

**WHERE WE LIVE MATTERS: CHILD DEVELOPMENT
AND
INFORMAL SETTLEMENTS**

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WHERE WE LIVE MATTERS: CHILD DEVELOPMENT AND INFORMAL SETTLEMENTS

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DECLARATION

I, Grace Tamanda Gareta Khumalo, declare that this dissertation is my own unaided work. It is being submitted for the degree of Masters of Science in Housing at the University of Witwatersrand, Johannesburg (Republic of South Africa). It has not been submitted before for any other degree or examination in any other university.

Signed by:

Grace Tamanda Gareta Khumalo

On the 31st March 2012

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Abstract

The assertion 'where we live matters' (Braveman, Cubbin, Egerter, and Pedregon, 2008:1) is particularly important for the attainment of the healthy and sustainable living environment that is ideal for child development. According to child developmentalists, physical and social environmental factors play a crucial role in child development. Today, the majority of children, who make up almost half of the urban population in the Third World cities, live in the informal settlements. Informal settlements have always been associated with negative child developmental outcomes. By linking the physical and social environmental factors that influence child development reviewed in the child development literature to the living environments in informal settlements, this research report reveals that there are both positive and negative child developmental outcomes emanating from informal settlements. However, the positive aspects are often disrupted due to governments' negligence to provide essential services to informal settlements coupled with limited reference to child developmental issues in informal settlements intervention paradigms. This research calls for governments and policy makers to develop strategies that complement the positive aspects of informal settlements for the attainment of healthy and sustainable physical and social environments required for children to develop to their full potential.

Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ATL	Association of Teachers and Lecturers
CRC	Convention on the Rights of the Child
CCF	Christian Children's Fund
CPRC	Chronic Poverty Research Centre
CECSR	Committee on Economic, Cultural and Social Rights
CHIP	Childhood Poverty Research and Policy
COHRE	Centre on Housing Rights and Evictions
ECD	Early Child Development
GUIC	Growing Up in the Cities
HIV	Human Immunodeficiency Virus
iiid	International Institute for Environmental and Development
MGDs	Millennium Development Goals
MGDS	Malawi Growth Development Strategy
PKU	Phenylketonuria
NGOs	Non-governmental organizations
WFFC	World Fit For Children
UN	United Nations
UNCHS	United Nations Centre for Human Settlements
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund

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Chapter One: Presenting an Overview of the Study

1.1 Introduction

The future of every nation depends on healthy development of children. However, this can only be achieved if parents, the community, and the nation at large prioritise children in their development agenda. Rene Grotenhuis in her forward message in the *Defending of Housing Rights for Children* asserts that “children and young people are actors of change...” hence it is imperative to help them in empowering themselves (Grotenhuis, 2006:6). Archbishop Tutu in his foreword message in *South African Child Gauge 2010/2011* elaborates further that “the well-being and the active participation of adolescents are fundamental to the effectiveness of a life-cycle approach that can break the intergenerational transmission of poverty, exclusion and discrimination...” (Tutu, 2011:6). It is this intergenerational poverty that is so deep and severe in most developing countries such as Malawi that deprives many children from developing into active participants of development in their countries.

One of the key ways of breaking intergenerational poverty is through the creation of favourable living (physical and social) environments that would necessitate children to develop to their full potential. Researchers have discovered that the developmental process of a child depends on “interconnected reactions”– that is the interaction of his biological composition, the external environment, and “some from the child’s own behaviour” (Bremner and Slater, 2003:6). This research focuses on the ‘external environment’ because the external environmental factors such as poverty and its associated stressors have the potential to deregulate the biological systems of the developing child in powerful ways, which may directly result in “poorer outcomes later in life” (Duncan, Kalil and Ziol-Guest, 2010:307).

In this research, the physical environment refers to housing and human settlements where the child spends most of his/her time. But since human settlement is a complex subject, this research will dwell more on the informal than the formal settlements. This is because informal settlements shelter the majority of the urban poor population in most cities of the

Third World countries (UN-HABITAT, 2006/7). Obviously, this implies that many children are born and raised up in informal settlements, hence deserve our attention. Informal settlements are mostly associated with poor living environments. However, there are also some positive aspects of informal settlements which have influenced policy shifts from eradication to upgrading of informal settlements. The major reasons attached to these shifts, are that eradication or relocation disrupt people's livelihood activities, social networks, and in some cases proximity to social services (Leckie, 1994:75-88).

While the same factors would positively impact on child development indirectly, there are also some positive aspects of informal settlements which affect child development directly. These are not adequately acknowledged in the informal settlement discourses. For example, informal settlements by virtue of their spatial permeability provide opportunities to children to exercise their instinct drive for spontaneous play and formation of peer groups. Child development experts recognise play as one of the most important tool in child's life that influence cognitive, intellectual, personality, and social development in a growing child (Walsh, 2006:139-140). Expanding this line of argument, Bernard (1939) cited in Buchanan, Dodson and Sipe (2006: 87) showed that children from low income groups are more likely to be more familiar with their neighbourhood, and their peers within that neighbourhood due to high densities, than those in affluent societies. This means addressing issues of children growing in informal settlements should be a two way process:

- Recognising the negative aspects of informal settlements and overcoming them;
- Recognising the positive aspects of informal settlements and enhancing them.

These negative and positive aspects will be delved upon through the subsequent chapters of this report.

1.2 Working Definitions

1.2.1 Child Development

Child development is defined as “changes over time in the structure, thought, or behaviour of a person due to both biological and environmental influences” (Craig, 1996:5). It

concentrates on the period when developmental processes are at the peak in a human being – that is from conception to adolescent stage.

1.2.2 Living Environment

Living environment is described as the “combination of external physical conditions that affect and influence the growth, development, and survival of organisms” (The free dictionary, 2012). In this study, living environment refers to human settlements with homes, schools, health centres, work places and all the necessary basic infrastructure services for the well-being of the inhabitants.

1.2.3 Informal Settlements

Informal settlements are generally defined by UN-HABITAT as residential areas with dense contiguous housing units constructed illegally on public or private land, marginalised sites or within existing abandoned buildings in the inner city. They are commonly associated with lack of security of tenure, basic services, and poor housing quality.

1.2.4 Child Poverty

Child poverty means children who experience “deprivation of the material, spiritual and emotional resources needed to survive, develop and thrive, leaving them unable to enjoy their rights, achieve their full potential or participate as full and equal members of society”(UNICEF, 2005:18-190)

1.3 Problem Statement

Different researchers have revealed that a child living in a slum or informal settlement encounters challenges that threaten its survival from the conception stage. Notwithstanding their location (whether in Malawi, South Africa, India or Brazil), informal settlements are generally characterised by poor living conditions such as poor quality homes, lack of basic

municipal services, pollution, and lack or inadequate health and education facilities for children (UN HABITAT, 2006/7: viii-xii). Annan (2006/7:iii) in his foreword message in *The UN-HABITAT State of the World's Cities* highlights that:

“In impoverished informal settlements, parents must choose between paying rent and buying food for their children, decrepit school facilities and costly materials deprive young people of basic education, and where lack of sanitation, clean water and ventilation increase the risk of disease, particularly among women and children”

Furthermore, children growing up in informal settlements are victims of poverty, conflict (in some cases xenophobia) and climate change. Annan (2005:vii) in his foreword message in *The state of World Children 2005* emphasizes that “poverty denies children their dignity, endangers their lives and limits their potential”. This shows that children growing up in informal settlements deserve special attention, if the world is committed to reduce poverty.

1.3.1 Justification for Conducting this Research

Although, there is large information from studies that focus exclusively on the situation of children in informal settlements, few of these pay attention at the link between childhood developmental stages and poor living environments. Some researchers focus on prenatal and infant stages while others focus only from primary school stage to the adolescent stage. This has resulted in providing intervention measures that are biased towards a particular stage while neglecting the other stages. *The United Nations Convention on the Rights of the Child*, for instance, defines children as anyone below 18 years of age (Boyden and Feeny, 2003:2). Yet children are different in age, and so too are their needs. Duncan *et al.* (2010:307) observe that “...family income in early childhood is much more important for shaping children’s ability and achievement than economic conditions later in childhood”. It is for this reason that this research focuses on the impact of informal settlements on all childhood developmental stages.

Secondly, the level of deprivation of children growing up in a normal urban setting, in informal settlements in the urban areas and rural areas, is different. Yet, overall, it appears there are few studies that disaggregate national health data into formal settlements, informal settlements, and rural areas. Cousins, Fry, and Olivola (2002:35) observe that this kind of data implies that the living conditions of slum populations and the poorest squatters are comparable to middle class and wealthy urban dwellers. Yet, the characteristics of formal and informal settlements in the urban areas are not analogous. Cousins *et al.* (2002:xv), for example, observe that in slums, infant mortality rate is higher due to high incidences of diarrhoea, acute respiratory infections, and more malnutrition than in non-slums and rural areas (*ibid.*). The disaggregated urban data collection approach can influence policy direction so that children growing up in informal settlements should also receive adequate attention. Moreover, the *United Nations Convention on the Rights of the Child* emphasises that “children living in exceptionally difficult conditions are entitled to special consideration” (COHRE, 2006:13).

Lastly there is a tendency to submerge child issues in community or women’s issues, but this approach ignores the special needs of children, and of children who are raised by their fathers, on their own (child headed households), or in orphanages. It is important that children’s issues must stand out separately in housing and human settlements policies and poverty reduction strategies so that all the children growing in informal settlements should benefit the same way from all intervention measures. At the same time it should be noted that child development is an urgent matter because some negative developmental outcomes due to poor living environment today may be difficult or impossible to eliminate tomorrow even if the living environment has later been improved (Fitch, 1985:85).

1.4 Aim and Objectives

Since the available data reveal that urban slum child health is generally worse than national and rural averages, the overall aim of this research is to further explore the key child developmental issues in relation to growing up in informal settlements.

The main objectives of this research are:

- a. To explore the factors that influence child development.
- b. To explore the importance of understanding child developmental stages when drawing up child development programmes.
- c. To explore to what extent child developmental stages are recognised in informal settlement intervention paradigms.
- d. To explore the link between poverty and child development.
- e. To explore the characteristics of informal settlements in relation to child development.
- f. To explore how poverty and the characteristics of informal settlements affect child developmental stages reviewed in (b) both negatively and positively.

1.5 Research Question

Broadly, this research attempts to address the key question: What does literature suggests are the key child developmental issues in relation to growing up in informal settlements?

Specifically, it attempts to answer the following sub questions:

1. What is child development?
2. How does living environment in relation to child development feature in the child development literature?
3. How does poverty impact on child development?
4. What are the environmental characteristics of informal settlements and their impact on child development?
5. Since there is a strong link between poor living environment and poverty, to what extent do these two concepts affect child developmental stages in informal settlements?

This exploratory research did not lend itself to the use of a hypothesis as such. However, I was guided by the assumption that I would find complex relationships between child development and informal settlements with many dimensions to be considered.

1.6 Research Method

1.6.1 Methodology

In undertaking the study, primarily, secondary sources of data were utilised. This is called desktop research, and involves accessing and analysing information from published and non-published sources (Delaney Woods and Associate, 2005). Hence, literature review revolved around the key concepts of the study, namely child development, living environments, informal settlements, and child poverty. Firstly, I had to study child development because it is a complex subject with a large and diverse literature. The rationale was to understand the physical and social environmental factors that influence child development. This was achieved through engaging books and journals on Child Development Perspectives. As my background is in architecture, this field was new to me. More importantly, the study relied to some extent on the student hand books by Stanley Fitch (1985) and Grace Craig (1996) because they provide a clear and systematic presentation on the roles of physical and social environment and maturation on child development.

Further information was obtained information from Ministry of Lands, Housing and Urban Development and Ministry of Gender, Child Development and Community Development in Malawi to assess their understanding on child development and informal settlements because I intend to work in Malawi after my studies. A very useful information source of information on informal settlements globally was obtained from UN–HABITAT reports. I also made use of reports from UNICEF, another branch of the United Nations involved with the state of children globally. But the challenge with these sources is that they do not often present data disaggregated by age group or by region, which makes it difficult to have a clear picture of children growing up in informal settlements. For this reason, I had to rely heavily on the findings of the research that was conducted on “Health of Children Living in Urban Slums in Asia and the Near East” by Sarah Fry, Bill Cousins, and Ken Olivola (2002).

1.6.2 Data Analysis

Through reviewing different pieces of literature on child development, I came to understand that the growing child passes through several stages which are prenatal, infant, preschool, middle and adolescence. I used these stages to assess whether literature on children growing up in poverty and informal settlements uses these stages when describing children. I found that many authors tend to generalise about children or they concentrate on only one particular stage. The physical and social environmental factors that influence child development reviewed in Chapter Three were used in Chapters Four and Five as lens to assess how poverty and informal settlements respectively affect child development. Then in Chapter 6, I used the child developmental stages discovered in Chapter Two and the theorised science of child development to assess how poverty and the characteristics of informal settlements may disrupt or enhance those stages of development – from conception to adolescence.

1.6.3 Limitations

The study was affected by the fact that child development is a specialised medical/psychological/child developmental field which I am not familiar with. Since this is a complex field with a large body of knowledge, I had to set aside some time to study child development, but this diversion was not in line with my study time frame. As a result, I had to limit the number of books I studied which again affected my understanding of the entire field. It was also difficult to find information that focuses on environmental factors (such as poverty and informal settlements) that affect child development in African cities. As a result my study findings are mostly based on the child development literature from USA and United Kingdom.

1.7 Outline of the Report

This chapter has clearly demonstrated that there are child developmental issues that do not reflect in informal settlements discourses, hence the need to conduct research on children

growing up in informal settlements. In order to present this research report in a coherent manner, the literature review has been structured around key concepts of my research topic namely child development, living environment, child poverty and informal settlements. The literature review commences in Chapter Two and discusses the theoretical framework of child development and child developmental stages. It presents an overview of historical view of world's children, the shifts that have taken place over the years, and how they have influenced or enhanced the understanding of children. Then, it goes on to discuss what child development entails. Following suit is Chapter Three which gives an overview of the environment that is ideal for child development. It is discovered in this Chapter that despite the global commitment to provide this environment for child development, many children are growing in appalling living conditions in informal settlements that threaten their well-being and even their right to life. This revelation takes us further to discuss the link between child development and poverty in Chapter Four, and the characteristics of informal settlements in Chapter Five.

Chapter Six focuses on the impact of the concepts of poverty and informal settlements on child developmental stages discussed in Chapter Two. This is one area that has not yet received adequate attention because many researchers do not concentrate on all stages of a child. Finally, the report concludes by synthesising the research findings, proposed recommendations, and pointing to further research needed.

