ASSESSMENT OF THE PERFOMANCE OF INFORMAL SETTLEMENT CONTROL STRATEGIES IN TANZANIA:

CASE OF ARUSHA CITY

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ABSTRACT

This study aimed on assessing the performance of informal settlements control strategies in Tanzania. The study was confined in Arusha City only. The study had three specific objectives which are to assess the role of plot Survey on informal settlement control in Arusha, to assess the significance of regularization and street slum upgrading in the control of informal settlement in Arusha city and to evaluate contribution of housing schemes in the control of informal settlement in Arusha city. The study adopted descriptive research design were both qualitative and quantitative approaches were used. The sample size was 200 respondents obtained through purposive and simple random sampling technique. Data were collected through interview and questionnaires and were analyzed through descriptive, regression and content analysis. Findings show that plot survey and regularization had a significant impact on the control of informal settlement growth in Arusha. The study concluded that the government should invest much effort on plot survey as regularization was found to require much financial resource and time.

Key words; Plot Survey, street slums, Regularization and Informal Settlements.

INTRODUCTION

The world is steadily becoming urban, as people move to cities and towns in search of employment, educational opportunities and higher standards of living (Kalugira 2013). Rapid urbanization in developing countries is always accompanied by the growth of urban settlement which includes informal settlements (UN Habitat 2016). The growth of informal settlements and neighborhoods is a global phenomenon which is being accompanied with the population growth. According to UN Habitat, an estimated 23% of the World urban population leaved in informal settlements by 2018. This signifies that, the above population experiences the impacts of informal settlements which varies from one area to another. The characteristics of informal settlement posses' challenges to the informal settlement dwellers in most of the urban areas. Researchers mentioned some of the characteristics of informal settlement being lack of basic services, poor infrastructures, poor shelter, poor waste management systems, lack of ownership of tenure, overcrowding and pollutions. These characteristics impact negatively to the environment posing risk and susceptibility to health problems associated to informal settlements.

Statement of the problem.

Globally, research shows that, 23% of the world's urban population by 2018, lived in informal settlements, (UN Habitat 2018) where they lack access to basic services, work and education opportunities. Despite of different strategies of stopping and reducing the growth of informal settlement in towns, there are still evident of rapid growth of informal settlement in most of towns in Africa, including Tanzania (UN Habitat 2018). Residents in these settlements are lacking basic services, houses are overcrowded, no clear accesses, poor waste management which is posing risks and susceptibility of health problem to habitants. The rate of increase of informal settlement in our cities including Arusha city is high which triggers to the persistence and increase of the above challenges among urban dwellers. The different researchers have studied the phenomenon of informal settlements and drawn out what could be general reasons for the growth of informal settlement within our cities. Architect Hilda Ndyuki in her paper tilted Community Based Strategies in Upgrading Informal Housing Areas, has stipulated the following as main reasons for the growth of informal settlement in our towns. Scarcity of surveyed and serviced plots, Inflexibility of planning and building regulations, Lack of infrastructure and social servives to the surveyed plots and Rural Urban immigration.

Like other growing towns, Arusha city is also likely to have the above circumstances which lead to the growth of informal settlement all around the city. Different approach has to be taken by the City Council's Urban Planning Department, to make sure that the informal settlement growth rate is reduced time by time in order to avoid future problems. With this study, the Arusha city council planning department will be able to have extra measures to be taken in order to slow down the informal settlement growth within the city. The study will also explore further methods for upgrading of existing informal settlement.

General Objective.

The general objective of this study was to assess the performance of informal settlement control strategies in Tanzania.

Specific Objectives.

To assess the role of plot survey in the control of informal settlement growth in Arusha city.

To assess the significance of regularization and street slum upgrading in the control of informal settlement in Arusha city

To evaluate contribution of housing schemes in the control of informal settlement in Arusha city

LITERATURE REVIEW

The informal settlements in many literatures are traditionally presented as the other side of coin of formal settlements, therefore being defined by lack of features which are present in formal settlements. The dictionery.com defines the word informal as a manner which is not according to the prescriptions, official or customary way, irregular and unofficial manner. On a global scale, the definition of informal settlements differs due to multitude of names which are used to label informal settlements, each country in the world has a different word to define what an informal settlement is. No do scholars agree on a precise definition of informal settlement.

