

Social Structures, Local Economic Development and Environmental Quality in Deprived Communities: The Case of the Kpirikpiri Community in South-East Nigeria

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Abstract: As recently as late 2010, Africa sought a 20% increase in funding for its poor countries despite years of international aid. In 2002, Nigeria's Ebonyi State became part of the Community-Based Urban Development Project and, in 2005, joined the Community-Based Poverty Reduction Project, both funded by the World Bank. Ebonyi focused all of the aid it received on three communities in its capital, Abakiliki. The three communities were chosen because they exhibited the lowest social, political and economic status and the highest levels of physical decay based on a survey in 2001. One of the three communities, Kpirikpiri, was surveyed again in 2010 as part of this research and in 2011, a sample of its residents participated in focus groups to evaluate how their lives had improved as a result of this funding. It was shocking to discover that the community still suffered from all five housing deprivations used by UN-Habitat to define slum conditions. Yet, the potential of these residents is high. The challenge is how to unlock their potential and establish community organisations that can apply for their own funding; develop a local economy through activities, such as home-based enterprises; negotiate with landlords, and start to improve their environmental conditions.

Keywords: Developing countries, Economic development, Environment, Participation

INTRODUCTION

Since 1968, when the World Bank turned its attention to the needs of people in the developing world, arguments about the World Bank's effectiveness, accountability, and even terminology have continued unabated. In the poorest countries, World Bank strategies have been based on poverty reduction. As part of Sub-Saharan Africa, Nigeria belongs to this group of poor countries and has received substantial aid. However, as recently as late 2010, Africa sought a 20% increase in funding for its poor communities (World Bank, 2010). The purpose of this paper is to investigate the social, economic and environmental conditions of one of these communities as representative of the general picture following the extensive programme of World Bank funding. Recent circumstances are examined to appraise residents' living conditions at the end of this period of international aid.

THEORETICAL FRAMEWORK: URBAN DEPRIVATION

Deprivation can be defined as a state of observable and demonstrable disadvantage in a local community (Townsend, 1987). While housing deprivation has attracted attention, the study of other forms of deprivation has been less

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evident (Olotuah, 2010). This is primarily due to the readily observable nature of housing. Rakodi and Lloyd-Jones (2006), among others, suggest that there are a range of issues related to vulnerability in poor urban areas. These include a lack of social networks, groups and trust and exclusion from decision-making; low levels of skills, knowledge, and access to work in the context of no financial reserves from savings, credit or pensions; and inadequate shelter, water and sanitation. It is the multiple forms of deprivation that need to be addressed (Wong, 2006). These aspects of vulnerability can be analysed through social, economic and environmental perspectives, which are perceived as the three pillars of sustainable development.

The Social Perspective on Urban Deprivation

Social deficiencies are major inhibitions to community development, and include such things as the absence of social networks, active formal groupings and trust within the community and the outside world. One significant issue for deprived communities is their exclusion from wider society (Nger and Riley, 2007). Enyedi (2002) notes that a healthy social environment is one characterised by reduced social inequality. People in socially cohesive groups epitomise place attachment and are more strongly motivated to contribute to the group's welfare, with a view to advancing their own objectives and participating in community activities (Cartwright, 1968). The concept of sustainable livelihoods offers a more coherent and integrated way of addressing poverty and enhancing poor people's ability to generate socially sustainable lifestyles (Krantz, 2001). This approach relies on social capital, which is the resource of skills, talents and abilities within a community that can be used to build partnerships and develop community enterprises (Skinner, 1997). It has been argued that social capital can be formal or informal (Pichler and Wallace, 2007). Formal social capital involves joining civic organisations and participating in public life (Putnam, 1994; 1995; 2000); whereas informal social capital is created through family and friendships (Coleman, 1988) and confers great social benefit, such as trusting others with valuables (Bourdieu, 1986). According to Mitra (2008), the absence of formal social capital means that slum communities suffer severely restricted access to livelihood. Thus, community capacity is necessary to acquiring and using resources (Iscoe, 1974). Littlejohns and Thompson (2001) note that for a community to evolve, it needs to implement and sustain actions to exercise control over its social environment. This involves training, organisational and personal development, and resource provision, all arranged to reflect the principles of empowerment and equality (Skinner, 1997) with a continued emphasis on education (Howe and Cleary, 2001). The United Nations (UN-Habitat, 2002) states that an appropriate poverty strategy should provide all persons with the opportunity to earn a sustainable livelihood, by implementing policies that focus on capacity building to create human (social) capital. Thus, the notion of sustainable livelihoods is dependent on social capital, which itself depends on community capacity building. The cycle is completed when sustainable livelihoods contribute to community capacity building (see Figure 1). It is clear that these three virtues would be advantageous to a deprived community.

