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EXAMINING THE INFLUENCE OF CSR INITIATIVES BY SECL ON THE SUSTAINABLE LIVELIHOODS OF THE ANUPPUR (M.P)

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ABSTRACT
This paper examines the effects of SECL's sustainable CSR policy on rural livelihood in Anuppur (M.P). Structural equation modeling using the sustainable livelihood framework (DFID, 1999) was employed to analyze the policy's impact. Both primary and secondary data were collected, including 260 responses through a structured questionnaire. Samples were gathered from villages within 10 km of the coal mines and beyond using purposive convivence sampling. Results reveal both positive and negative impacts of CSR on local livelihoods. Villagers near the coal mines were somewhat aware of SECL's CSR activities but expressed dissatisfaction with the services provided. The study suggests promoting sustainable livelihoods by ensuring environmentally and socially responsible mining practices through proper policies and procedures. Government intervention is crucial to ensure local villagers benefit from SECL's CSR initiatives.

KEYWORDS: *Sustainable Livelihood, CSR policy, SECL, Rural Livelihood, Structural Equation Modelling*

1. INTRODUCTION

Coal India Limited (CIL) is one of the world's largest public sectors, constituting more than 80% of India's energy source. CIL is the seventh largest employer in the world. With this ranking, there is no doubt that the mining industry creates employment and is directly or indirectly associated with the development of the country (Das & Mishra, 2015). While there is much economic and social development because of the presence of coal mines in the area, it is also responsible for various socio-economic and environmental issues related to the people and environment (Kemp, 2010; Jenkins, 2004); these issues related to pollutions, social disruption, dislocation of the locals, adverse impact on the livelihood of the local populations (Narula A Sapna, 2017). With all its merits and demerits, the company has to mollify society's agony, and proper maintenance of local communities and society via social development programmes has proven useful. Adopting CSR by the coal industry would help increase the bonding between the local community and the company. In return, this will increase the societal status and adoption of sustainable development. The CSR policy of the coal industry includes the development of roads, health services, education systems, bridges, community centres, bore well, hand pumps and public health centres (Mishra 2009; Sinha et al.2007).

In order to comprehend and address rural poverty, the term "livelihood" has been extensively utilized in rural development research (Chambers and Conway, 1992). The sustainable livelihood approach (SLA) strongly emphasizes comprehending impoverished people's lives and the variables influencing their surroundings and way of life (Hota & Behera, 2016). A livelihood comprises the skills, resources, and pursuits necessary for a living (Chamber and Conway, 1992). The sustainable livelihood approach considers environmental, economic, social, and institutional sustainability. The current study expands on traditional thinking and uses larger social and environmental justice notions within the SLA framework.

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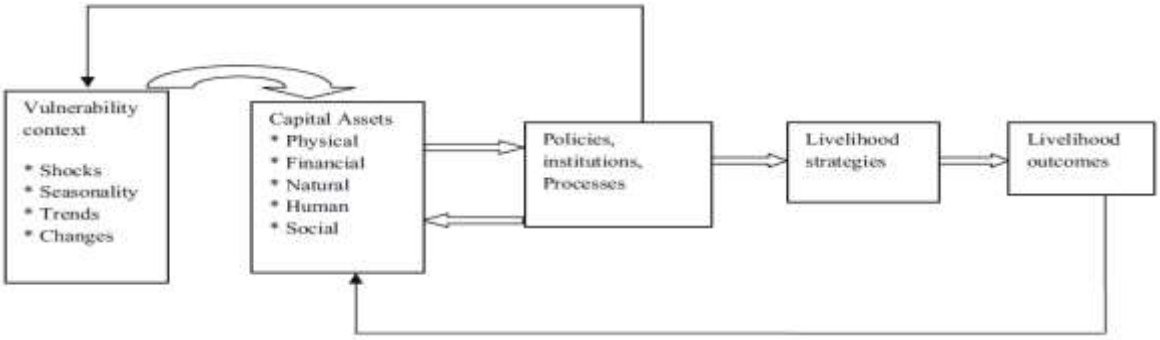

Fig 1: DIFD, 1999 SLA framework
Source: https://link.springer.com/article/10.1007/s13563-016-0082-7

The present study analyzes the impact of CSR of the SECL on the sustainable livelihood of the rural population of the Anuppur region of Madhya Pradesh. The section of this study includes an introduction, literature review, research gap and research question, whereas the second part includes the research objective, hypothesis, methodology, data analysis and conclusion.

2. REVIEW OF LITERATURES

Rohyati Yeyet and Suripto (2022) help us understand the impact of CSR, good governance and management compensation on tax avoidance. The result shows that CSR and good governance positively impact tax avoidance, whereas management compensation harms tax avoidance.

