NEIGHBOURHOOD SATISFACTION IN A MINING-INDUCED DISPLACEMENT AND RESETTLEMENT (MIDR) IN GHANA

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ABSTRACT

This study ascertained the degree of residents' satisfaction with the neighbourhood of Teleku-Bokazo, a MIDR in Ghana. The study also examined the relationship between the residents' perceived neighbourhood satisfaction and neighbourhood characteristics. A quantitative research design was used to achieve the study objectives. A total of one hundred and forty-six (146) responses were usable. Descriptive and inferential analysis was executed. More so, an exploratory factor analysis with a varimax rotation was also conducted. More so, correlational and regression analysis was done to address the study questions. Our study confirms the multidimensional nature of neighbourhood satisfaction. Social Environment and Infrastructural Services failed to predict neighbourhood satisfaction.

Keywords: Neighbourhood Satisfaction, Mining-Induced Displacement and Resettlement (MIDR), Housing, Social Environment, Physical Features.

INTRODUCTION & LITERATURE REVIEW

The subjective satisfaction of housing and its neighbourhood is regarded as a significant indicator of the residents' quality of life and self-worth (Hur & Morrow-Jones, 2008; Mohit et al., 2010; Sirgy & Cornwell, 2002), a predictor of both physical and mental health (Batson & Monnat, 2015), and perceived safety (Grogan-Kaylor et al., 2006). Also, neighbourhood environments have a substantial effect on interpersonal relationships and social interactions among residents (Sirgy & Cornwell, 2002). Thus, the relationship between neighbourhoods and the well-being of residents has attracted sustained attention worldwide. However, global research on neighbourhood satisfaction has principally concentrated on public urban housing in developed countries without much attention to developing countries (Aigbavboa & Thwala, 2012; Cernea & McDowell, 2000; Grogan-Kaylor et al., 2006; Ibem et al., 2017). There is, therefore, a paucity in research on neighbourhood satisfaction in Sub-Saharan African countries (Ibem et al., 2017), like Ghana, where the quality of housing and its attributes is generally poor (Baiden et al., 2011). Besides, the limited discussions on neighbourhoods of resettlements have relatively focused on poverty deconcentration and racial segregation, inhabitants' social support systems and physical immediacy to such networks in housing emanating from development-induced Displaced and Resettlements (DIDR), like urban renewal projects and construction of dams (Campbell, 2009; Clampet-Lundquist, 2004; Kleit & Galvez, 2011). Thus, even though attention on DIDR has

increased in literature, the relationship between residents' satisfaction with their neighbourhoods and the neighbourhood characteristics as predictors of residents' satisfaction has not been adequately researched (Grogan-Kaylor et al., 2006), especially in Africa (Campbell, 2009; Mettle, 2011). Similarly, the assessment of various distinctive characteristics of Mining-Induced Displacement and Resettlements (MIDR), such as the satisfaction levels with neighbourhoods, is generally scanty in the scholarly literature (Cernea & McDowel, 2000; Downing, 2002; Owen & Kemp, 2015; Stanley, 2004).

Research on Ghanaian resettlements has concentrated more on state-developed relocations caused by physical development projects and disasters than on mining-induced resettlements developed by the private sector (Mettle, 2011). These studies include the resettlement of 80,000 persons, 6,000 persons and 1,200 persons caused by the development of Akosombo, Kpong and Bui dams respectively on the Volta River (Albert, 2015; Asthana, 1996; Mills-Tettey, 1989; Raschid-Sally et al., 2008) and the Tema-Manhean relocation of about 12,000 people to make way for the development of the Tema Harbour (Mettle, 2011). Another investigation dealt with the disaster-induced resettlement project involving nearly 1,200 households displaced by flooding arising from coastal erosion and tidal waves within the Keta Basin (Danquah et al., 2014). These resettlement studies emphasised mainly on planning, implementation processes, livelihood sustainability, compensation packages and resultant issues, creating a paucity of the empirical literature on neighbourhood satisfaction in resettlements in Ghana (Mettle, 2011). Resettlements resulting from mining-induced displacements in Ghana include the relocation of about 30,000 people from 14 different communities within the Tarkwa-Prestea-Abosso enclave in the Wassa West District in Western Region (Downing, 2002) and 5,185 people in Bosumkese, Kenyase and Ntotoroso in Brong Ahafo Region (Lawson & Bentil, 2014). MIDR in the Ellembelle District in Western Region includes the new Salman town commissioned to resettle 2,154 residents and the involuntary relocation of 2,630 people living in Teleku-Bokazo and Nkroful. Even though MIDR continues to be a significant issue in Ghana, not enough survey has been undertaken to evaluate the challenges with their sustainability (Campbell, 2009; Mettle, 2011).

Because the prevailing knowledge gap inhibits advancements in MIDR policy formulation and practice regulation, there is the urgent need to examine the social dimensions of MIDR, such as neighbourhood satisfaction, to understand the specific effects of MIDR on the project-affected persons (Owen & Kemp, 2015). According to Grogan-Kaylor et al. (2006),

> *"neighbourhood satisfaction is an essential consideration for policy and practice activities in communities, because it is an important predictor of mental health, life satisfaction, perceived safety and thoughts of moving".*

This study, therefore, aims to ascertain the degree of residents' satisfaction with the neighbourhood of Teleku-Bokazo, a MIDR in Ghana, and the relationship between the residents' perceived neighbourhood satisfaction and the neighbourhood characteristics. Besides being a measure of the success or failure of the Teleku-Bokazo MIDR housing project, the findings will contribute to the discourse on neighbourhood satisfaction and help shape strategies for future MIDR housing policies and institutional frameworks, especially for low-income rural communities in developing countries.

Neighbourhood Satisfaction

Satisfaction conceptualised as a post-usage fulfilment an individual perceives by comparing the actual performance of a product or service with the aspirations and expectations (Kotler, 1999 cited in Narteh & Kuada, 2014; Torres & Kline, 2006). Thus, neighbourhood satisfaction is an assessment of residents' overall contentment with their housing environment or the extent to which neighbourhoods meet the norms, preferences and anticipations of residents (Amerigo, 2002; Galster, 1987; Hashim, 2003; Ibem et al., 2017; McCray & Day, 1977; Morris & Winter, 1975; Permentier et al., 2011). Because satisfaction is a construct that is both an evaluative process and an emotional assessment (Al-Eisa & Alhemoud, 2009), academic scholars from various disciplines, such as marketing, environmental psychology and sociology, have postulated diverse concepts to explain neighbourhood satisfaction (Ibem et al., 2017).

