Towards a Model Framework for the Analysis and Study of Informal Settlements and Slums

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Abstract: Due to the rapid growth of cities and towns, especially in many developing nations the world over, the problem of informal settlements and dwellers is expected to continue as a major challenge that everyone will continue to deal with especially, those responsible for development. Although, giant strides have been taken by many world leaders in meeting the UN target to transform and reduce population of informal settlements and its dwellers, dealing with informal settlements requires an appropriate engagement tool or framework. This must begin from the point of being able to define and classify the term. It also requires the use of an appropriate tool or framework which is the focus of this study. The core suggestion of this study is that by its very nature (Poor living conditions) informal settlements cannot change by itself unless there is a constructive and skillful engagement, aimed at improving situations of the area, informed by an appropriate analytic tool or framework. This framework must see the overall situation of living in an informal settlement as a system resulting from the combine effect of individual and mediating factors, creating the type of lifestyles prevalent in the area. This form of engagement process is very imperative because informal settlement as a system has the capacity to reboot itself in cycle of degeneration in what might be called a vicious cycle of poverty, food insecurity, environmental degradation and all forms of social ills.

Key words: Informal settlements, framework, slums, shacks not in a backyard, poverty, UN target, food insecurity

INTRODUCTION

Informal settlements the world over represent a major development challenge (Marutlulle, 2017). The increasing trend is a serious humanitarian crisis which different countrie's planners and policymakers are struggling to overcome (Hofmann *et al.*, 2015; Zanganeh *et al.*, 2013). In fact, slums remain one of the expressions of global poverty, inequality and deprivations in many cities and towns of developing countries (Anonymous, 2016). The problem of urban expansion and development of informal settlements or slums put enormous stress on already struggling systems like health and education systems (Marutlulle, 2017). Concurring, the University of Dublin, Trinity College (2015) maintains that slums place huge burden on the environment around us and constitute immense risk to security and social cohesion of society. The reality of informal settlements and slums is no more an argument (Sartori *et al.*, 2002). Though the problem is a worldwide phenomenon, it is however, a main problem of developing countries. Close to one out of every three city or urban dwellers in the developing world, live in

slum, often located in informal settlement (Jones, 2017). Anonymous (2016) estimates that 31.6 % (924 million people) the figure is however, put at 25 % by Avis of urban dwellers worldwide, live in informal settlements. Informal settlements constitute about one billion of global population (Jones, 2017). The daunting reality is that if trends of informal settlement development are left unchecked, the current statistic is predicted to double (2 billion) by 2030 (according to, Jones, 2017) and triple (3 billion) by 2050 (according to, the United Nations, 2016). Across continents, current figures regarding informal settlements are alarming. While informal settlement ratio of 61.7 and 30% still constitute urban population in Africa and Asia, 24% is the case in Latin America and the Caribbean (Anonymous, 2015a, b). Similarly while 67-94% is the case in some Arab countries, over 6% is the case in Western Europe (Anonymous, 2015a, b). Trends from North America, Australia and New Zealand show that there are significant proportions of people who are said to live in what may be classified as contextually poor neighborhoods (Anonymous, 2015a, b).

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In South Africa, a 2011 conservative estimate (Which is likely to be under-represented) indicate that between 1.1 and 1.4 million households or between 2.9 and 3.6 million people in South Africa live in informal settlements (Selebalo and Webster, 2017). Also, the Socio-Economic Rights Institute of South Africa (Anonymous, 2018) maintains that figures indicate that in 2016, about one in every seven households in South Africa live in informal dwellings (Estimate which is said to be higher in metropolitan areas where it is one in every five households).

Informal settlements are caused by a range of interconnected factors such as population growth and rural-urban and international migration, poverty, lack of basic services, failure in governance and policy frameworks, inadequate access to financial markets and land and property problems (Anonymous, 2016). In Africa, factors such as high population growth rates, rapid rate of urbanization, slow economic growth rates, globalization and inappropriate policies are said to be responsible for informal settlements development (Adegbehingbe, 2010).