Qui Shangzhi et al. (2022) The impact of CSR on companies has been investigated in this research paper. The result shows that the firms that adopt CSR activities have shown a tremendous increase in firm value during this period.

Vaughan Tim (2021) this article mentions the importance of CSR to society. It examines the importance of CSR in society, culture, environment and organization. CSR is not a business trend, but it is essential in terms of the development of society.

Hota Padmanabha & Behera Bhagirath (2016) analyze the impact of mines on the traditional livelihood system. The sustainability issue in the current livelihood has been studied in light of the Sustainable Livelihood Approach (SLA).

3. RESEARCH GAP

Existing literature has shown a research vacuum in the analysis of the influence of corporate social responsibility (CSR) on the sustainable livelihood of the rural people in the Anuppur area, which is in close proximity to coal mines. Few studies have been undertaken on this topic. This research is grounded on the concept of sustainability. livelihood approach (SLA) based on DIFD 1999 model. In this study, the question is framed based on the capital mentioned in the SLA model of DIFD 1999, such as physical capital, human capital, and social capital and the same is analyzed with the help of the Structural equation model.

4. RESEARCH OBJECTIVES

a. To analyze the impact of physical capital as a component of CSR policy on the sustainable livelihood of the rural population of the Anuppur region based on SLA.
b. To introspect the impact of human capital as a component of CSR policy on the sustainable livelihood of the rural population of the Anuppur region based on SLA.
c. To examine the influence of social capital as a component of CSR policy on the sustainable livelihood of the rural population of the Anuppur region based on SLA.

5. RESEARCH HYPOTHESIS

H_{01}: SLA shows that physical capital as part of CSR strategy does not affect rural Anuppur residents' sustainable livelihoods.
H_{02}: SLA shows that human capital as part of CSR strategy does not affect rural Anuppur residents' sustainable livelihoods.

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H_{03}: Based on SLA, social capital as a component of CSR strategy does not affect rural Anuppur residents' sustainable livelihoods..

6. RESEARCH MODEL

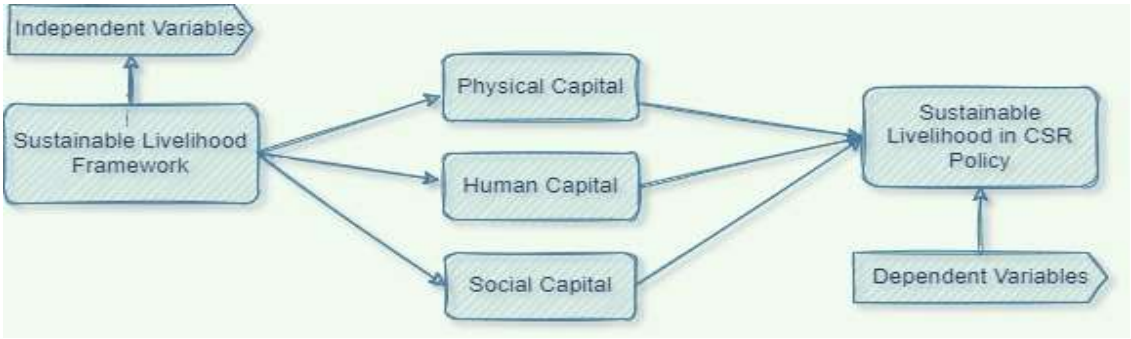

Fig: 2 Research Model

Source: Authour's Compilation

7. RESEARCH METHODOLOGY

This study is both descriptive and exploratory research design based on primary and secondary data composed using a structured close-ended questionnaire on Likert five scale. The data are collected from the Anuppur region, from the six villages; 3 villages are near the coal mines within 10 km, whereas three villages are far from the mines that are more than 10 km but within the 20 km area. The research targets rural Anuppur residents who work in business, agriculture, and mining. Purposive, non-probabilistic sampling is applied. Based on Kline's (2005, 2016) sample size requirements for future study, 260 of 300 questionnaires were fit (Memon et al., 2020). This parametric test uses exploratory factor analysis, confirmatory factor analysis, and structural equation model to validate factor structure and impact analysis.

