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# Antecedents of Residential Satisfaction in Resettlement Housing in Ellembelle: A PLS-SEM Approach

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**Abstract:** Compensation for land expropriation due to development projects such as mining is shifting from cash to physical assets like housing. Therefore, empirical studies are required to assess the residential satisfaction of project-affected families (PAFs) living in these houses and the factors which can enhance their satisfaction and quality of life in the long term. This study, therefore, assesses the antecedents of PAFs' satisfaction with their current residence as an outcome of a mining-induced displacement and resettlement (MIDR) in Ellembelle, Ghana. The study adopted SPSS and PLS-SEM to assess the data retrieved from the heads or representatives of the PAFs. The study's outcome reveals that the neighborhood environment plays the most significant role in predicting the PAFs' satisfaction, followed by the public facilities and dwelling unit. The study has numerous implications for the resettlement stakeholders, housing policy, and mining development.

Keywords: resettlement housing; project-affected families; residential satisfaction; PLS-SEM



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#### 1. Introduction

Extended research demonstrates that Mining-Induced Displacements and Resettlements (MIDR) have not received as much scholarly attention as those associated with natural disasters, urban redevelopment, and hydropower development [1–3]. This is despite the fact that MIDR, due to the project cycle, causes more homelessness, social exclusion, unemployment, and health problems in the areas it affects [4,5] than other physical development projects, which hardly extends over time.

Moreover, providing resettlement housing as part of the compensation for project-affected families (PAFs) is an endemic difficulty in developing nations. As a significant event for households, housing resettlement typically signifies considerable changes in the movers' living situations and has a "large impact" on their residential satisfaction. Some studies examine the results of housing resettlement, although the vast majority are based on resettlements caused by natural disasters, climate change, urban renewal, and hydroelectric projects [6–12]. To build sustainable societies, we need to find new ways to build high-quality resettlement housing that puts the happiness and well-being of its residents first.

Residential satisfaction is crucial for overall subjective life satisfaction [13] and several studies [6,14–24] have studied the concept in the public housing sector in both developing and developed countries. Notwithstanding, the outcomes of these studies differ geographically, indicating that residential satisfaction is a highly contextual construct requiring case-specific studies [25].

To the researchers, a gap exists in the determinants of residential satisfaction of project-affected families living in mining-induced resettlement housing in Sub-Sahara Africa. To fill the gap above, this paper investigates the role of housing environment elements in

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predicting PAFs' residential satisfaction in Ellembelle resettlement housing in Ghana after land appropriation for large-scale mining and its determinants.

In addition, this paper is the first to use a variance-based structural equation model to investigate the residential satisfaction of PAFs living in resettlement housing. This paper contributes to the resettlement housing literature by examining the PAFs' perceptions of resettlement housing provided for them. Also, the study contributes to the resettlement housing literature by identifying the factors that significantly impact PAFs' residential satisfaction and their effect size. The findings may aid housing authorities, the government, and other stakeholders in comprehending the requirements and expectations of PAFs. Moreover, this paper can assist in enhancing the housing environment and quality of life of migrants. It can help policymakers reexamine and improve Ghana's housing and resettlement policies. The study will first assist the government of Ghana and project developers in making objective decisions quickly, and secondly, improve the lives of PAFs in resettlement houses, encourage investment and stakeholder participation, and finally contribute to the sustainable growth and enhancement of resettlement housing.

The contentment of the PAFs living in resettlement housing is integral to the housing's long-term viability. Resettlement, when well-managed, connotes the enhancement of PAFs' quality of life. It is established in literature that residential satisfaction/well-being is a key predictor [17,26,27] and has a strong and significant correlation with quality of life [23], but the precise determinants of residential satisfaction which, when enhanced, can improve the satisfaction of rural dwellers displaced by mining projects, are not established. Although most occupants' living conditions improve after relocating to freshly constructed homes, little is known about their psychological, social, and economic transformations. Thus, will people be able to live in the resettlement housing in the coming years? This research seeks to identify the antecedents of PAFs' residential satisfaction with Salman's resettlement housing (a mining-induced resettlement village in the Ellembelle District of Ghana). The predictive and effect size of these antecedents (dwelling characteristics (DC), neighborhood environment (NE), and public facilities (PF)) were further assessed. The objective is to generate recommendations for enhancing current and future project-induced resettlement homes, and the outcomes can improve the lives of the numerous PAFs [28].