The Un Habitat, 2015 defines informal settlement as residential areas where inhabitants have no security of tenure vis-à-vis the land or dwellings they inhabit, with modalities ranging from squatting to informal rental housing, secondly the neighborhoods usually lack, or are cut off from, basic services and city infrastructure and thirdly the housing may not comply with current planning and building regulations, and is often situated in geographically and environmentally hazardous areas. In addition, informal settlements can be a form of real estate speculation for all income levels of urban residents, affluent and poor. Slums are the most deprived and excluded form of informal settlements characterized by poverty and large agglomerations of dilapidated housing often located in the most hazardous urban land. In addition to tenure insecurity, slum dwellers lack formal supply of basic infrastructure and services, public space and green areas, and are constantly exposed to eviction, disease and violence.

In many literatures, informal settlements have been given different names highlighting positive and negative altitude as well as approaches toward them. For example, terminologies such as squatter settlements, low income settlements, semi-permanent settlements, spontaneous settlements, unplanned settlements uncontrolled settlements have been also used (Kalugira 2013).

Theoretical Literature Review.

Various theories to find out reasons and identifying the grounds for informal settlement globally and regionally have been put out by different theorist and researchers. This part presents different theories and their school of thought regarding the existence and persistence of informal settlements in urban settings.

Concentric zone theory.

This is a theory of land use patterns developed by William Burgess in 1925 which states that; a city will assume the form of five concentric urban zones; the central business district zone in transition, the zone of working persons' home, the zone of better residence and the commuter's

zone. Growth of the city is accomplished by the expansion of each zone into next zone. This was a descriptive urban land use model which divided cities into concentric circles expanding from downtown to the suburbs. The representations were built from Burgess Observation of several American cities notably Chicago for which he provided empirical evidence. The model assumes the relationship between social economic status mainly income of the household and the distance from Central Business District (CBD). The further from the CBD, the better the quality of housing, but the longer the commuting time. Thus, accessing better housing is done at the expense of longer commuting times (and costs). According to Burgess, urban growth is a process of expansion and reconversion of land uses with tendency of each inner zone expanding towards the outer zone. In regard to this study, it will be envisaged if the structure of Arusha city may assist to discern the informal settlement areas in consideration to their behavior patterns to environment as spatially demarcated by Burgess in his concentric ring theory.

Urban form theory

The urban form theory was developed by R. Hiag (1926) and Park and Burges (1925), and an alternative explanatory theory of urban form has been developed in recent years. Both theories are discussing the broad range of urban phenomenon that land values tend to drop with distance from the center while family income tend to rise with distance. The paradox is then that the well do live in cheaper land while the poor live in expensive land. The theory explains this phenomenon in terms of passage of time and may be called an historical theory. It explains that, as cities grows, the houses become old and therefore unsatisfactory to high income families. The rich then build new houses where the open land is available which is likely to be outskirt of the city. Those of lower income then move to the vacated houses. Generally, the theory dwells in the understanding the varied effects of different physical forms, and of the locations of human activities in relation to physical forms which should be the principal analytical skill of any physical planner. For a variety of reasons these skills have been neglected (Lynch & Rodwin, L. 1958).

Governments intervention and housing by people.

John F.C Turner the British Architect, is being credited as the first theoretician of informal architecture/settlements. In his theories, Turner developed critique of modernist planning and top-down housing policies working in informal settlements in Latin America between 50s and 60s. He considered centralized housing production system as inherently autocratic and inefficiency. He was targeting by then, the housing provision policies in European social democracies as well, and to claim that the State and Technical Professionals should not replace citizens in the planning and construction of neighborhood and dwellings but rather provide them with financial and infrastructural instruments to lead the processes independently. The State and professional should perform a function of support and facilitations leaving the dwellers with the lead role in the development of their own environment individually as well as communities. Turner ultimately refer to the matter decision making power; When dwellers control the major decisions and are free to make their own to the design, construction or management of their housing. This process and environments produced, stimulates individual and social wellbeing. At the root of Turners approach lies the idea of transforming the condition of informality from within, rather than wiping it out as in modernist vision.

RESEARCH METHODOLOGY.