Chapter Two: Theoretical Framework on Child Development and Developmental Stages

2.1 Introduction

The concept of child development has attracted the attention of a number of researchers worldwide. The underlying purpose for researchers to engage in this kind of study is to gain an understanding of the complexity and dynamics of a growing child which can facilitate the development of child development programmes that truly meet the needs of a growing child. Early child development programmes are designed to “improve the survival, growth, and development of young children, prevent the occurrence of risks, and ameliorate the negative effects of risks” (Engle, Black, Behrman, de Mello, Gertler, Kapiriri, Young, and the International Child Development Steering Group, 2007:229). However, early child development intervention programmes have only been directed at improvements in parental care, health services, nutrition intake, and education (Engle *et al.*, 2007) and not on housing and human settlements. Neglecting housing and human settlements is avoiding the root cause of the problems children face. COHRE (2006:19) stresses that:

“The physical and social development of children is closely linked to the environment in which they grow up and the living conditions they have to confront. The child’s self-confidence and identity depends significantly on having access to a place to live in security and dignity. The absence of these conditions leads to the child being deprived of many basic rights such as the right to health, education, protection from economic exploitation and abuse and the right to a legal identity and citizenship”.

In agreement with COHRE (2006), UNICEF (2005:7) emphasises that children “have the right to grow up in an environment that protects them”, so as to increase their chances of growing up in physical and mental health, confident and self-respecting. This will prevent them from abusing and exploiting others, including their own children (UNICEF, 2005:7). Drawing from COHRE (2006) and UNICEF’s (2005) observations, it is imperative that early child development programmes must also be directed at improvements in housing and

human settlements because that is where the child spends most of his/her time. It is for this reason housing professionals and urban planners need an understanding of child development.

This chapter is set to explore what child development is all about. But before going into those details, the next section after this introduction discusses the shifts in the world's view of children over the years with the aim of discovering how those shifts improved the understanding of child development. Then Section Three discusses the various definitions that have been employed to define the developing child, and the importance of studying this concept. Section Four discusses what different theorists have postulated and conceptualised about child development, with special attention on child developmental stages. Since this is a large and complex subject, the discussion centres on the main factors that influence child development. Fitch (1985:89) observes that child development experts recognise that both heredity (meaning genes which are transmitted from parents at conception to the child (Craig, 1996:77)) and environment are essential factors that influence child development. This research focuses on the environmental factors; however, Section Five discusses the science of child development briefly with the aim of showing the distinction between the roles of genes and environment on child development. Then Section Six summarises the discussion of this chapter.

2.2 The Historical View of the World of Children

2.2.1 View of the World of Children Prior to Renaissance

Many theorists and researchers have revealed that the history of children, "as childhood itself", was in the West discovered only in the mid-19th century (Cohen and Comiskey, 1977:1). Prior to the Renaissance, the world of children was largely unknown to adults because little attention was paid to the child developmental processes in intellectual abilities, language development, and physical growth (Cohen and Comiskey, 1977:1; Maier, 1988:i). As a result, the ideas about childhood only reflected the aspiration of adult society, instead of addressing the needs of the growing child necessary for the attainment of his/her full potential (Cohen and Comiskey, 1977:1; UNICEF, 2005:3). For example, in ancient times

children became adults either by surviving a harsh environment or by going through adults' created and supervised rites of passage. It was not easy to survive in this kind of environment because the rites of passage were often painful, involving flogging –the case of Spartan boys; and circumcision without anaesthetic – the case of Arabian boys (Cohen and Comiskey, 1977:1). Surviving these events symbolised the successful evolution from infancy to adulthood – usually at the age of seven (Cohen and Comiskey, 1977:1). Drawing from Cohen and Comiskey (1977), Maier (1988), and UNICEF's (2005) observations, it is not surprising to learn that the infant mortality rate was high. Additionally, young children at the age of seven were initiated into adulthood hence denying them the opportunity to develop to their full potential.

2.2.2 The Radical Turn in Historical View of the World of Children

In contrast, during the period of Renaissance, there was a radical turn in the world view of children. This was influenced by the shift from a "preliterate society" to a more modernist society which had industrial orientation (Cohen and Comiskey, 1977:2). One of the significant achievements of this time is that childhood came to be recognized as a "distinct period of life"; as a result, high infant mortality rates, and the need for reform of educational practices and labour laws averting children from being exploited attracted the attention of policy makers (*ibid.*). Further, Chawla (2002:16) observes that these shifts have been paralleled by new techniques in medicine and public health, resulting in reduction in child mortality rates. The resultant reduction in child mortality rates which Chawla (2002) indicates, represents both children from the North who have these technologies at their disposal and children from the South who may hardly benefit from these technologies. This kind of reporting obscures the children who are still struggling with the pre-renaissance way of treatment. Cohen and Comiskey (1977:2) have noted that in historical perspective, "the realities of what the poor face in 'modern times' parallel the circumstances of life which confronted children of yesterday".

2.2.3 The Recent Global Commitments on Child Development

It is only in the last two decades when the international community had come to acknowledge that “children too have human rights” (Leckie, 2005:5). This was marked by the adoption of the United Nations Convention on the Rights of the Child (CRC) by 192 countries in 1989 (UNICEF, 2005:3; COHRE, 2006:13). Leckie (2006:5) describes this period as “a historical turning point”. The CRC outlined on the need for protecting children from harm, and “established concrete rights that all children have by virtue of their common humanity” (Leckie, 2006:5). Further, the CRC placed an obligation on state parties to ensure these children’s human rights are observed, respected, protected and fulfilled effectively “in the best interests of the world’s children” (*ibid.*). By indicating that the world should protect children from harm, the CRC introduced a broad picture of handling children issues. It gave the responsibility to policy makers to assess ways in which children can be harmed. But many policies have been limited to parental care, health, education, and welfare as discussed above. The other problem is that the CRC generalises about children – it does not strongly advise the State Parties to observe all stages of childhood. As a result, the focus of many State parties has been limited to the under-five year children, neglecting the middle stages to adolescents.

In May 2002, UN General Assembly Special Session attracted 190 State parties who universally pledged to support “a set of time-bound goals” which include: promoting early child development programmes to ensure healthy lives for children; quality education; protection against child abuse, exploitation and violence; and combating HIV/AIDS (UNICEF, 2005:9). The same pledges are reflected in a newly established international compact – ‘A World Fit For Children’ which complements the Millennium Development Goals (MDGs), and reinforces the realisation of children’s rights. Other international bodies such as UN agencies, UNICEF; bilateral donors; and international financial institutions have also made commitments to support the realisation of MDGs by 2015 (*ibid.*). UNICEF (2005:3) applauds the CRC for having a profound impact on the consolidation of rights of children.

Despite this recognition and the pledges from state parties and international bodies to protect the rights of the child, “childhood remains under threat” (UNICEF, 2005:9). UNICEF (2005) gives us two pictures – the first one is that CRC has done well, while the second one is that CRC has not performed, but it does not specify where these conflicting reports have originated. When there is no disaggregated data on the population of children in the world, the CRC will always stand out as a star performer in the human rights field. UNICEF (2005:9) goes on to point out that “the powerful vision of children’s rights set forth in the Convention and reinforced in ‘A World Fit For Children’ contrasts starkly with the actual childhood of most of the world’s children”. UNICEF (2005) asserts that although the world’s view of children has impressively improved, little is being done by states to facilitate healthy development of children in the world. UN commitments to a large extent remain in the conference files. As a result, currently, around 29,000 under-five children die every day from preventable diseases such as diarrhoeal dehydration, acute respiratory infections, measles and malaria (UNICEF, 2005:9). Further, poverty, armed conflict, HIV/AIDS, powerlessness, and exclusion threaten children’s right to life today (*ibid.*).

Kessen, (1965:1-3) earlier on concluded that there is need to find out how the society can be transformed so that it accomplishes its promise to the youth by providing “more equitable growth –inducing environments for all children”. Today, almost 5 decades later, the same conclusion applies to the state of affairs of the world’s children. This shows that there is need to go a little further to come up with strategies of monitoring the performances of state parties in implementing rights of a child. The next section discusses what child development entails based on child development literature.

2.3 Child Development What it Entails.

2.3.1 Definition of Child Development

A number of theorists have defined the concept of child development differently based on their area of focus. Maier (1988:3) defines child development as “a continuous interaction

of constancy and change”. However, Maier’s (1988), definition is not specific about the age limit of this developing human being and the factors that enable this development to take place. From this study’s perspective, this definition is limited in scope. But Fitch (1985:6) earlier observed that child development is linked to the branch of development psychology that is concerned with the process of change from conception until death. Fitch’s (1985) definition stretches the scope of my research in that it points to the need to study the whole human being – from prenatal to old-age stages. However, Fitch (1985:7) draws his definition from LaBarba (1981) and Reese (1982) who clarified that child development concentrates on the period when developmental processes are at the peak in a human being – which is from conception until the age of 18 (adolescence).

Cockcroft, Hook, and Watts (2002:20) describe the process of child development as a period of both quantitative and qualitative changes. They go further to explain that quantitative change deals with quantified indication of change. For instance, at birth an infant may weigh 2.5 kilograms; at two years, about 18 kilograms. In contrast, qualitative change is more complicated to assess because it is a gradual continuous process of change. For instance, there is a qualitative difference between the seven month old baby boy who cannot speak and the three year old boy who is able to express his demands (Cockcroft *et al.*, 2002:20). Further, Cockcroft *et al.* (2002:5) and Craig (1996:6) point out there are three domains of child development which are “mutually dependent and significant at all stages” (Craig, 1996:6). These include: the physical development which is about body changes and attainment of motor skills; cognitive development which includes thought and language; and psychosocial development which regards emotions, personality, and social relationships. Cockcroft *et al.* (2002) and Craig (1996) highlight the importance of understanding the stage of a child to ensure that he/she receives the relevant treatment. This clarification is in line with my research topic because it clearly defines who a child is.

However, both Cockcroft *et al.* (2002:5) and Craig (1996:6) are silent on what facilitates this development. One of the leading child theorists Erick Erickson earlier defined child development “as an evolutionary process based upon a universally experienced sequence of biological, psychological, and social events, including auto-therapeutic ‘healing’ of

developmental complication encountered in the course of growing up” (Erickson, 1950 cited Maier, 1988: 86). In agreement with Erikson (1950), Craig (1996:5) goes further to explain that this process is “progressive and accumulative, and results in increasing organisation and function”. Both Erikson (1950) and Craig (1996) understand that the environment is not utopian in nature; many children grow up in poor living conditions which may restrict their smooth development into adulthood in one way or another, hence the need to introduce remedial measures as part of developmental processes (Craig, 1996:5).

2.3.2 Why Study Child Development

A major reason for studying child development is to discover a profile of the typical child at various stages (Fitch, 1985:7), and to gain an understanding of major processes and key influences that are consistent throughout the life span of an individual (Craig, 1996:1). Bremner and Slater (2002:5) point out that the assumption and ideas that have been theorised about human nature have affected how children should be reared, and have helped to interpret the findings of studies on children. Furthermore, Conger *et al.* (1963: 1) also observed that tracing the child development chronologically aids the researchers to “gain a feeling of continuity from one stage of development to the next”. Drawing from Conger *et al.* (2002), Craig (1996:6) stresses the need to integrate all the factors that play major roles when studying child development. These are a child’s heredity, physical constitution and environmental forces to which he/she is exposed. A combination of these factors affects his/her physical and intellectual growth, psychological health, and social adjustment (*ibid.*). By including the aspect of social adjustment, Craig (1996) understands that the child does not develop in an isolated world, he/she needs to adapt to the existing cultural settings.

Cockroft *et al.* (2002: 4-7) observe that this study has also helped child development experts to understand how a child relates to others around him/her; the individual’s unique behavioural style; how she/he engages socially with his/her surrounding contexts; forms identities, personalities, and even psychopathologies. It also helps to evaluate the child’s current behaviour in terms of maturation standards and environmental factors such as

his/her home, parents/caregivers, and peer groups among others. More importantly, it has also influenced the current advocacy in “a nondirective and child-centred approach” to the training, education, and guidance of children (Ausubel and Sullivan, 1970:27). It has also enabled the juvenile courts, social welfare agencies, psychologists, and psychiatrists to find a solution to the behavioural problems which bring children to their attention (Conger *et al.*, 1963:2). This knowledge is not only vital to those who are directly involved with children’s welfare but even to politicians and policy makers of housing and human settlements so that they can prioritise children in their strategies and policies. Conger *et al.* (1963: 2) concluded in the 1960s that “what we learn about children and how we apply our findings will influence the present world of children, as well as the future generation of children”. The same conclusion applies today. The coming section discusses theories of child development.

2.4 Theories of Child Development

There are many theorists who have sought to understand child development since no single account about human development, whether behavioural, psychodynamic, or cognitive, can adequately define human development (Maier, 1988:i). In agreement with Maier (1988), Bremner and Slater (2002:38) point out that a human being is to a larger extent a complex being who has the potential to act, feel and think; hence, each theory focuses only on a limited range of child development. They also elucidate that it is a common phenomenon to find conflicting theoretical views, each striving to explain the same aspect of development (Bremner and Slater, 2002:38). This review briefly discusses a selection of theorists who focused in particular on child developmental stages in relation to the environment. These theorists include Sigmund Freud (1856 -1939), Jean Piaget (1896 -1980), and Erick H. Erikson (1902 - 1994).

2.4.1 Sigmund Freud (1856 -1939)

Sigmund Freud is recognised as the pioneer of modern psychoanalysis (Craig, 1996:56) a term used to “describe the development of personhood” (Cockcroft *et al.*, 2002:50). Freud’s main focus was on human emotions and the unconscious mind which he postulated is a

determinant of behaviour. He related the unconscious mind to a child's mind at birth which he claimed "is pure, primitive and irrational" (Fitch, 1985:45). For this reason, he looked to childhood to find answers about the causal nature of personality. He believed that the instinctive requirements of organisms are to a larger extent asocial (*ibid.*). However, since the needs and goals are found in the external, social world, a person is expected to conform to society (Craig, 1996:56). Psychoanalytic theorists stress that the period between birth to 5 years is the critical period of adaptation (*ibid.*).