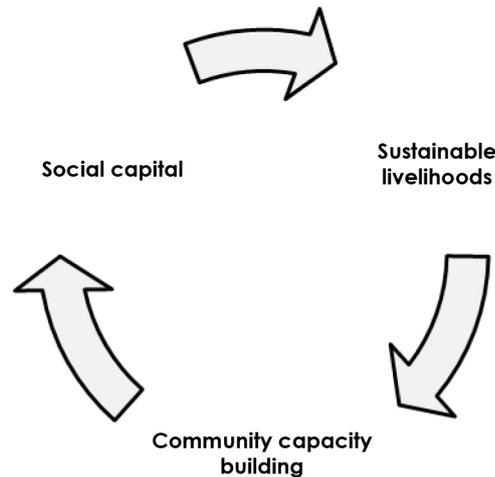


Figure 1. A Virtuous Cycle

The Economic Perspective on Urban Deprivation

According to Osinubi (2003), poverty is the inability to generate adequate income, find a stable job, own property or maintain healthy conditions. To be poor means to have limited access to the basic necessities of life such as food, clothing, and decent shelter; to be unable to meet economic obligations; to lack skills and engagement with gainful employment (Mitra, 2008); to have few or no economic assets and sometimes to lack self-esteem. Unemployment is the most visible symptom of deficiencies in the local economy (Morison, 1987). It results in a substantial waste of manpower resources and generates welfare loss in terms of lower output, thereby leading to lower income and reduced well-being (Akinboyo, 1987; Raheem, 1993). In the context of deprived communities, formal employment is characterised by large scale industrial branch plants, with national or international management structures that are difficult to access because they are geographically distant. Previous research has shown that most employed slum dwellers work in the informal sector (e.g., Nwaka, 2005). Informal economic activities can be placed into three categories (Williams and Windebank, 2002; Organisation for Economic Co-operation and Development [OECD], 2002): paid informal work, which is hidden and unregistered by the state, but legal in all other senses; illegal economic activities, wherein productive activities generate goods and services forbidden by law or that are unlawful when carried out by unauthorised producers, and unpaid informal work, which is work composed of self-provisioning activities and reciprocal support. The informal sector is characterised by ease of entry, reliance on indigenous resources, family ownership of enterprises and small scales of operation. It is essentially a traditional subsistence sector that provides basic services within cities (Lejour and Tang, 1999). Although a large proportion of the urban workforce in developing countries is employed in the informal sector, it is largely ignored, rarely supported, typically unregulated and actively discouraged by governments (Gugler, 1982).

Any enterprise that takes place in a domestic environment, and not on designated commercial or industrial premises, is referred to as a home-based enterprise (HBE) (Tipple, 2005). The poor often resort to HBEs to sustain their livelihoods (Gough, Tipple and Napier, 2003). Such businesses have been recognised as important features in most low-income communities (Rogerson, 1991; Gough and Kellett, 2001; UN-Habitat, 2003; Tipple, 2006a). Although HBEs are important, there are some concerns raised in the literature. HBEs may pose safety threats and cause noise and other forms of environmental pollution (Matsebe, 2009). There are also space-related problems (Kellett and Tipple, 2000), as well as the possibility of workers being exploited through inadequate wages and long working hours (Tipple, 1993). Nevertheless, a study by Finmark Trust (2006) confirmed that most successful enterprises were incubated as home-based enterprises. This implies that they could metamorphose into businesses that operate within the formal economy, if allowed to develop.

Environmental Perspective on Urban Deprivation

Terminology has become increasingly important in the study of sensitive issues. Thus, there is concern over the use of the word "slum", as it can invite clearance programmes. The Federal Government of Nigeria certainly tried that strategy in the 1990s (Agbola and Jinadu, 1997). Some academics prefer the term "informal settlements". However, this really means unplanned land occupation (Huchzermeyer and Karam, 2006) and offers no description as to the quality of the environment. In the case of Nigeria, official clearance is a relic of the 20th century, and "slum" has become a useful notion, especially as it is clearly defined by a UN-Habitat report (2007) as the five shelter deprivations that follow:

A group of individuals living under the same roof in an urban area who lack one or more of the following:

1. Durable housing of a permanent nature that protects against extreme climate conditions
2. Sufficient living space, which means not more than three people sharing the same room
3. Easy access to safe water in sufficient amounts at an affordable price
4. Access to adequate sanitation in the form of a private or public toilet shared by a reasonable number of people
5. Security of tenure that prevents forced evictions

The report continues that Sub-Saharan Africa is the most deprived region in the world, with over 80% of the region's homes having one or two shelter deprivations. Researchers in Sub-Saharan Africa, including Abiodun and Boateng (1987) and Akinyemi and Birgit (2009), agree with UN-Habitat's shelter deprivation definitions. However, they also note that assessment of environmental deprivation needs to be set within a socio-economic context.

The World Bank Assisted Programme

The World Bank (2009) has stated that Nigeria is the most populous country in Sub-Saharan Africa, and, by the turn of the 21st century, poverty in the country had become quite alarming. Continuing poverty reflects that although previous government programmes had poverty alleviation as one of the objectives, these programmes have had little impact on the poor. They were imposed from above with little commitment or involvement by the communities they were ostensibly attempting to help. Regardless, in the 21st century, World Bank-sponsored projects have funded the federal government of Nigeria, which subsequently delegated funds to the state governments. In Ebonyi State, it was decided to focus the aid on the poorest parts of Abakaliki, the state capital. Following a physical and socio-economic survey of eight communities by Diyokes (2001), the three communities of Kpirikpiri, Abakpa and Azuiyokwu were shown to exhibit the lowest level of social, political and economic status, as well as the highest levels of physical decay, and were therefore chosen. Ebonyi state was admitted to the Community-based Poverty Reduction Project in May 2005; as part of a US\$ 85 million credit to the Federal Government of Nigeria (World Bank, 2009). According to Omu and Okunmadewa (2006), the objective was to improve access of the poor to social and economic infrastructure and increase the availability and management of development resources at the community level. Since 2002, the state had already been part of the US\$ 110 million Nigeria Community Urban Development Project (World Bank, 2002), which was aimed at improving the physical environment. In practice, these two projects were conflated into one programme. The intention was to use infrastructure improvements as a means of engendering positive socio-economic and environmental impacts (Diyokes, 2001). Table 1 shows proposed actions and outputs from this programme, and Figure 2 shows where the environmental improvements are located. A number of roads have been re-surfaced, and a small quantity of street lamps has been added. Four boreholes and one bus shelter have also been provided.

