

DISASTERS AND VULNERABILITIES IN THE FOREMAN AND KENNEDY ROAD INFORMAL SETTLEMENTS: BIOGRAPHICAL INFLUENCES

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Abstract

As the towards the end of the homelands in the post-apartheid South Africa, there was a scramble of poverty stricken African black youth to the most severe vulnerable and disaster prone urban areas in search for formal job opportunities. The main purpose of this empirical study is to investigate the extent in which how the biographical profiles (age, gender, marital status, education levels, occupation (males and females), children and tenure) can influence vulnerability and disasters in these informal settlements. A quantitative research design was adopted and a survey method was used, whereby questionnaires were administered by the researcher to a population of 240, whereby, 140 questionnaires were completed generating a response rate of 63.6%.

The findings of this study reveals that the majority of the respondents in the Foreman and Kennedy Road informal settlements are black, poverty stricken, unemployed and who are suffered economic difficulties that make them highly vulnerable to disasters. This study will act an advisory role to the decision-makers as the research findings shows that in the foreseeable future in South Africa, informal settlements will be an intergral feature of formal housing, which requires urban planners to include such settlements to housing planning.

Keywords: Vulnerability, Informal Settlements, Poverty, Urbanization

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Introduction

The most marginalised, vulnerable and doubly hidden categories of society who are black women, children, elderly, sick and unemployed are the most susceptible to fast-onset disasters such as fires and floods. Recent studies has revealed that poverty is the main reason migrants move to urban areas in search for job opportunities where they reside in high risk and vulnerable areas which is seen as the relocation of poverty to town (Bhorat & Kanbur, 2006:4, Zeigler, Brunn & Williams, 2003). In their book *At Risk*, Wisner, Cannon & Davis (2004: 234) too claim that such 'root causes' as unequal access to land and rural power structures lead to the 'breakdown of rural economy and exodus of losers to towns. Poverty stricken and vulnerable informal settlements of Foreman and Kennedy Road informal settlements are often struck by disasters such as fires. Such disasters are not declared by the National Disaster Management Centre caused by the ineffectiveness and inefficiency of the eThekweni Municipality Disaster Management Centre in assessing the magnitude and severity of the disaster as enshrined in

section 49(1)(b) of the Disaster Management Act of 2002 (Act 57 of 2002).

This article seeks to examine at how vulnerability can exacerbate the susceptibility of the people who are residing into these informal settlements to disasters. Different authors have indicated that different cities (Ishemo, 2009:3) are plagued by informal settlements who are more vulnerable because of sub-standard housing caused by inappropriate construction methods and building materials, services such as roads, water and waste collection are scarce in areas resided by the poor, residing in steep slopes, flood plains and industrial zones (Ishemo, 2009: 3 and El-Marsi & Tipple, 1997).

A key concern in South Africa is the fact that vulnerability to various disasters is partly a consequence of the legacy of apartheid as black populations were generally forced to live in the most vulnerable locations and suffered economic difficulties that make them highly vulnerable to disasters (Dunne & Mhone 2003: 4). Furthermore, rapid urbanisation and poverty caused by unemployment and corruption by civil servants perpetuate the vulnerability of human settlements in

developing countries, leading to a number of serious negative aspects such as inadequate housing and poor settlement conditions. Walsh (2008: 91) cites ruling party's outright corruption, crony capitalism, favoritism to big capital, further painful inroads of economic liberalization, sustained (and extreme) poverty and unemployment, still worsening inequality statistics, more rapid environmental degradation, ongoing oppression of women, connivance with the great powers in foreign economic policy and diplomacy, and the like.

The objective of this study is to examine the extent on which vulnerability and disasters have on the biographical profiles of this study. This study on disasters and vulnerability in the informal settlements is necessary because vulnerability to either man-made or natural disasters is closely aligned with poverty.