In the literature, there is currently no common definition for informal settlement (Housing Development Agency [HDA], Anonymous, 2012). The definitions and terms vary, to the extent in South Africa different municipalities have different ways of defining the term. The term is sometimes used interchangeably as 'squatter settlement's (Nassar and Elsayed, 2017; Oldewage-Theron and Slabbert, 2008) and 'slums' (Adubofour *et al.*, 2013; Sartori *et al.*, 2002). Also there is the debate that informal settlement do not mean exactly as slums. For example, Hofmann *et al.* (2015) argue that though majority of informal settlements fulfill at least one of the UN-Habitat's conditions for slums, they still do not have the same meaning as slums.

However, according to the Anonymous (2007) report, though the traditional and historical usage of the term 'slums', seems somewhat different from the term 'informal settlement' such meaning has been lost, especially, in most developing countries over time where it is even now used synonymously for informal settlements. In this regard and based on the Anonymous (2015a, b) report that states that slums are the most deprived and excluded type of informal settlements, it might be safe to conclude that slums are a type of informal settlements where there is very high levels of deprivations.

Therefore, in its simplest form, informal settlement is defined as urbanization growing outside of municipal planning and control (Hofmann *et al.*, 2015). Discussing on the subject, Anonymous (2009) provides a profound list of qualities that best describes informal settlements. Firstly, it is said that informal settlements do not have legal recognition because they are built on unlawful and/or unauthorized areas, mostly with houses that are illegal or not approved. The second is that informal settlements are often built on areas not suitable for development. Similarly, due to its illegality, informal settlements do not have access to basic municipal services like provision of water, sanitation, electricity, roads, walkways and lighting. Another quality is that, the area is usually associated with poverty and very vulnerable. Residents also have high risk of diseases because of the additional effects of household poverty and poor condition of their environment. Finally, due to the poor living conditions of the area, there is high levels of interpersonal crimes such as domestic violence, child abuse and various types of social ills.

In the light of this, world leaders were tasked to reduce the number of, transform and improve significantly 100 million slum or informal community dwellers by 2020 (Anonymous, 2010). Reducing the number and transforming the lives of slum dwellers requires more than wishful thinking and rhetoric: it requires skillful and constructive engagement which is what communities need for transformation, unlike the top-down approach that used to be. However, successful engagement with slum communities presents huge challenges. Among the list is its phenomenal rate of development. Sartori *et al.* (2002) maintain that the growth rate of informal communities is one of the most challenging issues development agencies will face and have to face in the nearest future. Another challenge is that of the current little understanding regarding the mechanisms of informal settlement's origin and development (Hofmann *et al.*, 2015). Similarly, there is the problem of definition: where no one single standard definition currently exists for informal settlements, neither is there alignment across data sources with regards to how the settlement should be demarcated (Anonymous, 2012). Furthermore, informal settlements are difficult to monitor and measure, due to the rapidness of their development (Anonymous, 2012; Sartori *et al.*, 2002).