2.4.2 Jean Piaget (1896 -1980)

Jean Piaget, the psychologist, biologist and theorist, is recognized as the father of cognitive and structuralist theories (Craig, 1996:49). He observed that as the child progresses from one stage to another, his/her actions and perceptions were also evolving because of experience and maturation of the nervous system. Both maturation and experience enable the child to learn to apply rudimentary formal features of a specific physical action to various similar situations (Fitch, 1985:53). This means that while social context is important for the developing child, the child him/herself plays a role in his/her own development. For this reason, Piaget described the child as an "active scientist" who interacts with his/her physical environment and continually invents complex thought strategies (Craig, 1996:54). He also observed that in essence the child was not working alone at problem solving, but as a social being, he/she plays and talks with others and learns from these interactions (*ibid.*).

To be more precise, Piaget (1952) cited in Papert (1996:56) stated that children grasp real understanding only of that which invented by themselves, but each time we rush to teach them something, we prevent them from reinventing it themselves. However, Piaget (1952) was biased for making an assumption that all the children have the opportunity to be taught something. It is not only through teaching them quickly, but also by lack of providing them ample space to conduct their own invention that their contribution to their own development is impeded. For this concept to work, the child must be situated within proximity to his/her companions so that his cognitive development can be maximised.

Building on his past training in Biology, Piaget viewed intellectual development as a form of biological adaptation to the environment (Cockcroft *et al.*, 2002:177). To this extent, Piaget introduced four main stages through which Intellectual and moral developments emerge (see Table 2.1 below).

Stages	Description	Period	Mental Development	Moral development
1	(1) sensori – motor (infancy)	- Birth to 2 years	-Getting to know the world through observing, grasping, mouthing.	-Obey rules to avoid punishment or to obtain rewards.
2	(2) pre-operational (preschool)	– 2 to 6 years which is subdivided into the earlier preconception stage (2 to 4 years) and later intuitive stage (4 to 6 years)	-Form concepts and symbols as language for communication. -Difficulty in classifying objects or events.	-Conform to avoid disapproval or rejection by others.
3	(3)concrete operational (middle childhood)	- 7 to 12 years	-Logic thinking. -Capable of understanding mathematical concepts. -Concrete operation to achieve conservation.	-Start judging whether the rules make sense or not.
4	(4) the later formal operational stage (adolescence)	- 12 to 18 years	-Explore logic to solve both concrete and abstract concepts. -Broad in thinking –while being mindful of the future or recalling the past (experience). -Reasoning by analogy and metaphor.	

Table 2.1 Four main stages through which Intellectual and moral developments emerge. Source: Cockcroft *et al.* (2002:180-181); Bremner and Slater (2002:43-45); Maier (1988:29-30); and Fitch (1985: 57).

2.4.3 Erick H. Erikson (1904-1994)

Erick H. Erikson a clinician, educator, and theorist – is recognised as one of the leading psychoanalytic scholars of the second half of 20th century (Cockcroft *et al.*, 2002:266). Drawing from Freudian analytic theory, Erikson assumed that the “emotional aspect of life permeates all human functions” (Maier, 1988:83). However, in disagreement with Freud, he assumed that “the nature of emotional content, or quality of interpersonal relationship, decides the core of a person’s character” (Craig, 1996:58-59). Maier (1988:83) earlier on clarified Erikson’s assumption in that the quality of interaction between infant and caregiver entails the impact such interaction has upon both of them. This means that neither the child

nor the adult is the sole founder of the relationship, but both of them are responsible for the flow of the events (Craig, 1996:60-61; and Maier, 1988:83).

Erikson also considered early childhood play to be one of the “major ego functions” in human development (Maier, 1988:83). Drawing from Piaget’s theory, Erikson postulated that play deals with life experiences which children endeavour to repeat, master, or negate in order to structure their inner world parallel to their outer world (*ibid.*). Further, play involves “self-teaching and self-healing” in that the child uses play to neutralise defeats, sufferings, and frustrations, especially those experienced due to technically and culturally inadequate use of language (*ibid.*). Playing children become models for each other, strengthen each other’s behaviour, and encourage complex and inventive play (Craig, 1996:306). Erikson concluded that the playing child acquires new mastery and advances towards new developmental stages (Maier, 1988:84). Like Piaget, Erickson formulated psychosocial stages of development (see Table 2.2 below)

Stage	Psychosocial stage	Task or crisis	Contrasting Social conditions	Psychosocial outcome
1 Birth to 1 year	Oral-sensory	-“Can I trust the world?”	-Continual provision of support and basic needs.	Trust
			-Inconsistency or lack of support or deprivations.	Distrust
2 2-3 years	Muscular–anal	-“Can I control my own behaviour?”	-Careful tolerance and support.	Autonomy
			-Overprotection or lack of support.	Doubt
Stage 3 4-5 years	Locomotor–genital	-Seeking independence of parents and exploring his/her limits	-Encouragement, opportunity.	Initiative
			-Lack of opportunity, feels bad.	Guilt
Stage 4 6 to 11 years	latency	-Trying to master skills necessary to survive.	-Adequate training, good models.	Industry
			-Inadequate training, lack of support and direction	Inferiority
Stage 5 12 to 18 years	Puberty and adolescence	-Discovering oneself – beliefs, feelings and attitudes.	-International stability and continuity, well-defined sex models, and positive feedback.	Identity
			-Lack of direction, unclear feedback, poorly defined expectations.	Role confusion.

Table 2.2. The five stages of psychosocial development according Erikson (1963). Source: Craig (1996:59).

In conclusion, the theories of Freud, Piaget, and Erikson discuss “distinctly separated” but complementary approaches to child development (Maier, 1988:10). However, despite linking child development with the environmental factors like the home, parents/caregivers and peer groups, these theorists did not go further to link this to the broader spectrum of environment. Maybe the assumption was that every home is strategically located within reach of educational and health centres, neighbourhoods and playing spaces among other things. But the reality on the ground is that homes are located in different places such as: formal/sprawled settlements; informal settlements; and the inner city where children are confined to an apartment or streets as part of homeless society (Kellett and Moore, 2003:124). All these forms of settlements pose challenges to the developing child. Riggio (2002:46) observes that “despite the growing proportion of the world’s children living in urban areas, most city authorities remain ill-equipped to make their cities more children friendly”. To some extent, city authorities are ill-equipped because there is inadequate coordination between child development experts and housing/city developers. There is need to find out how this coordination can be enhanced. However, the next section turns to the science of child development.

2.5 The Science of Child Development: Interaction between Heredity and Environment

Human life begins at conception with a single fertilized cell called zygote – developed when a sperm penetrates the wall of an ovum of the mother (Craig, 1996: 76). In the 1960s, Cogen *et al.* (1963:23) pointed out that all forces (genes and environment) that influence this life to develop begin at conception. But later, Ausubel and Sullivan (1970:50) clarified this point in that at the moment of conception; genes are the major determinants of the “growth matrix”. But when a certain genotype interacts with a certain environment, they produce an organism called phenotype. This phenotype is made up of all covert factors within the individual which at any given time stimulate the nature of his/her reactions to the environment, and contribute to the recent direction of his/her development (Ausubel and Sullivan, 1970:51). The latter event, in turn, produces “new phenotype, new development predispositions and, hence, a new growth matrix” (*ibid.*). In other words the same genotype can produce quite different phenotypes, depending on the environment in which it may develop.

To this extent, Ausubel and Sullivan (1970:53) reveal that it is possible to manipulate developmental regulations in ways that are most favourable to desired outcomes. But at the same time they mention that this is only possible with environmental determinants (Ausubel and Sullivan, 1970:53). However, Cockcroft *et al.* (2002:18) highlight that this does not suggest that environmental factors are dominant over genes or vice versa. The only dividing line between the two is that genic factors set “absolute limits” of growth for both individuals and species which cannot be altered in any environment. In contrast, environmental factors can limit the extent to which “existing genetic potentiality” (Ausubel and Sullivan 1970:53) can be realised in individuals or species (Craig, 1996:77-79; Cockcroft *et al.*, 2002:18). Drawing from this brief account of child development, the potential of environmental factors on child development should not be undermined.

2.6 Conclusion

Application of understanding of key factors that influence child development is the only way child development programmes can cease to reflect the wishes of elders as was the case during the pre-renaissance era. According to theories and science of child development, the environment plays a crucial role in child development. Failure to provide favourable living environments for children means jeopardising all other intervention measures that may be bestowed to eliminate the plight of children. Yet, the states have not yet embraced the link between improving living environments for children and child development, one of the reasons why children’s right to adequate housing has received very little attention.

It is also important not to generalise about children. An 18 year old child cannot be equal to a day old or unborn child. Their environmental needs are clearly different, hence knowing their stages and associated environmental requirements is the key strategy of designing programmes that are responsive to children’s needs. It is for this reason that Chapter Three is set to explore further the environmental factors that influence child development. This information is vital for governments who have ill feelings, and remain unsupportive to children growing up in informal settlements.

Chapter Three: A Review of the Child Development Literature with Focus on the Environment

3.1 Introduction

After many years of conducting naturalistic studies on children, child development psychologists have now come to accept that a healthy child development is a product of genes inherited from parents as well as environmental factors such as “proper diet, nurture, care, and affection” (Fitch, 1985:14). The interaction of both genes and environment determines exactly which course of development is followed (Blades, Cowie, and Smith, 2003:33). In keeping with this research topic, this chapter is set to explore the environmental factors and how they affect child development. The next section gives an overview of historical background on thought about the impact of environment on child development. Section Three discusses the current debate on environmental factors that influence child development. All along, a growing child was treated as a passive organism on which environmental factors had their influences on (Craig, 1996:97), but Section Four unveils more findings that a child takes part in influencing his/her own development. Section Five discusses the concepts of the environment using Bronfenbrenner’s ecological model of human development. Section Six situates the ecological model in the housing paradigms with a special reflection on children’s housing rights in order to identify the shortfalls of the ecological model. Section Seven concludes the chapter by sythesing the findings.

3.2 An overview of the Historical Background of Environment as an Influencing Factor in Child Development

The debate on what influences child development started with early scientists – some generally believed that “most human traits, physical and psychological, are inherited while some argued for environmental influences on child development” (Fitch, 1985:86). One of the earliest contributors to this topic, the Greek philosopher, Aristotle (384-322 B.C.) strongly argued that the environment too plays a role in child development. His argument

was based on his belief that the child mind at birth is merely a “writing-table on which nothing stands written” (*ibid.*:87). Several centuries later, Aristotle’s teachings were echoed by a British philosopher John Locke (1632-1704) who described a child’s mind at birth as a “blank slate or *tabula rasa*” (*ibid.*). Unlike Aristotle, Locke went further to clarify that the ‘blank mind’ means that the child is not born with innate ideas; “hence, a child starts out life without any inclinations, attitudes, or predispositions” (*ibid.*). He also described this blank mind as “highly plastic” which relied on learning (*ibid.*). To this extent, he suggested that parents were better placed to influence the developing child positively (*ibid.*)

Drawing on Locke’s philosophy, the French philosopher, Jean-Jacques Rousseau (1712-1778), viewed the child as “wholly amoral”. That is the child on his/her own was not capable of doing anything wrong and therefore “deserves neither punishment nor reproof” (Fitch, 1985:88). He also believed that a child could attain its full potential if the original plan with which a child was born was given a chance to develop without any disruption. His main concern was to influence change in the way children were treated both at home and at school. Like Locke, Rousseau emphasised that parents, home, and school are fundamental physical and social environmental factors that would influence the developing child (*ibid.*). This elaboration is very important because environment alone means many things. However, all these philosophers – Aristotle, Locke, and Rousseau – looked at a child as a passive recipient of environmental influencing factors. Hence Rousseau came up with a fantasy way of treating a child – not acknowledging that the physical/social environment which the child encounters automatically influences him/her both positively and negatively. This implies that a growing child requires some form of control and guidance to develop properly. Further, although Locke and Rousseau introduced some of the physical/social environmental factors that influence child development, they did not elaborate how these environmental factors work. As a result, their philosophies did not influence a paradigm shift. Consequently, up until the late 1940s many academicians still believed that physical/social environmental factors had no influence on child development (Fitch, 1985:19).

3.3 Current Debate on the Environmental Factors that Affect Child Development

For the past three decades, based on a wide range of literature on child development, the debate on whether genes are more important than the environment in child development is no longer the dominant debate (Fitch, 1985:72). However, some psychologists have continued to debate how much of child's behaviour is "due to heredity and how much is due to environmental factors" (Craig, 1996:9). Other psychologists have stated that the child's physical characteristics whether tall, short or stocky are primarily because of heredity processes (Mittler, 1971:192). But Craig (1996:9) and Blades *et al.* (2003:29) argue that the physical environmental factors such as drugs, poor diet, disease; restriction or stress can obstruct these developmental outcomes. Similarly, Scarr and Weinberg (1978:674) stated that behavioural development is dependent on the quality of the social environment. But Fitch (1985:72), Craig (1996:9), and Blades *et al.* (2003:29) argue that diseases such as asthma, phenylketonuria (PKU) or diabetes can be inherited but are activated by physical environmental factors. Likewise some abilities as those needed for playing music or for athletics can be inherited but they only materialise through practice and experience (Craig, 1996:9). These debates show that both physical and social environment plays a crucial role in the development of physical characteristics and behaviour. They are also quick to highlight that it is only under specific physical/social environment that these developmental processes can take place.

There are also continuing debates on the influencing factors of personality development. Some researchers claim that a child is born with a certain personality while some found no linkage between heredity and personality development (Freedman, 1965 cited in Fitch, 1985:92). In a longitudinal study which Robert Sears (1970) conducted in certain American families, he discovered that "parental warmth is the most significant factor in determining a boy's self-concept and that maternal permissiveness as well as warmth are important for a girl's self-image" (Sears, 1970 cited in Fitch, 1985:94). Further, research has also demonstrated that a child's self-concept and self-esteem are to a larger extent influenced by child's parents and peers (Blades *et al.*, 2003:29). Although, Aristotle, Locke and Rousseau did not elaborate how the physical and social environment influences child

development, researchers such as Sears (1970), Fitch (1985), Craig (1996) and Blades *et al.* (2003) have demonstrated that both physical and social environmental factors have profound influence on physical, behavioural, and personality development of a child. The coming section sheds more light on how the growing child responds to environmental influences.

