



Evaluating social inclusion for the Bangladesh settlers in Nakasi: Post-urban regeneration

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ABSTRACT

This paper examines the concept of the government's 'social housing' policies for the urban poor and assesses their effectiveness. This research aimed to study an upgraded squatter settlement using subdivision and urban renewal concepts and gauge the social effects of the project as experienced by the residents. The paper also suggests how these state-sponsored programs can be improved and enhanced. Thus, it also reviews similar programs in other cities and countries as lessons to be learned. Due to the continuous population growth in the Suva-Nausori corridor, the demand for housing, exceptionally affordable housing, is exponentially growing, and this has led to real estate speculations and bubbles, substandard housing, overcrowding, squatting on public and private lands and homelessness, and this has led to other social problems. A field research study was carried out in 3 lower-income settlements within the affluent district of Nakasi. The findings revealed the need for more government interventions and a more strategic approach to rectify the severe shortfall of housing stock. The paper also notes the importance of the need for a paradigm shift in the state's housing policy to provide low-cost built housing, as opposed to just land length of service, which could not address some crucial issues experienced by the settlers.

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INTRODUCTION

An emerging feature of the cities of the global south is the emergence and establishment of informal 'squatter' settlements and slums, and Fiji is no exception. [The United Nations Human Settlements Programme \(2016\)](#) states Fiji's urban population of 480,000 and uses the Urban Gini coefficient against national poverty line indicators to calculate the urban poverty rates. It stands at 26.2% or 125,760 residents. Of this, "an estimated population of 60,000 comprising nearly 15% of the total urban population are believed to live in 200 squatter settlements" [Fiji National Housing Policy- 2010, Government of Fiji](#). [Ministry of Housing of the Republic of Fiji \(2011\)](#) puts the slum inhabitants at 100.00 ([Hassan, 2014](#)). Poor housing conditions and a lack of basic urban services and infrastructure often characterize these settlements.

Squatter settlements primarily located on State land or Reserves and Open Spaces provide dwellers no land security or tenure-ships. They, therefore, provide no real incentives for the inhabitants to invest in the improvement of the physical, social, or economic status of the settlements. These Fijian settlements by locations show similar traits with other third-world urban landscapes

instead of industrial cities of developed nations, as shown in **Figure 1**, depicted below, and tend to penetrate throughout the urban district. This leads to a clash of classes and gentrification and negatively affects the real estate market for the developed areas.

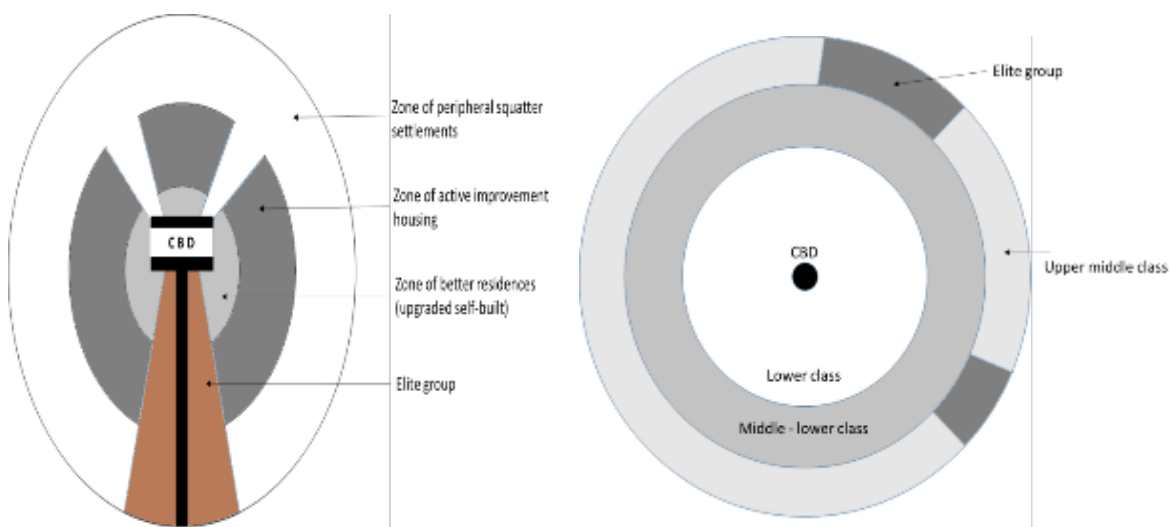


Figure 1. Third World Cities and Industrial City

The squatter upgrading program is one of the policies adopted by the government to address the challenges of land security and improve the living conditions of the squatter dwellers. One of the programs being implemented is through social housing and urban regeneration. Social housing is the means of government-assisted housing solution for people with low incomes. It also tends to address housing inequity by providing means to make housing affordable to the poor and the disadvantaged.

Similarly, urban regeneration is the redevelopment of land in urban areas to improve its physical and economic attributes to promote investment (Kebede, 2012). In the Fijian context and for this paper, the urban regeneration concept will be limited to the definition as the improvement of the physical attributes of land and infrastructure to promote investment, mainly built structural improvements and advancing the social and economic well-being of a resident and thus provide the necessary stimulus to encourage social inclusion.

The 2017 National Census (Fiji Bureau of Statistics, 2018a) depicts the Fijian population at 884 887 and increasing at an average annual growth rate of 0.6 %. Additionally, the urban population stands at 494, 252, or 55.9 % of the total population. The main growth area is the Suva-Nausori corridor, with a complete human density of 242,180, or 27.37% of Fiji's total population (Fiji Bureau of Statistics, 2018a). The report simultaneously points out that this region also holds the most impoverished and low-income earners per capita.

Hassan (2014) summarises that the current land and property prices make it possible for lower-income earners to own properties with the government's intervention. Through its Department of Lands, the government has embarked on a project in Nakasi. A squatter area has been upgraded to a properly serviced subdivision as a low-cost housing scheme heavily subsidized by the government. The study aims to determine the social housing project's sustainability and analyze the Fiji government's objective for public housing investment. This assessment provides the necessary feedback mechanism for any policy on its feasibility and indicates future improvement areas.

Having worked in the Ministry of Housing of the Republic of Fiji (2011) for several years, the researcher had witnessed a depressing experience of the poor living conditions of the settlers and is in doubt about the sustainability of the government housing project. A more decent social housing program can upgrade the status of the Bangladesh settlers. The researcher needs to be made aware of any study in Fiji similar to the goal of this paper. Thus, this research was conducted in the hope that whatever findings are made may be utilized by policymakers for revisiting the current social housing policy of the Fiji government.