Data Analysis
Demographic Profile

Table 1. Demographic Profile

Description	Classification	Frequency	Percentage (%)
Gender	Male	203	80.4
	Female	51	19.6
Age	21-30	36	13.8
	31-40	95	36.5
	41-50	73	28.1
	51-60	56	21.5
Educational Qualification	Illiterate	7	2.7
	Up to class 5	29	11.2
	Class 5 to 10	30	11.5
	Class 10 to 12	35	13.5
	Graduation	159	61.2
Occupation	Agriculture	54	20.8
	Business	34	13.1
	Labour	2	8
	Mining	109	41.9
	Nurse	12	4.6
	Teacher	26	10
	Worker	23	8.8
Annual Income	Less than Rs 250000	43	16.5
	Rs 250001 to 500000	71	31.2
	Rs500001to1000000	65	27.3
	More than 1000000	81	25

Source: SPSS output

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Of the 260 respondents, the male is 203 (80.4%) and the female is 51 (19.6%). The maximum age group is 31-40 years (36.5%), followed by the age group 41-50 years (28.1%). Most respondents engaged in mining occupation (41.9%), followed by agriculture (20.8%), then business (13.1%).

Reliability Measurement

Table 2 Reliability Analysis

Cronbach's alpha	Number of Items
.935	27

Source: SPSS output

A Cronbach's alpha value above 0.70 is considered acceptable, describing the data's appropriateness for research purposes (Nunnally, 1978). Cronbach's alpha 0.936, over the predetermined cutoff, shows good study consistency.

Exploratory Factor Analysis

EFA will be used to reduce the factors for further analysis. The data were checked for their normality, the basic assumption for the parametric test (Hair et al., 2015). It is not necessary to prevent the normality of data from applying the parametric test if the sample size is large (>30 or 40) (Pall ant J, 2007; Elliott AC and Woodward WA, 2007).

Table 3 KMO and Bartlett's Test

Kiser-Meyer-Olkin Measure of Sampling Adequacy		.872
Bartlett's Test of Sphericity	Chi-Square	7261.259
	df	300
	Sig.	.000

Source: SPSS output

Further, for data analysis, EFA is applied by using Kaiser-Meyer-Olkin (KMO), and Bartlett's test of sphericity were used to check the suitability, and both the test shows that data is appropriate for factor analysis (Hair et al.,2010).

Table 4 Total Variance Explained

Initial Eigenvalues			
Components	**Total**	**% Of variance**	**Cumulative %**
1	11.270	45.08	45.080
2	3.610	14.441	59.521
3	2.220	8.880	68.401
4	1.553	6.214	74.615
5	1.137	4.547	79.162

Source: SPSS output

Five significant factors were extracted in the Total Variance Explained analysis with more than one eigenvalue. These five factors represent 72.03% of the total variance, which is greater than 60% (Hair et al., 2010) and is acceptable for the further process.

Varimax factor loading was employed for the rotated component matrix. Table 6 provides all statement factor loadings. The loading of all the statements is more than 0.5, which is considered satisfactory (Malhotra & Dash, 2014), and it can be concluded that the factors were suitable for further analysis.

Confirmatory Factor Analysis

CFA is performed using the Maximum Likelihood procedure to obtain the factor loading value and measurement model. The value of the threshold level of fit indices. The indication of good model fit shows that a chisq/dof value of 2.395, which is less than 3 is an acceptable range (Hair et al.,2010).

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Table 7 Factor loading, validity and reliability

Items	Estimate	AVE	√AVE	Com. reliability
Personal Capital		0.716	0.846	0.957
PC5	.948			
PC4	.919			
PC1	.889			
PC2	.884			
PC3	.784			
HC2	.809			
HC3	.845			
HC1	.731			
HC4	.781			
Social Capital		0.740	0.860	0.918
SC1	.686			
SC2	.776			
SC3	.944			
SC4	.998			
Human Capital 1		0.897	0.947	0.963
HC8	.976			
HC7	.943			
HC6	.921			
Sustainable Livelihood		0.726	0.853	0.845
SDW	.594			
SW	.625			
SDP	.864			
PE	.799			
RDP	.709			
Human Capital 2		0.790	0.889	0.899
HC12	.773			
HC11	.897			
HC10	.864			
HC9	.782			

Source: Authors' calculation

Convergent validity indicates the accepted value for all the constructs, which should be above 0.50 (Hair et al. 2010). Discriminant validity also gave acceptable values for all constructs (above 0.70). The composite reliability of each construct has higher than 0.70 than an acceptable value (Nunnally and Bernstein, 1994). Thus, the structural model met all the criteria to test the hypothesis.