According to Smyth and Vanclay [29], a rating system shortens decision-making and adds objectivity. Therefore, understanding the characteristics influencing residential satisfaction is essential for developing an efficient and sustainable resettlement housing program. This resettlement housing consists of hydra-block structures that primarily house families affected by the mining projects. According to the International Council on Mining and Metals [30], well-managed MIDR in developing nations can improve the quality of life of the people through better housing, resulting in the residents' well-being. Owen et al. [31] further explained that the focus of MIDR must be on well-designed and well-managed resettlement programs that have the potential to enhance the quality of life of PAFs in the long term while minimizing the immediate disruptions on household assets.

## 2. Literature Review

A home to dwell in is an essential human necessity, and the United Nations considers the requirement for decent housing a fundamental human right. Maslow's hierarchy of needs theory also emphasized the need for housing as the first and primary place in the natural order of need fulfillment: physiological requirements, safety needs, social needs, recognition and respect needs, and self-fulfillment needs [32]. On one hand, housing satisfaction is defined as the sense of contentment felt by occupants due to the difference between expected and actual housing circumstances [33]. On the other hand, housing satisfaction is determined by Riazi and Emami [34] as the proximity of people's desired housing to their current residence and the quality of the environment. Based on the merits of the two definitions above, satisfaction is attained when the actual condition exceeds the users' expectations. The study of residential satisfaction is significant since it affects

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people's psychological well-being [34]. It is frequently used to assess residential quality [35] and quality of life [36].

Adesoji [37] also defined residential satisfaction as people's views about specific living environment features. Existing studies on residential satisfaction factors focus primarily on the housing unit, neighborhood environment, public facilities, and resident sociodemographic characteristics [11,38]. A home environment includes physical and social elements [10]. Neighborhood and home factors significantly impact residential contentment [39]. Several studies discovered that various socioeconomic factors have varying effects on home satisfaction [11,24,27,38]. The findings, however, remain unsettled. The literature reviewed for this study focused on empirical, quantitative research on residential, housing, dwelling, and/or neighborhood satisfaction. The search was confined to academic publications, conference materials, and dissertations/theses, published between 2002 and 2022. Boolean/Phrase search phrases included residential satisfaction, housing satisfaction, dwelling satisfaction, and neighborhood satisfaction.

# 2.1. Dwelling Characteristics (DC)

Housing aspects include the size, purpose, and interior environment of a home [8]. Mohit and Adel Mahfoud [25] found that household size was a significant predictor of resident happiness in Kuala Lumpur public housing. They observed a link between dwelling qualities like floor space and satisfaction with one's home. In Nigeria, housing size was a significant predictor of residential satisfaction [13,22].

A major component of home satisfaction in Australia, according to Buys and Miller [40], was having an adequate house size. In China, it was discovered that residence size was related to residential satisfaction [17,41]. However, Li D. et al. [42] found that the size of a residence had little bearing on migrant workers who are temporarily residing in rental housing.

Similarly, Tao et al. [43] found that neither the size of the residence nor the kind of tenure mattered. The quantity of cooking space, laundry and washing facilities, and the size of the living and dining rooms all influence residential satisfaction [10,23,44]. Residential satisfaction is dependent on the quality of infrastructure and services, such as energy, power, water, and telecommunications. Residential satisfaction among Malaysian public housing tenants was favorably associated with such amenities [45]. This residential satisfaction element appears to be highly context-dependent. It is an essential component of residential satisfaction in emerging areas and national contexts, although it is rarely mentioned or recognized in places where such services are provided.

# 2.2. Neighborhood Environment (NE)

The neighborhood environment is seen as the most significant indicator of residential contentment; this comprises estate management and service features, security and safety, proximity to the job, and social networks [11,33,46]. Available jobs determine neighborhood contentment [5,47], and longer work commutes are linked to dissatisfaction [7,10,48]. The effect of a workplace and residential geographical mismatch on low-income households has been called a "passive jobs-housing mismatch". Here, housing is located away from low-income job prospects, and occupants suffer longer commute distances to keep low-cost housing [9,11,16]. As everyone enjoys the public facilities and infrastructural services, the security, repair and maintenance, cleaning and management, and related services are essential to residents' perceptions of satisfaction. Important indicators of neighborhood dissatisfaction include environmental quality, traffic, a lack of community involvement, and the absence of services and facilities [49,50]. Significant contributions to residential satisfaction have ties with neighbors and social relationships within the community.