Against this background, this current paper, seeks amongst other things, measures to address one of such challenges hampering successful analysis, engagement and transformation of informal settlements and slums. This is to suggest a simple framework that could effectively assist the analysis (Breakdown of variables) and study of informal settlements. This ultimately is intended to cushion to a large extent the problem of measurement usually associated with the study and overall development required to change the area.
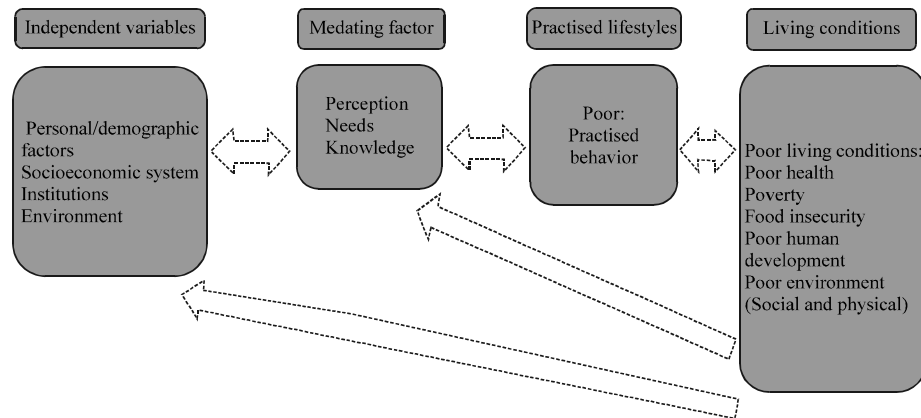
Fig. 1: A conceptual framework for the study of informal settlements

MATERIALS AND METHODS

A conceptual framework for the analysis of informal settlements and slums: Every research endeavor begins with identifying a problem and then breaking down the problem into bits that become easily manageable or researchable. This is what an adequate framework does. It helps to conceptualize a problem, laying bare its associated variables. According to Duvel (1991), "a problem well put is also a problem half solved". Problem conceptualization, therefore is a mental construct which provides a scientific basis to systematically analyze causes of problems (Duvel, 1991).

By its very nature, informal settlements are unplanned by their dwellers and are usually driven by convenience for proximity to desired resources (Which usually exist in cities and towns) deemed useful and necessary to make a living. As a result dwellers being unable to afford the high cost of housing usually associated with such big cities decide to live and build their settlements on any available space (whether suitable or not) adjacent to those centers of resources with whatever there is available to them. Due to this, conditions of life and living often are lesser than normal in such settlements which becomes the trigger for every other problem in the environment. Hence, more or less, wellers of informal environments are trapped in a vicious cycle of poverty, food insecurity and other socio-ecological and environmental stresses as depicted in Fig. 1.

According to, Fig. 1 in an ideal situation, the overall character of dwellers of informal settlements is impacted first by their independent factors such as their education system, socio-economic system, institutional and environmental systems. This impact is transferred through a group of variables called the mediating variables. These variables are needs, perception (Either of reality or perhaps of any intervention programs or efforts in the area) and the level of knowledge possessed by the people. This impact results in the type of practiced behavioral lifestyles of people which eventually leads to the conditions of living and well-being in the area which usually is of very poor standards.

Subsequently, the poor living conditions trigger up the individual factors of the settlement dwellers and the system is rebooted in what may be referred as a vicious cycle. This is why if there is no constructive outside intervention or engagement in an informal environment, this reaction often times leads to a socio-economic, ecological and/or environmental disasters. According to Nawagamuwa and Viking (2003), the rapidity of development of informal settlements is capable of creating a problem situation if not recognized and planned for economically, socially and environmentally. Concurring, Seeliger and Turok (2014) maintain that the development of slums or informal settlements can increase the risks associated with social and ecological harm to communities where they exist and to the broader urban area. This is why the need for a constructive engagement cannot be overemphasize, using an appropriate measuring tool which is what this framework seeks to achieve. Thus, this framework is not intended to only help to bring to the fore all variables operational in the area but a good background of understanding for effective community engagement success.

Similarly, apart from the forward relationship of variables in an informal settlement, there are also some backward relationships. According to Fig. 1, the living conditions interact with personal factors of individuals as well as the mediating and practiced behavioral lifestyles variables. More so, there are also backward interactions between mediating variables and individual characteristics

as well as between practiced behavioral lifestyles of the people and the mediating variables. In other words, variables are in constant back and forth interactions. But ultimately, all interactions eventually end up as the living conditions of the settlement.