Critical Evaluation of the Literature

Urban vulnerability: a case of foreman and kennedy road informal settlements

In the foreseeable future, informal settlements will be an integral feature of formal housing in South Africa. Hence, there is no policy that gives national, provincial and local governments' new direction in dealing with the large number of households living in informal settlements. The absence of policy results in a lack of guidance for government departments on how to treat those that are driven to make this insecure form of shelter their home through illegal invasion (Huchzermeyer 2003: 3). An estimated 14 000 people live in these settlements represented by community movement called *Abahlali baseMjondolo* and these settlers have long attracted predators such as politicians, shack lords, academics, journalists, non-governmental organizations (NGOs), traditional healers and tavern owners who want to make a quick buck from human misery. As Desai (2006) laments how many also bring 'infectious political diseases' based on their particular histories and political desires which seep into social movements.

Wherein, the KwaZulu-Natal Elimination and Prevention of Re-emergence of Slums Bill, 2006 was imposed to the people who were living in the informal settlements throughout the province. *Abahlali baseMjondolo* resisted the Bill based on the fundamental flaws in the positioning of the Bill as there is no consensus in South Africa or internationally on the desirability "of introducing measures which seek to enable control and elimination of slums, and the prevention of their re-emergence". The Bill was aimed at fulfilling Constitutional and state obligations, rather than trying to achieve the elimination of slums. On 14 October 2009, the South African Constitutional Court found the law to be in conflict with the Constitution and struck it down. According to the judgment, the legislation would have allowed for the possibility of

mass evictions without the provision of suitable alternative accommodation, and would therefore have violated the Prevention of Illegal Evictions (PIE) Act 19 of 1998 and South Africa's Constitution (Shabalala 2009). These developments account for the continued existence and mushrooming of informal settlements in South Africa.

Urban vulnerability, poverty and disasters

The high risk of urban vulnerability and the impact of disasters disproportionately affect poor black people living in the informal settlements who are already socio-economically and physically disadvantaged. Vulnerability has come to be seen as both a cause and symptom of poverty. Thereby creating a mutually reinforcing cycle from which it is difficult to escape (Cardona, 2003 and Prowse, 2003). More recently it was put forward that the relationship between vulnerability and poverty may even have the potential to create poverty traps (Dercon, 2004; Adato, Carter & May, 2006; Carter and Barrett, 2006; Carter, Little, Mogues & Negatu, 2007).

Urbanisation and vulnerability

Increased urbanisation affects certain demographic categories, as poor people in informal settlements build their houses with combustible building materials that are susceptible to different disasters such as fires and floods. On the other hand, urbanisation offers bright opportunities to migrants and their families, such as access to amenities and to the job market. A study conducted using the Agincourt Health and Demographic Surveillance System has shown a positive correlation of household asset ownership in a rural household if there is a temporary migrant linked to the household (Collinson, Tollman, Kahn, Clark, & Garenne, 2005). According to the United Nations Population Division (1999), in 2007 the number of urban dwellers in the world was expected to surpass the number of rural dwellers for the first time in history, and sometime between 2010 and 2020, the urban population in the developing world will surpass its rural population. In 2001 South Africa recorded an overall urbanization level of 56%, and with a minority (47%) of the African population being urbanized, while more than 85% of the other groups were living in urban areas, for example the Indian/Asian population was almost fully urbanized at 97%.

Pelling (2002: 1-2) avers that the increasing pace of urbanisation has finally forced us to recognise that established practices and dominant values for planning and development in cities have led to an accumulation of inequality, marginalisation and disaster risk over-time. Chant (1992) points out examples from Latin America where the scale and nature of migration into urban areas is largely

influenced by decisions in rural households about who should migrate and why; constraints placed on women's work outside the home; and demand for female labour in urban areas. Whilst, women are particularly vulnerable and they often disproportionately bear the burden of changes associated with urbanisation (Jitendra, Saree & Dhyani, 2008).