3.3.1 A Child as an Influencing Agent of his/her own Development

Recent research has revealed that the child is also capable of influencing his/her own course of development. This is in contrast with the position of past researchers who, based on Aristotle, Locke, and Rousseau's philosophies, believed that the child's behaviour was a reflection of how his/her parents or teachers behaved (Craig, 1996:8). Drawing from Piaget's theory, Bremner and Slater (2003:3) observe that the child is an active organism who controls his/her environment by his/her own thinking and action. For example a child may set out particular social environment such as peers or opportunities that correspond well with his/her "temperament, talents, and predispositions" (Craig, 1996:97). Additionally, children also participate actively in designing their own social environment (Swart-Kruger, 2002: 111-132; Chawla, 2002:15; Blades *et al.*, 2003:30-31). For example, Swart-Kruger in her empirical study of children in Canaan land squatter camp in South Africa discovered that adults were surprised to see how girls and boys sensibly evaluated their urban living conditions, and suggested valuable recommendations that would improve their lives (Swart-Kruger, 2002:132). In agreement with Swart-Kruger (2002), Auriat (2002:132) goes further to point out that "excluding young people from their own development cannot but hinder efficiency of programmes designed to reduce inequality and poverty" I agree with both Swart-Kruger (2002) and Auriat (2002) because engaging child's participation is the only way policy makers in housing and human settlements can prioritise and design child-centred housing and human settlements that reflect the physical/social environmental factors postulated by both child psychologists and children themselves. The coming section explores further the concepts of the environment.

3.3.2 Conceptualisation of the Environment as an Influencing Factor in Child Development

As discussed above, the environment plays a crucial role in child development. Craig (1996:8) states that the environment consists of light, space, sound, heat, food, drugs, gentleness, and severity. These and other influences to a greater extent accomplish vital biological and psychological needs of a developing child. Craig (1996) introduces three forms of environment that influence child development. These include space the child occupies, the nourishment the child needs for growth and health, and fellow human beings for moral support. She goes further to suggest that there are two processes through which human beings get influenced with their physical/social environment. These are learning and socialization. Learning is defined as “the basic process through which the environment causes lasting changes in behaviour” (Craig, 1996:8). In this process, skills and knowledge are obtained, and at the same time attitudes, feelings, prejudices, values, and patterns of thought are formed (*ibid.*). Socialization is defined as the “general process by which the individual becomes a member of a social group – family, community, a tribe” (Craig, 1996:8). It involves learning the attitudes, beliefs, customs, values, roles, and expectations of the social group. Socialization is regarded as a two-way process. For example, in a home environment, infants socialise through interacting with their parents, but their very presence, in turn, makes the family learn new roles (*ibid.*). This is a very important revelation because it shows that each child is an individual as well as a dynamic being who may respond to the environmental conditions differently. This implies that the best practice of responding to children’s needs especially designing their living environment should be contextualised rather than based on universal approaches.

Nevertheless, Craig (1996:204) only places an emphasis on the home as a stimulating environment which is created by concerned parents/ caregivers, neglecting the broader part of the environment where the home is located. At the same time the home in her context is treated like an island, which hardly interacts with the surrounding. Maier (1988:86) earlier argued that an individual’s life course is primarily influenced by the era, area, and set up into which he/she is born. He went further to emphasise that environmental forces can either limit or free the individual, but the ideal environment provides enough freedom for

individual choice (*ibid.*). In this way, Maier (1988) demonstrated that besides the home, the broader spectrum of the environment in which the home is situated has also influence on child development; therefore it must be recognised. This bodes well with the present research topic which is not just considering dwelling units but the entire informal settlement. The concepts of this environment are best illustrated in the next section through Bronfenbrenner's (1979) ecological model of human development.

3.3.3 Bronfenbrenner's Ecological Model of Human Development

The most influential model of human development is called the 'ecological model' developed by Bronfenbrenner (1979), an American psychologist (Craig, 1996:12; Crockcroft, Hook, and Watts, 2002:312; Blades *et al.*, 2003:9). Although Bronfenbrenner's ecological model focuses on all stages of a human being, but I review only how this model influences childhood stages of a human being. Blades *et al.* (2003:9) define the ecology model as "the environmental settings which the person or organism is experiencing, or is linked to directly or indirectly". This definition is too simplified to explain how the broader environment influences child development. However, Bronfenbrenner (1979:21) himself defined the ecological model of human development as:

"The scientific study of the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which the developing person lives, as this process is affected by relations between these settings and by the larger contexts in which the settings are embedded".

Bronfenbrenner (1979) introduced three important features in his definition. First, in contrast to Aristotle, Locke, and Rousseau's philosophies, the developing child is not 'a *tabula rasa*' who awaits for the environment to influence his/her course of development, but as a dynamic participant who increasingly restructures the surrounding in which he/she inhabits (Bronfenbrenner, 1979:21). Second, the interaction between the child and the environment is viewed as "two directional, mutually reciprocal process" (Craig, 1996:12). This implies that while the growing person is capable of restructuring the multiple levels of environment; at the same time the environment influences his/her development (*ibid.*). Third, the environment which is ideal for child development is not only confined to the

immediate settings but “is extended to incorporate interconnections between such settings, as well as to external influences emanating from the larger surroundings” (Bronfenbrenner, 1979:22).

Bronfenbrenner (1979) conceptualised the ecological environment in an orderly fashion of four concentric systems, namely the microsystem, the mesosystem, the exosystem and the macrosystem (Craig, 1996:12; Blades *et al.*, 2003:9; Crockcroft *et al.*, 2002:316). But Crockcroft *et al.* (2002:316) add one more concentric circle which is called chronosystem. An outstanding feature of the model is “the fluid, back-and-forth” interaction among the five systems (Crockcroft *et al.*, 2002:316). This is illustrated in the diagram 3.1

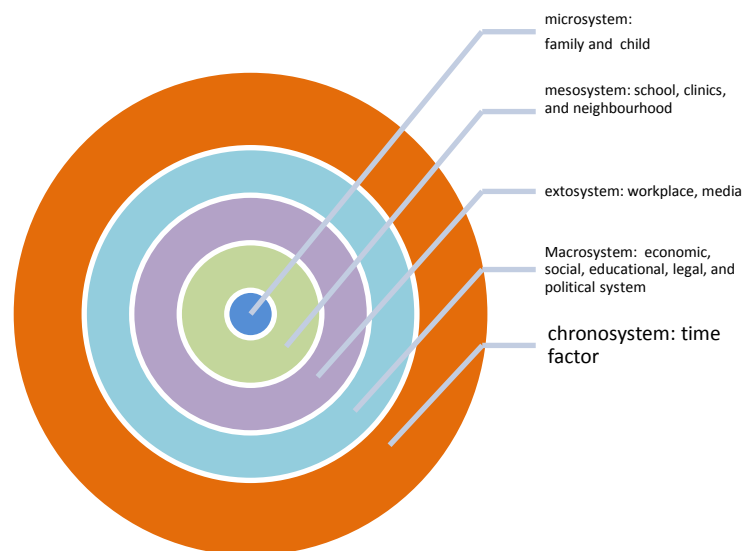


Figure 3.1. The ecological model of human development comprising of five levels of the environment. Source: Compiled from Craig (1996:13); Crockcroft *et al.* (2002:316); and Blades *et al.* (2003:9)

Microsystem is defined as “a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics” (Bronfenbrenner, 1979:22). A setting is a place such as home, or day care centre where the developing child engages in “a bi-directional interaction” with caregivers, parents, siblings, friends, classmates, and teachers (Crockcroft *et al.*, 2002:316). For example, in the home, when the mother knows that the baby is attempting to walk

independently may encourage that baby to achieve his/her independence. Similarly, the mother may be encouraged to find new ways of promoting this behaviour (Craig, 1996:12).

The mesosystem develops whenever the growing child shifts into a new setting. The area of mesosystem allows interrelationships among two or more settings (Crockcroft *et al.*, 2002:316 and Craig, 1996:13). In this case, development is influenced by the formal and informal links between the home and school or among the home, school and peer groups. For example, a child's good performance at school may be due to constant interactions between parents and the child's teachers (Crockcroft *et al.*, 2002:316; Craig, 1996:13).

An exosystem refers to one or two settings where the developing child is not actively involved but gets affected by the events that occur in those settings (Bromfenbrenner, 1979:24; Crockcroft *et al.*, 2002:316). These social settings can be classified as formal settings that include parents' workplace, community health and welfare systems; and informal settings that include extended family of the child or his/her parents' network or friends (Craig, 1996:13). For example, the company that may allow mothers or fathers to work at home some days enables the parents to spend more time with their children, hence indirectly promoting the children's development. At the same time, the parents' performance at work may improve because they have peace of mind (Crockcroft *et al.*, 2002:316 and Craig, 1996:13)

The macrosystem level refers to the "general pattern of ideology and organisation of social institutions such as the economics, social, educational, legal, and political system of which micro-, meso-, and exosystem are part of" (Crockcroft *et al.*, 2002:316). For example laws providing for the inclusion of handicapped children in the mainstream classes are likely to affect greatly the educational and social development of both disabled and normal children in these classes. In turn, the accomplishment or failure of mainstreaming may promote or discourage other governmental attempts to integrate the two groups (Craig, 1996:14).

The chronosystem level refers to the dimension of time as the most important influence on the direction of psychosocial development. In this process, time is important as “it leads to the patterning of environmental events and evolution over the life course and it relates to the unique social-historical placement of the individuals” (Crockcroft *et al.*, 2002:319)

Bronfenbrenner’s (1979) conceptualisation of the environment unveils a full picture of the environment that is being referred to in this field of child development. More importantly, his ecological model has demonstrated the importance for microsystem, mesosystem, and exosystem must be within proximity to each other. This is very important information for housing professionals and urban planners because when they arrange these systems- parents\care givers; teachers; health personnel; the community; and parents work places to be close; parent-child interaction is enhanced. Furthermore, while interventions to encourage development can occur at all levels, Bronfenbrenner (1979) suggested that those at the macrosystem level are especially critical because they have the power to influence every other level (Crockcroft *et al.*, 2002:316 and Craig, 1996:13). Additionally, unlike other theorists, Bronfenbrenner (1979) understood that the four concentric systems are not utopian in nature – that is they do not exist in a world where they can freely flow and influence the developing child in a positive way. That is why he suggested for those at macrosystem level to develop policies as guidelines for the implementation of some elements of the ecological model such as schools or health centres.

Further, Crockcroft *et al.* (2002) did well to add chronosystem to the concentric circle because many good ideas die due to lack of time frame. Timing is very important when it comes to child development because child psychologists have revealed that serious deficiencies that occur in the first 30 months of life due to poor living environment “rarely eliminate later” Craig (1996:162). This is why it is important to prioritise children’s issues in our development agenda. However, the ecological model is failing short of other elements that would necessitate its functioning. These elements include security of tenure, availability of infrastructure services, affordability, habitability, accessibility, and adequate location. Neglecting these elements as part of environmental factors that influence child development would make the ecological model difficult to achieve. A brief discussion on

children's housing rights in the next section helps us appreciate how these elements help the growing child and how they would make the ecological model complete.

3.4 Situating the Ecological Model in the Housing Paradigms with a Special Reflection on Children's Housing Rights

International human rights organisations accept the importance of creating a good living environment for the smooth development of children. Principle 4 of the 1959 United Nations' Declaration on the Rights of the Child proclaims that "the child shall have the right to adequate nutrition, housing, recreation and medical services" (COHRE, 2006:16). The United Nations' Committee on Economic, Cultural and Social Rights (CECSR), General Comment 4, adopted in 1991 defines adequate housing as "the right to live somewhere in peace and dignity" (COHRE, 2005:24). The Comment goes further to clarify that adequate housing is not just "bricks and mortar"; but it is conceptualised as adequate privacy, space, security, lighting, ventilation, basic infrastructure, "all at affordable cost and within a reasonable distance from job opportunities and social services" (*ibid.*)

Paragraph 8 of the general comments unveils seven dimensions of 'adequacy' which are essential in realising the right to housing: these are legal security of tenure; availability of services, materials, facilities and infrastructure; affordability; accessibility; location; and cultural adequacy (COHRE, 2005:24). Although these dimensions were originally meant for the realisation of the right to housing in general, COHRE (2006:22) stresses that "each of these seven elements of the right to adequate housing is essential to children's full enjoyment of their housing rights" (See Table 3.1)

Dimensions of adequate housing for children	Benefits to the developing children
Legal security of tenure	-Freedom against the trauma of forced eviction and displacement.
Availability of services, materials, facilities and infrastructure	-Access to safe drinking water and sanitation facilities, roads, electricity- enormously increasing their chances of surviving infancy and early childhood.
Affordability	-Ensures access to an adequate home regardless family's economic status and that their rights to health, education and food are not jeopardised because of high housing costs.
Habitability	-Protects children's physical and psychological health from environmental threats, including those associated with overcrowded and/or poorly constructed housing.
Accessibility	-Ensures that vulnerable children, including the displaced, the disabled, orphans, are adequately housed, regardless of their families' circumstances.
An adequate location	-Ensures that children are close enough to social facilities that enable them to realise their rights to health and education. -It also protects children from pollution/hazards sites that may put their development and survival at risk.
Upholding cultural adequacy	-Allows children to express their cultural identity through their housing.

Table 3.1. The seven dimensions of adequate housing for the children. Source: COHRE (2006:74-76).

The dimensions of adequate housing for children illustrated in table 3.1 are the supporting mechanisms that would make the ecological model of human development complete. Therefore, it would be irrational if they were not considered as part of environmental factors that influence child development. COHRE (2006:12) emphasises that adequate housing “fosters family integration, contributes to social equity and strengthens the feeling of belonging, security and human solidarity, which are essential for the well-being of children.”

Further, the United Nation's Declaration on the Rights of the Child stipulates in Principle 2 that:

“The child shall enjoy special protection, and shall be given opportunities and facilities, by law and by other means, to enable him [or her] to develop physically, mentally, morally, spiritually and socially in a healthy and normal manner and in conditions of freedom and dignity. In the enactment of laws for this purpose, the best interests of the child shall be the paramount consideration” (COHRE, 2006:22).

This Declaration was incorporated into the international human rights legal instrument – the United Nations Convention on the Rights of the Child ('the Convention') (CRC), which came into force in 1989 (UNICEF, 2005:7) as discussed in Chapter 2. Article 2 of the Convention places an obligation on state parties to:

“... respect and ensure the rights set forth in the present Convention to each child within their jurisdiction without discrimination of any kind, irrespective of the child’s or his or her parent’s or legal guardian’s race, colour, sex, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status” (COHRE, 2006:18).

Both the CECSR and CRC emphasise that state parties are obliged to ensure that children’s housing rights together with all other child’s rights are realised. COHRE (2006: 26) highlights that children’s housing right intimately relate to all other rights of a child, prescribed under the CRC. These include; the right (1) to life; (2) to the highest attainable standard of health; (3) to be free from exploitation; (4) to education; and (5) to be free from torture and all other forms of vulnerability. This implies that when children’s housing right is violated, all other fundamental rights of children are simultaneously violated (COHRE, 2006: 26).