## 2.3. Public Facilities (PF)

Numerous researchers have identified access to public facilities, such as education, public transit, cultural, athletic, and leisure facilities, parking, health care, and commercial

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facilities, as one of the essential elements determining the evaluation of housing appropriateness [11,13,38,43]. For example, Huang and Du [8] found that public facilities determine the degree of ease with which people live and significantly impact how happy people are in their homes. Dias et al. [51] have found a correlation between the quality of local facilities and residents' contentment. It is not just transportation that contributes to residents' happiness, according to the research of Aragonés et al. [36]. Access to public facilities appears to be valued differently in different countries. According to Eziyi O. Ibem and Amole [22], most public housing occupants in Nigeria were dissatisfied with the public facilities. Regarding their living conditions, public housing residents in slum rehabilitation housing were more satisfied with their public facilities than with their living quarters [11].

## 2.4. Sociodemographic Characteristics

In assessing residential satisfaction, households' socioeconomic and demographic characteristics should be considered in addition to dwelling and neighborhood determinants. Gender [22], age of the individual, housing tenure type, educational achievement [13], duration of the residency [45], employment, and earnings are all significant factors found by existing research.

Eziyi O. Ibem and Amole [22] stated that gender significantly predicts housing satisfaction. Residents of an older population are more likely to be happy with their living situation. Posthumus et al. [24] discovered that age has a favorable impact on residential satisfaction as the dwelling unit is enhanced, while Mohit, Ibrahim, and Rashid [45] found that age had a negative impact on the residential satisfaction of low-cost public housing dwellers. According to certain studies, homeowners are more satisfied than renters [11,18,24,41,52,53]. House owners are more willing to improve social capital and community facilities. In China, Gan et al. [38] and Zeng et al. [54] discovered that migrants having higher income and education were unhappy with public rental housing.

In contrast to Gan et al. [38] and Tao et al. [43] discovered that employment was not associated with residential satisfaction. In their study, Riazi and Emami [34] discovered that ethnicity moderates the link between the relationship with neighbors and housing contentment in Iran. Satisfaction differs according to home style, ownership, location, and culture [25].

As a result, a study of residential satisfaction in resettlement housing in a developing country like Ghana is essential to determine the factor which primarily impacts PAFs in their new homes.

# 3. Materials and Methods

## 3.1. Study Area

This study was conducted at new Salman, a resettlement village in the Ellembelle District of Ghana. The Ellembelle District is in the south of Ghana's Western Region, between  $4^{\circ}40'$  N and  $5^{\circ}20'$  N in latitude, and  $2^{\circ}05'$  W and  $2^{\circ}35'$  W in longitude. It is 995.8 km<sup>2</sup> altogether. It is called a "resource-based district" because a lot of crude oil and gold are extracted from the area. The people from the original Salman village were relocated to make way for large-scale gold mining. The mining project is carried out using standard open-pit mining methods, including drilling and blasting of suitable material, followed by loading and conveying [55]. A consensus was reached after two (2) years of negotiations between the mine developer and village representatives. This consensus resulted in the building of the resettlement village in 2012. Over 2200 people lost their homes and agri-land due to the mining project. The new village's development included 461 housing units, 143 detached kitchens, ten (10) religious units, 17 commercial units, and 29 community units, including education facilities, a police station, and a clinic. Moreover, gravel roads, boreholes, and electricity were provided for PAFs. Although, most of these public units and services did not exist in the original village and the houses were constructed of mud. As part of the Resettlement Action Plan, Endeavour mining started a livelihood restoration

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plan to restore the livelihood of the 500 farmers whose agri-land was affected by the mining operation [56].

The resettlement's physical layout involved the spatial planning of a 101.17-hectare land located about 1.5 km east of the old Salman town. The resettlement housing was "room for a room" or "structure for structure". For example, a house with one room was replaced with a one-room structure, and an owner of a house with two rooms had a two-room apartment as a replacement. The new homes had standardized room sizes of 3.66 m  $\times$  3.66 m for all existing rooms that were 3.66 m  $\times$  3.66 m or less, whereas old apartments, which were larger than 3.66 m  $\times$  3.66 m, were substituted with standardized sizes of 3.66 m  $\times$  4.57 m. The dimensions of the land allocated for each house ranged from 3.66 m  $\times$  3.66 m to 21.34 m  $\times$  30.48 m, subject to the rooms in the demolished house [57].