Iweka and Adebayo (2010) report that in Lagos, nine major slum communities presently benefit from a massive World Bank-assisted seven-year upgrading exercise that commenced in 2006. However, the exercise is the subject of some perplexity because of its emphasis on infrastructure, particularly on roads. An investigation was needed as to whether the people of Kpirikpiri have a similar perplexity.

STUDY AREA

Almost 10 years after the Diyokes' (2001) survey, another survey of Kpirikpiri was undertaken as part of this research. The study area is collocated with the World Bank Programme area, covering 48 hectares (see Figure 2). The community comprises 1420 households, with a total of just less than 10000 people.

Table 1. World Bank-Assisted Community-Based Urban Development Project (2002–2011) and Community-Based Poverty Reduction Project (2005–2009) Objectives and Outputs

Proposed Actions	Outputs
Upgrade existing earth roads with bituminous surfaced roads	65% of roads re-surfaced
Provide trunk drainage	Not done
Provide solid waste management facilities	Not done
Extend water supply pipelines	Four new public boreholes
Build new school blocks	Not done
Build new recreational facilities	Not done
Refurbish clinic	Not done
Refurbish market	Original market destroyed by fire – relocated to northern boundary, in use but not completed
Provide street lighting	Installed along one street
Provide bus shelters	One erected

Source: Diyokes (2001)

METHODOLOGY

Survey 2010

A social-economic-environmental questionnaire was conducted of 10% of households in the study area. This sample offers a confidence level of 95% with a sampling error of 8% (De Vaus, 2002). Each household was assigned a number on a neighbourhood plan, and random number tables were used to select the sample. The views of every household member over 16 years of age were recorded. The questions were asked and responses were recorded by a team of researchers from Abakaliki. On a number of occasions, it was necessary to translate the issues into Igbo for full comprehension. In the social-economic-environmental questionnaire, the issues included household size, space and status; qualifications and skills; involvement in organised groups; trust; employment and income; reasons for living in the community and length of time there; cost of living and conditions. An observation schedule was created to enable researchers to objectively assess the environmental conditions about which residents were expressing their views. The conditions assessed included construction and quality of buildings; external spaces; streets and rainwater drainage and size, condition, density water supply and sanitation of interior spaces. The same houses were used for the observation schedule.

Focus Groups 2011

The purpose of the focus groups was twofold. It complemented the quantitative nature of the household survey with qualitative data on residents' perceptions of

current conditions. It was also intended to draw out respondents' attitudes, feelings, beliefs, experiences and especially, reactions to the issues raised by the survey results. Following the recommendations of Krueger and King (1998), local volunteers worked alongside the researchers as they had more contacts, were well-known and could engender trust among the people. Participants were sought from social gatherings, (i.e., one social gathering place for each of worship, leisure, trading and working), generating four focus groups. Initial discussions identified those willing to take part and established a sufficient variety of residents throughout the groups but not necessarily within each group, including parents, single people, young people, men and women, employed and unemployed, landlords and tenants. In accordance with Goss and Leinbach (1996), each group consisted of 10 participants, and each session was conducted at one of the social gathering places and lasted one to two hours. The focus groups took place after the household survey to enable reflection on the quantitative results and to determine which aspects of the household survey would benefit from qualitative evaluation. The lead field researcher was the facilitator for each group and recorded the outcomes. The results were evaluated against the following analytical framework:

Table 2. Analytical Framework

Social Perspective	
Indicators	Criteria
Place attachment	Higher levels of self-esteem or pride in place, assessed by propensity to live in the community for a relatively long period of time (e.g., Cartwright, 1968)
Social capital	Levels of participation in social groups or associations (e.g., Putnam, 2000) Levels of trust in civil authorities – police, courts, state government, local government (e.g., Nger and Riley, 2007) Levels of trust in other residents with money and other valuables (e.g., Bourdieu, 1986) Friendship levels and frequency of residents' meetings with one another in the community (e.g., Coleman, 1988)
Economic Perspective	
Indicators	Criteria
Employment rate	Unemployment as the most visible symptom of deficiencies in the local economy (e.g., Morison, 1987)
Skills	Qualifications and level of skills acquisition (e.g., Mitra, 2008)
Availability of local enterprises	Number of small and medium enterprises, including home-based enterprises (e.g., Gough, Tipple and Napier, 2003)
Environmental Perspective	
Indicators	Description
Secure and durable buildings	Walls, roofs, and floors built with strong, durable materials to provide comfort for the occupants (e.g., UN-Habitat, 2007)
Adequate living space	A habitable room should not be occupied by more than three persons (e.g., UN-Habitat, 2007)