The *"Housing Adjustment"* theory developed by Morris & Winter (1975) hypothesises that a family's satisfaction with its residential neighbourhood is inclined to the family's standards and cultural patterns. In other words, where there is an incongruity between the neighbourhood setting and the household aspirations or cultural norms, a *"housing deficit"* ensues and leads to residential dissatisfaction. Contrariwise, satisfaction is achieved if there is a congruence of the neighbourhood expectations and both the cultural and family norms (Morris & Winter, 1975). Adjustment actions that emanate from neighbourhood dissatisfaction include household adaptation or alterations to the neighbourhood characteristics and relocation (Ibem et al., 2017). Thus, neighbourhood satisfaction influences residents' mobility (Amérigo & Aragones, 1997) to the extent that high neighbourhood satisfaction induces residents to stay on even if it means compromising on inadequacies in their neighbourhoods (Ukoha & Beamish, 1997). Similarly, evidence of neighbourhood satisfaction among residents encourages others to migrate in, and vice versa (Hur & Morrow-Jones, 2008).

Galster (1987) also propounded the *"Purposive"* and *"Actual-aspiration Gap"* approaches to expound neighbourhood satisfaction. Regarding the *"Purposive"* approach, Galster (1985) explained that people's level of satisfaction with their neighbourhoods depends on the extent to which the neighbourhoods expedite the achievement of their goals in life. As regards the *"Actual-aspiration Gap"* approach, Galster (1987) contended that the degree of residents' satisfaction with their neighbourhoods depends on the degree of harmony between the actual and the ideal or their desired housing environments since people tend to assess neighbourhood conditions by their socio-economic status, needs, preferences, aspirations and statutory standards. This theory implies that if a neighbourhood facilitates the desired results that residents envision, relating to the *"Purposive"* approach, or if the actual condition of a neighbourhood exceeds the ideal or expected standard, as pertains in the *"Actual-aspiration Gap"* approach, then the satisfaction level of the neighbourhood will be measured as satisfactory or high. Amérigo & Aragones (1990) derived from the preceding Galster's (1987) theory that the evaluation of neighbourhood satisfaction involves three components, namely, *"affective"*, *"cognitive"* and *"behavioural"*. Whereas the *"affective"* domain deals with residents' sentiments in subjective assessment of neighbourhoods based on their socio-economic status, cultural and psychological traits, the *"cognitive"* facet is linked to the objective approach of comparing the performance of neighbourhoods with their expectations (Ibem et al., 2017; Kaitilla, 1993; Mohit et al., 2010; Wirtz & Bateson, 1999). The *"behavioural"* factor, on the other hand, relates to the outcome of the *"affective"* and or *"cognitive"* appraisal of

neighbourhoods based on residents' norms, as suggested by Morris & Winter's (1975) *"Housing Adjustment"* theory (Ibem et al., 2017).

It is deduced from the review of the other concepts that the evaluation of neighbourhood satisfaction by residents is affected by their socio-economic status, emotional states and their evaluative abilities relating to specific household needs, cultural norms, preferences, aspirations and legal standards (Ibem et al., 2017). Neighbourhood satisfaction is, therefore, conceived as a product of three primary factors, namely, residents' socio-demographic traits, their subjective appraisals of the neighbourhood, and the physical neighbourhood attributes (Grogan-Kaylor et al., 2006).

Determinants of Neighbourhood Satisfaction

Neighbourhood satisfaction tends to be used interchangeably with residential satisfaction and, or community satisfaction because of the correlations between them (Aigbavboa & Thwala, 2012; Amérigo & Aragones, 1997; Hur & Morrow-Jones, 2008). However, as noted by Amerigo (2002), there are variations in the composition of the factors that relate to the residential, community, and neighbourhood satisfaction concepts. For instance, community satisfaction is influenced by both personal or household and physical characteristics (Marans & Rodgers, 1975), while residential satisfaction is more associated with the physical aspects of dwellings than socio-economic factors (Amerigo, 2002; Sirgy & Cornwell, 2002). Unlike community satisfaction, the attributes of the locality influence neighbourhood satisfaction much more than residents' social characteristics (Sirgy & Cornwell, 2002; Permentier et al., 2011). Baum et al. (2010), on the other hand, argued that neighbourhood satisfaction is influenced by the socio-economic status of residents, their housing features and the physical characteristics of the neighbourhood.

Galster (2001) identified a bundle of neighbourhood physical attributes that affect neighbourhood satisfaction. The package includes the physical features of dwelling units and non-residential buildings (type, design, construction materials), infrastructural and public utility services (roads, electricity and water supply, waste disposal systems), environmental characteristics (extent of noise, air and water pollution), and community facilities (public schools, recreation, markets and shopping centres). In addition to the myriads of physical factors in Glaster's spatially-based features, the literature identifies the density of housing, open spaces, and physical appearance or aesthetics and environmental cleanliness as some of the essential attributes of neighbourhood satisfaction (Basolo & Strong, 2002; Parkes et al., 2002; Permentier et al., 2011; Sirgy & Cornwell, 2002). Other physical features include condition or quality and location of dwelling units (Jiboye, 2010; Mohan & Twigg, 2007; Mohit et al., 2010), and proximity to public facilities such as multi-purpose community halls, religious buildings, markets and shopping areas, workplaces, schools, police services, medical centres, recreational facilities, bus stations (Aigbavboa & Thwala, 2012; Basolo & Strong, 2002; Björklund & Klingborg, 2005; Mohit et al., 2010; Permentier et al., 2011).

Literature confirms the overwhelming proportion of physical features in the composition of the neighbourhood attributes in explaining neighbourhood satisfaction, compared to individual and family characteristics (Lu, 1999; Parkes et al., 2002; Permentier et al., 2011; Sirgy & Cornwell, 2002). However, the value a respondent attaches to the physical aspects of neighbourhoods depends on his or her background (Hur & Morrow-Jones, 2008). As accentuated by Permentier et al. (2011), "personal and household characteristics are thought to influence

neighbourhood satisfaction mainly through selection effects" (p. 980). For instance, men tend to be more concerned with the status of their neighbourhoods than women are, while age, job status and owner-occupation relate to the choice of localities (Kearns & Parkinson, 2001; Permentier et al., 2011). Older adults are more inclined to be satisfied with their neighbourhoods than younger ones because the youths do not always have the option to select the vicinity of their choice (Baum et al., 2010; Chapman & Lombard, 2006; Parkes et al., 2002).

