, pollution control, proper resource management, promotion of environmental awareness, and reorientation of curriculum in school education. It is to be noted that there exists some discrepancies regarding the degree of awareness to use eco-friendly commodities and quality of life in relation to sustainable community planning among students belongs to different socio-economic status (i.e., APL and BPL category) with no variation among the citizens of high and low qualifications. This study also suggests suitable Government policies should be taken to facilitate the use of eco-friendly commodities and also should be designed the particular sustainable community planning for the particular area which will be helpful for entire community development.

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