This study investigated whether the government-subsidized 'in situ' squatter upgrade program has brought social equity. Specifically, it tried to answer the following questions: (1) What is the socio-demographic characteristic of the Bangladesh settlers?; (2) Is there a significant difference in financial contributions of ground rent and town rates between Bangladesh Settlers and the formal property owners in Nakasi?; (3) What are the challenges and problems faced by the Bangladesh settlers post-upgrading?; and (4) What are the impacts of the slum upgrading program on the social and economic conditions of Bangladesh settlers?

This study aimed to (1) Describe the profile of the participants based on gender, marital status, and number in the household; (2) Determine the respondents' total household income in comparison to the mostly middle and high-class neighborhood of Nakasi; (3) Find out the challenges and problems faced by the Bangladesh settlers post-upgrading; (4) Determine the financial obligation of annual ground rent and town rates for plots occupied by respondents in comparison with the affluent neighbors in Nakasi; and (5) Document the impact of the slum upgrading program on Bangladesh settlers in Nakasi.

Due to the research paradigm adopted as the mixed method, the quantitative aspect of the research, as per practice, calls for a hypothesis for testing. As per the norm, two hypotheses have been developed: Hypothesis for research question 2 (is there a significant difference in financial contributions of ground rent and town rates between Bangladesh Settlers and the formal property owners in Nakasi); thus, H₀: There is no significant difference in financial obligations on ground rent and town rates between the Bangladesh settlers and the formal property owners in Nakasi. H₁: There is a significant difference in financial obligations on ground rent and town rates between the Bangladesh settlers and the formal property owners in Nakasi. Hypothesis for research question 3 (What are the impacts of the slum upgrading program on the Bangladesh settlers); thus, descriptive hypothesis: The slum upgrading program has promoted the social and economic conditions of the Bangladesh settlers.

METHOD

Research Design

For this research paper, the paradigm chosen is a mixed method with qualitative and quantitative approaches applied to the study to identify whether government-led social housing development promotes the stimulus needed for envisaged social and economic advantages for the sub-proletariat in Bangladesh settlement.

A qualitative interview was conducted with the respondents to comprehend the world from the subject's perspective and their experience (Patton & Cocharn, 2002). Inquiry across three sample populations applied semi-structured and unstructured interviewing with household clusters in formal and informal settlements. Housing, urban income, expenses, and property taxation data from other secondary sources were collected and analyzed for triangulation. A mixed-method of data anthology reveals a more detailed picture from different perspectives that would not have been possible by utilizing any single approach (Creswell & Creswell, 2018).

Methodology Design

The study employed both qualitative and quantitative approaches as a mixed-method research design. Mixed method research is the collection of qualitative and quantitative data collected, analyzed, and mixed in a single study or series of studies (Kebede, 2012). This design is used on the premise that the results generated would provide a better and richer understanding of the research problem instead of a single approach.

Qualitative research related to understanding social phenomena can be better understood in words rather than numbers as generated data. The qualitative method describes the respondents' social profile and assesses whether the public housing program has brought meaningful social changes. This can be mapped out using a descriptive-correlation design. The correlation design is utilized to know whether there is a significant relationship between public housing and the social

empowerment of the urban sub-proletariat. The researcher collected data on a comprehensive level that directly relates to the problem under investigation.

The primary approach used in this research is the Triangulation method. The triangulation method entails mixing techniques to get two or multiple viewpoints on the subject of study as dialectic learning (Olsen, 2004). This approach was utilized to obtain different but complementary data on the same topic (Morse, 1991) and, as such, would help validate and expand upon the quantitative data with qualitative results.

The approach was then more specifically aligned with the validating quantitative data model. Figure 2 below gives a linear sequence of this design.

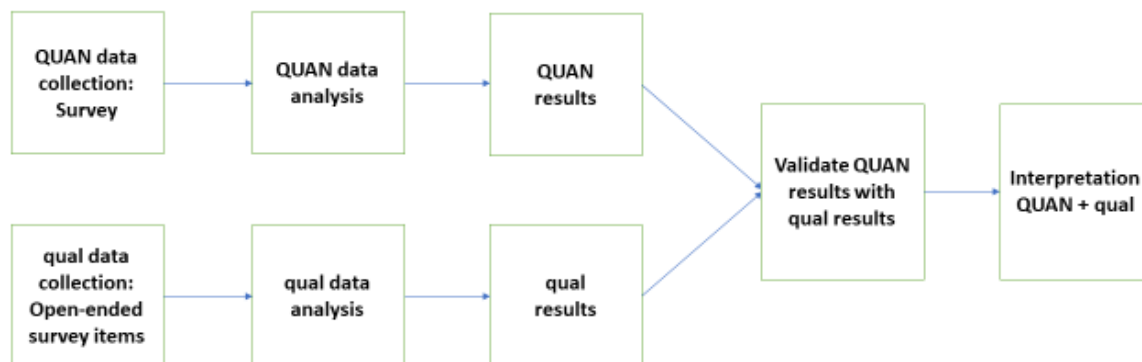


Figure 2. Triangulation Design: Validating Quantitative Data Model (Creswell & Creswell, 2018)

The validating quantitative data model is used, according to Creswell and Creswell (2018), when researchers desire validation of quantitative results from a survey by including a few open-ended qualitative questions.

“In this model, the researcher collects both data types within one survey instrument. Because the qualitative items are an add-on to a quantitative survey, the items generally do not result in a rigorous qualitative data set. However, they provide the researcher with interesting quotes that can be used to validate and embellish the quantitative survey findings” (Creswell & Creswell, 2018).

The results were then further supplemented with data from other housing type clusters, i.e., mainly formal middle-class housing and slum informal settlements. Data from formal secondary sources are also obtained for quantitative analysis.

Respondents & Sampling

This research inquiry is primarily based on a district between the heavily populated Suva-Nausori corridor, and in particular on a once squatter/informal settlement in a decayed and derelict part of a very affluent district of Nakasi, which has undergone major transformation and regeneration, thru the government's direct intervention in 2010. The study participants comprised representatives from 19 of the 58 residential lots of this settlement. The respondents were chosen using a purposive sampling method based on the pre-requisite that the representative was one of the original inhabitants of the settlement prior to the upgrading. The researcher selected this method to collect accurate data as some properties have been sold. Also, some new inhabitants have moved into the settlement.

For validation and triangulation purposes, two other population clusters of Chadwick Road, primarily an upper-low to the middle-class area, and; Naqiliso settlement, a slum area, both within proximity of Bangladesh settlement, was also investigated.