#### 3.2. Data Collection

This study adopted a quantitative research approach to gather data from household heads of the PAF through a questionnaire survey; 300 of the 461 household heads were the targeted sample of the study, and a convenience sampling technique was utilized. Data collection was done in March 2022 during weekends through face-to-face interviews in the respondent's house. The survey contains no sensitive content or questions about participants' personal information. Of the 300 questionnaires returned, 276 (92%) were valid for analysis after data cleaning. Table 1 provides a summary of the constructs and their elements (Supplementary Material gives full details of the questionnaire).

Table 1.	Study	constructs	and	items.
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Code	Items				
PF	Public Facilities (PF)				
PF1	Educational facilities				
PF 2	Open spaces for community gatherings and recreation				
PF 3	Commercial facilities				
PF 4	Healthcare facility				
NE	Neighborhood Environment (NE)				
NE1	Infrastructural services				
NE 2	Safety and security				
NE 3	Appearance and orderliness				
NE 4	Access and connectivity				
NE 5	Social relationship/integration				
DC	Dwelling Characteristics (DC)				
DC 1	Ample spatial sizes of unit				
DC 2	The reasonable function of unit layout				
DC 3	Comfortable and healthy indoor environment				
DC 4	Quality of housing materials				
RS	Residential Satisfaction (RS)				
RS 1	Overall satisfaction with the community environment				
RS 2	Word of mouth about the new village				
RS 3	Overall satisfaction with the housing unit				
RS 4	Overall satisfaction with the public facilities				
RS 5	If I could choose my residential location again, I would prefer to stay here (new village)				

Multiple-item, five-point Likert scales were adopted for all variables, with the lowest value "1" indicating "strongly disagree" and the highest value "5" indicating "strongly agree". A pretesting was conducted to decide the efficacy and rigorousness of the questionnaire. The questionnaire instrument was tested using a pilot sample of 40 PAFs household heads from the targeted sample. As a result, questions with low indication reliability and questions that were unclear to the respondents were removed. Finally, the question items

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were written in a very clear and concise manner. These relevant adjustments were made to improve respondents' understanding of the questions.

## 3.3. Analytical Methods

SPSS version 26.0 and SmartPLS version 3 [58] were used to analyze the data. The variance bases structural equation model was chosen since it can predict causal links amongst construct variables while dealing with errors in the indicator variables [59]. The measurement model, which relates indicators to the latent construct (hypothetical variable), clarifies how measurement items demonstrate independent and dependent constructs; the structural equation model relates exogenous constructs to endogenous ones. Additionally, PLS-SEM best fits the research because it is an explanatory study.

#### 4. Results

## 4.1. Data Screening and Pre-Analysis

As part of analyzing the data, a careful screening was done. Before the final analysis, the data were examined for sampling errors, outliers, or missing data. Also, the data analysis and discussion of research findings were preceded by summarizing the respondents' backgrounds. There were 168 men, 60.9%, and 108 women, 39.1%. Most of the PAFs' heads were above 45 years, 78.2%. In addition, 55.8% (154) of them had married partners. Overall, they did not have a lot of schooling; 48.5% of respondents were not in good health, 26.8% were in average health, and 24.7% were in good health. Respondents whose family income was less than GHS 6000, between GHS 6000 and 10,000, between GHS 10,000 and 15,000, and more than GHS 15,000, made up 15.6%, 42.0%, 33.0%, 14.06%, and 9.4%, respectively. This reflects the matriarchal system in the study area. Table 2 shows what kind of people the migrants are.