Household characteristics also influence levels of neighbourhood satisfaction since unmarried women are less satisfied with their neighbourhoods than married women are (Galster & Hesser, 1981). Also, the company of children positively affects neighbourhood satisfaction because households with children usually select themselves into spacious neighbourhoods with high security and social interaction increases with the existence of children (Lu, 1999; Parkes et al., 2002; Permentier et al., 2011). Income and educational levels of households strongly influence neighbourhood satisfaction levels since socioeconomic status is a determinant of neighbourhood choice (Baum et al., 2010; Lu, 1999). Likewise, because of their broader options in the housing market, homeowners are inclined to have higher levels of neighbourhood satisfaction than tenants (Lu, 1999; Parkes et al., 2002). Concerning the impact ethnicity has on neighbourhood satisfaction, literature has varied evidence. Whereas Hur & Morrow-Jones (2008) and Lu (1999) identified more racial homogeneousness as a positive predictor of neighbourhood satisfaction, Parkes et al. (2002) did not find any effect of ethnicity. Parkes et al. (2002), concluded from an assessment of English housing that socio-demographic background variables are minor predictors of neighbourhood satisfaction relative to other perceived neighbourhood attributes.

The characteristics of social environment identified in the literature as positive indicators of neighbourhood satisfaction include strong neighbourhood cohesion or network, the high-income status of the neighbourhood, (Chapman & Lombard, 2006; Mohan & Twigg, 2007; Mohit et al., 2010; Parkes et al., 2002; Westaway, 2009). Proximity and access to shopping, entertainment and community facilities and nearness to friends and relatives, social interaction, also affect neighbourhood satisfaction positively (Lovejoy, Handy & Mokhtarian, 2010; Sirgy & Cornwell, 2002). Contrariwise, Lipsetz (2001) (cited in Hur & Morrow-Jones, 2008) opined that closeness for family and friends is a factor that negatively impacts the satisfaction levels of city dwellers but has no influence on that of non-urbanites. Noise as a nuisance (Lu, 1999; Mohan & Twigg, 2007), traffic, uncleanliness, pollution, inaccessibility, insecurity and high crime rates (Hur & Morrow-Jones, 2008) and substandard estate management services in terms of rules and regulations and maintenance of facilities (Jiboye, 2009) have also been identified as influential factors that affect neighbourhood satisfaction negatively. Other determinants of neighbourhood satisfaction are economic-related attributes such as cost of services and maintenance, property tax, the market value of property and cost of living in the vicinity (Sirgy & Cornwell, 2002).

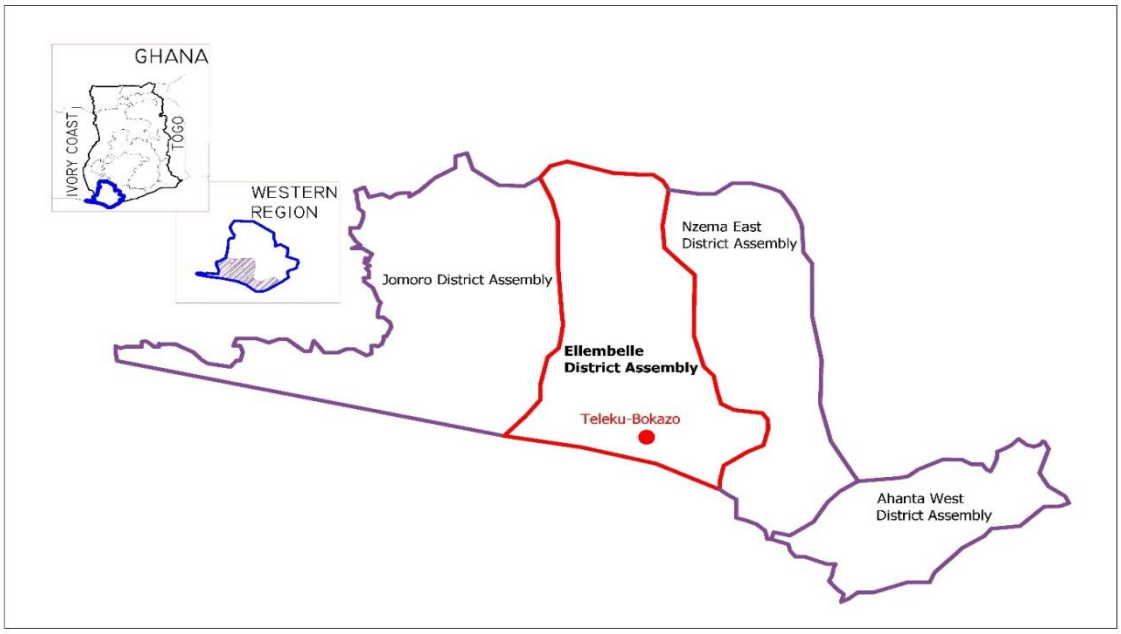
In summary, the various attributes identified in the literature for the assessment of neighbourhood satisfaction are grouped under physical features, socio-economic or personal/household characteristics and social environment parameters. In as much as the posited attributes of neighbourhood satisfaction may typically exist in all neighbourhoods to a certain degree, the amount and the characteristics of the constituent attributes differ from one neighbourhood to another as their component attributes vary in type, magnitude, quality and or by context (Galster, 2001).

Galster (2001) and Ibem et al. (2017), therefore, postulated that the extent of the attributes' influence on neighbourhood satisfaction depends on the context and the composition

of the unique package. For instance, although neighbourhood satisfaction is a significant factor for residential mobility, inhabitants of mining-induced displacement and resettlement, do not have the freedom of residential movement (De Wet, 2006). This study, therefore, evaluated the level of satisfaction among the relocated residents of Teleku-Bakazo with their neighbourhood, and the context-specific bundle of attributes that influenced their satisfaction or dissatisfaction. The assessment was based on significant influences of neighbourhood satisfaction gleaned from the literature, that is, housing features and the physical characteristics of the neighbourhood, the social environment and the socio-economic status of residents.

The Study Area

Teleku-Bakazo is located along the Essiama-Tarkwa highway, approximately 1.0 km from the district capital, Nkroful, in the Ellembelle District in Western Region, and about 297 kilometres from Accra, the capital city of the Republic of Ghana, as shown in Figure 1. The new Teleku-Bakazo Township, shown in Figure 2, was constructed in 2014 by a private company to resettle about 2,000 inhabitants who were displaced by the construction of a new open-pit gold mine located close to the old town.