RESULTS AND DISCUSSION

Interactions in informal settlements and slums
Independent variables: Independent variables are variables expected to account or provide understanding on the "cause" of dependent variables. In other words, they are the presumed cause of dependent variable (University of Southern California, USC, 2018). According to Lewin (1951) field theory, Tolman (1967) and Duvel (1991) Models, independent variables are personal, social, economic, physical, cultural and communication factors. Ervin and Ervin (1982) and Asafu-Adjaye (2008) both agree that independent factors of behavioral change are personal, institutional, physical and economic factors. Basically, independent factors are summed up as personal (Like age, gender, marital and educational statuses, etc.,) socio-economic, cultural, environmental and institutional factors.

According to Lewin (1951) field theory, every individual is a product of his/her life space which is also called psychological environment. This environment consist of several psychological forces of variables determining behavior. A main advantage of the theory, according to Duvel (1991) is that the theory is not discipline-specific but provides for all influences of behavior. This is why it is one of the main inspirations for this framework.

Mediating variables: Mediating variables are variables that transmit changes in one variable (the cause) to another variable (the effect) in a cause-effect relationship. In other words, they help to provide explanations for the relationship between dependent and independent variables. Although, the general norm of cause-effect relationship is that independent variables impact directly on dependent variables, behavioral theorists have suggested a group of other variables that mediate between dependent and independent variables which determine human behaviors. Examples of such theorists are Lewin (1951), Tolman (1967) and Duvel (1991). Although, the list of mediating variables as suggested by Lewin (1951) was infinite, this was streamlined by Tolman (1967) and was further streamlined to three: needs, perception and knowledge by Duvel (1991) Model. In this view, impact of independent factors is transmitted through the mediating factors (Needs, perception and

knowledge) which cause people to behave the way they do (Adopt or not adopt) with respect to new ideas, culminating ultimately as effects of behavior (Type of efficiency experienced by the individual).

Needs according to Duvel (1991) is any form of deprivation within an individual which creates tension within or a disequilibrium. It was highlighted that there is a problem of definition in the literature between need and other similar concepts like drives, motives, incentives, desires, goals, et-cetera, to the extent that they sometimes are used interchangeably even though they may not mean exactly the same (Duvel, 1991). It was however, noted that despite this problem, there is a sound interdependence/relationship between needs and the other words: while needs reside within the individual, the others reside outside of the individual (Environment). Objects that are perceived by individuals as possessing capacity to satisfy needs become goal-object, taking on positive characters while those perceived as threats to the satisfaction of needs take on negative characters. As such Duvel (1991) says a force field (Field polarity) is set up between needs and goal-objects.

In an attempt to conceptualize need, Duvel (1991) broke it into two main aspects. The first is where individuals lack aspiration. This scenario can occur in three ways: when people overate or underrate their own efficiency when they are unaware of possibilities or the optimum that can result from any new idea an intervention program or goal-object or when they are satisfied with their present situation/condition or have a suboptimal aspiration. The second need aspect is what Duvel (1991) calls 'need incompatibility'. In this aspect, individual needs do not match with an intervention program or effort, individual aspirations, goals or problems as such people's behavior move away towards the negative.

According to Maslow (1970), human behaviors or practiced lifestyles of people are essentially motivated by a desire to satisfy personal needs. In the context of informal settlements, due to the numerous needs of the people and the little to no goal-objects (Resources) to satisfy them, behavioral tendencies are tilted towards the negative. This is why crime rate, environmental degradation, food insecurity and poverty are usually higher in slum areas.