Very few child psychologists recognise the importance of adequate housing on child development. For instance, Engle *et al.* (2007:229) point out that though child development is the centre of many government policies these days, very little is being done to uplift the status of children. They go further to observe that “governments might be unaware of the cost to individual and society of not investing in early child development programmes” (Engle *et al.*, 2007:237). Like other child psychologists, Engle *et al.* (2007) are referring to policy decisions on programmes often involving multiple ministries which include health, education, and welfare but not housing. They do not recognise that housing is the major element that would make early child development programmes work effectively. The United Nation Higher Commissioner for Refugees (UNHCR, 1994) cited in COHRE (2006:61) emphasises that:

“When children are cold, hungry and without shelter, they do not develop well and they become ill quickly. If services related to food, water, environmental sanitation,

shelter and basic health services are not properly planned and delivered, children are the first to die”.

To this end COHRE (2006:39) suggests that:

“Policy makers who understand the connection between housing insecurity and the existence of street children and homeless children can more easily appreciate that the provision of adequate housing must be central to the rehabilitation and reintegration of such children”

There is need for both child development experts and housing/human settlements professionals to work collaboratively so that all the environmental factors required for child development can be achieved adequately and concurrently.

3.5 Conclusion

The above discussion delved on the environmental factors that influence child development. It is now appreciated that child’s physical, behavioural, and personality development are dependent to a larger extent on the environmental factors. These environmental factors include the home with parents/caregivers, relatives, and friends; neighbourhood including, schools, health centres, welfare, the entire community, and parents’ work places. Additionally, the government machinery that is responsible for policy formulation and time management forms part of the environmental factors. More importantly, the growing child him/herself is also recognised as an environmental agent who influences his/her own development. All these environmental factors will function effectively when all seven dimensions that signify children’s right to housing are simultaneously met.

However, despite all this knowledge and despite many governments declaring their commitment to ensure that the world’s children are accorded the ideal environment for their development, to date many children continue to suffer terrible human rights abuses worldwide (UNICEF, 2005:7). This is more evident when it comes to the violation of housing rights (COHRE, 2006:5). This is manifested in the deepening poverty among children, growing number of informal settlements and street children who are estimated to be 100-

150 million worldwide, within the range of three to eighteen years (COHRE, 2006:38). The consequences of poverty and informal settlements on child development are discussed in the coming Chapters Four and Five respectively.

Chapter Four: The Link between Poverty and Child Development

4.1 Introduction

Emerging evidence from child development experts highlights the link between poverty and poor child development. Duncan *et al.* (2010:306) state that poverty and its related stressors have the capability to disrupt the neurobiology of the developing child powerfully. Many researchers have also linked poverty with poor living environments. Gordon, Nandy, Pantazis, Pemberton, and Townsend (2003:1) observe that the sensitivity of young children to poor environmental influences can cause irreversible damage both physically and mentally. Gordon *et al.* (2003) elaborate further that poor living environment can stunt and distort children's development and obliterate opportunities of fulfilment, "including the roles they are expected to play successively as they get older in family, community and society". Although it is the wish of every parent to raise their children in a safe environment, Brooks-Gunn and Duncan (2000:191) observe that poverty constraints force parents to reside in unhealthy homes in extremely poor neighbourhoods with few resources (playgrounds, child care, health-care facilities, parks, after-school programs) for child development. Poor neighbourhoods are also characterised by social disorganization (crime, many unemployed adults, delinquent behaviour among adolescents) (Brooks-Gunn and Duncan, 2000:191), and "underperforming schools that provide little hope for a better future" (Ramphela, 2002:11).

In response to the deepening poverty, many governments in the developing world have been developing strategies to reduce this poverty which is increasing at a rate of about 7% per annum, especially in urban areas (Mahanga, 2002:2). In urban areas, this poverty is manifested most in the rapid growth of slums and informal settlements. UN-HABITAT (2003:2) points out that "slums and poverty are closely related and mutually reinforcing". As expected, children suffer most. Annan (2005:xiii) in his foreword message in *The State of World's Children* (2005: xii) states that:

“For nearly half the two billion children in the real world, childhood is starkly and brutally different from the ideal we all aspire to. Poverty denies children their dignity, endangers their lives and limits their potential.... With childhood of so many under threat, our collective future is compromised”.

This implies that the poverty reduction we endeavour to achieve will not yield results if we do not prioritise the well-being of children. It is this understanding that has given impetus to this research.

This chapter is set to explore the causal factors of poverty in relation to poor living environments in informal settlements, and how they affect child development. After the introduction, Section Two explains briefly the importance for housing practitioners and urban planners to understand the link between poverty and child development. Davidziuk, Delamonica, Gonzalez, and Minujin (2005:5) note that “it is essential to study child poverty in order to develop anti-poverty strategies that deal with its root causes and alleviate its effects on children”. Building on this revelation, Section Three goes further to discuss what poverty entails in relation to child development. Then Section Four discusses the pathways through which poverty affects child development with a specific attention to developmental stages of a child. This is another point of departure from separate discourses on children and informal settlements. Researchers tend to look at a child as anyone below 18 years old or to focus on a specific stage – e.g. infants leaving out other stages especially adolescence. Brooks-Gunn, Duncan, Smith, and Yeung (1998:405) argue that higher academic achievement and abstinence from delinquent behaviours are related to parental income during the early and middle childhood, as well as the adolescence. It is important therefore, to focus on all stages when discussing child poverty and when drawing child poverty intervention measures.

While children growing in deprived areas are always associated with poor child developmental outcomes, few researchers have discovered some positive child developmental outcomes about children living in deprived environments. This does not suggest that poor children should continue to be deprived of essential facilities, but to aid policy makers to design intervention measures that enhance the positive aspects. It is for

this reason that Section Five discusses positive child developmental outcomes of children growing up in deprived areas. Then, finally, Section Six concludes by summarising the findings.

4.2 The Importance for Housing Experts and Planners to know the Link between Poverty and Child Development

It is vital for housing and human settlements policy makers to know the link between poverty and child development because poor housing and human settlements are marked as major factors that exacerbate poverty, high rates of morbidity and mortality (Cairncross, Hardoy, and Satterthwaite, 1990: xx). With the current shortage of housing and suitable land in most urban areas in developing countries, the well-being of many children under 18 years of age is already at stake (Malone, 2006:13). With the population explosion in urban areas, it has become apparent that many governments are increasingly failing to meet the housing demands of their citizens due to lack of resources, poor governance, and corruption (Huchzermeyer and Karam, 2006: 1). As a result, most town dwellers are being sheltered in slums and informal settlements (UN-HABITAT, 2003: xxv; and Malone, 2006: 14).

However, these slums have received very little governments' attention in the developing countries often for fear of perpetuating the growth of more slums (UN-HABITAT, 2003: xxxii). This in turn has perpetuated urban poverty to the disadvantage of children who are born and raised up in informal settlements. Chawla (2002:17) emphasises that the rising urbanisation, which results in environmental degradation, and 'intensified' inequalities between the rich and poor, signifies that "more and more children live in urban areas under conditions of poverty and environmental risk". Yet, many governments in their quest to eradicate poverty do not consider housing as one of their key priority areas. Worse still, child issues in relation to housing, are always subsumed in the broader spectrum of population, yet children suffer most –"both physical and psychological trauma" when their housing rights are violated; for instance, forced eviction (COHRE, 2006:5).

Mahanga (2002:5) observes that social scientists usually pay very little attention to housing issues; while housing experts on the other hand, do not consider housing or housing provision as a social matter. Mahanga (2002) faults both social scientists and housing

experts for their negligence in appreciating the role of housing in human beings especially on child development. Cairncross *et al.* (1990:xv) observe that the complexity of the relationship between poor housing and poor child developmental outcomes has “disguised precise epidemiologic expression of the health burden”. Consequently, the general public and governments do not appreciate the relative importance of housing to human health and well-being. They go further to conclude that, for “this, and other reasons, housing generally is not high on the societal needs and governmental priorities” (Cairncross *et al.*, 1990: xv). In Malawi, for example, there is no housing policy since the attainment of independence in 1964 (Manda, 2009:25). Furthermore, housing was not among the 6 key priority areas in the 2006-2011 Malawi Growth and Development Strategy (MGDS). In the Malawi Early Child development (ECD) policy (2005), all the children’s rights prescribed in the 1989 Convention on the Rights of the Child (CRC) are recognized except children’s right to housing. There is need to conduct research on why housing and human settlements rate so low in social issues in some countries like Malawi.

Since informal settlements are always associated with poor living environments, and at the same time informal settlements are being widely recognised as the only housing option for the majority of urban dwellers in the third world cities, this information is vital for policy makers so that they should come up with child-centred approaches in their mission to improve the living conditions of people living in informal settlements. UNICEF (2005:15) concludes that “poverty alleviation starts with children”. The next section defines what poverty entails in relation to child development.

4.3 What Poverty entails in Relation to Child Development

4.3.1 Definition of Poverty

Many researchers view poverty as a complex issue which cannot be defined or measured. However, Gordon (2005:3) observes that other sociologists define poverty in relation to incomes as the state of lacking financial resources to meet basic needs of life including food, health, and shelter. But this definition limits us to believe that poverty is only caused by material deprivation. It clearly leaves out other forms of deprivations such as exclusion, powerlessness, and low self-esteem, to mention a few, which are non-quantifiable variables

(Boyden and Feeny, 2003:2), but 'central' to the definition of poverty the (Davidziuk *at el.*, 2006:485). Basing on this recognition, the University of Manchester, Institute for Development Policy and Management and Brooks World Poverty Institute (2010:2) defines poverty as a "sustained or chronic deprivation of the resources, capabilities, choices, security and power necessary for the enjoyment of an adequate standard of living and other civil, cultural, economic, political and social rights". Davidziuk *at el.* (2006:482) recognise that this definition is a clear indication of how far our understanding of poverty has become, which is a major paradigm shift from a century ago when poverty was defined in monetary values only.

Although, the University of Manchester, Institute for Development Policy and Management and Brooks World Poverty Institute's (2010) definitions embrace children issues as well, they leave us to figure out how poverty affects them. This is a reflection of what was discussed in Chapter Two; that historically, there was no distinction between the needs and obligations of children and adults. But this trend started changing with the adoption of UN Convention on the Rights of the Child (CRC) in 1989 (Mehrotra, 2006:1). The CRC recognises and appreciates that what is suitable for an adult may be inappropriate for a child (*ibid.*). For instance, children are mostly vulnerable to poverty because it affects their well-being more severely than adults in "both the short and long term" (UNICEF, 2005:3).

In response to the special recognition of childhood, terms like child poverty, defined as "poverty experienced by children and young people" (Davidziuk *at el.*, 2006:483), started to emerge. It is different from adult poverty in that it can have different causes and effects which may restrain children from achieving their full potential (UNICEF, 2005:3; Davidziuk *at el.*, 2006:484). To this effect, UNICEF (2006:3) introduces a new dimension of child poverty as an environmental factor that damages children's development mentally, physically, emotionally and spiritually. It goes on to suggest that "expanding the definition of child poverty beyond traditional conceptualizations, such as low household income or low levels of consumption, is particularly important" UNICEF (2006:3). I agree with UNICEF (2006) because other deprivations like lack of social or infrastructure services cannot be mitigated at household level. To this end, UNICEF (2005: 18) presents in *the State of the World's Children 2005* a working definition of child poverty, which states that:

“Children living in poverty experience deprivation of the material, spiritual and emotional resources needed to survive, develop and thrive, leaving them unable to enjoy their rights, achieve their full potential or participate as full and equal members of society”.

Davidziuk *at el.* (2006:485) observe that UNICEF’s (2005) definition shows that child poverty is multi-dimensional – made up of both tangible and intangible components and is interrelated. For example, material deprivation causes malnutrition, which in turn lowers health and education outcomes, which in turn may affect a child’s long-term development (Davidziuk *at el.*, 2006:485). UNICEF (2005:15) concludes that “poverty in childhood is a root cause of poverty in adulthood”. This is because children who grow up in poverty more likely grow up to be ‘impoverished parents’ who raise up their children in poverty, thereby creating a generational cycle of poverty (UNICEF, 2005:15). Tackling child poverty requires this broader picture because the majority of children who are deprived essential services today will grow into impoverished nations. The coming section discusses the types of poverty and how poverty is measured.

4.3.2 Types of Poverty and how it is Measured

a. Types of Poverty

According to sociologists, there are two different types of poverty; these are situational (transient) poverty and generational (absolute or chronic) poverty. Situational poverty occurs when “a family temporarily experiences financial constraints due to an illness, job loss, or other temporary event” (Moore, 2001:535). Although situational poverty is still traumatic, usually it has minimal lasting effects (*ibid.*). But this does not suggest that families should be left alone to deal with situational poverty, if not checked, it may be the beginning of generational poverty. The Chronic Poverty Research Centre (CPRC) (2005:2) defines generational poverty as “absolute poverty that is experienced for an extended period of time”, in some cases, the child’s whole life. It goes further to point out that a person living in

absolute poverty is not capable of meeting his/her basic requirements for food, clothing or shelter (CPRC, 2005:2).

Harper *at el.* (2003:535) point out that beyond household level, generational poverty may be transferred to a child from institutions such as schools, hospitals or care-centres, and “from the state via benefits and legal protection”. This clears our stereotypes which viewed generational poverty as a family matter. This shows that tackling generational poverty should involve the family, the community and the nation at large. Mehrotra (2006:2) points out, that children are considered as being absolutely poor if they experience two or more different types of severe deprivations of basic human need. It is this type of poverty that this research focuses on.

b. How poverty is measured.

The multi-dimensional nature of poverty which includes quantifiable variables (such as income, consumption and access to basic services) and non-quantifiable variables – such as the powerlessness, exclusion and many others, makes it difficult for poverty to be measured (Boyden and Feeny, 2003:6; Davidziuk *at el.*, 2006:489). However, in order to guide policy formulation in tackling poverty, most development agencies rely on the monetary approaches to measure poverty below one US dollar a day (the poverty line). But this approach has been criticised as “very partial and, in many ways, and is a counterproductive approach to measuring poverty” (Davidziuk *at el.*, 2006:489.). This is because, among others, it ignores the multi-dimensional nature of poverty; it aims at on increasing an individual’s income level rather than on investing in public services; and is inadequate in measuring child poverty. In most cases, due to severity of poverty in poor households, children do not have equal access and control over income (Boyden and Feeny, 2003:5; Davidziuk *at el.*, 2006:486).