Source: Authors' construct

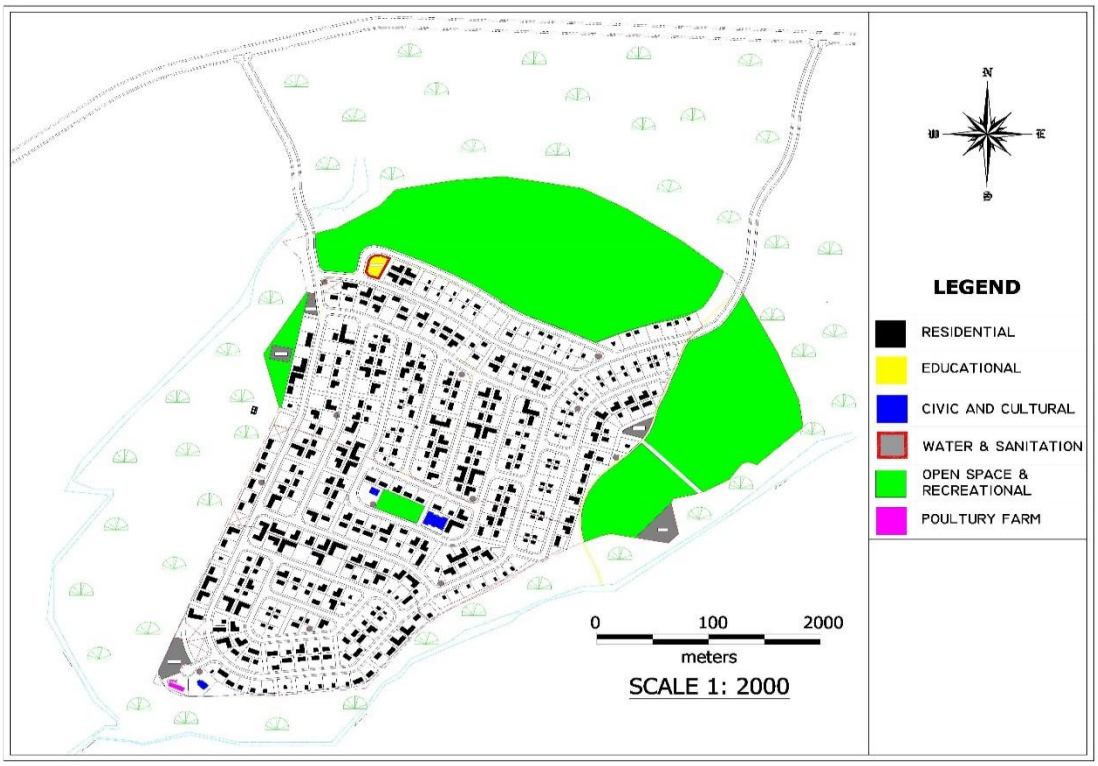
FIGURE 1
LOCATION OF THE NEW TELEKU-BAKAZO TOWN

Source: Ellembelle District Assembly

FIGURE 2
THE OLD TELEKU-BAKAZO TOWN

The planning of the 42.89 hectares resettlement, shown in Figure 3, was based on the Ghana National Planning Standards. At the same time, the new houses met the building code requirements of the Ellembelle District Assembly. A resettlement negotiation committee represented the project-affected persons in the execution of a resettlement compensation agreement, which was the blueprint for the implementation of the resettlement project. The resettlement agreement encapsulated the conditions for the resettlement, compensation and relocation, housing and community facilities, infrastructure and resettlement allowances payable to project-affected persons. Other key stakeholders, which reviewed and approved the physical planning layout, the architectural and engineering designs for the various structures before and during construction, included the Environmental Protection Agency, the Department of Town and Country Planning, the Ellembelle District Assembly, the Nzema Traditional Council, the mining investor and the project consultants.

Residential units dominated the land use with 18.46 hectares (45.68%), followed by 12.99 hectares (32.16%) reserved for open spaces and community playing field, and provision of 10.12 hectares for future development needs. The plot sizes of the replacement houses were standardised as 18.228m x 18.288m, 21.366m x 24.384m, 24.384m x 24.384m, 30.48m x 30.48m and 30.48m x 36.576, depending on the number of rooms. These sizes were considered significant enough to allow homeowners to expand their houses in the future to address changes in their economic and social lifestyles. Figure 4 shows the resettlement, which comprised 288/315 housing units of different room numbers and sizes, 122 residential support structures, such as detached kitchens, storerooms and lavatories. Public facilities provided within the resettlement included two schools with teachers' quarters, a community library, two church buildings, a mosque, a health centre, a community centre, five public lavatories, 23 retail stores and a market. The chief of the town was provided with a palace. Infrastructural utilities in the town included 7.13 kilometres of roads and lanes, drains, landscaping, electricity supply and street lighting, mechanised borehole water supply, a footbridge, and three refuse pads with metal waste bins for solid waste collection and disposal.



Source: Ellembelle District Assembly

FIGURE 3
LAYOUT OF THE NEW TELEKU-BAKAZO TOWN

Source: Authors' Field Survey, 2018

FIGURE 4
THE NEW TELEKU-BAKAZO TOWN

Owners of houses identified for replacement had the option of cash compensation instead of resettlement. In addition to the replacement of immovable properties or lump-sum cash compensation, all the project-affected persons were aided to transport their belongings to their new houses at the new town after construction and to salvage any material from their old homes

or properties after moving to their new homes. Furthermore, the private developer paid each resettled household an agreed adaptation allowance and implemented a livelihood restoration programme for all the affected farmers.

RESEARCH METHODOLOGY

Consistent with previous studies on neighbourhood satisfaction after resettlement (Lee, Ellis, Kweon, & Hong, 2008; Ibem et al., 2017), the survey methodology was used. This investigation aimed to examine neighbourhood satisfaction and residential satisfaction after resettlement in a Ghanaian community. Teleku-Bakazo resettlement housing scheme is the most recent resettlement in Ghana. A private mining firm develops the town within a rural setting. A sample of 146 households was selected for the study based on Yamane's (1967) formula: (n) = N / 1 + N (e^2). The survey questionnaires were administered face-to-face in the homes of respondents to one adult randomly selected in each household. The study instrument focused on thirty-four (34) attributes relating to residential units, community facilities, utility services, and social environment. The test for internal consistency and reliability of the scale of measurement used for measuring the adequacy of the neighbour satisfaction was conducted using Cronbach's Alpha test. Three main types of analyses were conducted. The first was descriptive statistics, which generated percentages and frequencies of respondents' socio-economic characteristics and individual mean satisfaction scores. The second type of analysis conducted was factor analysis with principal component and Varimax rotation methods. To understand the individual contributions of the different factors in explaining neighbourhood satisfaction, the third type of analysis: multivariate statistical analysis was conducted. The data were analysed by use of descriptive statistics on residential satisfaction (with probability level po0.05). Both descriptive and inferential statistics were used for data analysis. Socio-demographic characteristics of the respondents were analysed through descriptive statistics. The mean satisfaction levels of the community facility, physical features of the dwelling of units, infrastructural services, and social environments were analysed through descriptive statistics. Correlation analysis and regression were employed to find an association between the variables and the satisfaction.

RESULTS AND DISCUSSION

The socio-economic characteristics of the respondents were ascertained. Table 1 provides a descriptive analysis of respondent's: gender, marital status, age group, the status of tenure in the house, the highest level of education, and income brackets (monthly income).