Research Instrument

The questionnaire was envisaged as the primary data-gathering instrument and was utilized in this research. The researcher prepared a self-made questionnaire; hence the instrument was

subjected to a reliability test and validation. This reliability test was carried out through preliminary interviews with some residents of Niudamu Road, Nakasi, who themselves were squatters prior to their siting land being divided into serviced lots by the housing authority of Fiji and also of residents of China garden settlement (a slum area) located in Nausori. The validated questionnaire was then used for data gathering at Bangladesh. Additionally, face-to-face interviews and a talanoa approach with representative tributary clusters were undertaken. This was supplemented by the secondary data from official government sources on parameters of lot unimproved capital values (UCV), town rates, ground rent, average urban income, transportation costs, etc.

RESULT AND DISCUSSION

Case Study Area: Nakasi, Nausori

Nakasi, also called 9.5 miles, is a suburb located about 15 km northeast of Suva and 5km south of Nausori on the Suva Nausori corridor. Nausori Town Council administers the suburb as it falls under the local government area of Nausori. The total population of Nausori, as per the 2017 census, was 57,882, an increase of 32.3% from the 2007 census of 43,735 (Fiji Bureau of Statistics, 2018c), against a national urban increase of 16.3%. This was primarily due to the growth of Nakasi as both a commercial center and a housing development.

Nakasi's housing stock, as of census night-2017 stood at 2,621 or 46% of the total dwellings of the municipality, and if using the United Nations Population Division's 2018 household report of Fiji (UNPF-2018), the average household family size being 4.8 persons, gives the Nakasi population of 12,580 residents. The census report also points out that around 6,000 Nausori lives in squalor in 1254 informal dwellings within the district (Table 1).

Table 1. Housing Stock Distribution of Nausori Urban

No.	Ward	Population
1	Nausori	699
2	Davuilevu	810
3	Wainibuku and Davuilevu Housing	1594
4	Nakasi	2621

(excludes informal dwellings or properties without legal tenure)

Source: Fiji Bureau of Statistics (2018b)

Bangladesh Settlement

Bangladesh settlement is located along Dilo Street and bounded by Vaudamu Place, Kauvula Road on the east, and Vishnu Deo Road on the west. It is placed in a very affluent and desirable part of Nakasi. It is within walking distance of all major facilities of schools, hospitals, police stations, and the commercial center of Nakasi. It is on elevated land and has a moderate to low risk of flooding.

Bangladesh was previously an informal settlement on State land, which underwent upgrading as an urban renewal project and offered land parcels and formal leases to existing tenants. A parcel total of 59 lots (58 residential lots, one service lot for sewer pump) were surveyed, and eight shared service lanes of 4.5 m were constructed. The subdivision was also laid out with sewer and stormwater drainage systems. The project commenced in 2001, with planned lots ranging from 178 m² to 323 m², and offered to sit occupants for sums ranging from \$5400.00 to \$8000.00 to be paid before the project's conclusion and for a guarantee for allocation of lots. The project concluded in 2010.

Socio-demographic Characteristics of the Respondents

A total of 27 respondents were included in the study (Table 2). While the purposive sampling method was used for the respondents from the settlement under study, simple random sampling was used for the two secondary clusters: 19 respondents from Bangladesh settlement (settlement under

analysis), five respondents from PRB flats at Chadwick Road, Nakasi, and three respondents from Naqiliso squatter settlement at Davuilevu Housing, Nausori.

Table 2. Distribution of Respondents of the Study

Variable	Number	Percent
Bangladesh respondents	19	70.37
Chadwick PRB	5	18.52
Naqiliso squatter	3	11.11
Total	27	100

Responses as per Gender, Ethnicity, Marital, and Family Status

Physiognomies of a survey on the parameters of gender, ethnicity, individual, and family status are presented in Table 3. The respondents' gender for the central cluster was almost equal, with male respondents at 52.63% and females at 47.37%. The female gender response, however, for the two secondary sets was higher; 60% at Chadwick and 66.67% at Naqiliso. Most respondents were married or in de facto relationships, with widows and singles equally sharing the other major marital status. Ethnic group classification by response puts Indo-Fijian families at 89% for the central cluster but is almost absent in the other two sub-clusters (20% and 0%, respectively).

The findings in this regard amplify the results of other researchers (Bryant-Tokalau, 2014) that ethnic Indo-Fijians dominate informal habitation rates on State land, while the I-taukei numbers tend to be higher in settlements on native lands (exceptions being some settlements in the western side of Fiji), due to mainly the tribal and kinship nature of the 'vakavanua' arrangement. As for the PRB multi-unit dwellings, the indigenous population has always had numerical supremacy, reflected in response and settlement analysis.

Most families surveyed were small (63%) Indo-Fijian-dominated nuclear families in Bangladesh, and middle-sized households dominated the two secondary clusters. Only one response indicated the presence of more than eight people in households. This can be attributed to limited plot sizes and build-up area restrictions in Bangladesh (Class Residential D-less 200 sq. meters), standardized two-bedroom units in Chadwick, and single or two-room shacks in Naqiliso and further structural expansions limited by a creek, sewer mains, and pump station and Adi Davila Road on the other.

Table 3. Responses as per Gender, Ethnicity, Marital, and Family Status

Characteristics	Sub Characteristics	Main Cluster		Secondary Cluster			
		Bangladesh Settlement		Chadwick		Naqiliso	
		No.	%	No.	%	No.	%
Gender	Male	10	52.63	2	40.00	1	33.33
	Female	9	47.37	3	60.00	2	66.67
	Total	19	100.00	5	100.00	3	100.00
Marital Status	Single	3	15.79	2	40.00		
	Married/de facto	12	63.16	1	20.00	1	33.33
		1	5.26	1	20.00		
	Divorced	3	15.79	1	20.00	2	66.67
	Widow	19	100.00	5	100.00	3	100.00
Ethnicity	I-taukei	2	10.53	3	60.00	3	100.00
	Indo-Fijian	17	89.47	1	20.00		
	Others			1	20.00		
	Total	19	100.00	5	100.00	3	100.00
# in household	1-4	12	63.16	2	40.00	1	33.33
	4-8	6	31.58	3	60.00	2	66.67
	8+	1	5.26				
	Total	19	100.00	100.00			100.00

Responses as per Education Level and Economic Status

Table 4 depicts responses regarding the respondents' educational attainment and income sources. Most respondents had acquired some form of formal education apart from 4 respondents (3 in Bangladesh and 1 in Naqiliso). All four non-educated respondents were elderly females. 58% of respondents in the central cluster had secondary education, 11% primary, and only 3 or 16% obtained some form of tertiary education. The same trend was seen in the Chadwick cluster, with most either having primary or secondary school education and only one respondent receiving tertiary education. In Naqiliso, all respondents had a tertiary qualification, and 2 or 66.67% of respondents were educated up to some form of secondary school.