The second measure is the deprivation approach. It is based on the established set of basic services and capabilities, and then the number of children who do not benefit from those services and capabilities is counted (Davidziuk *at el.*, 2006:489). Davidziuk *at el.* (2006:489) point out that these measures of deprivation are based on child rights and definitions of

poverty internationally agreed at the 1995 World Summit for Social Development. Based on this agreement, UNICEF (2005) in October 2003, commissioned the University of Bristol and the London School of Economics, to conduct an empirical study on how children in developing countries are affected by severe deprivations in seven areas: adequate nutrition, safe drinking water, decent sanitation facilities, health, shelter, education and information (UNICEF, 2005:2). The results of the findings are summarised in the Table 4.1 below.

Deprivations	Indications	Affected children
severe food deprivation	-Height and weight for their age were more than three standard deviations below the median of the international reference population, that is, severe anthropometric failure.	15 per cent of children aged under five.
severe water deprivation	-Lack of quality or quantity. -Only had access to surface water like rivers for drinking. -Have more than a 15- minute walk to water	Nearly 376 million children, 20 per cent.
severe deprivation of sanitation facilities	-No access to a toilet of any kind (private or communal toilets or latrine) in the vicinity of their dwelling.	More than half a billion children, 31 per cent.
severe health deprivation	-Not been immunized against any diseases -Diarrhoea patients without any medical advice or treatment.	265 million children -15 per cent.
severe shelter deprivation	-More than five people per room (severe overcrowding) no flooring material like a mud floor on.	More than 500 million children, 34 per cent
severe educational deprivation	-Have never been to school not currently attending school. -No professional education of any kind.	Aged 7 -18 134 million children aged 7–18 – 13 per cent
severe information deprivation	-No access to radio, television, telephone or newspapers at home.	Aged 3-18 almost half a billion children 25 per cent

Table 4.1. Summary of the empirical findings of the UNICEF commissioned study as reviewed in Davidziuk *at el.* (2006:490), UNICEF (2005: 20-22), and Mehrotra (2006: 6-9)

The study found that 56 per cent of children in low- and middle income countries – just over one billion children – suffered from one or more forms of severe deprivations. South Asia and sub-Saharan Africa had severe deprivation rates of more than 80 per cent (Davidziuk *et al.*, 2006:490). What are clearly missing from these deprivations are the non-quantifiable variables like exclusion, powerlessness, and low self-esteem, to mention a few. If these non-quantifiable variables remain assumptions they may not influence any policy direction. Additionally, there is no disaggregation between children living in informal settlements and formal settlements in urban areas. That is probably the reason why the deprivation rate is lower in the urban centres than in rural areas. But, elsewhere, it was revealed that children in slums suffer more than children from rural areas (Cousins *et al.*, 2002: xii). With the ever increasing rates of rural urban migration and informal settlements, there is need for more studies on children growing up in informal settlements.

4.4 Pathways Through which Poverty Impacts on Child Development

A pathway is defined as “a mechanism through which poverty or income can influence a child outcome” (Brooks-Gunn and Duncan, 1997: 64). By implication, this definition entails that a pathway should reflect causal factors of poverty in terms of both income and other deprivations and at least one or more consequential child outcomes (*ibid.*). Brooks-Gunn and Duncan (1997:64) go further to explain that it is necessary to investigate these pathways in order to gain a complete understanding of the effects of poverty on children. This can lead to the “identification of leverage points that may be amenable to policy intervention and remediation in the absence of a change in family income” (Brooks-Gunn and Duncan, 1997: 64). This section reviews few pathways which relate very closely to living environments; these include health and nutrition; the home environment; parental interactions with children, parental mental health, neighbourhood conditions, and children affected by HIV/AIDS. Due to space limitation, this research will not discuss other potential pathways such as access to prenatal care, powerlessness and exclusion, Structural Adjustment Programmes, and social services user fees, to mention a few. All these have been recorded to have had adverse impact on child development (Boyden and Feeny, 2003:18-19; Association of Teachers and Lecturers (ATL), UK, 2010:3). Due to complexity of

effects of poverty on child development, and limitation of space, the pathways and effects are illustrated in a summary in Table 4.2 below.

Pathways	Effects	Age	Outcomes	Sources
(1) Health and nutrition,	Physical Health	Prenatal and Infants (0 -2 years)	-1.7 times as high for a low birth-weight (2,500 grams or less). -1.7 times as high for child infant mortality within the first 28 days of life. -Susceptible to asthma and anaemia. -Growth stunting (low height for age). -Physical disabilities, grade repetition, and learning disabilities. -Two times lower in cognitive development. -Speech, hearing, and behavioural problems. -2.0 times as high for a short stay hospital episode. -3.5 times high for lead poisoning associated with a decrease in intelligence quotient (IQ).	-Single mothers with little education. -Sub-standard housing. -Malnutrition and starvation. -Family economic pressure. -Deteriorating lead-based house paint (exceeding the accepted threshold for safety) for young children.
(2) the home environment	Cognitive Abilities	prenatal to early childhood (ages 3 to 6),	1.3 times more likely to have developmental delays or learning disabilities - IQ scores 6 to 13 points lower -Permanently 'retard' physical growth, brain development, and cognitive functioning. -Low motivation, attentiveness, and emotional expression. -Poor parent-child attachment. -Difficulties in communication, playing and learning. -Lacks self-confidence. -Low self-esteem. -Can't form new friendships. -Lasting effects that extend well beyond kindergarten.	-Long-term exposure to poverty. -Under nutrition along with environmental factors associated with poverty. -Lack of warmth of mother-child interactions. -Lack of household resources such as reading materials and toys. -Limited space within the home.
(3) parental interactions with children,	School Achievement Outcomes	early childhood (ages 3-6) to late childhood (ages 7 to 10),	-School un-readiness. -More than 50% - not meet the standard for reading proficiency. -2.0 times as high for grade repetition and dropping out of high school. -1.4 times as high for having a learning disability. -High absence rate at secondary school level (three times more likely to have persistent absence). -The literacy deficit goes on to affect their later outcomes. -Low aspiration. - Homelessness in the street.	-Poor health - Low nutrition level -Lack of educational resources (no space for home work) -Lack of stimulating home environment. -Low level parental involvement. -Low levels of cultural and social capital. -Family economic pressure (income loss or economic uncertainty due to unemployment, underemployment, and unstable work conditions). -Heightened marital/partner conflict. - Living in deprived areas with high risk factors.

(4) parental mental health	Emotional and Behavioural Outcomes	Prenatal period adolescence (ages 11 to 15) late adolescence (ages 16 to 19).	-Neonatal health problems. -Two to five times greater risk for homelessness. -Lack of needed medical care, unreliable or unsafe child care, and placement in foster care. -1.3 times internalizing and externalizing behaviour problems. -Social interactive difficulties. -Insecure attachment. -Aggression with other children – lack of trust issues, and future vulnerability to substance abuse. -Dependence, anxiety, and unhappiness.	-Family structure: single mothers or divorced. -Parental depression. -Defined long-term poverty. - Substance abuse and domestic violence, and alcoholism. -Family economic pressure. -Less provision of learning experiences in the home. -More conflicting interactions with adolescents.
(5) neighbour hood conditions	teenage out-of wedlock birth	late childhood (ages 7 to 10), early adolescence (ages 11 to 15) Late adolescence (ages 16 to 19).	-Drop out of high school. -25 out of every 1,000 teenage girls give birth at three times the rate of non-poor teens. -Less likely to receive a college degree 6.8 times as high for reported cases of child abuse and neglect.	- Extremely poor neighbourhoods: social disorganization (crime, unemployed adults, uncontrolled adolescents). -Environmental hazards, such as high lead levels, unsanitary living conditions, as well as high levels of social toxicity. -Few resources for child development (playgrounds, child care, health care facilities, schools, parks, after-school programs). -Overcrowded.
(6) Parental mental health	Maternal Depression	Infants (0 -2 years)	-Psychological distress.	-Less responsive maternal care: negative affect expression, and less positive engagement. -Economically disadvantaged mothers: lack of social capital, poor living environment. - Marital discord.
(7) Children orphaned or vulnerable by HIV/AIDS	The breakdown of the protective environment	Adolescence (ages 11 to 15) late adolescence (ages 16 to 19).	-Jeopardizes a child's education – dropping out of school. - Increasingly forced to head households. -Miss out on opportunities for socializing with peers. -Assume the burden of caring for sick parents and younger siblings. -Engaging in child labour or suffering abuse, violence, exploitation, stigmatization and discrimination.	-Deepening child poverty. -Children or adolescents are forced to work in order to help sustain the family. -The breakdown of the protective environment. -Exposure to a wider environment, with potential life-long consequences. -Lose part of their safety net.

Table 4.2. Pathways through which poverty operates. Source: Brooks-Gunn *et al.* (1998: 406-423); Brooks-Gunn and Duncan (1997:56-64); Aber, Bennett, Conley and Li (1997:189); Dawes and Donald (2003:15-17); ATL (2010:3)

Below is the summary of the developmental stages how they are affected by poverty illustrated through a chart – figure 4.1. The main purpose is to show how poor child developmental outcomes on one stage affect the subsequent stage.

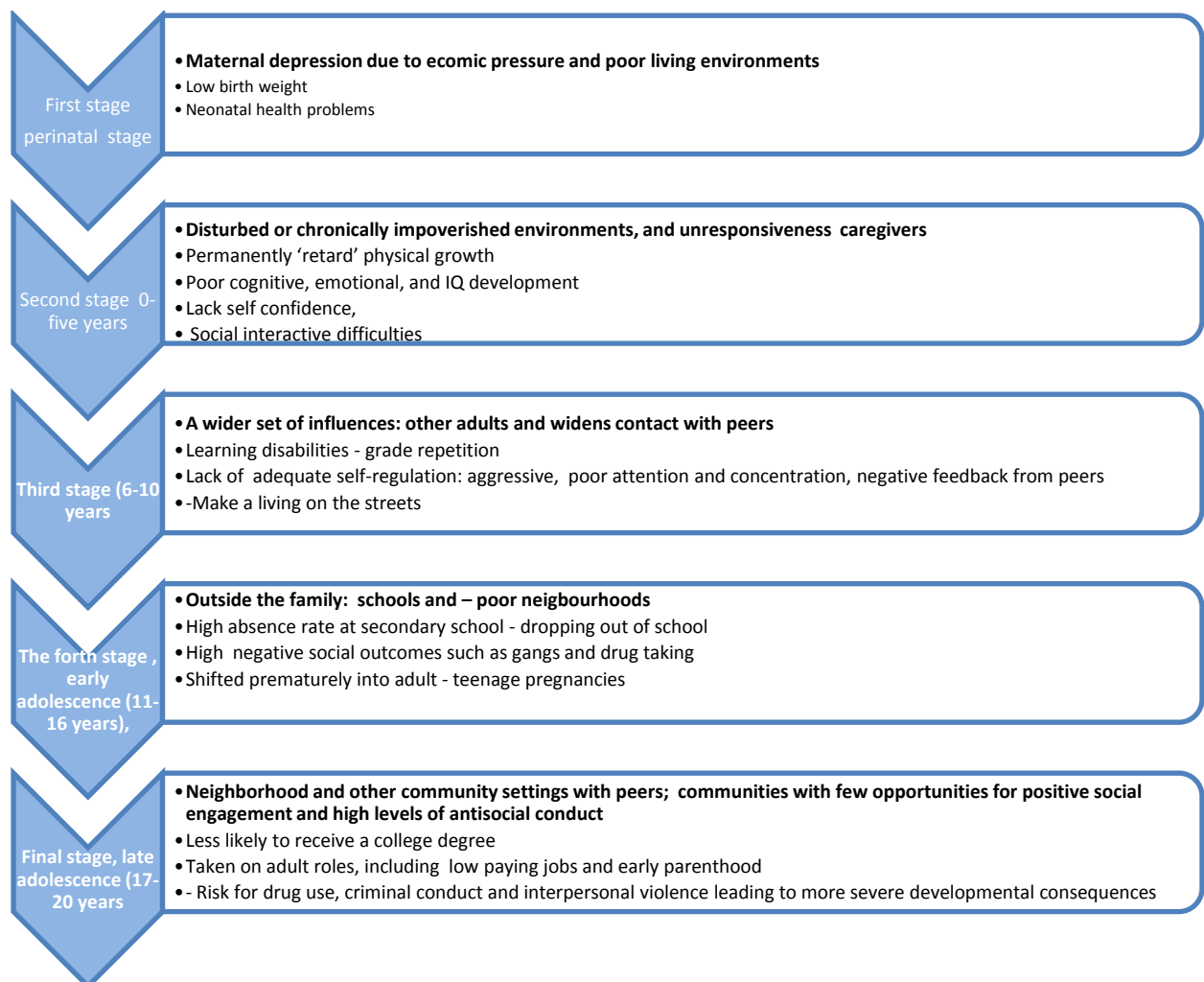


Figure 4.1. A summary of the developmental stages how they are affected by poverty.
Source: Own construction from Table 4.1.

It is important to note that all the stages of childhood are affected by these pathways but the implication of indicating a stage or stages against a pathway means that pathway is crucial at that stage. Dawes and Donald (2003:5) stress that “interventions should be informed by knowledge of developmental epochs and pathways, as well as sources of influence at different points in development”. Through the chart, it is clear that poor developmental outcomes endured during the early childhood due to poverty and poor living environments affect negatively child’s later developmental outcomes (Boyden and Feeny, 2003, 2003:4). This is not to suggest that early intervention measures should be constrained

to foundation years (under-fives) only as other organisations have done, but should aim at addressing the needs of children of all ages (Tomlinson and Walker, 2010:1162-1182). It simply means that it is important to hasten intervention measures, or if possible prevent children from going through the ordeal of poverty.