(continued on next page)

Table 2. (continued)

Environmental Perspective	
Indicators	Description
Access to water	Adequate supply of clean, accessible and affordable water (e.g., Abiodun and Boateng, 1987)
Access to sanitation	Access to hygienic toilets (e.g., Akinyemi and Birgit, 2009)
Security of tenure	Lack of prevalent forced eviction (e.g., UN-Habitat, 2007)

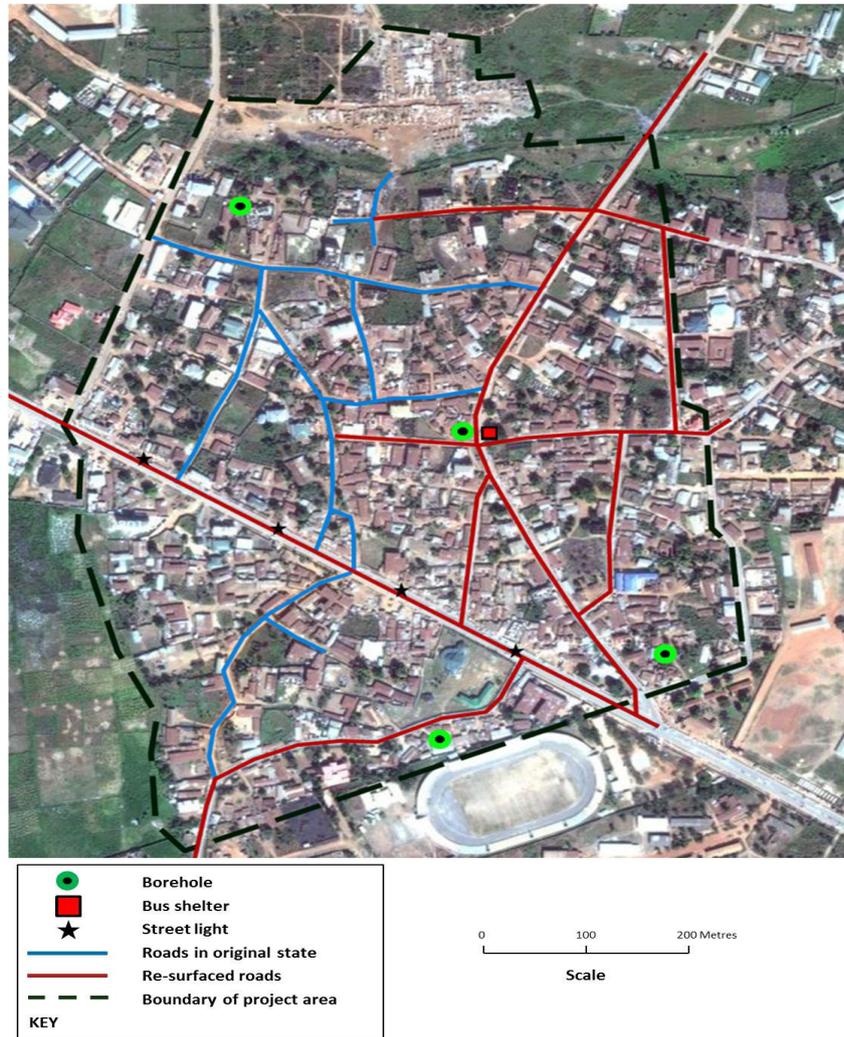


Figure 2. Aerial View of Kpirikpiri Showing Surfaced Roads, Street Lamps, Boreholes and the Bus Shelter Provided By the World Bank Projects

RESULTS AND ANALYSIS

Social Deprivation

The reasons for living in the neighbourhood clearly indicate the effects of rural-urban migration, as most people come to Kpirikpiri to seek work that is not available in their villages. The next most prevalent reason for living in Kpirikpiri is family, indicating the importance of social ties. Commitment to place is shown by almost a quarter of residents having lived there for over 16 years. However, there seems to have been a heavy influx of people over the last five years (see Table 3; all data in Tables 3–9 are taken from the survey). Overall, the residents' view is that farming is for subsistence, not for employment or as a source of income. The focus groups confirmed that, consequently, people come to the cities for employment, which is increasingly very difficult to find because the recent influx has placed even greater stress on urban resources.

Table 3. Reasons for Living in the Community and Length of Time Lived There

Reasons	%	Time	%
Work	41%	Over 16 years	24%
Family	31%	11–15 years	8%
Friends	14%	6–10 years	13%
Grew up there	13%	1–5 years	44%
Studies	1%	Less than one year	11%

The survey showed that the community is not cohesive in a formal sense. Residents have low levels of engagement with organised clubs, groups and associations. Only for religion and the church is there a relatively high rate of participation (see Table 4).

Table 4. Percentage of Residents Engaged With Organised Groups

Association	%	Association	%
Religion/Church	62%	Hobbies/Social clubs	17%
		Sports clubs	17%
		Community associations	12%
		Trade unions	11%
		Political parties	8%
		Health and welfare groups	6%

Lack of trust in authority, from the police to the courts, is also clear. Perhaps the lack of trust in local authority is most disturbing, as it might be supposed that local authority representatives could be the most fruitful route to obtaining practical support (see Table 5).