The overpopulation in small pockets of land such as the Foreman and Kennedy Road informal settlements results in environmental degradation/stress, socio-economic pressures and anthropogenic disasters. The over-nucleation of these areas increases criminal businesses such as drug trafficking, sex work and car hijackings. Coffe (2005) alludes that urban migration patterns are often associated with an increase in risky sexual behaviours particularly increased partnership rates and a higher rate of sex outside of marriage (Herdt, 1997). The latter author allude that epidemic conditions can also arise from the notion of crisis of social disintegration where critical events can provide suitable conditions for an intensified spread of HIV/AIDS.

Disaster management and public management: vulnerability analyses

Section 24 of the Constitution of South Africa of 1996 places a legal obligation on the government of South Africa to ensure the health of people, environmental protection and safety of its citizens.

Influenced by New Public Management (NPM) philosophy, the South African government embarked on legislative transformation with the promulgation of the Disaster Management Act 57 of 2002, as well as the National Disaster Management Framework of 2005. Section 26(g) of the Municipal Systems Act 32 of 2000 dictates that "applicable disaster management plans" are a core component of the Integrated Development Plan (IDP) of a municipality. The problem with the Disaster Management Act of 2002 is that it does not provide detailed guidance for the preparation of disaster management plans, which should be included in an IDP. The Policy Framework for Disaster Risk Management in South Africa of 2005 includes Key Performance Area (KPA) 3, which deals with disaster risk reduction. Key Performance Indicator (KPI) 3.2.3 (Identifying the most vulnerable areas), states that disaster risk management planning should be undertaken, priority must be given to those areas, communities and households that are exposed to natural or other threats, and have the least capacity to resist and recover from the resulting impacts.

Case study analysis

The eThekweni Municipality's IDP, under the ambit of Plan 4, has developed 29 programmes to address the causes and effects of the threats to a safe environment for its citizens. Programme 4.6 (Safe

from fire and emergencies) has two strategies covering two broad areas: community fire safety education including fire prevention, and management and extending of emergency services (eThekweni Municipality, 2008-2009: 42). Hence, the 2011-2012 IDP indicates that eThekweni Municipality ensures that all communities have a level of confidence through its effectiveness and efficiency in protecting those who are vulnerable to disasters, through programme implementation such as fire safety inspections, moving towards a risk managed approach, incorporation of female fire-fighters, training of municipal staff and staff from commerce and industry, and partnering with agencies specializing in fire prevention and improved response times (eThekweni Municipality, 2011-2012: 127).

People living in densely populated informal settlements, without personal insurance, are particularly vulnerable to the effects of uncontrolled fires. Between 2008 and 2009, 12 natural disasters (thunderstorms) and 11 fires (man-made disasters) have damaged informal settlements including Foreman and Kennedy Road (n.d.). Through effective fire and emergency services, the department aims to ensure that all communities have a level of confidence that the department recognizes its responsibilities, and is able to provide an acceptable level of safety (eThekweni Municipality, 2008/2009: 49).

The disaster management department intends to mobilize volunteers in collaboration with the Safer Cities Social Sector Programme, by creating community-based organizations (CBOs) in each ward to train communities to lessen the impact of disasters. Moreover, Multifunction Community Resource Centres are proposed, where the victims of disaster, violence, rape and other traumatic experiences will be temporarily cared for by trained community-based emergency response, care and support volunteers supported by volunteer professionals in various fields (eThekweni Municipality, 2011-2012: 128).