4.5 Positive Developmental Outcomes of Children Growing up Deprived Environments

a. Social Responsibilities

Many researchers in child development are beginning to appreciate that children are not passive victims of circumstances, but rather very active in engaging with the world around them (Boyden and Feeny, 2003, 12; Schwartzman, 2005:9). Most children growing up in deprived living environments in informal settlements take up social and economic responsibilities at a tender age (from six years) to support their parents and siblings and communities (Boyden and Feeny, 2003:12.). Harper *et al.* (2003:543) point out that through this practice, children develop strong bonds with their younger siblings, which can enhance their consideration for others in adult life. Additionally, “the assumption of age-appropriate roles and responsibilities” (Schwartzman, 2005:9) within their families and communities help the children build self-esteem, self-motivation, self-actualization, economic autonomy and responsibility (Boyden and Feeny, 2003:34; Schwartzman, 2005:9).

b. Risks and Resilient

Since these children are exposed to multiple risks, they develop resilience in order to survive and meet their life goals (Boyden and Feeny, 2003:13-15). “Risks” are defined as “variables that increase an individual’s susceptibility to negative developmental outcomes or becoming overwhelmed by adverse circumstances” (Boyden and Feeny, 2003:13). Resilience refers to “an individual’s capacity to adapt and remain strong in the face of adversity” (*ibid.*). Ramphela (2002:11) calls this resilience the anchor that keeps those “who have seen, heard and experienced pain and anguish”, to keeping hoping for a better tomorrow. Resilience is based on both individual and group strengths, and is highly influenced by supportive elements in the wider environment (family, neighbourhoods, schools and organized community groups and programs); described as ‘protective factors’ or ‘protective processes’ (Boyden and Feeny, 2003:14). For instance, children who experience “approval, acceptance

and opportunities for mastery” have higher chances to be resilient than those who have endured humiliation, rejection, or failure (*ibid.*). Through these protective factors, the children construct strategies they use to manage stressful situations and to defend themselves against painful experiences or low self-esteem. This process may in turn promote the development of other protective factors such as a sense of competence, formation of meaningful relationships, and feeling a sense of belonging. These processes build up resilience too (*ibid.*).

c. Self-regulation

The child also develops “self-regulation” during the early period of life (Dawes and Donald, 2003:16). While many researchers have attributed this to children from high income families, Dawes and Donald (2003:5) argue that children from low income families develop self-regulation too because they have aspirations for a better future. Self-regulation, enables the child to “delay gratification and to improve impulse control” (Dawes and Donald (2003:16). For example, a child may decide to stay indoors in hostile environments so that he/she can concentrate on his/her studies or avoid bad peer pressure. Or may decide to relocate close to educational institutions (self-boarding) because he/she may want to maximise her/his study period (Ansell, 2002, 2004 cited in Abebe and Kjørholt, 2011:64). Dawes and Donald (2003:16) note that researchers in America discovered that in rural schools, attentive quiet children, who managed to subdue their impulses, display high performances. It is therefore important to pay attention to these positive developmental outcomes when designing child poverty reduction strategies.

4.4 Conclusion

Although there is a strong link between poverty and poor child developmental outcomes, this study has revealed that there are also positive child developmental outcomes of children growing up in deprived areas. The pathways of poverty and their negative effects on child development are summarised in a figure 4.2 below.

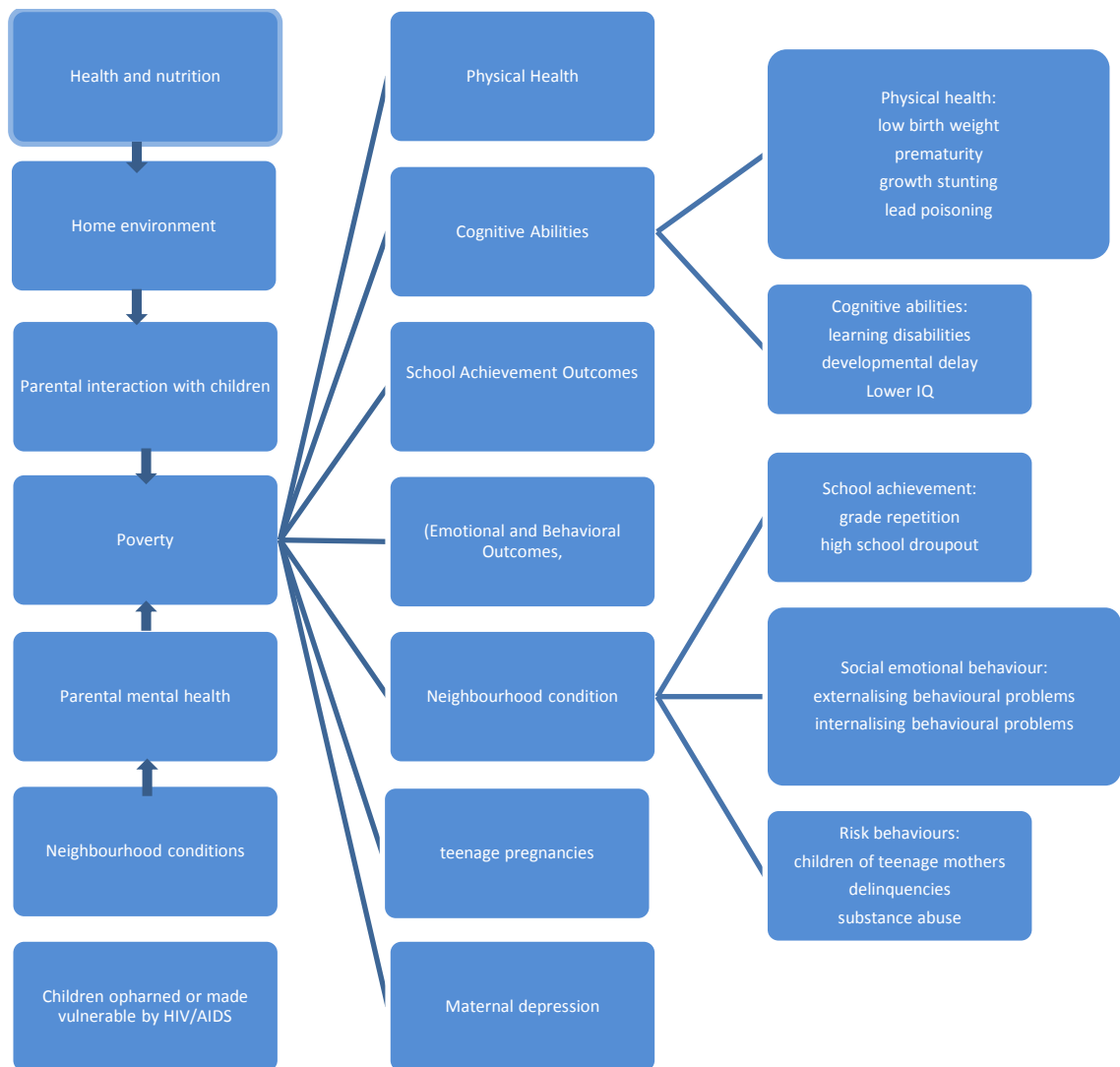


Figure 4.2. A summary of how poverty influences child development. Source: Compiled from Brooks-Gunn *et al.* (1998: 406-423); Brooks-Gunn and Duncan (1997:56-64); Aber *et al.* (1997:189); Dawes and Donald (2003:15-17); Sesma (2003:6) and ATL (2010:3).

Although literature on the link of poverty and child development is to a large extent biased towards the negative aspects of poverty on child development, in African countries a number of prominent academics, politicians, and business men and women emerge from poverty stricken backgrounds. Of course they may represent a very small percentage of the entire population. This shows that child poverty reduction strategies that aim at enhancing the coping strategies of poor children such as resilience, self-regulation, and their early assuming of adult roles (positive ones), may not be that complex and expensive. Dawes and Donald (2003:5) argue that “even under severe conditions, children can be protected by special circumstances and measures”. But it may not be easy for housing practitioners and

planners to study developmental stages because this is a complex subject. It is therefore important that they must work collaboratively with child development experts and all other stakeholders in the designing of intervention measures so as to give to the issue of children living in poverty “the centrality and specificity that it deserves” (Davidziuk *at el.*, 2006:485).

Poverty is also one of the major characteristics of informal settlements (UN-HABITAT, 2006/2007: Xii). Poverty is mainly manifested in informal settlements through poor quality housing mostly on marginalised sites coupled with lack of essential services. Chapter Five looks at these characteristics more closely and their effects on child development.

Chapter Five the Environmental Characteristics of Informal Settlements

5.1 Introduction

Today, a large proportion of children are born and raised up in informal settlements in the cities and urban centres in the developing countries. Based on what many researchers have observed, informal settlements in the developing world's cities are sheltering the majority of urban dwellers. Informal settlements are also recognised as the only housing solution especially for the urban poor (UNCHS–Habitat, 1997: v; UN-HABITAT, 2006/7: iii; Sverdlik, 2011:123). These researchers have increasingly brought to the fore factors that have led to the emergence of informal settlements, the relevance of their existence to humanity in the Third World cities, their characteristics and how governments and international bodies like UN-HABITAT, World Bank, and other international agencies have responded to the informal settlements phenomenon.

This chapter focuses only on the characteristics of informal settlements with an aim of discovering their negative and positive implications for young people's lives. Hardoy and Satterthwaite (1997:269), Pugh (2000:326), and Davidziuk *et al.* (2005:6) note that children growing up in the informal settlements are always under threat of environment related diseases, injuries and premature deaths. While some governments are positively responding by developing policies that address the appalling environmental living conditions of these settlements, Huchzermeyer and Karam (2006:1) point out that some governments have not yet developed "national-level policies and programmes that realistically deal with informal settlements". To some extent, some governments may not be aware of the impact of informal settlements on children because informal settlements are largely associated with adults. For instance, the reasons attached to prevention of eradication of informal settlements are adult in nature, such as closeness to economic and job opportunities; loss of social networks and social services. Although child issues are imbedded in these concepts they may not influence any urgent response because adult issues, possibly less urgent in nature, override these. But child issues demand urgency because, as Harper *et al.* (2003:542) observe "where children's cognitive development is

impaired due to malnutrition, particularly before age two, the impairment may be irreversible regardless of a later improvement in their nutrition and circumstances”.

The discussion in this chapter is intended to help us to see how the pathways of poverty discussed in Chapter Four are reflected in the characteristics of informal settlements. Many researchers who have linked the pathways to poor living environment tend to base their findings on children living in poorly maintained homes and neighbourhoods in planned settlements. This may be misleading because poor children from planned settlements may suffer only one or two dimensions of deprivation while those from informal settlements are most likely to suffer severely all UNICEF’s seven dimensions of severe deprivations namely (1) adequate nutrition, (2) safe drinking water, (3) decent sanitation facilities, (4) health, (5) shelter, (6) education, and (7) information (UNICEF, 2005:19) as discussed in Chapter Four. A small, but growing number of studies aimed at disaggregating the conditions of children growing up in slums, planned settlements and rural areas have been carried out in Asia, Near East, and in Africa in Cameroon, South Africa and Kenya. These studies have revealed that incidences of disease, mortality and HIV prevalence are higher in urban slums than in rural areas (Cousins *et al.*, 2002:xv; UN-HABITAT, 2006/7:viii; Yogis Nguendo, 2009:15; Sverdlik, 2011:124). Baker (2008:2) stresses that the disaggregation approach will reveal in detail the issues that affect the urban poor which are foundations for policy formulation.

It is also important to understand there are different terminologies used to describe informal settlements. For this reason, Section Two discusses briefly different definitions of informal settlements so that we have a clear picture of what informal settlements are all about. Then the Chapter proceeds in Section Three to present how children feature statistically in the informal settlement intervention paradigms. Section Four discusses the characteristics of informal settlements. Then finally, in a conclusion, it summarises the findings.

5.2 The Definition of Informal Settlements

Although there are different terminologies used to describe illegal settlements in urban areas, in most cases slums and informal settlements are used interchangeably. However, these two terminologies may mean two different things. For instance, UN-HABITAT (2003:8) defines slum as “a heavily populated urban area characterised by substandard housing and squalor”. This definition applies to formal housing development in a planned settlement that has become dilapidated due to lack of maintenance, overcrowding, and inadequate services to cater for the burgeoning population (Cousins *et al.*, 2002:14). But Cities Alliance (1999) cited in Huchzermeyer and Karam (2006:2) adds another dimension in their definition which looks at slums as:

“Neglected parts of the cities where housing and living conditions are appallingly poor. Slums range from high density, squalid central-city tenements to spontaneous squatter without legal recognition or rights, sprawling at the edge of cities”.

This definition looks at slums as areas with appalling housing conditions of both formal and informal settlements. It appears there is no terminology that describes the housing conditions in informal settlements hence the term “slum” is used. For this reason, this research report too will use slums and informal settlements interchangeably. But the central feature of informal settlements is “tenure insecurity” (Huchzermeyer and Karam, 2006:3).

Due to tenure insecurity, the urban poor construct make shift homes with flimsy materials which cannot adequately protect the inhabitants particularly children from the adverse effects of weather such as rain, flooding, heat, and cold (Cairncross *et al.*, 1990:xviii; UNCHS (Habitat), 1997:v; Hardoy and Satterthwaite, 1997:265). Furthermore, the inhabitants experience inadequate access to basic services; overcrowding; poverty; exclusion and powerlessness among other things (Chambers, 189-190; Durand-Lasserve and Royston, 2006:6; UN-HABITAT, 2006/7:x-xi; Gilbert, 2007:699; Huchzermeyer, 2011:65). These will be elaborated later in the chapter.

It is also important to note that UNCHS (Habitat) (1997: v) calls these informal settlements “home”. Ironically, Scott Leckie in his foreword message in the *Defending the Housing Rights of Children* begins by emphasising that “every child deserves a safe place to call home”. He goes on to point out that:

“In all parts of the world, hundreds of millions of children of all ages come ‘home’ every day to a house in such appalling conditions that it threatens their very health and well-being... Worse yet, millions more children have no place to call ‘home’ at all” (Leckie, 2006: 5)

While Leckie is discrediting the poor housing conditions in relation to children, he is also acknowledging that their existence have managed to provide some degree of protection to children against the adverse effects of weather and reduction of other forms of vulnerability. Comparably, the child who resides in a poor housing in an informal settlement is much better off than the child who languishes in open streets without any form of shelter.