Table 5. Percentage of Residents Who Trust Authority

Authority	%
Courts	36%
State government	34%
Local authority	28%
Police	22%

Nevertheless, it should not be inferred from the lack of engagement with organised associations and the local authorities that the people living in this neighbourhood do not form a recognisable community. The survey shows that 91% of those surveyed stated that they have friends in the neighbourhood, and Table 6 shows that most meet on a regular basis. The survey also shows that 60% of residents trust other residents with their money and valuables.

Table 6. Percentage of Residents Who Meet With Friends

Frequency	%
On most days	47%
Weekly	39%
Monthly	13%
Quarterly	1%

Economic Deprivation

According to Eze (2010)¹, over 90% of the monthly household incomes range from N 7500 (£ 31) to N 10000 (£ 41). Okosun et al. (2010) have stated that N 45000 (£ 185) per month is needed to satisfy real family living costs. Thus, the difficulties that the residents are experiencing in affording necessities are, at least in part, due to very low incomes. In addition, it needs to be recognised that much employment is in the informal sector, which is unregulated, irregular work for little pay. It is not secure appointment and is prone to legal action. Therefore, residents are unwilling to declare their involvement with informal employment. Table 7 shows both the initial reaction of residents when asked about their employment status and a more considered view after the researchers had gained their confidence.

Table 7. Percentages of Resident' Employment Status

Status	Initial	Considered
Formal employment	32%	32%
Informal employment	19%	51%
Unemployed	46%	14%
Retired	2%	2%
Students	1%	1%

In either case, unemployed residents (i.e., those who were retired, students, or no engaged in formal employment) comprised 65% of the workforce. The national unemployment rate is 23.9% (The National Bureau of Statistics, 2011).

So, in Kpirikpiri, unemployment is approaching three times the national average. This is a significant factor in low household incomes. Nevertheless, Table 8 shows the skills that are available within the community (33% of whom are at a professional level) together with the employment profile.

The employment profile does not indicate a skills shortage, but rather it indicates that the following skills are noticeably underused:

1. Teaching	9%
2. IT/auto/electrical technicians	7%
3. Furniture making	6%
4. Engineering professionals	5%
5. Sports	3%

There is often an assertion that slum-dwellers are in that situation because they lack skills and are uneducated. It may be surprising to discover that the residents of Kpirikpiri are actually quite well qualified, as shown in Table 9.

This profile compares favourably with developed western countries, for instance England and Wales (National Statistics, 2001).

Table 8. Percentage of Residents with Skills Available and Residents' Employment Profile

Skills Available		Employment	
Teaching	14%	Education	5%
Professions:			
i. Humanities	10%	Commerce	8%
ii. Engineering	9%	Manufacturing	4%
Building trades	7%	Construction	8% ²
Technicians	7%	IT/auto/electric	0%
Sports	6%	Sports	3%
Trading	6%	Retail	9% ²
Furniture making	6%	Furniture making	0%
Hair dressing	6%	Hair and beauty	5%
Entertainment	6%	Entertainment	5%
Catering	6%	Food, drink, hotels	7% ²
Clothes production	6%	Clothing production	7% ²
Unskilled	10%	Transportation	4% ³
		Laundry	4%
		Car wash/street vending	14%
		Unemployed	14%
		Retired	2%
		Students	1%

Table 9. Percentage of Residents With and Without Qualifications

Qualification	%
Post graduate qualification	6%
University degree	21%
Higher national diploma	0%
Ordinary national diploma	6%
Senior secondary school certificate	48%
Primary secondary school certificate	1%
None	18%

Environmental Deprivation

The National Building Code for Nigeria (Federal Republic of Nigeria, 2006) sets the standards for construction, but is not an easy document to interpret. It was introduced primarily as a result of multi-storey building collapses and therefore focuses on structural stability. The code has received substantial criticism for the issues that it does not address and for relying on British Standards that have limited relevance to its location (e.g., Agba, 2011; Iweka and Adebayo, 2010; Mu'azu, 2011). The code has no provisions for protection against extreme climate, sufficient living space, water provision or sanitation (Federal Republic of Nigeria, 2006). Section H-3 refers to Dwellings and Lodging Houses. There are no specific standards for construction, although there are references to British Standards. The process relies on submission of compliance forms, which are specification style statements about the choice of material, size and adequacy with justification for selections. The regulations about existing buildings are essentially that any additional construction should not be lower quality than the existing. It is clear from the focus groups that the houses in Kpirikpiri have not been through this process. This 2010 survey revealed the following information in relation to UN-Habitat's five deprivations.

House construction

The buildings are nearly all single storey. The floors are natural earth covered in a sand and cement screed. Approximately 50% of walls are dry clay blocks with wet clay beds, sand and cement and rendered on both sides (see Figure 3). The remaining walls are comprised of reclaimed timber boards arranged in a haphazard fashion (see Figure 4). The roof structure in all houses is entirely timber, covered with corrugated single-skin galvanised steel sheets.



Figure 3. House with Rendered Clay Block Walls



Figure 4. Houses with Reclaimed Timber Boards as Walls

The windows are apertures within the walls that are covered with boards at night and when the property is unoccupied, which limits ventilation (see Figure 5).