Table 4. Response as per Education Level and Economic Status

Characteristics	Sub Characteristics	Main Cluster		Secondary Cluster			
		Bangladesh Settlement		Chadwick	Naqiliso		
		No.	%	No.	%	No.	%
Education Level	No formal education	3	15.79			1	33.33
	Primary	2	10.53	2	40.00		
	Secondary	11	57.89	2	40.00	2	66.67
	Tertiary	3	15.79	1	20.00		
	Total	19	100.00	5	100.00	3	100.00
Employment	employed	5	26.32	4	80.00	2	66.67
	self-employed	6	31.57				
	unemployed	8	42.11	1	20.00	1	33.33
	Total	19	100.00	5		3	100.00
No. employed @ home	0	1	5.26			1	33.33
	1	7	36.84			1	33.33
	2	8	42.11	1	20.00	1	33.33
	3	2	10.53	1	20.00		
	>3	1	5.26	3	60.00		
	Total	19	100.00	5	100.00	3	100.00
Another income source	No other income	10	52.63	4	80.00	2	50.00
	Rent/ Let out rooms	1	5.26				
	Shares/investments	4	21.05				
	Some from home	1	5.26			1	25.00
	Family support	1	5.26	1	20.00	1	25.00
	Social welfare	1	5.26				
	Pension	1	5.26				
	Others	19	100.00	5	100.00	4	100.00
Total household income	< \$6,000	5	26.32			2	66.67
	\$6,000 - \$12,000	5	26.32	2			
	\$12,000 - \$20,000	7	36.84	2	40.00	1	33.33
	> \$20,000	2	10.53	1	40.00		
	Total	19	100.00	5	20.00	3	100.00

The respondents of this study were all adults from all three categories (young, middle-aged, and elderly). It is interesting to compare the findings on education to the latest Household Income and Expenditure Survey (HIES) of 2010. The HIES shows that 5% of urban children still need to be at primary school, 19% still need to be in secondary school, and only 44% make it to tertiary institutions. The report also mentioned high dropout rates in the poorest urban households, with some 10% dropping out by age 15, 16% at age 16, and 18% at age 17. Level of schooling and income are positively correlated and were also validated by the findings.

Most respondents in Bangladesh settlement (42%) were unemployed, with 26% employed. However, 32% of the respondents were self-employed and had businesses ranging from private grass-cutting services to tailoring, event catering, and canteens within the settlement. 80% of

Chadwick respondents were employed, 20% were unemployed, 67% were engaged in Naqiliso, and 33% were unemployed.

Most families in Bangladesh settlement had at least 1 (37%) or 2 (42%) persons in employment, with 16% having three or more persons. 5% of households from the sample had 100% unemployment and were dependent on social welfare and pension. In Chadwick, more than three income earners (60%) per household were the majority, with one-person income (20%) and two-person income (20%) forming the other subset. No family was surveyed in Chadwick and had 0 employment. In Naqiliso, 33% of households had zero employment, 33% were single earners, and 33% were dual earners. The home with 0 occupations relied on family members, relatives, and social welfare.

Other sources of income apart from wage income were relatively low in the central cluster, with 52% recording no other income, 5% from rent, 5% from family support, 5% from social welfare, and 5% from other sources, respectively. 21% of respondents were engaged in small and micro enterprises from home, indicating significant private enterprise and economic activity within the settlement.

Regarding other sub-clusters, Chadwick reported 80% from no other income source and 20% from social welfare. In Naqiliso, a similar trend of 2 out of three respondents had no other revenue source apart from weekly income. One household (widow-led household unit) survived without any payment earned. Still, it depended on the family from the village (Nauso, Tailevu) for food items of fish and crabs (protein), vegetables, and root crops (source of carbohydrates) for daily sustenance. The family also received F.D. \$100.00 a month of social welfare assistance, which provided basic food and fuel items (salt, sugar, flour, rice, milk, and kerosene) and paid for water bills. The family head was also a recipient of the Ministry of Health's free medicine scheme and received free medicine and treatment for her arthritis and asthma.

The income spectra were relatively well spread out in Bangladesh, with 26% of households earning below \$6000, 26% in the \$6000-\$12000 range, 38% in the \$12000-\$20,000 bracket, and 10% of the total household earnings above \$20,000 per annum. For Chadwick, 40% of total household earnings were \$6000-\$12000, 40% in the \$12000-\$20,000 bracket and 20% of the sample population recorded total household income over \$20,000. Middle- to high-income households were mainly employed by more than three persons per domiciliary. In contrast, Naqiliso recorded 67% of the sample population earning less than \$6000 annually, with 33% rating in the range of \$12000-\$20000, where both husband and wife were found to be informal employment as a carpenter for a building contractor and as a cashier at local supermarket respectively.

Responses on Dwelling Type and Ground Rent

As evident from [Table 5](#), the reactions on house characteristics include the construction material and floor area and the annual lease or ground rent levied on the plot. Most of the houses noted from the responses were of tin/ corrugated iron cladding (73.68%), while timber frame (5.26) and concrete structures (21.06%) were the other construction types. Chadwick was all double-story concrete because it was sold as a built-up strata property, not land only. Naqiliso settlement had predominately (as observed in most territories) tin and corrugated iron dwellings, and 33.33% were of sarking and recycled materials.

In Bangladesh, 47.37% of the floor area of dwellings was 60 - 80 m², with a further 31.58% having a floor area of less than 60 m². Only 21.05% had homes with a floor area of 80-100 m². Chadwick, with prefabricated houses, had a common total floor area of 69.92 m² spread over two floors. Naqiliso had 66.67% of homes with a floor area of less than 60 m² and 33.33% with a floor area of 60-80 m². No house understudy had a floor area of more than 80 m² in Naqiliso.

At this juncture, the house material type, floor area, and other structural improvements den, to a large extent, the financial capability of families in Bangladesh and Naqiliso. The main barriers are finance and affordability. Another determining factor noted is the continual increase in the price of construction materials, as shown in [Figure 3](#).

In terms of ground rent, in Bangladesh, ground rent was levied by the Department of Lands (as Bangladesh was sitting on state land) and the Housing Authority in Chadwick Road. In Bangladesh, 5.26% were assessed ground rent at less than \$70/year, 21.05% between \$70-\$100/year,

15.79% at \$100-\$150/year, 36.84% at \$150-\$200/year, and 21.05% at more than \$200 per year. In Chadwick, annual ground rent was uniform, with all rent levied under \$70. In Naqiliso, no regulated annual rental exists due to no legal tenure and the ‘vakavanua’ arrangement; however, 1* occupant was paid \$6000 by Housing Authority to relocate from an H.A. development site (where she was squatting illegally) to a portion of land in Naqiliso settlement which belongs to Housing Authority. 2** other occupants paid \$500 and \$1000 to the landowning mataqali to establish a home in the territory. Apart from the initial payments, occupants are often asked to contribute financially to the functions and events of the landowning clan.