From Table 1, about sixty-eight (68) per cent of the residents encountered in this survey were females. Close to sixty-six (66) per cent of respondents were married, thirty-five (35) per cent of them were between ages 36 and 45 years, almost eighty-five (85) per cent were living in their own homes. Around forty-three (43) per cent of residents had education up to primary school, and about sixty-nine (69) per cent have monthly incomes of less than GH 500 (Less $ 100).

Table 2 provides descriptive statistics for the study variables. The means, standard deviations, standard error mean, t and significance were examined and presented. All variables were significant with different levels of means from as low as 1.52 mean score to 4.21 mean score.

Table 1 RESPONDENT'S PROFILES				
		Frequency	**Per cent**	**Cumulative Percent**
Gender	Male	47	32.2	32.2
	Female	99	67.8	100.0
	Total	146	100.0	
Marital Status	Never married before	23	15.8	15.8
	Married	97	66.4	82.2
	No longer in marriage	26	17.8	100.0
	Total	146	100.0	
Age Group	25-30	49	33.6	33.6
	31-45	49	33.6	67.1
	46-59	30	20.5	87.7
	60 and above	18	12.3	100.0
	Total	146	100.0	
Status of Tenure in House	Rented	15	10.3	10.3
	Inherited	7	4.8	15.1
	Owner occupied	124	84.9	100.0
	Total	146	100.0	
Highest Level of Education	No formal Education	43	29.5	29.5
	Up to primary school	63	43.2	72.6
	Up to High school	27	18.5	91.1
	Up to HND	3	2.1	93.2
	Undergraduate degree	4	2.7	95.9
	Post-graduate degree	6	4.1	100.0
	Total	146	100.0	
Income Brackets (Monthly Income)	Below GHS500	101	69.2	69.7
	501 - 1,500GHS	20	13.7	83.4
	1,501 - 2,500GHS	15	10.3	93.8
	2,501 - 3,500GHS	8	5.5	99.3
	3,501 - 5,000GHS	2	1.4	100.0
	Total	146	100.0	

To ascertain the dimensions of variables perceived to be relevant in explaining neighbourhood satisfaction with resettled community, the variables were factor analysed. The KMO measure of sampling adequacy test produced a value of 0.805, while Bartlett's Test of Sphericity provided a chi-square value of 3305.21 (df = 528; sig = 0.000). These values indicate that the sample was adequate for factor analysis. The results of the exploratory factor analysis, using a varimax rotation are presented in Tables 3 and 4. Initially, nine (9) factors had eigenvalues of more than 1.0, accounting for 73.04% of the variance explained. Cumulative variance percentage for factor 1 was 30.48%, factor 2 was 39.24, factor 3 was 46.84, factor 4 was 53.16 and factor 9, accounting for 73.04%.

The Varimax rotation with Kaiser Normalization was conducted on the data. Some factors were respecified whiles; others were deleted due to internal consistencies and conceptual fitness (Hair et al., 2006; Narteh & Kuada, 2014; Hinson et al., 2017). In the end, four (4) factors emerged as the significant determinants of neighbourhood satisfaction in rural Ghana. Factor 1 was on community facility; Factor 2: physical features of Dwelling Units; Factor 3: Infrastructural Services and factor 4: Social environment. Factor 5 was deleted, and an item

(Management and Maintenance of Facilities) of it respecified to factor 3. The reliability of each factor was determined using Cronbach's Alpha. Following the recommendation of Hair et al. (2006), a cut of the value of 0.7 was adopted. All retained four (4) factors recorded values of more than 0.70. Table 4 provides the Cronbach Alphas for all factors.

Table 2
DESCRIPTIVE STATISTICS

	Mean	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
Number of Bedrooms	3.89	0.864	0.072	54.406	0.000
Design or Type of Bathroom and Toilet	3.62	0.771	0.064	56.755	0.000
Construction Materials, Type of Fittings and Fixtures	3.93	0.785	0.065	60.528	0.000
Location of Residence	4.12	0.748	0.062	66.540	0.000
Overall Quality of New House Compared with Old One	3.82	0.814	0.067	56.652	0.000
Adequacy and Efficiency of Building Materials	3.87	0.857	0.071	54.554	0.000
Access Roads and Walkways to the House	4.03	0.718	0.059	67.856	0.000
Aesthetic Appearance of Residence	3.96	0.723	0.060	66.181	0.000
Natural Daylighting and Airflow in Rooms	4.21	0.716	0.059	71.047	0.000
Privacy in Residence	4.10	0.662	0.055	74.936	0.000
Overall Satisfaction with House	3.90	0.698	0.058	67.578	0.000
Primary and Junior High Schools	3.88	0.796	0.066	58.877	0.000
Dedicated Lorry/ Bus/ Taxi Station or Transit Points	3.95	0.833	0.069	57.312	0.000
Public Toilet Facilities	3.95	0.920	0.076	51.919	0.000
Refuse Pads and Metal Waste Bins	3.63	1.057	0.087	41.494	0.000
Places of Worship/ Religious Buildings	4.01	0.851	0.070	56.896	0.000
Community Centre	3.90	0.841	0.070	56.064	0.000
Overall Satisfaction with Community Facilities	3.99	0.928	0.077	51.968	0.000
Road Network and Pedestrianly Walkways	4.01	0.733	0.061	66.135	0.000
Quality and Availability of Potable Water Supply/ Boreholes	3.53	1.084	0.090	39.318	0.000
Electricity Supply/ Distribution	4.01	0.879	0.073	55.189	0.000
Garbage/ Waste Collection/ Disposal Systems	3.95	1.059	0.088	45.086	0.000
Sanitary Services/ Cleanliness of the Neighborhoods	3.71	1.032	0.085	43.398	0.000
Waste and Soil Drainage System	1.64	0.909	0.075	21.765	0.000
Management and Maintenance of Facilities	1.52	0.891	0.074	20.515	0.000
Overall Satisfaction with Infrastructure/ Urban Services	1.66	0.921	0.076	21.756	0.000
The proximity of Home to Various Community Facilities	1.66	0.626	0.052	31.978	0.000
The proximity of Home to Place of Work	2.01	0.891	0.074	27.229	0.000
Security of Life and Property	2.47	0.880	0.073	33.935	0.000
Design of Township to Cultural Values	2.90	0.419	0.035	83.546	0.000
Nearness to Immediate Neighbors in Old Township	2.12	1.007	0.083	25.397	0.000
Level of Social Interaction with Neighbors	2.34	0.935	0.077	30.258	0.000
Overall Satisfaction with Neighborhoods Environment	2.32	0.945	0.078	29.599	0.000