The study area.

The selected study area for this research was Arusha city, which is a capital and the largest city within the Arusha Region. Arusha city has a unique characteristic to be bordered by the Arusha District Council and Meru district council only. According to 2012 national census report, Arusha city had a total population of 416,442 people. The city covers an area of 208 km$^{2.}$. Like other cities in Tanzania, Arusha is among the fastest growing city in Tanzania. By the increasing urban population of the city, the demand for urban shelter and settlements increases, which results into growth of informal settlement within the city. This is the reason why Arusha city was chosen as a study area in order to assess the performance of strategies which has been employed by the authorities to control further growth informal settlements, and explore new measures that should be taken to decrease the growth of informal settlement in the city.

Research Design. The study adopted a descriptive research design as it was found suitable for this study. Descriptive design determines and analyzes relationships between variables as well as generates predictions as it is appropriate for the researchers who want to recognize past, present, and future state of events (Rubin, 2010). In most cases, descriptive research is directed by the experiences and expectations of the author (Saunders, 2009). Descriptive design was used to explain the relationship of plot survey, regularization and housing schemes on informal settlement control in Arusha city.

Research Approach This study used quantitative and Qualitative approach during data collections and during data analysis.

Targeted population. To wrestle the research objectives, the targeted population were the urban property owners, tenants and the Government officials responsible for the urban settlement planning in Arusha city jurisdiction. The population included those living in informal settlement areas and formal settlement areas in order to undertake comparison on their views against each group.

Sampling strategies. This study used different sampling strategies in order to make sure the used sample reflected the true representation of the target population. The sampling procedures which were used includes purposive sampling, convenience sampling and simple random sampling.

Purposive sampling techniques was used to obtain local government leaders from streets, wards and City Council level. For the City Council level some of the council officials were purposively involved in the study by virtual of their positions. These included heads of departments and professionals in urban planning, land, health, works and education departments.

The simple random procedure was used to get spatial units of analysis which represented the entire city. These units included wards within Arusha city, and the streets within the selected wards. The names of wards and streets were brought together, and the lottery method was used to selected few samples to be examined.

Sample size: The study used a sample size of 200 respondents from the study population which were selected using purposive and stratified random sampling technique.

Data collection methods and data source. During research data collections, the primary data was used. The primary data was collected through questionnaires and interviews.

DATA ANALYSIS AND FINDINGS DISCUSSION.

Data from the questionnaires were quantitatively analyzed using Statistical Packages for Social Sciences (SPSS) descriptive and inferential statistics. Due to its robust analytical capability and ease of data analysis, the SPSS package was chosen. During analysis descriptive statistics was used to present frequencies and percentages to illustrate the results, while inferential statistics was used to show the relationship between research variables through regression and correlation analysis. Regression model to be adopted is;

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \alpha$

Where

Y – Dependent variable (effective project)

β_0 - Regression coefficient / constant/ Y-intercept

$\beta_1, \beta_2, \beta_3$ are the slope of the regression equation

X_1- Plot survey

X_2 – Regularization

X_3 – housing schemes.

α - Error term at 95% coefficient level.

Plot survey in informal settlement control.

Generally, Plot survey was assessed on its significant impact on informal settlement control in Arusha region. Respondents gave their views on how Plot survey had contributed to the control of informal settlement in Arusha and their views were tabulated in table below. Most of the respondents were found to be settling in non-surveyed plots. 84% of the respondents when asked of whether their plots are surveyed or not, they stated that their plots are not surveyed as compared to the 16% of the respondents whose plots were surveyed. From the 16% of the respondents whose plots were surveyed, the researcher further inquired of whether their plots were surveyed before or after they were purchased, 23 respondents which is equivalent to 71.9% of the respondents whose plots were surveyed stated that their plots were surveyed after they had settled and 28.1% claimed to have acquired their plots already surveyed by the Arusha City Authority.

Cost of surveyed plots

From the table below, respondents provided their opinions on the financial costs of acquiring surveyed plot in Arusha city. 48.5% of the respondents stated that acquiring a surveyed plot in

Arusha is very expensive given their monthly incomes (strongly agree) and 46.5% of the respondents claimed that acquiring a surveyed plot in Arusha is expensive (agree). Generally, 95% of the questioned respondents signified that it is costly to acquire a surveyed plot in Arusha as compared to those unsurveyed plots.