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Structural Equation Modelling

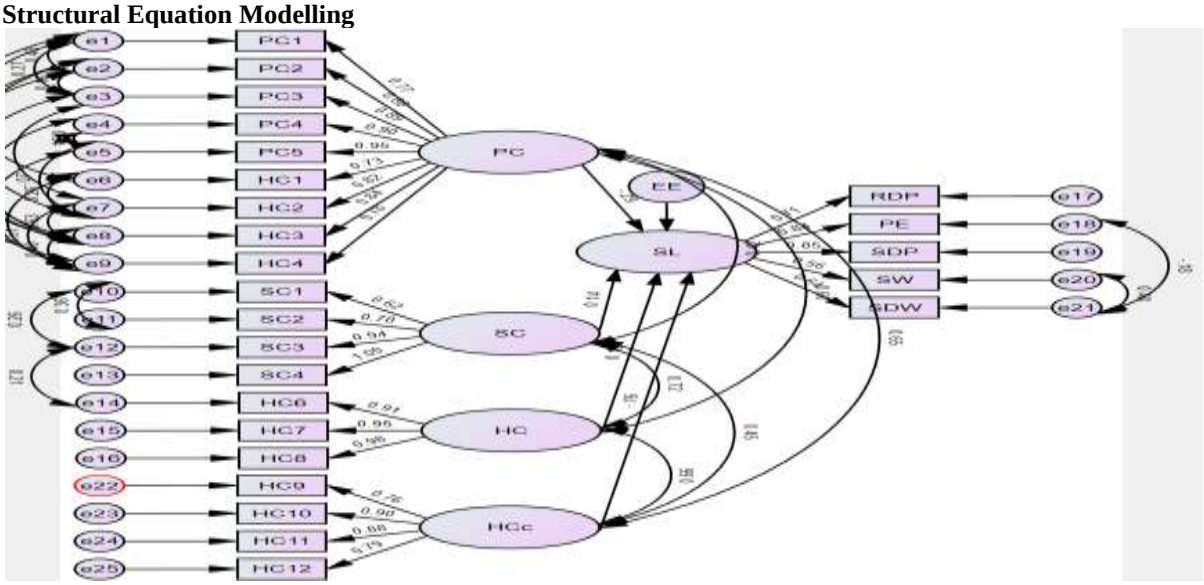

Fig 4 Structural Model Equation (SME)

Source: Amose output

This model was performed to check the significant influence of personal, social, and human capital on the sustainable livelihood of the rural population living near the coal mines in the Anuppur region. The model fit below indicates that the value of chisq/df = 2.80 is in the acceptable range (less than 3) (Hair et al., 2010). The values indicated a good model fit.

Table 8. Model fit Indices

Fit Indices	Ideal value	Cal. Values
GFI	>=0.90	.906
AGIF	>=0.80	.823
CFI	>=0.90	.933
TLI	>=0.90	.909
NFI	>=0.90	.907
RMSEA	<=0.08	.072

Source: Amos output

The squared multiple correlations were 0.55 for Sustainable Livelihood; this shows that PC, HC, HC1 and SC account for 55% variance in Sustainable Livelihood. The result shows that the influence of SC and HCc on SL is negative and insignificant whereas the influence of SC and HC is positive and insignificant on SL, beta value, t value and p value mentioned below.

Table 9 Finding and hypothesis result

Relationship	β value	t value	p-value	Hypothesis Testing
SL ← PC	-0.176	-2.558	0.007	**H_{01} Accepted (Null hypothesis)**
SL ← SC	0.071	1.473	0.141	**H_{03} Accepted (Null hypothesis)**
SL ← HC	0.071	1.217	0.224	**H_{02} Accepted (Null hypothesis)**
SL ← HCc	-0.120	-1.702	0.089	**H_{02} Accepted (Null hypothesis)**

Source: Authour's compilation

8. Conclusion and Implication

This study examines the impact of CSR of SECL on the sustainable livelihood of the rural population of the Anuppur region based on the Sustainable Livelihood Approach by DFID, 1997. The study highlights that the CSR policy of SECL is not sustainable as it does not promote sustainable livelihood based on the SLA framework. The study's finding shows that physical capital, human capital and social capital has not significantly impacted sustainable livelihood. The rural population were unaware of the CSR activities of the SECL and was not very satisfied with the services provided, such as education, health, safe drinking water, sanitation, and road services. This research also found that in villages near the coal mines, most of the population engaged in mining activities and left their traditional livelihood like agriculture and livestock business. In contrast, in the village away from

the coal mines, i.e. 10 km away, the rural population engaged in the traditional livelihood and was unaware of the CSR activities of the SECL in that area.

Mining is conducted ecological, socially, policies, standards, processes, and institutions must be developed. The local communities should get an equitable share of the advantages from the growth of infrastructure, healthcare facilities, and employment possibilities. Government engagement is required to guarantee that the local people receive the advantages from the SECL's CSR operations. Additionally, efforts must be undertaken to effectively recover formerly mined land and convert it to new land uses, such as afforestation and other livelihood-generating activities, to ensure long-term sustainability.

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