Table 3
PRINCIPLE COMPONENT ANALYSIS

Variables	Communality	Factor	Eigen Value	Per cent of Variance	Cumulative Percent
Number of Bedrooms	0.630	1	10.06	30.48	30.48
Design or Type of Bathroom and Toilet	0.699	2	2.89	8.76	39.24
Construction Materials, Type of Fittings and Fixtures	0.658	3	2.51	7.61	46.84
Location of Residence	0.610	4	2.08	6.32	53.16
Overall Quality of New House Compared with Old One	0.595	5	1.62	4.92	58.08
Adequacy and Efficiency of Building Materials	0.705	6	1.397	4.23	62.31
Access Roads and Walkways to the House	0.665	7	1.304	3.95	66.26
Aesthetic Appearance of Residence	0.543	8	1.196	3.62	69.88
Natural Daylighting and Airflow in Rooms	0.693	9	1.041	3.15	73.04
Privacy in Residence	0.661				
Overall Satisfaction with House	0.790				
Primary and Junior High Schools	0.842				
Dedicated Lorry/ Bus/ Taxi Station or Transit Points	0.781				
Public Toilet Facilities	0.806				
Refuse Pads and Metal Waste Bins	0.871				
Places of Worship/ Religious Buildings	0.757				
Community Centre	.780				
Overall Satisfaction with Community Facilities	0.797				
Road Network and Pedestrian Walkways	0.745				
Quality and Availability of Potable Water Supply/ Boreholes	0.900				
Electricity Supply/ Distribution	0.736				
Garbage/ Waste Collection/ Disposal Systems	0.731				
Sanitary Services/ Cleanliness of the Neighbourhood	0.705				
Waste and Soil Drainage System	0.585				
Management and Maintenance of Facilities	0.750				
Overall Satisfaction with Infrastructure/ Urban Services	0.741				
The proximity of Home to Various Community Facilities	0.751				
The proximity of Home to Place of Work	0.659				
Security of Life and Property	0.697				
Design of Township about Cultural Values	0.828				
Nearness to Immediate Neighbours in Old Township	0.811				
Level of Social Interaction with Neighbours	0.799				
Overall Satisfaction with Neighbourhood Environment	0.781				

Table 4
VARIMAX ROTATION, INTERNAL CONSISTENCY AND RELATED DECISION OF STRUCTURE

Factors and Items	Item – Total Correlation	Cronbach Alpha	Number of Items	Weighted Mean	Decision
Factor 1: Community Facility		**0.938**	**9**	**3.96**	**Retain**
Primary and Junior High Schools	0.783				
Dedicated Lorry/ Bus/ Taxi Station or Transit Points	0.796				
Public Toilet Facilities	0.818				
Places of Worship/ Religious Buildings	0.772				
Community Centre	0.772				
Overall Satisfaction with Community Facilities	0.843				
Road Network and Pedestrian Walkways	0.694				
Electricity Supply/ Distribution	0.717				
Garbage/ Waste Collection/ Disposal Systems	0.726				
Factor 2: Physical Features of Dwelling Units		**0.878**	**9**	**3.91**	**Retain**
Number of Bedrooms	0.582				
Design or Type of Bathroom and Toilet	0.632				
Construction Materials, Type of Fittings and Fixtures	0.665				
Location of Residence	0.558				
Overall Quality of New House Compared with Old One	0.542				
Adequacy and Efficiency of Building Materials	0.681				
Aesthetic Appearance of Residence	0.586				
Privacy in Residence	0.616				
Overall Satisfaction with House	0.764				
Factor 3: Infrastructural Services		**0.879**	**3**	**3.70**	**Retain**
Refuse Pads and Metal Waste Bins	0.839				
Quality and Availability of Potable Water Supply/ Boreholes	0.879				
Sanitary Services/ Cleanliness of the Neighbourhood	0.599				
Factor 4: Social Environment		**0.860**	**3**	**2.26**	**Retain**
Nearness to Immediate Neighbours in Old Township	0.759				
Level of Social Interaction with Neighbours	0.731				
Overall Satisfaction with Neighbourhood Environment	0.717				
Factor 5: (Deleted, and moved an item to factor 3 due to conceptual fitness)		**0.693**	**3**		**Deleted**
Waste and Soil Drainage System	0.343				
Management and Maintenance of Facilities	0.557				
Overall Satisfaction with Infrastructure/ Urban Services	0.648				

Table 5 provides variables measuring the outcome variable (Resident Satisfaction) similar to extant literature (Narteh & Kuada, 2014). Table 5 provides evidence that all three variables had a Cronbach alpha value of 0.723 also acceptable (Hair et al., 2006; Hinson et al., 2017).

Table 5
INTERNAL CONSISTENCY OF DEPENDENT (RESIDENT SATISFACTION) VARIABLE

Items	Number of Items	Item-total correlation	Weighted Mean	Alpha
Resident Satisfaction	**3**		**3.89**	**0.723**
Overall Satisfaction with the Teleku-Bokazo Resettlement		0.530		
Word of Mouth about the new town		0.602		
Satisfied with the new community's neighbourhood		0.522		

A regression was used to examine the relationship between neighbourhood satisfaction dimensions and resident satisfaction. Table 6 and 7 provides the regression results. The predictors comprise: community facility, physical features of Dwelling units, Infrastructural services, social environment, age group, the highest level of education, and status of tenure in a house together explains 24.1% of the variations in resident satisfaction.

Table 6
MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. The error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.512[a]	0.262	0.241	0.58172	0.262	12.339	4	139	0.000
2	0.514[b]	0.264	0.238	0.58292	0.002	0.426	1	138	0.515
3	0.517[c]	0.267	0.235	0.58387	0.003	0.552	1	137	0.459
4	0.527[d]	0.278	0.241	0.58173	0.011	2.014	1	136	0.158

Note: a. Predictors: (Constant), Social Environment, Physical Features, Infrastructural Services, Community Facilities
b. Predictors: (Constant), Social Environment, Physical Features, Infrastructural Services, Community Facility, Age Group
c. Predictors: (Constant), Social Environment, Physical Features, Infrastructural Services, Community Facility, Age Group, Highest Level of Education
d. Predictors: (Constant), Social Environment, Physical Features, Infrastructural Services, Community Facility, Age Group, Highest Level of Education, Status of Tenure in House

The moderating effect of resident's personality profiles was performed. These resident personality profiles included: age group, the highest level of education, and status of tenure in house. From Table 6, the only status of tenure in house moderates the relationship between neighbourhood satisfaction dimensions and residents satisfaction. This is because the addition of resident's personality profiles increased the R-square from 0.235 to 0.241 (an increase of 0.011). The other two (2) resident's personality profiles (age group and the highest level of education) did not moderate the relationship between neighbourhood satisfaction and residents' satisfaction.