Table 5. Response on Dwelling Type and Ground Rent

Characteristics	Sub Characteristics	Main Cluster Bangladesh Settlement		Secondary Cluster			
		No.	%	Chadwick		Naqiliso	
		No.	%	No.	%	No.	%
House type	2 nd hand recycled material/sarking/clapboard					1	33.33
	Tin/corrugated iron	14	73.68			2	66.67
	timber	1	5.26				
	concrete	4	21.05	5	100.00		
	Total	19	100.00	5	100.00	3	100.00
Floor Area (m2)	0 – 60	6	31.58			2	66.67
	60 – 80	9	47.37	5	100.00	1	33.33
	80 – 100	4	21.05				
	>100	0					
	Total	19	100.00	5	100.00	3	100.00
Annual Ground Rent	\$0-\$70	1	5.26	5	100.00	1*	33.33
	\$70-\$100	4	21.05				
	\$100-\$150	3	15.79				
	\$150-\$200	7	36.84				
	>\$200	4	21.05			2**	66.67
	Total	19	100.00	5	100.00	3	100.00

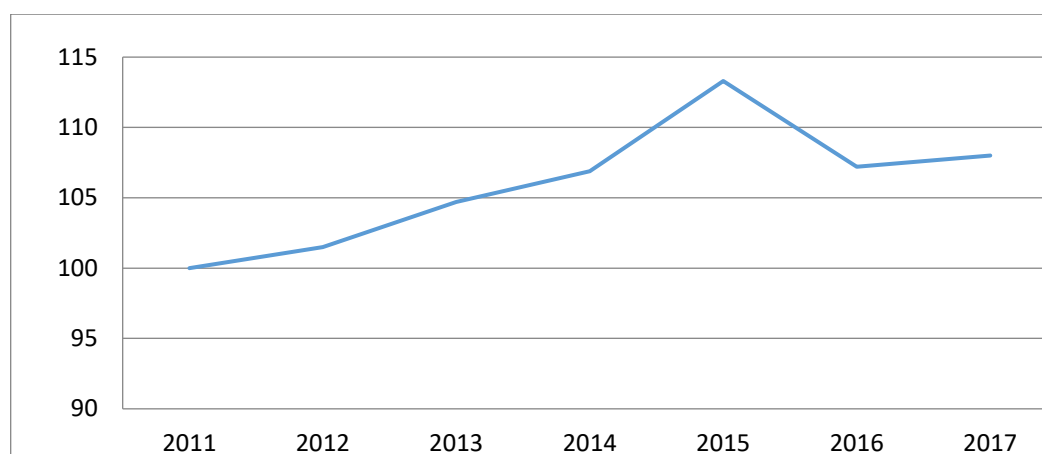


Figure 3. Building Material Index 2011 to 2017 (Fiji Bureau of Statistics, 2018b)

Responses on Transportation Factors

Table 6 presents the answers concerning transport and transportation components for the 3 clusters under study. The city of Suva was consistently the principal place of employment for all clusters; 63.16% (Bangladesh), 60% (Chadwick), and 50% Naqiliso, with Nausori and Nakasi, the other localities where residents from the groups, found employment. Results indicate that Suva, with its top commercial, industrial, and social facilities, services, and infrastructure, provides more

employment opportunities for residents along the Suva-Nausori corridor than the nearer towns of Nausori and Nasinu, the commercial center Nakasi.

The primary mode of transportation was via public transit; 63.16% -in Bangladesh, 100% in Chadwick, and 33.33% in Naqiliso. Private vehicle users were only seen in Bangladesh (26.32%) with walking, with 10.53% in Bangladesh, and 66.67% in Naqiliso, as a preferred and cost-saving mode of transportation. Private vehicle ownership was observed only in Bangladesh, with 31.58% of respondents indicating household car ownership.

With Suva as the principal place of employment for most respondents, research also notes the transportation costs per day per individual was over \$3.00 in 63.16% of Bangladesh and 33.33% in Naqiliso. Daily expense in the \$1.50-\$3.00 was 26.32% in Bangladesh and 60% in Chadwick. Lower costs of \$0-\$1.50 were 10.53% in Bangladesh, 40% in Chadwick, and 66.67% in Naqiliso, indicating that residents falling within this subset were either employed in Nakasi or the nearby town of Nausori and either walked or used bus services to work (taxi flagpole starting rates are \$1.50 to \$2.00). For Naqiliso residents, it also implies that settlement formation was mainly due to the realization of affordable housing near the place of employment.

Table 6. Response on Transportation Factors

Characteristics	Sub Characteristics	Main Cluster		Secondary Cluster			
		Bangladesh Settlement		Chadwick		Naqiliso	
		No	%	No	%	No	%
Principal place of employment	Nakasi	5	26.32	2		1	50.00
	Nausori	1	5.26	3	40.00		
	Suva	12	63.16		60.00	1	50.00
	Other	1	5.26	5			
	Total	19	100.000		100.00	2	100.00
Transport mode	Walk	2	10.53			2	66.67
	Public transport	12	63.16	5	100.00	1	33.33
	Private vehicle	5	26.32				
	Total	19	100.00	5	100.00	3	100.00
Car Ownership	0	12	63.16	5	100.00	3	100.00
	1	6	31.58				
	>1	1	5.26				
	Total	19	100.00				
Travel cost/day	\$0-\$1.50	2	10.53	2	40.00	2	66.67
	\$1.50-\$3	5	26.32	3	60.00		
	>\$3	12	63.16			1	33.33
	Total	19	100.00	5	100.00	3	100.00

Poverty Perception

The research focused on the issue of poverty (both tangible and perceived) in Bangladesh settlement and the other 2 clusters. The 2008-2009 Household Income and Expenditure Survey (HIES) from the Fiji Bureau of Statistics was utilized for poverty calculations. The Fiji Wages Council decided the population-weighted Basic Needs Poverty Line (BNPL) in 2008-09 for a family of 4 adult equivalent (Adult=1, Child=1/2) and stood at \$184.41 per week. While no other HIES has been conducted since then, using the 2018 Consumer Price Index (CPI), with 2011 being weighed at 100% (assuming it is equal to the 2009 survey), annual average percentage changes are noted in Table 7.