Figure 5. House with Timber Boards over Openings

There is most likely not a definitive answer about compliance with the Building Code, but the impression is that the floors and clay block walls would comply while the timber walls and all roof coverings would not be in compliance. In terms of the UN-Habitat definition (i.e., durable housing of a permanent nature that protects against extreme climate conditions), the 50% of houses with clay block walls would appear to be durable and permanent. However, none of the roof coverings protect against solar radiation, and they therefore do not protect the inhabitants from extreme weather conditions. The major problem with single skin metal roofs in warm weather is that they absorb and retain solar radiation. This translates directly into high building envelope heat loads and significant temperature build-up in the accommodation (McGee and Clarke, 2010). The two world-standard material means of treatment to metal sheet roofing are:

1. Application of reflective coatings to the outside surface of the sheets.
2. Introduction of insulation. This is least effective on the inside, as the metal surface has already been heated by the sun. There are products in which either the insulation adheres to the external surface or as a sandwich filling between two steel sheets.

The most effective solution is the combination of the two methods, with sandwich panel construction incorporating a reflective coating on the outside surface (International Code Council, 2012). Figures 3 and 4 show the rusted and patched nature of the roofs in Kpirikpiri. The condition of these roofs precludes retrofit treatments.

Living space

In relation to sufficient living space, calculation of the household data showed that an average of 3.3 people shared the same room. This exceeds the criterion that sufficient living space means that no more than three people share the same room.

Water

According to UN-Habitat (2003), a minimum of 20 litres of water is required every day per person to meet basic needs. Among residents assessed, 37% have access to water at home, but it is only available for four hours every two weeks for them to fill a barrel containing 160 litres that can be expected to last for eight person days. When this supply has been used, they will have to resort to going to a borehole. Household size is an issue, but partial home supply is actually equivalent to 5% of the community receiving all their water needs at home. Nearly half (42%) of the people are a two to five minute walk from a privately owned borehole. However, waiting time at a borehole is 20–30 minutes during the rainy season and 30–60 minutes during the dry season. Each person can carry his/her daily need (i.e., one 20-litre container). Setting aside the notion that some people may not go to the borehole, the best case is that $37\% - 5\% + 42\% = 74\%$ of people spend 20–60 minutes a day collecting water. The remaining 21% spend longer as they have further to walk. Twenty litres of water costs an average of N 10 at the private boreholes, and the average household size from the survey was found to be 6.6 people. Therefore, the equivalent of 95% of households spend on average $N 10 \times 30 \times 6.6 = N 1980$ (£ 8) per month on water. As previously established, over 90% of monthly household incomes range from N 7500 (£ 31) to N 10000 (£ 41). Therefore, water costs 20%–25% of household incomes. To be affordable, it should represent less than 10% of one's household income (UN-Habitat, 2003).

Sanitation

There are three types of toilet: indoor flush, outdoor pour-flush and pit latrines. Just 39% of households have indoor flush toilets, but due to provision and household size, they are only available to 25% of the people. There is only a moderate problem with the number of people sharing a toilet. For example five persons sharing a toilet is not unreasonable; and even six to nine people is manageable. However, the real context is that 75% of the community have no sanitary toilet facilities. There is also a risk of groundwater contamination with both types of latrine. Sugden (2006) does not specify minimum dimensions between latrines and boreholes (Figure 6, dimension X), but states that the greater concern is that human contaminants will percolate downwards from latrines into the groundwater (Figure 6, dimension Y).

Ibe and Okpelye (2005) refer to the World Health Organisation standard stipulating that latrines and boreholes should be no closer than 30 m, but conclude that the movement of organisms from latrines into watercourses is almost impossible to model, and therefore the prospect should be avoided. The South African Building Regulations follow this principle by stating that all sewage should be removed to prevent it from coming in contact with the ground (National

Regulator for Compulsory Specifications, 2011), and the United Nations Environmental Programme (UNEP) makes it clear that latrines should not be used where groundwater sources are used for drinking water (UNEP, 2000). This pollution has already discounted the wells as sources of safe water supply. Hydro-chemical analyses show that groundwater samples have a comparatively high content of ions and dissolved particles that are injurious to health. In addition, the wells are shallow and uncovered so the water is unsafe for drinking and cooking (Aghamelu, Nnabu and Ezeh, 2011). As described above, the equivalent of 95% of people in Kpirikpiri obtain their water from boreholes, so maintaining uncontaminated ground is essential.

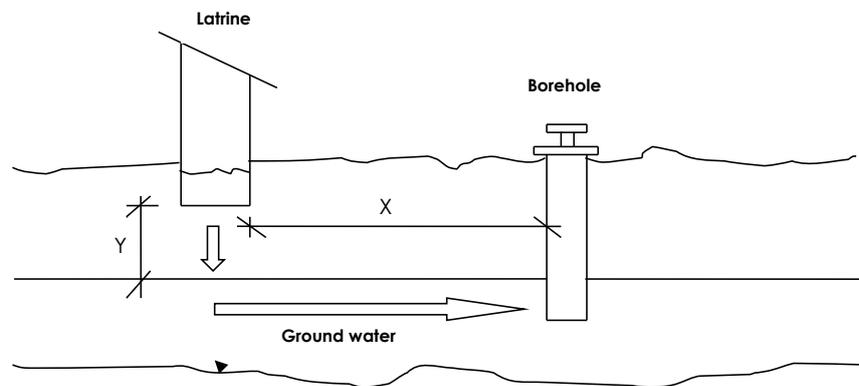


Figure 6. Contaminated Water Diagram (Adapted from Sugden, 2006)