Influence of biographical variables on the rate of vulnerability and disaster contingency plans

The influences of age, gender, marital status, education levels, occupation (males and females), children and tenure on the rate of vulnerability and disaster contingency plans are being assessed as it is assumed that these biographical variables have the potential to influence the perceptions of vulnerability of people to disasters. The researcher has taken into consideration the direct influence of age (Peek 2007 & Burkle 1999), gender (Mehta 2006) on gender-differentiated outcomes, marital status (Coffe 2005) on migration and risky sexual behaviors particularly increased partnership rates and rate of sex outside of marriage (Herdt 1997), education levels has the potential to influence the rate of vulnerability

(Turhan, Zografos & Kallis 2011). Occupation has the possible influence on the impact of the contingency plans as Olorufemi (n.d.) identified the majority of informal settlements inhabitants to be unemployed or have very low household incomes. The disproportionately high percentage of women and children influence directly the rate of vulnerability to the informal settlements as Quarantelli (n.d.) reveals that women and children comprises 70% of the population in developing countries. Furthermore, tenure has the direct influence to the rate of vulnerability as the average 20-24 year old male is twice likely to live in an informal settlement in a labour-receiving province like Gauteng (Crush & Frayne 2010). Meanwhile, many biographical studies directly relating to disaster management, this study aims to assess these direct influences statistically.

Research design

The present study is based on the quantitative research approach, wherein descriptive statistics, namely measures of central tendency and measures of dispersion were used to describe the distribution of scores on each variable and by determining whether the scores on different variables are related to each other. In this study, survey research design was adopted which addressed the biographical profiles influences to vulnerability and disasters. The primary and secondary data was utilised to solicit information on the PMS.

Research participants

This study adopted a stratified random sampling where data was obtained from the head of households of the Foreman and Kennedy Road informal settlements. The total sampled population size within these informal settlements was 220. The total number of questionnaires collected were 140 and there were no errors. A pilot survey was conducted and its main intention was to obtain some assessment of the validity of questions and the likely reliability of the data that was considered. Nominal scale was used to analyze the data obtained. A very satisfactory response rate of 63.6% was achieved. The sample may be described in terms of age, gender, marital status, education, occupation (males), occupation (females), number of children and tenure.

Empirical findings

Statistical analysis

The data collected from the respondents was analysed using Statistical Packages for Social Sciences (SPSS) version 18.0 for data capturing, presentation, analysis and interpretation. Descriptive statistics were used for data analysis and interpretation.

Results

Descriptive statistics were used to analyse the data. The results were to be presented a narratively and cross-tabulations were conducted.

Age

The study findings reflects the age distribution of the respondents. It shows that 26.4% of the respondents were between 18 and 24 years of age, 40% were between 25 and 34, 20% between 35 and 44 and 13.6% were 45 years and above. These findings show the difference in percentage between the respondents who are at 45 and above and those between 25 and 34. The study findings indicate that the respondents between 18 and 24 are involved in temporary migration, with job-seeking being the driving force. The disproportionately high percentage (40%) of respondents between 25 and 34 age is indicative of the high rate of migration to urban areas in search of jobs.

Gender

This study indicates that 42.9% of the total sample was male and 57.1% were female. This percentage roughly corresponds to the gender profile of the total population in the two areas surveyed. The majority of females in these settlements show vividly that factors such as women's failure to finish matric, early motherhood, failed cultural marriages in rural areas which are categorically regarded as taboo, lead them to migrate permanently to urban areas. Moreover, cultural stereotypes amongst African culture that most families relies most often to the women as breadwinners than their male counterparts.

Marital status

The research findings shows a high percentage of respondents (88.6) who were single, while 8.6% were married and 1.4% are either divorced or widowed. The high percentage of unmarried people shows most likely that people in these informal settlements have moved to an urban area solely for employment. It also suggests that this place is not suitable for married couples to live with their families.

Education

This study reflect low literacy rate in the Foreman and Kennedy Road informal settlements, with a total percentage of 82.1% of respondents below matric with only 16.4% having a matric qualification. The high percentage of respondents without matric confirms that people do not come to these areas for educational purposes.

Race

Furthermore, this article indicates that 97.9% of respondents were black and 1.4% white. The high percentage of blacks who are residing in the highly vulnerable areas of these informal settlements shows that the increase in urbanization levels will continue for the foreseeable future.