Table 7. Annual Average Percentage Change

	Year	Annual Average Inflation Rate	All Items
Weight			1000.0
Annual	2011	0.0	100.0
Average	2012	3.4	103.4
	2013	2.9	106.4
	2014	0.5	107.0
	2015	1.4	108.5
	2016	3.9	112.7
	2017	3.3	116.4
	2018	4.1	

Source: **Fiji Bureau of Statistics (2018a)**

Therefore:

$$CPI_t = \frac{\text{cost of market basket}_t}{\text{cost of market basket}_{\text{base year}}} \times 100$$

$$104.1 = \frac{\text{cost of market basket}_t}{116.4} \times 100$$

$$\text{cost of market basket}_t = 104.1 \div 100 \times 116.4$$

$$\text{cost of market basket}_t = 121.2$$

Where the t= year 2018 and base year=2017

Overall inflation

$$\text{rate of inflation} = \frac{CPI_{x+1} - CPI_x}{CPI_x}$$

$$\text{rate of inflation} = \frac{121.2 - 100}{100}$$

$$\text{rate of inflation} = 0.212 = 21.2\%$$

2018 value of weekly BNPL

$$FV = PV \left(1 + \frac{r}{k}\right)^{kt}$$

$$FV = 184.41 \left(1 + \frac{0.212}{8}\right)^{8 \times 1}$$

$$FV = \$226.38/\text{week}$$

$$\therefore \text{2018 yearly BNPL} = 226.38 \times 52 = \$11,771.76$$

In Bangladesh, 26.32% of the sample population lived on an annual household income of less than \$6000.00, indicating abject destitution, and 26.31% in the \$6000 - \$12000 annually. Therefore 52.62% of the households lived in or almost on the poverty line of \$11,777.76 /year. Naqiliso settlement had 66.67% of the sample population in poverty with earnings (0-1 employment/household) of less than \$6000.00/year, with Chadwick flats residents recording 40% poverty on household earnings below \$12000.00/year.

Overcrowding

Overcrowding has social consequences of privacy issues but is a significant factor in infectious disease transmission with epidemic potential. Disease outbreaks tend to be more frequent in areas of high population density, and risks are multiplied in inadequate and sub-standard housing. Under the Public Health (National Building Code) Regulations 2004, dwelling house occupancy should be at least 15 m² per occupant in addition to correct sanitary facilities and adequate ventilation.

In Bangladesh, 31.58% of the houses have a floor area of less than 60 m², and 47.37% of dwellings with a floor area in the range of 60 - 80 m², with no homes having more than 100m² floor area. For a family of 4, at least 60 m² of living area is necessary, and for an eight-person family

household, 120 m² is required. Therefore, up to 36.8% of the surveyed population are in overcrowded domiciles currently. In Chadwick, with the standard floor area being 69.92 m², 60% of the population is overcrowded. For Naqiliso settlement, overcrowding stands at 33.33% and hypothetically could be as high as 66.67%.

Summary of Challenges and Problems Faced by Bangladesh Settlers

Table 8 lists the challenges and issues faced by the respondents, as noted from their reactions to the questionnaire. It can be gleaned from the above Table that poverty and unemployment, which were symbolic of the socio-economic landscape of the ancient slum days, are very much still prevalent in this upgraded settlement and have been further accentuated by the high cost of living expenses (ground rent, transport). These concerns have directly influenced the built environment, with very few structural upgrading to dwellings. Sub-standard edifices with constrained floor areas and cramped living conditions still adorn the Bangladesh landscape, with real risks to natural calamities and infectious disease outbreaks.

Table 8. Lists the Challenges and Issues Faced by the Respondents

Challenges/ Issues	Number	Percent (%)	Rank
Abject poverty (household income < \$6000)	5	26.32	1
Unemployment	8	42.11	2
High transportation costs (> \$3p/p/day)	12	63.16	3
Sub-standard housing	14	73.68	4
High annual ground rent > \$200	4	21.05	5
Limited floor area < 60m ²	6	31.58	6
Overcrowding	7	36.8	7

It can be gleaned from the **Table 8** that poverty and unemployment, which were symbolic of the socio-economic landscape of the ancient slum days, are very much still prevalent in this upgraded settlement and have been further accentuated by the high cost of living expenses (ground rent, transport). These concerns have directly influenced the built environment, with very few structural upgrading to dwellings. Sub-standard edifices with constrained floor areas and cramped living conditions still adorn the Bangladesh landscape, with real risks to natural calamities and infectious disease outbreaks.

Correlation of Financial Contribution of Ground Rent and Town Rates

Inferential statistics is as a result of this used to attempt to answer research question 2; *Is there a significant difference in financial contributions of ground rent and town rates between Bangladesh Settlers and the formal property owners in Nakasi* and to test the associated hypotheses: H0- There is no significant difference in financial obligations on ground rent and town rates between the Bangladesh settlers and the formal property owners in Chadwick Road. H1- There is a significant difference in financial obligations on ground rent and town rates between the Bangladesh settlers and the formal property owners in Chadwick Road

Town Rates

Town rate or property tax is the financial contribution each household or property/lot allotment pays to the local council for the provision of municipal services of sanitation, roads, parks, gardens, drainage, waste collection, etc., and conventionally, is the main contributor to the revenue stream of majority metropolis and boroughs. Dillinger, quoted in **Nadan and Muertigue (2018)**, notes that for local governments globally, property tax is, to a large extent, the most commonly adopted local tax and appears to be the most stable in terms of revenue generation.

For this part of the paper, the town rates for the whole 58 lots (less two lots, which are zoned Commercial C and unavoidably have a much higher property value and viz a viz higher town rate allocated, are deliberately left out as to not to skewer the residential class lot value) of Bangladesh

settlement is quantitatively compared in terms of rates payable with the housing authority owned ten double stories 3 unit per building for the terrace/ townhouse structure located at Chadwick Road, Nakasi (Cluster sample 2). The third cluster of Naqiliso squatter settlement is not considered for this analysis. The dwellers have no legal occupation rights to the land and therefore are not levied any town rates.

Pay

This portion of the research further investigates whether vertical inequity in taxation may also be present within similar-income households but with different state-sponsored solutions to housing. The current rating methodology, as per the analysis sample, is shown in **Table 9**.