Tenure

In the community, 20% are squatters with no security of tenure; an additional 70% of the community are tenants who have security of tenure, provided they continue to pay rent. It has already been established that over 90% of household incomes range from N 7500 (£ 31) to N 10000 (£ 41). Average rents are N 2000 (£ 8) per month per room. The rent for multiples of rooms is pro-rata. So, 37% of households pay N 2000, 38% pay N 4000 and 15% pay N 6000. The remaining 10% of residences have four or more rooms and are occupied by households within the top 10% of household income. The most optimistic interpretation is that 37% of households spend 20%–26% of their income, 38% of households spend 40%–50% of their income, and 15% spend 60% of their income on rent. UN-Habitat (2003) states that no more than 20%–30% of household income should be spent on rent. As 70% of the community are tenants, excluding the top 10% of household incomes, this means that 63% of the population (90% × 70%) spend more than 20% of their income on rent. They are therefore at risk from forced eviction. When added to the 20% of the population who are squatters, the data indicates that 83% of the community are in jeopardy. The survey discovered that there are no tenancy agreements, which exacerbates the danger.

The following table is a summary of the community's positive and negative attributes:

Table 10. Summary

Positives	Negatives
1. Established residential community	1. Lack of engagement with organised groups
2. Regular meetings between friends	2. Lack of trust in authority
3. Trust among the community	3. Low incomes - low employment
4. Good relationship with the church	4. Underdeveloped local economy
5. Availability of skills and abilities	5. Poor quality of housing construction
6. High level of educational	6. Overcrowding
7. Achievement among residents	7. Lack of access to affordable safe water
	8. Inadequate sanitation
	9. Poor landlord-tenant relationships

DISCUSSION

These data demonstrate that in Kpirikpiri there are shelter deprivation issues in all five categories. Although the survey was only undertaken in Kpirikpiri, there is no reason to assume that similar conditions do not also prevail in Abakpa and Azuiyokwu. These three communities have represented Ebonyi State's priority in poverty reduction and community urban development since 2001. The 21st-century World Bank-assisted programme has expended large funds, and yet poverty and squalor appear undiminished. The residents assert that the roads are of little benefit to them and mainly serve those passing through the neighbourhood. Indeed, the re-surfacing has adversely affected the drainage pattern and, in some cases, has damaged the existing small quantity of piped water supply. The boreholes provide free water, but the existence of only four boreholes in the whole community is grossly inadequate. The residents state that they are always crowded, and even at two a.m., long queues are found. They did not comment on the bus shelter. Mitlin and Satterthwaite (2007) question whether the existing Government-based structure for distributing international aid can ever be effective. They state that only a small proportion of funding actually addresses the deprivations that cause or contribute to poverty, and official development assistance agencies rarely work directly with poor groups. Therefore, international aid agencies can only be as effective as the government that they fund. The lack of local ownership in particular, raises doubts about the ability of partner government structures to reduce poverty. Mitlin and Satterthwaite (2007) also point to examples of the effectiveness of funding when it goes directly to grassroots organisations formed by the urban poor. Ever since the 1992 Earth Summit in Rio de Janeiro, the mantra has been that Agenda 21 rests on the three conceptual pillars of social sustainability, economic sustainability, and environmental sustainability (Kahn, 1995), and number of authors have explored these concepts (e.g., Basiago, 1998; Giddings, Hopwood and O'Brien, 2002). Nevertheless, some academics continue to recommend the purely environmental

solution of house construction as the means of eradicating poverty (Aribigbola, 2008; Olotuah, 2010). The problems and solutions are deeper than merely the visual environment, which tends to portray the effect rather than the cause. It is for these reasons that the existing social and economic conditions needed examination, and proposals are required for social, economic and environmental provisions.

A Strategy for Kpirikpiri

Social

In accordance with the virtuous cycle, sustainable livelihoods result from social capital, which, in turn, is derived from community capacity building. The residents have a high level of educational achievement and have skills and abilities, but they lack the organisation to develop their community. Their lack of engagement with organised groups may be symptomatic of mistrust in authority, with the exception of the church. The church could play a crucial role, as only the church has the status to negotiate with the local authorities, as well as mediate between landlords and tenants, and the resources with which to pump-prime the community capacity building process among residents through programmes such as Church Grants for Africa. It also has a communication network for two-way community exchanges with residents on progress. While community organisation can be developed under the auspices of the church, the long-term objective is that it should be independent and able to apply for its own funding. There is a definite need for honesty, transparency and accountability, especially where funding is concerned, but this can be aided by an established residential community that exhibits trust between its members and a strong network of friends that meets regularly. The community may actually be more capable of monitoring itself than of trying to ensure that the authorities are accountable.