Table 7
COEFFICIENTS[a]

Model		Unstandardized Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.961	0.436		4.50	0.000
	Community Facility	0.032	0.095	0.034	0.34	0.738
	Physical Features of Dwelling Units	0.266	0.110	0.218	2.42	0.017
	Infrastructural Services	0.292	0.077	0.344	3.80	0.000
	Social Environment	-0.067	0.084	-0.060	-0.80	0.427
2	(Constant)	2.076	0.471		4.41	0.000
	Community Facility	0.025	0.096	0.027	0.265	0.791
	Physical Features of Dwelling Units	0.266	0.110	0.218	2.41	0.017
	Infrastructural Services	0.286	0.078	0.336	3.67	0.000
	Social Environment	-0.067	0.084	-0.060	-0.80	0.425
	Age Group	-0.032	0.050	-0.049	-0.65	0.515
3	(Constant)	2.200	0.500		4.40	0.000
	Community Facility	00.017	0.097	0.018	0.173	0.863
	Physical Features of Dwelling Units	0.271	0.111	0.222	2.45	0.015
	Infrastructural Services	0.284	0.078	0.334	3.65	0.000
	Social Environment	-0.076	0.085	-0.068	-0.89	0.373
	Age Group	-0.041	.051	-0.062	-0.80	0.424
	Highest Level of Education	-0.031	0.042	-0.057	-0.74	0.459
4	(Constant)	1.734	0.597		2.91	0.004
	Community Facility	0.004	0.097	0.004	0.042	0.967
	Physical Features of Dwelling Units	0.305	0.113	0.250	2.71	0.008
	Infrastructural Services	0.279	0.078	0.329	3.60	0.000
	Social Environment	-0.054	0.086	-0.049	-0.63	0.528
	Age Group	-0.042	0.051	-0.063	-0.82	0.415
	Highest Level of Education	-0.016	0.043	-0.030	-0.38	0.703
	Status of Tenure in House	0.117	0.082	0.111	1.42	0.158

Note: a. Dependent Variable: Resident Satisfaction

From Table 7, only Physical Features, and Community Facility were significant predictors of resident satisfaction. In contrast, Social Environment and Infrastructural Services were insignificant predictors of resident satisfaction in this study. Using the beta coefficients, satisfaction with physical features of dwelling units recorded the highest coefficient while infrastructural services recorded a coefficient of about 27.9%.

DISCUSSION

Our study confirms the multidimensional nature of neighbourhood satisfaction (Narteh & Kuada, 2014; Galster & Hesser, 1981). The findings of this study are not consistent with the current results of previous studies. Especially, failure of Social Environment and Infrastructural Services to predict resident satisfaction. It is also consistent with the existing studies (Ibem et al., 2017) indicating that residents in public housing estates in Lagos and Ogun States Southwest Nigeria were least satisfied with access to neighbourhood facilities and city-wide services. The

findings, indicating that residents in public housing were satisfied with access to necessary neighbourhood facilities. Similarly, this study does not support on neighbourhood factors in private low-cost housing in Terengganu and Penang in Malaysia, which revealed that residents were generally satisfied with services provided by providers, neighbourhood facilities and environment. Admittedly, differences in physical, socioeconomic contexts and peculiarities of each study may have accounted for the disparities in the result. Our survey data are consistent with the existing studies (Baum et al., 2010; Table 1) which show that these are indeed among the key neighbourhood features residents consider in their perception of neighbourhood satisfaction. Despite differences in contexts, residents tend to think issues related to security, access to services and infrastructural facilities, noise, privacy, open spaces and green areas as well as social and economic well-being in their assessment of satisfaction with neighbourhood environments.

CONCLUSION, IMPLICATIONS AND FUTURE RESEARCH DIRECTION

Residents of newly designed Teleku housing are moderately satisfied with their residential environment. The location of housing projects, different environmental, social and economic factors must adequately be a consideration. Specifically, the choice of housing schemes should be in such locations that make it easier for the extension of basic amenities (e.g. water, electricity) and urban infrastructural services to such neighbourhoods at minimal costs. Also, schools, healthcare, recreational and other social infrastructural facilities needed for social well-being and development of residents should mandatorily form an integral part of housing development processes. A reduction in the travelling distance and time between homes and the location of these vital services may improve on residential satisfaction—a strategy to foster effective management and maintenance of housing estates. The policy implications of the study suggest that residential satisfaction of Teleku housing can be enhanced through improving the management of security control, perimeter roads, cleanliness of garbage house and garbage collection – all these predictors have high beta coefficient values. District Assemblies responsible for the management of housing can adopt proper management measures to improve the residents' housing environment. Further studies may determine a suitable management model involving district assemblies and the residents.

REFERENCES

Aigbavboa, M.C., Thwala, W. (2012). Satisfaction level with neighbourhoods in low-income housing: A case study of Johannesburg, South Africa. In *Human (E) Settlements: The Urban challenge Conference*.

Albert, A.G. (2015). *Involuntary resettlement in Ghana: Implementation, planning and management of social impacts in hydropower projects.*

Al-Eisa, A.S., & Alhemoud, A.M. (2009). Using a multiple-attribute approach for measuring customer satisfaction with retail banking services in Kuwait. *International Journal of Bank Marketing*.

Amerigo, M. (2002). *A psychological approach to the study of residential satisfaction, residential environments*.

Amérigo, M., & Aragones, J.I. (1997). A theoretical and methodological approach to the study of residential satisfaction. *Journal of Environmental Psychology, 17*(1), 47-57.

Asthana, R. (1996). Involuntary resettlement: Survey of international experience. *Economic and Political Weekly*, 1468-1475.

Baiden, P., Arku, G., Luginaah, I., & Asiedu, A.B. (2011). An assessment of residents' housing satisfaction and coping in Accra, Ghana. *Journal of Public Health, 19*(1), 29-37..

Basolo, V., & Strong, D. (2002). Understanding the neighborhood: From residents' perceptions and needs to action. *Housing Policy Debate, 13*(1), 83-105.

Batson, C.D., & Monnat, S.M. (2015). Distress in the desert: neighborhood disorder, resident satisfaction, and quality of life during the Las Vegas foreclosure crisis. *Urban Affairs Review, 51*(2), 205-238.

Baum, S., Arthurson, K., & Rickson, K. (2010). Happy people in mixed-up places: The association between the degree and type of local socioeconomic mix and expressions of neighbourhood satisfaction. *Urban Studies, 47*(3), 467-485.

Björklund, K., & Klingborg, K. (2005). Correlation between negotiated rents and neighbourhood quality: A case study of two cities in Sweden. *Housing Studies, 20*(4), 627-647.

Campbell, B. (2009). *Mining in Africa: Regulation and development*. IDRC.

Cernea, M.M., & McDowell, C. (2000). Risks and reconstruction: Experiences of resettlers and refugees. *The World Bank.*

Chapman, D.W., & Lombard, J.R. (2006). Determinants of neighborhood satisfaction in fee-based gated and nongated communities. *Urban Affairs Review, 41*(6), 769-799..