Table 2. S	Social o	characteristics	of th	e Migrants.
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Items	Scale	Frequency N = 276	Percent (%)	
Gender	Male	168	60.9	
	Female	108	39.1	
Age	29 or below	13	4.7	
O	30 to 44	47	17.0	
	45 to 59	113	40.9	
	60 and above	103	37.3	
Educational Level	primary school level or below	97	35.1	
	junior high school	123	44.6	
	senior high school	41	14.9	
	tertiary level	15	5.4	
Marital Status	married	154	55.8	
	Not married	122	44.2	
Health status	very unhealthy	60	21.7	
	fairly unhealthy	74	26.8	
	averagely	74	26.8	
	fairly healthy	54	19.6	
	very healthy	14	5.1	
	less than 6000	43	15.6	
Annual household income	6000-10,000	116	42.0	
(US \$1 = 7.5 GHS)	10,001–15,000	91	33.0	
,	above 15,000	26	9.4	

# 4.2. Measurement Model Assessment

In evaluating the reflective measurement items, the validity and reliability of all the study variables were checked [60–64]. This was done by comparing the thumb rule to the

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constructs' convergent and discriminant validity, and internal and item reliability. Items loadings, Cronbach's alpha, Composite Reliability, and AVE values must surpass 0.7, 0.7, 0.7, and 0.5 to establish internal consistency and reliability [59,65–67]. For discriminant validity, HTMT values should not surpass 0.9 [68]. Tables 3 and 4 show that the model's measurement indicators and constructs are valid and reliable. All values satisfy the thumb rule. The researchers found the study's measurement model reliable and valid.

**Table 3.** Results for the assessment of reflective measurement and composite models.

Construct	Indicators	Туре	Indicator Internal Co Reliability and Relia		•	Convergent Validity
Construct		-71-	Loading	Cronbach's Alpha	CR	AVE
			>0.70	>0.70	>0.70	>0.50
DC		Reflective		0.911	0.937	0.789
	DC 1		0.870			
	DC 2		0.891			
	DC 3		0.924			
	DC 4		0.867			
NE		Reflective		0.933	0.949	0.790
	NE 1		0.851			
	NE 2		0.913			
	NE 3		0.893			
	NE 4		0.892			
	NE 5		0.894			
PF		Reflective		0.864	0.908	0.712
	PF 1		0.871			
	PF 2		0.882			
	PF 3		0.840			
	PF 4		0.778			
RS		Reflective		0.888	0.918	0.691
	RS 1		0.815			
	RS 2		0.779			
	RS 3		0.851			
	RS 4		0.887			
	RS 5		0.820			

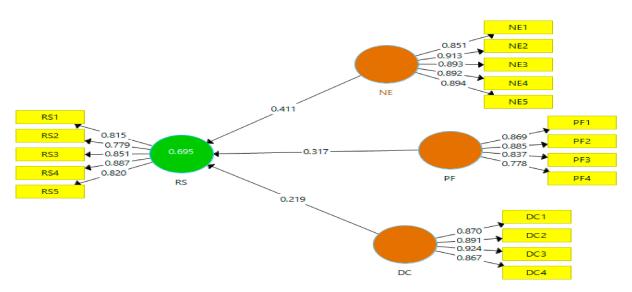
Table 4. Discriminant validity assessment of the model constructs (HTMT).

Construct	DC	NE	PF	RS
DC				
NE	0.656			
PF	0.841	0.717		
RS	0.780	0.817	0.848	

From the results of Table 3 and Figure 1, the lowest indicator of DC was DC 4, and the highest indicator was DC 3, with loadings of 0.867 and 0.924, respectively. For the indicators of NE, 0.851, 0.913, 0.893, 0.892, and 0.894 were the loadings for NE1 to NE 5. Moreover, PF 1 to PF 4, which were the indicators of PF, had the following loadings, 0.871, 0.882, 0.840, and 0.778. Finally, RS with five indicators, RS 1 to RS 5, had loadings of 0.815, 0.779, 0.851, 0.887, and 0.820. The internal consistency and reliability of the constructs were measured by the outcome of their Cronbach's alpha and composite reliability. For the four constructs DC, NE, PF and RS the Cronbach's alpha were 0.911, 0.933, 0.864 and 0.888, and the composite reliability scores were 0.937, 0.949, 0.908 and 0.918, respectively. The convergent validity was measured with AVE with the following values 0.789, 0.790, 0.712, and 0.691, respectively, for DC, NE, PF, and RS. The outcome of HTMT, which assesses the discriminant validity, had the highest value of 0.848 below 0.9. Therefore, based on

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the statistical results obtained through the PLS-SEM method, we can conclude that the measurement model and items of this research are reliable and valid.



**Figure 1.** Structural model, with item loadings, standardized regression weights, and adjusted squared multiple correlation. Source: Authors' calculation with SmartPLS (v. 3.3.9) software.