Supply of social services in surveyed plots.

From table below; the researcher wanted to determine the influence of Plot survey in supply of social services like water and electricity to the community. Questionnaires were distributed to respondents where respondents had to respond inform of strongly agree, agree, disagree, strongly disagree and those with no knowledge had to neutrally respond. The researcher stated that it is easier to supply social services on surveyed plots where respondents had to comment. 68% of the respondents strongly agreed, 24% agreed, 3.5% had no knowledge, 3.5% disagreed and 1% strongly disagreed. In general, 92% of the respondents claimed that surveyed plots have locational advantage in distribution and supply of social services like water and electricity.

Plot survey in the localities.

The researcher wanted to know the ratio of survey plots to non-surveyed plots in the localities of respondents. Given that respondents were from different geographical locations of Arusha city, it could provide usefully information about distribution of surveyed plots in the city. When asked this question, 78.5% of the respondents claimed that most of the plots in their localities were not surveyed, 17.5% claimed not to know the distribution of surveyed-to-surveyed plots and only 4% claimed to have many surveyed plots in their localities as compared to the surveyed plots (table 4.5). From general view, many respondents are localized in locations with high number of unsurveyed plots.

Infrastructure planning in Surveyed areas.

The researcher tested the significance of plot survey in planning and construction of infrastructures like roads, sewage system, and water infrastructures. Respondents had chance to provide their opinions on how Plot survey has significant impact on infrastructure planning and construction. 81% of the respondents claimed that infrastructure planning and construction in surveyed plots was easier and well planned as compared to unsurveyed plots. 10% of the respondents claimed unsurveyed areas are better off in infrastructure planning than surveyed areas and 9% couldn't trace the differences. Generally, respondents proposed that Plot survey has a significant impact on infrastructure planning and construction in Arusha City.

Plot survey in natural and human disaster management.

The researcher asked this question to get respondents opinions on how well Plot survey has contributed in the management and control of human and natural disasters like fire outbreak, floods and epidemic diseases. Many respondents (89%) stated that it was easier to manage and control natural and human disasters like floods, diseases and fire outbreak. 5.5% of the respondents claimed that Plot survey had no contribution in the management and control of natural disasters and 5.5% were undecided between the two. In general, many respondents signified that Plot survey has a significant contribution in the control and management of natural and human disasters.

Plot survey in planned urbanization.

The researcher was influenced to ask this question given that Arusha is one of the fast-growing cities in Tanzania behind Dar es salaam and Mwanza (Zuberi, 2020). The researcher wanted to assess the significance of Plot survey in city urbanization plan. The results show that 88.5% of the respondents stated that plot survey has a significant contribution in Arusha region urbanization plan. 5% could not comment on whether Plot survey has contributed in city urbanization plan or not and only 0.5% were against Plot survey on city urbanization plan.

Plot survey in informal settlement control

		Frequency	Percent	Valid Percent	Cumulative Percent
Settling in a surveyed plot	Yes	32	16.0	16.0	16.0
	No	168	84.0	84.0	100.0
	Total	200	100.0	100.0	
Surveyed before or after being acquired	Before	9	4.5	28.1	28.1
	After	23	11.5	71.9	100.0
	Total	32	16.0	100.0	
Missing	System	168	84.0		
Total		200	100.0		
Costly to acquire a surveyed plot	Strongly agree	97	48.5	48.5	48.5
	Agree	93	46.5	46.5	95.0
	Undecided	1	0.5	0.5	95.5
	Disagree	7	3.5	3.5	99.0
	Strongly disagree	2	1.0	1.0	100.0
	Total	200	100.0	100.0	
Easier to supply social services in a surveyed plot	Strongly agree	136	68.0	68.0	68.0
	Agree	48	24.0	24.0	92.0
	Undecided	7	3.5	3.5	95.5
	Disagree	7	3.5	3.5	99.0
	Strongly disagree	2	1.0	1.0	100.0
	Total	200	100.0	100.0	
Most of the plots at the locality are surveyed	Strongly agree	6	3.0	3.0	3.0
	Agree	2	1.0	1.0	4.0
	Undecided	35	17.5	17.5	21.5
	Disagree	106	53.0	53.0	74.5
	Strongly disagree	51	25.5	25.5	100.0
	Total	200	100.0	100.0	
Surveyed plots are very prone/exposed to better infrastructure plans	Strongly agree	122	61.0	61.0	61.0
	Agree	40	20.0	20.0	81.0
	Undecided	18	9.0	9.0	90.0
	Disagree	15	7.5	7.5	97.5