Clampet-Lundquist, S. (2004). HOPE VI relocation: Moving to new neighborhoods and building new ties. *Housing Policy Debate, 15*(2), 415-447.

Danquah, J.A., Attippoe, J.A., & Ankrah, J.S. (2014). Assessment of residential satisfaction in the resettlement towns of the Keta basin in Ghana. *International Journal Civil Engineering, Construction and Estate Management, 2*(3), 26-45..

De Wet, C.J. (2006). *Development-induced displacement: Problems, policies and people. Berghahn* Books.

Downing, T.E., (2002). *Avoiding new poverty: Mining-induced displacement and resettlement*. London: International Institute for Environment and Development.

Galster, G. (1987). Identifying the correlates of dwelling satisfaction: An empirical critique. *Environment and Behavior, 19*(5), 539-568.

Galster, G.C., (2001). On the nature of neighbourhood. *Urban Studies*, *38*(12), 2111-2124.

Galster, G.C. (1985). Evaluating indicators for housing policy: Residential satisfaction vs marginal improvement priorities. *Social Indicators Research, 16*(4), 415-448.

Galster, G.C., & Hesser, G.W. (1981). Residential satisfaction: Compositional and contextual correlates. *Environment and Behavior, 13*(6), 735-758.

Grogan-Kaylor, A., Woolley, M., Mowbray, C., Reischl, T.M., Gilster, M., Karb, R., MacFarlane, P., Gant, L., & Alaimo, K. (2006). Predictors of neighbourhood satisfaction. *Journal of Community Practice, 14*(4), 27-50.

Hashim, A.H. (2003). Residential satisfaction and social integration in public low cost housing in Malaysia. *Pertanika Journal of Social Science and Humanity, 11*(1), 1-10.

Hur, M., & Morrow-Jones, H. (2008). Factors that influence residents' satisfaction with neighborhoods. *Environment and Behavior, 40*(5), 619-635.

Ibem, E.O., Opoko, P.A., & Aduwo, E.B. (2017). Satisfaction with neighbourhood environments in public housing: evidence from Ogun State, Nigeria. *Social Indicators Research*, *130*(2), 733-757.

Jiboye, A.D. (2009). Evaluating tenants' satisfaction with public housing in Lagos, Nigeria. *Town Planning and Architecture, 33*(4), 239-247.

Jiboye, A.D. (2010). The correlates of public housing satisfaction in Lagos, Nigeria. *Journal of Geography and Regional Planning, 3*(2), 017-028.

Kaitilla, S. (1993). Satisfaction with public housing in Papua New Guinea: the case of West Taraka housing scheme. *Environment and Behavior, 25*(3), 514-545.

Kearns, A., & Parkinson, M. (2001). The significance of neighbourhood. *Urban Studies*, *38*(12), 2103-2110.

Kleit, R.G., & Galvez, M. (2011). The location choices of public housing residents displaced by redevelopment: Market constraints, personal preferences, or social information?. *Journal of Urban Affairs, 33*(4), 375-407.

Kotler, P. (1999). *Marketing management: the millennium edition.* Upper Saddle River, NJ: Prentice Hall.

Lawson, E.T., & Bentil, G. (2014). Shifting sands: changes in community perceptions of mining in Ghana. *Environment, Development and Sustainability*, *16*(1), 217-238.

Lipsetz, D.A. (2001). Residential satisfaction: Identifying the differences between suburbanites and urbanites. Unpublished doctoral dissertation, Ohio State University.

Lu, M. (1999). Determinants of residential satisfaction: Ordered logit vs. regression models. *Growth and Change, 30*(2), 264-287.

Marans, R.W., & Rodgers, W. (1975). Toward an understanding of community satisfaction. *Metropolitan America in Contemporary Perspective*, 299-352.

McCray, J.W., & Day, S.S. (1977). Housing values, aspirations, and satisfactions as indicators of housing needs. *Home Economics Research Journal, 5*(4), 244-254.

Mettle, M. (2011). Forced Resettlement in Ghana: The Dam and the Affected People: The Bui Hydroelectric Power Project in Ghana. Unpublished doctoral dissertation, Norges Teknisk-Naturvitenskapelige Universitet.

Mills-Tettey, R. (1989). African resettlement housing: a revisit to the Volta and Kainji schemes. *Habitat International*, *13*(4), 71-81.

Mohan, J., & Twigg, L. (2007). Sense of place, quality of life and local socioeconomic context: Evidence from the survey of English housing, 2002/03. *Urban Studies*, *44*(10), 2029-2045.

Mohit, M.A., Ibrahim, M., & Rashid, Y.R. (2010). Assessment of residential satisfaction in newly designed public low-cost housing in Kuala Lumpur, Malaysia. *Habitat International*, *34*(1), 18-27.

Morris, E.W., & Winter, M. (1975). A theory of family housing adjustment. *Journal of Marriage and the Family*, 79-88.

Narteh, B., & Kuada, J. (2014). Customer satisfaction with retail banking services in Ghana. *Thunderbird International Business Review*, *56*(4), 353-371.

Owen, J.R., & Kemp, D. (2015). Mining-induced displacement and resettlement: A critical appraisal. *Journal of Cleaner Production*, *87*, 478-488.

Parkes, A., Kearns, A., & Atkinson, R. (2002). What makes people dissatisfied with their neighbourhoods?. *Urban Studies*, *39*(13), 2413-2438.

Permentier, M., Bolt, G., & Van, Ham, M. (2011). Determinants of neighbourhood satisfaction and perception of neighbourhood reputation. *Urban Studies*, *48*(5), 977-996.

Raschid-Sally, L., Akoto-Danso, E.K., Kalitsi, E.A.K., Ofori, B.D., & Twum-Korangteng, R. (2008). *The resettlement experience of Ghana analyzed via case studies of the Akosombo and Kpong dams.*

Sirgy, M.J., & Cornwell, T. (2002). How neighborhood features affect quality of life. Social indicators research, 59(1), 79-114.

Stanley, J., (2004). *Development-induced displacement and resettlement.* Forced Migration Online Research Guide, Refugee Studies Centre, University of Oxford.

Torres, E.N., & Kline, S. (2006). From satisfaction to delight: a model for the hotel industry. International Journal of contemporary hospitality management.

Westaway, M.S. (2009). Aspects of environmental quality of life that affect neighbourhood satisfaction in disadvantaged and advantaged Johannesburg communities. *Development Southern Africa*, *26*(3), 447-458.

Wirtz, J., & Bateson, J.E., (1999). Consumer satisfaction with services: integrating the environment perspective in services marketing into the traditional disconfirmation paradigm. *Journal of Business Research*, *44*(1), 55-66.