Table 9. Rating Methodology

Chadwick Lot #	UC V\$	Chadwick UCV Rate (0.01/\$)	Bangladesh Lot #	UC V\$	Bangladesh UCV Rate (0.01/\$)
2	6000	60	1	8600	86
3	6000	60	2	8600	86
4	6600	66	3	8600	86
10	8600	86	6	8900	89
11	8300	83	7	8800	88
12	7700	77	8	7700	77
13	7900	79	9	7700	77
15	8800	88	10	8000	80
18	8000	80	11	8000	80
19	7100	71	12	8800	88
20	7500	75	13	8800	88
21	7000	70	14	8800	88
22	7000	70	15	7900	79
23	9000	90	16	7800	78
24	8400	74	17	6900	69
25	5100	51	18	8800	88
26	5400	54	19	8800	88
27	5100	51	20	7500	75
28	5100	51	21	6200	62

Group Statistics

VAR00001		N	Mean	Std. Deviation	Std. Error Mean
Rates	Bangladesh	58	86.24	20.528	2.695
	Chadwick	27	71.89	14.170	2.727

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Rates	Equal variances assumed	.120	.730	3.282	83	.002	14.352	4.373	5.655	23.050
	Equal variances not assumed			3.743	70.794	.000	14.352	3.834	6.707	21.998

This shows that the UCV values between the two communities are almost comparable at face value. However, to examine the UCV values and, consequently, the rate levied, an Independent T sample test was conducted with state-sponsored public housing (H.A., Lands) as the two independent variables and town rates as the dependent variable. All 58 lots of Bangladesh were

subjected to the test, and so were the 27 lots of Chadwick comprising concrete double-story barrack-type dwellings, and equal variances were assumed.

The independent t- sample results indicate that there was a significant difference in the scores in the rates for Bangladesh ($M= 86.24$, $SD =20.52$) when viewed against rates for Chadwick ($M=71.89$, $SD=14.17$) at conditions; $t(83)= 3.282$, $p = 0.02$. The results reflect that the mean rate payable for the 58 residential properties in Bangladesh is \$86.24, significantly higher than the mean rate of \$72.89 paid by the average property owner in Chadwick.

The significant differences in rates payable by residents of Bangladesh, when compared to Chadwick residents ascertained through this analysis, demand the rejection of the null hypothesis and acceptance of the alternate (H_1). A deeper inquiry (Figure 4) additionally denotes that while the least town rates payable in Chadwick were \$50 (VEP) and \$53 (VEP) in Bangladesh, 75% of the Bangladesh settlers are paying more than the average rates levied in Chadwick which is \$73.00.

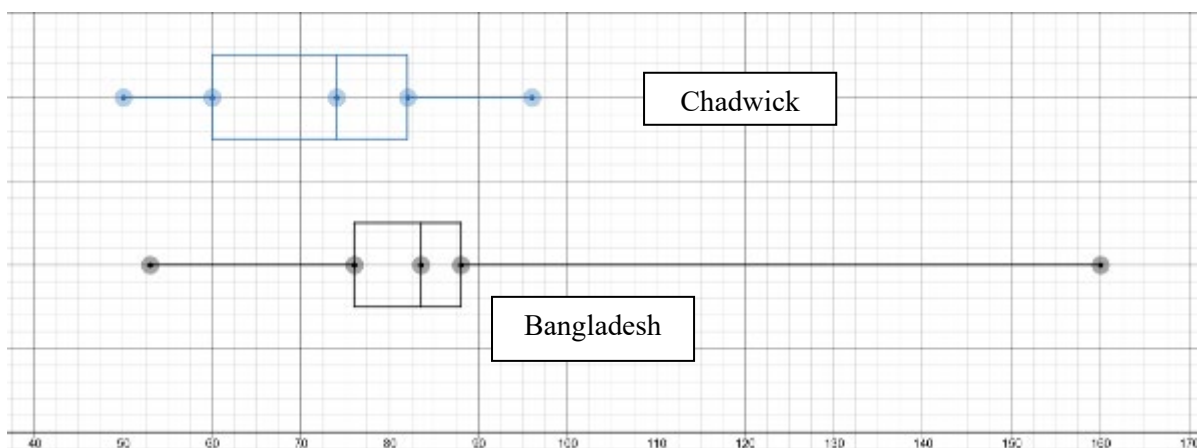


Figure 4. Box and Whisker Plot

The T-test and whisker plot results contradict the recommendations of [White \(2000\)](#) and the [\(The International Association of Assessing Officers, 2017\)](#), which advocates that property taxes in the form of town rates should be levied primarily on the ability to pay and benefits received. It should be equitable, neutral, and competitive. Valuers and land assessors [\(The International Association of Assessing Officers, 2017\)](#) consistently advocate for capital value (CV) appraisal. The Valuer General-State of Victoria [\(Gurran, 2003\)](#) notes to provide fair and transparent land values, particularly in urban areas dearth of vacant plots and very few records of such sales, CV, or site value of the property, inclusive of its built improvements, is the recommended approach as it candidly captures the actual market value of land and reflects the owner/developers level of investment and potentially their financial ability.

Research in UVC-based taxation principles by [Hassan \(2014\)](#) and [Nadan and Muertigue \(2018\)](#) noted no vertical equity in the UCV system as it conveniently ignores the value of improvements. Thus the tax burden is disproportionately imposed on people with low incomes. The research results reflect their findings, showing that Bangladesh, with debilitated housing conditions, is paying more than their similar economic strata counterparts in Chadwick.

Another critical finding revealed from the research was that the developers made no provisions for communal faculties for residents' enjoyment in Bangladesh. On the other hand, the community amenities of a children's park and a community hall were developed by the Housing Authority at Chadwick and maintained [\(Hu et al., 2017\)](#).

The sentiments, thus recorded from the respondents that the town rates are high (particularly in the absence of facilities) when statistically compared with similarly ranked working lower-middle-class community of Chadwick does suggest inefficiencies in the current taxation regime and a legally sanctioned financial burden on the poor, especially those households under the Basic Poverty Line (BPL).

Community Perceptions on Bangladesh Upgrading Project

Residents, 19 years down the lane from the formalization of Bangladesh settlement into lot parcels and tenureship, also indicated what the upgrading project has meant for them and how it affected them individually and domestically. Respondents also highlighted issues within the subdivision development and suggested improvements. Two significant but conflicting themes have emerged by analyzing the responses gathered through face-to-face interviews. The first theme identified was improving individuals' and families' social, economic, and physical aspects post-upgrading. The other theme was the authorities' neglect over time of the settlement.

Enhancements brought about by the development in most respondents were a sense of accomplishment, and pride in being homeowners, ease of access to public facilities (hospitals, schools, supermarkets, police stations, etc.), and better access to public utilities (Gauly et al., 2022). One respondent noted the absence of disputes on land, building encroachments, and trespassing, which were prevalent during the informal settlement period due to proper plot allocation and boundary pegs. However, very few expressed a desire to upgrade their homes, mainly through loans from now more accessible access lenders for home improvement or generate extra income from flat letting. This corresponds to the earlier results of the continuance of poverty within the settlement.