#### 4.3. Structural Model Assessment

Traditionally, the  $R^2$  of endogenous latent variables, the size and sign of path coefficients, and the effect size ( $f^2$ ) are used to examine the structural model [59,65]. Above 0.75, 0.50, and 0.25,  $R^2$  is substantial, moderate, and weak according to the rule of thumb for PLS-SEM [59]. Path coefficient estimates should be statistically significant based on the percentile bootstrap confidence interval [65], and their sign should match the hypothesis. Effect size ( $f^2$ ) above 0.30 is high, between 0.30 and 0.15 is medium, and between 0.15 and 0.02 is small [69]. Figure 1 shows moderate and acceptable  $R^2$  values for RS (0.695). Table 5 shows structural model results supporting all hypotheses (H1–H3). The results show that all the factors significantly affect PAFs' satisfaction with the housing resettlement ( $f^2 = 0.066$ , 0.307, and 0.128).

Table 5. Test	ing the signifi	icance of path	coefficients.

Hypothesis	Relationships	VIF	Path Coefficient	Effect Size (f <sup>2</sup> )	<i>p</i> -Values	Supported
H1	$DC \to RS$	2.397	0.219	0.066	0.001	YES
H2	$NE \rightarrow RS$	1.823	0.411	0.307	0.000	YES
H3	$PF \to RS$	2.602	0.317	0.128	0.000	YES

Source: Authors' calculation with Smart PLS (v. 3.3.9) software. Cohen (1988) [69], 0.02 weak impact, 0.15 moderate impact, 0.3 great impact.

Figure 1 displays the indicator loadings, path coefficients, and R-squared values of the final structural equation model calculated using the PLS analysis. According to the findings in Figure 1 and Table 5, the path coefficient and the effect size ( $f^2$ ) "dwelling characteristics (DC)  $\rightarrow$  residential satisfaction (RS)" are 0.219 and 0.066, with a corresponding bootstrapping p-value of 0.001. This finding indicates that DC has a significant direct impact and a small effect on residential satisfaction (RS). Additionally, a p-value of less than 0.001 is found for the path coefficient "neighborhood environment (NE)  $\rightarrow$  residential satisfaction (RS)", which is 0.411, and its effect size ( $f^2$ ) is 0.307. This finding shows that the neighborhood environment has a strong positive impact and a high effect on residential satisfaction. Finally, the path coefficient "public facilities (PF)  $\rightarrow$  residential satisfaction (RS)" is 0.317 and the effect size is 0.128 with a p-value of 0.000, indicating that the availability

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and accessibility of public facilities have a significantly positive influence and a small effect size on PAFs' residential satisfaction.

The dwelling characteristics, neighborhood environment, and public amenities explain another 69.5 percent of the variance in PAF satisfaction with resettlement housing (R Squared = 0.695). To summarize, PAFs' contentment with their resettlement housing in Ghana is determined by the characteristics of their homes, their immediate surroundings, and public amenities, according to PAF household heads. As a result of the statistical findings from the PLS-SEM approach, we can say that the three study hypotheses were confirmed in this study.

# 5. Discussion and Conclusions

According to the findings, some of the inhabitants had somehow altered the internal layout design (often by converting a living room into two separate bedrooms). This alteration could be because of a discrepancy between what is seen and expected. Consequently, developers must be aware of the needs of the PAFs. The aspirations of migrants may shift throughout time [18,54]. There should therefore be room for changes in the layout of the home.

DC, NE, and PF predicted resettlement housing satisfaction in the Ellembelle district of Ghana. According to the findings, happiness depends on several aspects of the home situation, and PAFs' satisfaction with their home situation was influenced by both the internal and external features of their housing unit, this is in line with previous research [11,18,22,24,54,70,71].