Perception is the second mediating variable according to Duvel (1991). Duvel (1991) maintains that needs (Especially, aspects relating to aspiration and goals) and perception are related and interwoven. This highlights the role of perception among the mediating variables. Based on this, though perception is classified as one of the mediating variables, (Ighodaro and Mushunje, 2017) suggests that perception should be

given a more prominent role among the list of mediating variables. This is because perception plays a role in virtually everything. For example, let's take need or need-satisfying object, it is actually the type of perception an individual has concerning it that gives it the type of meaning an individual receives about it. If the individual has a positive perception concerning it his behavior is positively influenced. If otherwise his behavior is negatively influenced. Supporting this, Meijer *et al.* (2015) define perception as farmer's (Peoples) views regarding any new technology based on felt needs and previous or past experiences. In this definition, a tight connection is closely linked among all three members of the mediating variables. Concurring, Meseret (2014) argues that perception of soil degradation factors and the way to mitigate them is a necessary requirement for farmer's investment in conservation measures. Similarly, Ighodaro and Mushunje (2017) posit that positive perceptions precede technology adoption.

Based on the way perception is dealt with can therefore, assist appropriate decision-making or change of behavior or impede it. Conceptualizing perception as a reason why individuals are unwilling to comply with recommendations (Duvel, 1991) proposes three aspects. One has to do with insufficient prominence. Prominence here, according to Duvel (1991) is synonymous with Rogers (1983) idea of relative advantage which is the degree to which a new idea is perceived as better than the one it supersedes. The second aspect of perception being a cause of non-compliance has to do with relative advantage which can be caused by individual's unawareness of advantages inherent in a particular new idea being presented and/or perhaps the individual is already aware of disadvantages due to the idea (Duvel, 1991). The third aspect has to do with 'incompatibility'. This speaks of the idea whether it is compatible with the individual specific situation (Duvel, 1991).

The last member of the mediating variables is knowledge, according to Duvel (1991). Relevant knowledge that is applicable to decision-making of individuals is broken into three by Duvel (1991). These are: basic knowledge or knowledge of principles, knowledge related to the awareness of relative advantages and knowledge regarding the application of a new idea or technology. Knowledge of principles speaks of an understanding of principles underlining the operation of an idea. Also knowledge relating to the awareness of relative advantages relates to the same definition as presented in the previous second scenario for cause of perception as discussed above. Knowledge of application relates to the understanding of how an idea actually works in practice.

Practiced lifestyles (Behavior): Practiced lifestyles represent ways people live and take decisions regarding their daily affairs. According to Maslow (1970), human behaviors or practiced lifestyles of people are essentially motivated by a desire to satisfy personal needs. Based in Fig. 2, practiced lifestyle is the result of impact of individual characteristics such as their socioeconomic conditions, educational conditions, environmental conditions, institutional conditions and even cultural conditions which is given expression through the mediating variables. In essence, the poorer or well developed the individual characteristics of people, the higher or lower their needs, the poorer or well developed their perception and knowledge and ultimately the poorer or well developed their behavioral lifestyles.

Consequence of behavior: Consequence of behavior, according to Fig. 2 is the result of whatever behavior that is prevalent in an environment whether good or bad. Poor lifestyles of the people ultimately give rise to poor living conditions which is characteristic of informal settlements and slums. In this discuss, though there are other back and forth interrelationships within an informal settlement system, the most obvious one is the direct impact from individual characteristics, via. the mediating variables, causing behavior and eventual behavior consequences. This further impacts on individual characteristics, thereby rebooting the system in a vicious cycle of poverty, food insecurity, environmental degradation and all forms of social ills.

CONCLUSION

Due to the rapid growth of cities and towns, especially, in many developing nations the world over, the problem of informal settlements and dwellers is expected to continue as a major challenge that everyone will continue to deal with especially, those responsible for development. Although, giant strides have been taken by many world leaders in meeting the UN target to transform and reduce population of informal settlements and its dwellers, dealing with informal settlements requires an appropriate engagement tool or framework. This must begin from the point of being able to define and classify the term. It also requires the use of an appropriate tool or framework which is the focus of this study. The core suggestion of this study is that by its very nature (Poor living conditions), informal settlements cannot change by itself unless there is a constructive and skillful engagement, aimed at improving situations of the area, informed by an appropriate analytic tool or framework. This framework must see the overall situation of living in

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