	Strongly disagree	5	2.5	2.5	100.0
	Total	200	100.0	100.0	
It is easier to manage natural and human disasters like fire and eruptive diseases in a surveyed plots	Strongly agree	112	56.0	56.0	56.0
	Agree	66	33.0	33.0	89.0
	Undecided	11	5.5	5.5	94.5
	Disagree	8	4.0	4.0	98.5
	Strongly disagree	3	1.5	1.5	100.0
	Total	200	100.0	100.0	
Plot surveyhas contributed to a planned urbanization	Strongly agree	130	65.0	65.0	65.0
	Agree	47	23.5	23.5	88.5
	Undecided	12	6.0	6.0	94.5
	Disagree	10	5.0	5.0	99.5
	Strongly disagree	1	0.5	0.5	100.0
	Total	200	100.0	100.0	

CONCLUSION AND RECOMMENDATIONS

Summary of Findings The study findings showed that Regularization and street slum and Plot survey were found to be significant. The researcher concluded that Regularization and street slum and Plot survey are good estimators of performance of informal settlement control strategies in Arusha city. Plot survey was found to be significant with p-value of 0.038. Regularization and street slum upgrading was found to be significant with a p-value of 0.000.

Conclusion

To deal with growth of informal settlement in Arusha, the government should employ its resources on plot survey, regularization and street slum upgrading and house schemes as they have proved to be effective in management and control of informal settlement growth in Arusha City. The study showed that Plot survey has contributed in development of infrastructure planning and construction, effective supply of social services like water and electricity, effective control of natural and human disasters like floods and fire outbreak. The government should put focus on survey on virgin land areas so as to avoid later regularization and street slum upgrading as it was found that regularization was time consuming and financially cost full.

There is a need for the Local Authority to review its land planning policies so as to develop friendly environment for people to get access to surveyed land. It was found that it takes time and consumes a lot of financial resources for the authority to survey plots. There is a need for the government to facilitate the national wide process of supply of Title Deeds to all people whose plots have been surveyed as means to facilitate the voluntary Plot survey process as it has been one sided process.

Implication of the study

Policy makers

The study will inform policy makers about the contribution of plot survey, regularization and street slum upgrading and house schemes on the control of informal settlement growth in Arusha city. Decision makers will get an insight on how they should formulate their policies so as to make sure that all the discussed factors that lead growth of informal settlements in our towns are taken care of in order to minimize such settlements in our growing cities.

In Academics

The study will form basis to academicians as they will drive foundations on what to be done to make sure informal settlement control strategies in Arusha city are performing well. This will help in developing new model on how to control the growth of informal settlements in Tanzania. In case of any unexpected events, authority's researcher through the study findings they will have starting point and derive a short and long-term measure to make sure that informal settlements are controlled.

Practitioners

This study will form a basis for practitioners as evidence based to challenge the management on issues related with informal settlement control strategies in Arusha city. This study, will raise

awareness to ministry for land, Arusha city authority and citizens regarding disadvantages of living in non-surveyed and non-regularized plots and what could be done to make even non-regularized settlements better-off management.

Recommendations

From the study findings, the researcher recommends the followings;

Plot survey costs should be reduced so as to increase willingness for people to voluntarily work with the authorities in control of informal settlements.

Local government authorities have to make sure all virgin land are planned and surveyed to insure that new settlements in towns are developed in surveyed areas in order to avoid development of new informal settlements within the cities and towns.

Education should be provided to change people's perception about house schemes since most of the people have negative perception that house schemes are for people with high social status in the community

Provision of Title Deeds should be used as tool for Plot survey as people are discouraged in voluntary survey of plot processes since Plot survey and provision of Title Deeds have been kept as separate processes

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