This research discovered that DC which comprises, a comfortable and healthy indoor environment, ample spatial size and reasonable function of unit layout, and the quality of construction, is the least significant predictor of PAFs' housing contentment in Ellembelle, Ghana. Kshetrimayum, Bardhan, and Kubota [11] posited a similar outcome in their study on the residential satisfaction of relocated slum dwellers in Mumbai, India. Moreover, among disaster-induced migrants in Keta, Ghana, a positive index of satisfaction with the new homes as being more advanced than the previous ones was confirmed, despite concerns over the sufficiency of the number of sleeping rooms, the size of the rooms, and the amount of land supplied in the new residences [18]). More so, a study of resettlement housing satisfaction in four Dutch cities in Western Europe revealed that the residents were satisfied with their new homes because it had better ample spatial size than the original home [24], but in most resettlement housing projects in developing countries, this is a key challenge [11,44,52,72]. The opposite is rather found in literature in developing countries. Therefore, against the preposition of Tao et al. [43], who posited that a dwelling characteristic like ample spatial size is not vital to migrants, the size and design of a resettlement house must be investigated. As an illustration, increasing the natural light and ventilation in a home enhances the residential satisfaction of its occupants [23,73]. It reduces the amount of money they have to spend (spent on lighting during the daytime). This was also emphasized in a disaster-induced housing project in Sri Lanka, China, and Ghana [18,52,74].

For PAFs in Ellembelle, Ghana, NE was the most significant influence on resettlement housing satisfaction. The above result confirms previous housing studies [11,25,38,43]. In a study about relocation in Beijing, China, it was said that the physical design, lack of noise, social interaction, and access to infrastructural services were important NE factors [71]. Türkolu et al. [35] also found in their study that people who live in neighborhoods that were planned are happier than people who live in neighborhoods that were not planned. This fits with what Kshetrimayum, Bardhan, and Kubota [11] found, that people who moved out of the slum were happier in the resettlement housing. So, the appearance and orderliness of the neighborhood are very important to how pleased PAFs are in the new area. For this reason, it is essential to improve community relationships with neighbors, build stronger relationships with the community, and provide more employment options in the neighborhood to create a favorable living environment. A community center, a type of

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public space, can promote local social cohesion by providing a gathering place for people to meet.

Moreover, PF was the second most significant element influencing resettlement housing satisfaction in Ellembelle, Ghana. RS is enhanced by the accessibility and functionality of public facilities, which serve non-residential purposes in a neighborhood. These include welfare facilities (such as educational, social, and healthcare facilities), recreational amenities (e.g., Open spaces for community gatherings and recreation), and commercial facilities. The availability and proximity to public facilities are essential for residents' overall happiness with their homes. This is in line with previous research which posited the role of the availability and proximity to public facilities as a key predictor of residential satisfaction [8,11,22,38,40,43].

Based on what the study found, the setting of resettlement housing is highly essential. As a result, the successful resettlement housing process requires relocating the affected community together to a specific location with necessary community facilities. For future resettlement housing, the developer should consider the neighborhood context, dwelling unit features, and provision for and accessibility to public utilities.

Sustainable resettlement housing developments focus on resident satisfaction and quality of life. A resettlement village in Ellembelle, Ghana, was surveyed to identify the housing aspects that enhance PAFs' satisfaction with resettlement housing when improved. NE was the most significant aspect of resettlement housing impacting PAFs' residential satisfaction, followed by PF, and DC. As a result, the study found that involving PAFs in the design of resettlement housing is critical to their satisfaction.

Resettlement housing should meet PAF preferences to avoid alterations that weaken the house over time. The study recommends improving housing satisfaction by involving the PAFs in designing and planning mining-induced resettlement housing. The study emphasizes improved dwelling-unit design with larger floor areas to accommodate multiple rooms for different activities.

Overcrowding was unfortunately found in resettlement housing in the Ellembelle district of Ghana. Therefore, future studies can examine PAFs' resilience to the similar housing challenges PAFs encounter after resettlement. Researchers can equally study how resettlement housing influences the company's social license. This research could improve resettlement housing policy in developing countries, especially Ghana. The study provides insights by (1) adding empirical evidence regarding PAFs' contentment with resettlement housing in Ellemebelle, Ghana, (2) emphasizing the essence of enhancing the neighborhood environment attributes, and (3) highlighting the importance of the dwelling unit and access to public infrastructure in enhancing PAFs' quality of life.

Despite accomplishing its objective, the study had some limitations. First, the convenience sample method used can affect the results of the study. Additionally, the study included only viewpoints of PAF household heads in the research region. It excluded the opinions of other PAF members, government agencies, academics, and officials of the mining industry. It would be interesting if future research examines the PAFs' members' opinions on the resettlement housing project. Future research also could analyze how government officials, academics, professionals, and project developers perceive the resettlement housing project.

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