Economic

The low level of employment and corresponding low incomes are major barriers to community development. There is also an underdeveloped local economy. In these circumstances, the poor often establish home-based enterprises to obtain income in conditions of high unemployment (Gough, Tipple and Napier, 2003). These businesses are recognised as very important to low-income communities (Tipple, 2006a; 2006b; Gough and Kellett, 2001; Rogerson, 1991; UN-Habitat, 2003). Studies in Lagos and Kano show that 61% and 64% of people, respectively, are involved in some form of home-based enterprise, either full-time or part-time. In Sub-Saharan Africa in general, this can rise to as high as 77% (Bose, 1990; Chen, Sebstad and O'Connell, 1999). The Finmark Trust (2006) states that occupations can include hair dressers, automobile mechanics, traditional healers, welders, clothes-makers, and numerous other occupations. Home-based enterprises have the downside of being unregulated and therefore potentially dangerous to health and well-being. In Kpirikpiri, only 20% of the respondents are engaged in home-based enterprises, of whom 86% are female and 14% are male. This appears to be very low involvement. According to the residents, landlords have the perception that home-based enterprises would include harmful processes that would have a

detrimental effect on their properties, and they therefore prevent tenants from becoming involved. Yet, Tipple (2006a) notes that in their study most enterprises involved relatively benign retail, service and production activities. There certainly appears to be scope for formal agreements with the landlords over acceptable activities, as well as confirmation that landlords will not raise the rents of those involved. Through the church, the community can aim to establish a formal relationship with landlords. This would enable proper tenancy agreements to be established in which terms and conditions, rent levels and acceptable home-based enterprises can be established.

Environmental

Improvements to the environment will be expensive and accompanied with a good deal of risk and are a long-term enterprise. While environmental improvements should not be attempted until the social and economic structures are in place, residents will not be assured that their neighbourhood is improving until there is physical evidence. Environmental improvements also fall into two categories – health and comfort. Sanitation and access to affordable safe water are part of the first category, which should be subject to priority action through health funds. Both involve capital and revenue expenditure, and the latter in particular, requires community-based organisation. The capital expenditure for sanitation involves installation of flush toilets that are connected to drainage pipes and accessible septic tanks serving groups of properties. The revenue expenditure needs to ensure that the tanks are emptied regularly and that there is a programme of maintenance for the infrastructure. The water supply should be dissociated from private ownership. There are numerous projects around the world that show how subterranean water can be pumped through pipes to metered supply adjacent to or within homes. The supply should be available at affordable costs with the income dedicated to maintenance. Overcrowding and the poor quality of housing construction are primarily related to rent levels. They will therefore be part of an evolving socio-economic relationship that delivers a more gradual and incremental improvement.

CONCLUSIONS

As an example of a deprived community in Nigeria, and for that matter Sub-Saharan Africa, the study of Kpirikipiri has shown that conditions have not significantly improved over the last 10 years, despite considerable World Bank funding. The programme of limited infrastructure upgrading has had little positive effect on the residents' lives. Moreover, many residents were unaware that it was happening. There still seems to be a lack of understanding in funded projects that environmental improvements will have little value unless social structures and economic development are already established. The low level of trust in authority has undoubtedly hampered engagement by the residents with organised groups, although trust within the community and informal networks of friends are well-established. Together with a highly qualified population possessing a notable skill base, these existing community relationships indicate strong potential for the establishment of social capital through community capacity building. The good

relationship between community and church indicates the potential for the church to take a lead in creating formal community organisation, pump-primed by its grants scheme. Social organisation is the initial objective but needs to be closely followed by economic development. The church is most likely the only existing mechanism with the capability to negotiate with local authorities and landlords. This is due to its unrivalled status in Nigerian society. It has been established that home-based enterprises are one of the most successful ways of developing a local economy, and therefore provisions permitting home-based enterprises need to be negotiated with landlords. The environmental priorities are related to health. Sanitation that does not contaminate the ground water supply and access to safe and affordable water are urgently required to safeguard the health of residents and as a physical demonstration that community-based organisation can be effective. Although the quality of houses is poor and overcrowding is evident, these issues will need to be part of a longer-term strategy of socio-economic development. Thus all stakeholders have a role in proactive strategies. The World Bank could consider a funding stream that does not rely on cascading through tiers of government. It could introduce more specific and targeted small sums directly to community groups, underwritten by local authorities. The emphasis of external agencies on capital funding highlights the neglect of revenue funding, (e.g., for rubbish collection and maintenance of the proposed sanitation infrastructure). The state government could be responsible for the establishment of a public sector water and drainage company, providing affordable, safe, piped water – with the proceeds subsidised to ensure maintenance of the systems. Members of the community could be trained and employed to provide this maintenance. The local authorities have a role in community development and could work with the church on capacity-building that would lead to the community applying for its own grass-roots funding. Further, the local authorities would play a role in the development of the local economy by negotiating for home-based enterprises with landlords. The potential of the residents is high. The challenge is how to unlock this potential and establish community organisations that can apply for their own funding, develop a local economy, negotiate with landlords, and start to improve environmental conditions.

NOTES

1. Mr. Ernest Eze is leader of a team five who represent Kpirikpiri in meetings with the World Bank office to discuss the improvement programme. He is also the councillor for the Kpirikpiri ward. Each ward has one seat on the legislative council.
2. Where employment exceeds skills available, it indicates that unskilled people are also involved in that employment sector.
3. Including skilled people employed in unskilled occupations.

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