Occupation-males

The results in this study reflect that 6.4% of respondents are employed full-time while 2.9% are self-employed and 12.9% are in part-time, contract or temporary employment, 75% are unemployed, 1.4% are pensioners and 1.4% are students/scholars. The high percentage of males who are unemployed reveals the level of poverty in these areas, as well as in rural areas where they are coming from. These findings further show that the poorest of the poor who are unemployed are more vulnerable to disasters, as they cannot afford a formal safe dwelling.

A cross-tabulation between income and the occupation of males was conducted. A total of 33.6% had no income. Pearson's chi-square probability value (p), as per the findings of the study, whereby $p = 0.000$ is less than ($<$) 0.05 , indicating that there is a significant difference in the proportion of respondents on the income and occupation levels of males. The relationship between income and occupation of males is significant at the 95% level ($p < 0.05$).

The study findings show that 2.1% males are employed full-time and have an income of over R3000 per month. The findings indicate that 1.4% of the respondents who are self-employed have an income between R500 and R1000 per month. A percentage of 9.3% of part-time employees either on contract or temporary position have an income of between R500 and R1000 per month. A disproportionately high percentage of 39.3% of unemployed respondents has an income of between R500 and R1000 per month.

Occupation-females

The research findings indicates that 5.7% are employed full-time, 1.4% self-employed, 15.7% part-time or contract or temporary, 70.7% unemployed, 4.3% pensioners and 2.1% are students/scholars respectively. The high percentages of women who are unemployed without source of income wonder at how these women survive. In this case, multi sexual partners are regarded as the source of income for survival as well as prostitution. The small percentages of employed women are mostly employed as domestic workers in the nearby Clare Estate, a predominantly Indian formal settlement.

Number of children

The results findings indicates that 18.6% of respondents live without children, 23.6% live with 1 child, 24.3% live with 2 children, 12.9% live with 3 children, 8.6% live with 4 children and 12.1% live with 5 or more children. The findings indicate that a high percentage of respondents reside with children in these informal settlements, perhaps due to the children accompanying their parents or to going to live with another family member for family-related reasons, whether for schooling or not.

Tenure

The study findings indicates that 12.1% have stayed in these informal settlements for less than a year, 0–5 years (37.9%), 6–10 years (25.7%), 11–15 years (15.7%) and 20 and above (8.6%). The findings show that the respondents have stayed for a period of between 1 and 5 years, which indicates that people tend to move after a certain period if job opportunities are not available.

Discussion

Successful countries rely on and invest too heavily in youth, as they are the hope for the future. Ironically, this article reveals that active youth between the ages of 18 and 34 years are urbanized in the most vulnerable informal settlements who are susceptible to disasters such as fires. This study reveals that urban areas have increased at an unprecedented rate as more youth migrate to urban areas in search of formal job opportunities without any success. These findings are in agreement with studies conducted by Borat & Kanbur, 2006: 4) and Ziegler, Burh & Williams (2002) as they regard this as the relocation of poverty to urban areas. This study further shows that uncontrolled urbanization (Pelling (2002: 1-2) has resulted in rapidly expanding informal settlements, where people are living in conditions of extreme poverty and vulnerability adequate basic needs. There is a high unemployment rate for youth in South Africa, given the high population growth and slow economic growth. ECA (2002) estimates that in South Africa, 56% of youth were unemployed; studies in the 1990s in Egypt and Morocco found youth unemployment was 35% and 39% in Algeria.