Many settlers, in certain aspects, felt their current needs should have been given attention after the initial development (Sonenscher, 2017). Concerns of poor quality of stormwater drain now falling apart, with no remedial action, blocked drains, poor quality of driveways, boundary pegs not laid correctly, and high town rates with poor municipal service delivery were some prominent issues raised. Roy (2011) calls this a significant feature of the 'subaltern urbanism' or habitus of the dispossessed. She argues that slums and settlements like these are restricted to the political arena of occupancy urbanism and provide political fodder for ruling politicians as token developments to practice vote-bank politics.

However, it should also be noted that Nausori Town Council, with a shallow tax base and only 60% revenue collection (Nadan & Muertigue, 2018), is bound to be hampered in service delivery, particularly to the low-paying 'poor' sections of its district. Paradoxically, these issues have only been raised after residents feel empowered through land tenureship and as paying tenants and ratepayers. The awareness of their financial contributions concerning the demand for better services has resulted in their self-empowerment and social inclusion.

CONCLUSION

This chapter has summarily defined Nakasi and its socio-geographical information. The chapter additionally, following the mixed-method approach to the inquiry into the socio-economic status of the Bangladesh residents, shows that compared to a slum area (Naqiliso), the settlement has progressed and is in an improved state. However, poor, non-resilient house quality, unemployment, relative poverty indices, and higher property taxes plague the settlement compared to a similar economic status community (Chadwick Road). This project has examined qualitatively the living conditions of the Bangladesh settlers being perceived as low-income families and quantifies the impact of social housing policy among Fijians. The intended outcome of this study was the proposed transformational urban regeneration of the specified area, which may help augment the target area's physical structure and living conditions.

Recommendations

The recommendation in view of 'In Situ' Developments. The state program of upgrading existing squatter settlements to proper subdivision leases and the provision of the public infrastructure of sewer and concreted driveways to the already existing water and electricity is commendable. This type of 'in situ' upgrading has had three big advantages over the relocation of occupants it preserves the existing houses and jobs and, in most situations, cuts transportation costs to work, school, and other public facilities, as relocation strategy is mostly resettling occupants away from the city centers. However, these interventions had some strategic flaws, noted below with some recommendations for improvement.

Development in Partnership

Government tends to have direct and sole involvement in these projects. No facilitators or intermediaries are engaged. Government directly liaises with communities, and as slum dwellers are not well educated, no sharing of ideas occurs, and government officials tend to make decisions for them. Scrutinizing the example from India, where social housing under the JnURM has had relatively high success, shows the importance of the involvement of relevant CSOs, CBOs, and NGOs in these projects. These organizations have experience in mobilizing communities, providing the link as government intermediaries to the locals, and helping them better understand the government's housing policies. They can also help source further funding (seed or donor) for the project (as in the example of Ethiopia), which can be used in multiple ways like, microfinance schemes, zero-interest loans for structural improvements to the home, community commercial enterprises, etc. This partnership strategy will improve governance and help the state lower overall costs to the project and provide the necessary public feedback to the government.

Public Housing Projects Incorporated in Slum Upgrading

There is an urgent need to relook into providing built housing for people experiencing poverty. While squatter upgrading and land formalization has been perceived as successful intervention, this concept of success is largely open to debate, as shown in research. It has not led to the intended better quality of life. 73% of the original slum dwellers who have remained in Bangladesh still live in dilapidated, unsafe structures which do not meet the legislated requirements. A few of them, as mentioned previously, still have dwellings not connected to the sewer line provided due to financial constraints.

It is noted that the provision of built housing and land upgrading will come as additional costs and may be beyond the government's capability. However, lessons learned from other countries, particularly the Lidata project in Addis Ababa and the Singapore housing concept, show that combining tools of 'vertical subdivisions' and densification and building moderate high-rise apartments, and readjusting land and mix development planning (Bangladesh location being a prime example) the leftover land/ plots can be sold at market prices to subsidize building costs to a large extent. The construction process, too, can equip residents with construction knowledge and experience and help promote future employment.

Need for Macroeconomic Framework for Home Development. The main obstacle to home upgrading noted via this research was financial constraints faced by the settlers. The earlier research highlighted the continuing rise of construction materials and overall inflation against a stagnated minimum wage. Apart from the high price of materials, home loans are also out of reach for occupants, as commercial deposits and interest rates are beyond affordability for many. There is an urgent need to effectively manage the real estate market and ensure a level playing field for all economic classes and that people from all walks of life have equitable access. Economically deprived individuals, the marginalized, people with special needs, and widows should have 'special' aided entry into home markets.

For substantial improvement to the status quo, the government needs to consider a macroeconomic policy approach for home improvement. This would require certain characteristics of Singapore, India, and the Addis Ababa development models. The focus should especially be on the lower middle class and lower class, as the home market for the upper middle and high class at this junction seems stable. The policies should include the following: (1) Vesting of powers to state agencies responsible for housing (focus on low and middle-income households) for compulsory acquisition of land to supplement available land for housing development with the state's financial and technical support to this end; (2) State or the government-backed superannuation fund (FNPF) to further relax its lending criteria with minimal to zero interest rates, especially to the poor and vulnerable; (3) Introduce lease and buyback schemes; (4) Institutional strengthening of Public Rental Board and subsidizing rental for the very poor and elderly (this can also be used as transitional housing, improvement in the standard of living, reduction squatting, and a means of saving towards home purchase later). Additionally, please review the current financial capability of PRB to ensure it remains commercially viable while bearing subsidiary loads.

(5) Introduction of and further strengthening various forms of subsidiaries to the housing sector, particularly towards agencies responsible for poverty alleviation, with strict rules on eligibility, to prevent abuse and keep the land and housing prices well below the market rate; (6) Setting price control and ceilings on essential construction and hardware materials. Alternatively, government or its agencies can embark on long-term bulk supply contracts for these materials from manufacturers and suppliers. This will help keep the material price steady and cut off the profit-oriented capitalist vendors; (7) Restrictions and covenants placed on reselling low-cost housing plots and units on the open market to limit profit-seeking and gentrification in communities; (8) Relook at the tax structure regime for property taxes and restructure it on a sliding rule concept of 'the ability to pay' as it is with other taxes; and (9) Provision of communal facilities (parks, community halls) and promoting community-based activities to advance social cohesion and inclusion.

The housing process for a small nation like Fiji has unnecessarily been made complicated through successive governments' drastic changes in policies and intervention strategies. When comparing other developing countries' initiatives in this sector, the need for the abovementioned points of intercession must be considered. The author agreed with Bougie et al. (2015) that urban development and regeneration of decayed areas without a strong emphasis on the social dimension would result in a distorted sustainability concept which will remain a 'concept in chaos.'

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