The implication that economic downturns throughout the world result in high unemployment rates is confirmed by the results of this study for both males and females. This high unemployment rate is perpetuated by the fact that youth in the informal settlements are poor and illiterate as indicated in the findings on education levels. The 4% difference between women's employment status and that of men is because women are employed as domestic workers in the nearby formal houses of Clare Estate. This difference is confirmed by the cross-tabulation

between occupations and income that 4.3% of unemployed females have an income of between R1001 and R1500 per month compared to 2.1% of their male counterparts. Women's income may originate from government child grants, some may be involved in sex work and some may be involved in the informal economy as hawkers. Males may be involved in criminal business such as drug trafficking, car theft or house breaking, either while some may be tavern owners or shack lords. UN-Habitat (2006:4) argues that if the lives of urban dwellers are to be improved, consideration must be given to how best they can increase their incomes. The aforesaid inferences are derived from the absence of previous studies that originates the latter mostly incomes from the informal settlements settles who are mostly unemployed.

The study indicates a dramatic increase in the number of single people residing in the informal settlements, as apartheid laws made women depend on their male partners or fathers in order to remain in the urban areas. Statistics South Africa (2001) concurs with this study's findings that women mainly head households in the informal settlements. Statistics South Africa (2001) reveals that women respectively head 43% and 38% of the informal settlements in Umlazi and Kenville/Sea Cow Lake.

The findings reveal that a high percentage of children, who represent hope for the future of this country, are residing in the vulnerable and poverty stricken informal settlements (Olorufemi (n.d.), and are therefore vulnerable to different forms of risks and hazards. This disproportionately high percentage may emanate from the fact that the parent(s)/guardian(s) of these children brought them to these areas because they cannot afford to look after them in their areas of origin, while residing in the urban informal settlements. Another rationale may be the greater accessibility and faster processing of government child grants, and of better opportunities for schools and health care services in urban areas. Edwards & Morris (2006:2) concur with Peek (2007) that in any type of disaster, children and adolescents constitutes a particularly vulnerable group. Children require special protection as, according to the United Nations Convention on the Rights of the Child, they have the right to be the first to receive attention during emergencies.

Furthermore, the study reveals that the high illiteracy rate in the informal settlements in question reflects the high rate of unemployment in their places of origin, due to them not finishing their primary and secondary education, which are the basic requirements for formal employment. Moreover, schools in rural areas are located in marginalized and poverty-stricken areas without resources. The literature reviewed concurs with ECA (2002) that in Sub-Saharan Africa, illiteracy is estimated to affect between 25% and 30% of all young people. Finally, the study findings confirm the need for counter-

urbanization strategies, as shack dwellers usually stay between 1 and 5 years in these informal settlements. The tenure of these settlers as per the research findings is not in agreement with any study conducted previously by authors.

Conclusion and recommendations

This study concludes that poor, black, women, and unemployed youth seem to be engulfed by poverty and disasters while residing in vulnerable informal settlements with no sustainable assistance from all tiers of government. Curbing the severe poverty and related impact of disasters on the people living in the informal settlements requires a holistic approach involving all stakeholders in South Africa and abroad. To minimise vulnerability and the impact of disasters on communities, cross-sectoral involvement of all spheres of government and civil society is needed, with the aim of eradicating all slums. Community-based organisations (CBOs) should be formed in all wards within the municipality and should work collaboratively with the ward committees.

eThekweni Municipality Disaster Management Centre must promote disaster management capacity building, training and education, including in schools as mandated by section 44(1)(h) of the Disaster Management Act. And disseminate information (section 44(1)(j)) to communities that are vulnerable to disasters. In addition, vocational programmes should be instituted to empower youth residing in the informal settlements that could benefit to their areas of origin as the highest percentage of tenure in these informal settlements is five years. This study concludes that the tenure to these settlements is between 5 & 10 years which gives the municipality any opportunity to formulate and enforce the by-laws responsible for the management of the mushrooming of the informal settlements.

Having reviewed the literature critically and identified gaps in this study, future studies need to focus on the use GIS as a tool to map all areas that are vulnerable to emergencies or disasters, so that the more vulnerable people currently living in informal settlements, such as women, children, the elderly and the sick, can be allocated to the less vulnerable zones. Furthermore, look at how urban planners can use vulnerability information to refine disaster contingency plans and indicate where the effects of disasters are likely to be the most pronounced.

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