To this extent, there is emerging literature that looks at dual characteristics of informal settlements. This body of literature looks at the physical reality of informal settlements not as challenges but answers to the challenges (Cousins *et al.*, 2002:45). They symbolise the creativity of their residents “to mobilise resources, devise survival strategies, and build social organisations even in the presence of enormous constraints” (Cousins *et al.*, 2002:45). Building on Cousins *et al.*’s (2002) observation, Hardoy and Satterhwaite (1997: 268) call informal settlements’ residents “city builders”. They go on to clarify their point in that:

“The unnamed millions of people who build, organise and plan illegally are in effect the most important organisers, and planners of cities. In most cities they have demonstrated remarkable ingenuity in developing their own homes and new residential areas... with related housing infrastructure services” (Hardoy and Satterhwaite, 1997: 267)

Additionally, Pugh (2000:26) observes that these settlements reflect localised relationship to culture, sensitive to environmental change, and the ability to share skills about housing designs and construction. Researchers such as Pugh (2000) are building on the theory of John Turner, who argued that informal settlements are not “a form of social malaise but triumphs of ‘self-help’...” (Jenkins, Smith, Wang, 2007:158). Besides meeting their own housing needs, slum dwellers revitalize the urban economy through petty trading, manufacturing, providing service and absorbing the surplus product (Cousins *et al.*, 2002:45; and Harvey, 2003:25). These are the hidden strengths of the urban poor that most governments in the developing world are not aware of. These revelations show that eradicating the urban poor from the cityscapes will only paralyse the functioning of the Third World cities. To this end, Pugh (2000:26) and Cousins *et al.* (2002:45) conclude that it is important for architects and planners to tap the strengths of the urban poor in order to achieve sustainable health and welfare interventions (see figures 5.1,5.2,5.3,5.4,5.5 and 5.6 below)



Figure 5.1 showing skilful use of wooden materials in informal settlement in Colombo, Asia and Pacific Source. Copyright: UN-HABITAT (2005).



Figure 5.2 showing happy children who find shelter in informal settlement in Haiti. Source: Copyright: UN-HABITAT/ Reade (2007)



Figure 5.3. Community participation in informal settlement in Borei Keila in Cambodia. Source: Copyright: UN-HABITAT/ Mutter (2005)

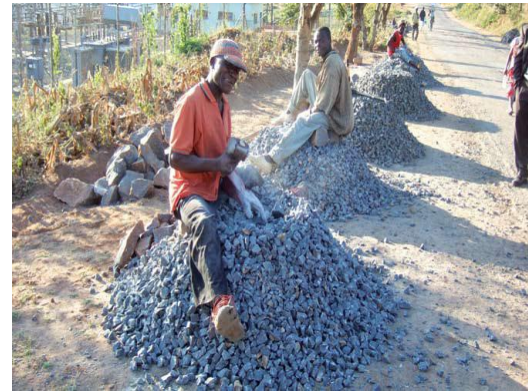


Figure 5.4 showing poor people as city builders in Blantyre, Malawi. Source: Copyright:UN HABITAT (2010)



Figure 5.5 showing a wooden house on wooden columns to prevent damp floors, and to overcome mild floods in Suai Loro in Timor-Leste. Source: Copyright: UN-HABITAT/ Perret (2011)



Figure 5.6. Informal settlements in Madagascar showing a house on stone columns reinforced with recycled steel in a flood prone area. Source: Copyright: UN-HABITAT (2008)

Although the body of literature is silent on the impact of this initiative by the poor to meet their own housing needs on child development, I am sure it has helped a lot to secure “the world’s human resource” (UNICEF, 2005:15) that could have been ‘helpless adults’ or dead by now if they were left alone on the deadly streets of urban centres.

5.3 The Population of Children Growing up in Informal Settlements

The population of children worldwide has risen due to the new techniques in medicine and public health introduced by the modern science and industrialisation, resulting in reduction in child mortality rates (Chawla, 2002:15). It is now estimated that 40 to 50 per cent of the

world population is under 18 years (*ibid.*). Malone (2006: 13) observes that by 2025, the population of the world's largest cities is estimated to reach four billion. She goes on to explain that "with an average of one-third of the population in developed nations consisting of children under the age of 18, the majority of these city residents (at least 45-50 per cent) will be children" (Malone, 2006:13). However, both Chawla (2002) and Malone's (2006) statistics of young people may be misleading knowing that they combine children from the North where these technologies are advanced and available with children from the South who may hardly encounter these facilities that use such technologies as discussed in Chapter Two. But it is important to note that in the developing countries high urbanisation rate is to a larger extent attributed to natural increase than to migration (UNCHS (Habitat), 1997:5; UN HABITAT, 2006/7: viii; Baker, 2008:1; Yogis Nguendo, 2009:1). Based on this fact, child populations in the cities of developing countries may be closer or more than what is stated by Chawla (2002) and Malone (2006).

On the other hand, it is also important to note that Baker (2008), UNCHS (Habitat) (1997) and UN HABITAT (2006/7) do not disaggregate the population of children in planned settlements from those in informal settlements. Currently, it has been projected that by 2030, informal settlements will host about 2 billion people (UN-HABITAT, 2003: xxv) worldwide. This leaves us to estimate that despite high infant mortality rates in informal settlements (Harper *et al.*, 2003:1; Cousins *et al.*, 2002:xv; and Davidziuk *et al.*, 2005:9), the high population growth rate will still bring the child population in informal settlements closer to or slightly higher than 50 per cent. Unfortunately, this unreliable statistical information may not influence any meaningful policy direction. There is need therefore to come up with reliable statistics of children growing up in the informal settlements. Having reached this far, it is also important to examine to what extent children's welfare is recognised in informal settlement intervention paradigms. Detailed information is captured in the next section.

5.4 The Characteristics of Informal Settlements and their Impact on Child Development

Informal settlements are complex in their characteristics (Pugh, 2000:26) and these cannot be discussed exhaustively in this research report. However, this section focuses on the main

characteristics which apply to different forms of informal settlements. These include lack of security of tenure, location of informal settlements, poor structural quality of housing, lack of basic services, overcrowding, poverty and social capital. In keeping with the research topic and word limit, the discussion is brief and biased towards children.

5.4.1 Lack of Security of Tenure

In the absence of an adequate formal response to rapid urbanisation in developing countries, coupled with strict and cumbersome land administration inherited from their colonial masters, many poor people settle informally on publically or privately owned sites (Malawi Housing Sector Profile, 2010:xvii). The common problem with this mode of settlement is lack of security of tenure which subjects the occupiers to forced evictions (Napier, undated:22; Alsayyad, 1993:33, UN-HABITAT, Malawi Housing Sector Profile, 2010:xvii). While many researchers have highlighted the impact of eviction on adults, children are often the ignored victims of eviction. Leckie (2006:5) observes that “children suffer both physical and psychological trauma as a result of forced evictions”.

The other kind of forced evictions which are usually obscured are private and take place right in the informal settlements by landlords (Abebe and Kjörholt, 2011). Ansell and van Blerk (2005: 470), for instance, observe that when parents fail to pay rent on time due to financial difficulties, strained relationships develop with their neighbours and landlords/landladies leading to forced evictions. Through their empirical investigations in certain informal settlements in Malawi and Lesotho, they discovered that though children are displeased with their living environments in informal settlements, “the drawbacks of having to pay and sometimes being unable to pay rent” force them to relocate to other accommodations or migrate to streets (Ansell and van Blerk, 2005: 470). Further, forced evictions subject households to “homelessness, economic upheaval, destruction of property, family separation, interruption of education, and children having to enter the labour market” (Ansell and van Blerk (2005: 470). But the effects of evictions on children are seldom highlighted among the reasons informal settlements dwellers should not be evicted or relocated.

Some informal settlements develop in peri-urban areas with traditional or neo-customary tenure (Durand-Lasserve and Royston 2002:6) while others develop as backyard shacks in formal areas (“informal housing amongst formal housing” (Napier, undated: 26)). There is also indoor informal settlements development in the form of illegal occupation of privately owned buildings (*ibid.*). Another informal housing takes place on serviced land as households increase in numbers and for rental accommodation (Manda, 2009:25). The poor tenants are always obscured thus making it difficult to come up with a realistic data of informal settlements dwellers (Cousins *et al.*, 2002:36).

5.4.2 Location of informal settlements

The Urban poor frequently occupy dangerous sites “where no one else wants to live” (Cousins *et al.*, 2002:36). Such areas include landfill sites, alongside railroad tracks, floodplains, riverbanks, and other water ways. Floodplains are prone to frequent flooding and they generate acute environmental problems such as water pollution and waste accumulation of raw sewage and garbage – creating stagnant water, rain acid odours, and breeding places for mosquitoes and worms. These sites also become worse during the rainy season (Eduardo and Magalhaes, 2007:4; Sverdlik 2011:145) (See figure 5.7, 5.8, 5.9, and 5.10).



Figure 5.7. Baseco informal settlement in Manila, the Philippines showing shacks along a highly polluted river banks where children scavenge. Source: Copyright: UN-HABITAT/Nicolas(2002)

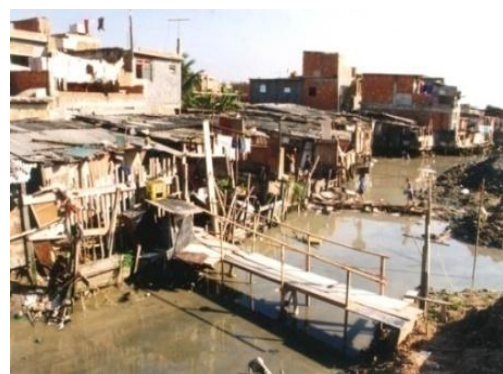


Figure 5.8. Informal Settlement in Mexico showing flooding water into the backyard shacks and fragile bridges. Source: Copyright: UN-HABITAT (2007)

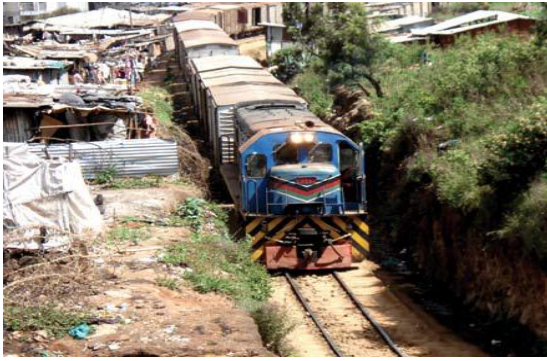


Fig 5.8. Figure 5.9. Informal settlement developed along rail line in Nairobi Kenya. Source: Copyright: UN-Habitat (undated)



Figure 5.10. A shanty town in a slum of Monrovia showing shack development right into a waterway .Copyright: UN-HABITAT (2007)

These places pose a great threat to children who scavenge in these areas, resulting in the contraction of worms or involvement in fatal accidents like drowning (Sverdlik 2011:145). There are also regular outbreaks of diarrhoea, leptospirosis, malaria, and dengue fever— affecting mostly the young (Cousins *et al.*, 2002, 38; Riley and Unger, 2007:1563; and Sverdlik 2011:145). Some informal settlements are clustered on hillsides subject to landslides and earthquakes or polluted sites with industrial waste while others develop close to heaps of uncollected garbage (Cairncross *et al.*, 1990:8; Hardoy and Satterthwaite, 1997:266-167). Piles of garbage become breeding grounds for disease-carrying vectors. In a study cited by Cousins *et al.* (2002:39) discovered “over 50 species of rats, fleas, ticks, and flies in one of the dumping ground in Cairo”. Yet, children due to lack of open spaces, play on these heaps of garbage (*ibid.*). As a result, children experience injuries such as falls, cuts, and bites, particularly children from 5 to 14 years (Sverdlik, 2011:137) (See figure 5.10 and 5.11).



Figure 5.10. Young children scavenge for valuables in dumpsite in Nairobi, Kenya. Source: Copyright: UN-HABITAT / Mwelu (2008)

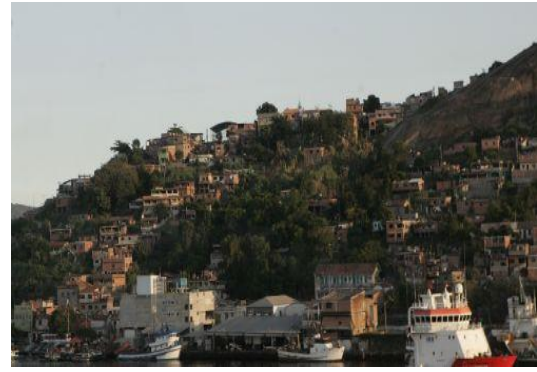


Figure 5.11. Informal settlements (*Favela*) in Rio de Janeiro clustered on hillsides subject to landslides and earthquakes. Source: Copyright: UN-HABITAT / Mwelu (2010)

5.4.3 Poor Structural Quality Housing and Lack of Basic Services

A common feature of informal settlements is poor structural quality of housing coupled with lack of basic services. Due to fear of forced evictions, poor households construct makeshift housing with flimsy (mostly recycled) building materials such as cardboard, corrugated tin, mud, and low-grade concrete/bricks, to mention a few (Hardoy and Satterthwaite, 1997:266; Cousins *et al.*, 2002:37; Eduardo and Magalhaes, 2007:5; Yogis Nguendo, 2009:11). Since these are quick fix structures, they lack adequate foundations, structural supports, and flooring materials (Pugh, 2000: 26). Due to lack of structural soundness, some residences cannot withstand even mild floods or earthquakes. Those houses developed on marginalised land close to economic opportunities – every open space is filled with a shack forming contiguous housing units – lacking natural lighting and ventilation, thermal properties, inadequate indoor and outdoor spaces, lack of privacy, and highly susceptible to crime (Pugh, 2000: 26; Eduardo and Magalhaes, 2007:5). This is a clear indication of how the urban poor value the importance of staying proximity to job/economic opportunities and social services.

Most building materials are highly flammable – a major source of shack fires coupled with cooking fuels such as wood, coal, and biomass fuels in poorly ventilated homes. Accidental fires cause burns and scalds, affecting mostly the under-five year old children (Hardoy and Satterthwaite, 1997:269; Sverdlik, 2011:137). These injuries are magnified due to lack of first

aid facilities, or clinics, and inaccessible sites (Cairncross *et al.*, 1990:8) (see figures 5.12, 5.13, 5.14 and 5.15 below).



Figure 5.12. Informal Settlement with flimsy building materials- Phnom Penh in Cambodia. Source: Copyright: UN-HABITAT (2008)



Figure 5.13. Contiguous housing development close to a dumping site in Kibera Informal settlements in Nairobi. Source: Copyright: UN-HABITAT (2007)



Figure 5.14. Poor infrastructure in the slums of Kisumu in Nairobi, Kenya. Copyright: UN-HABITAT (2005:21)



Figure 5.15. Lack of vehicular access in Kisumu informal settlements in Nairobi, Kenya. Copyright: UN-HABITAT (2005 :15)

There is also high occupancy rate of rooms. For example, Abebe and Kj rholt (2011:63) reveal that almost 90 per cent of child beggars in Addis Ababa live in congested housing with five to six children living in one room. In worst cases, more than one household occupy one room. Due to overcrowding, there is high rate of communicable diseases such as Tuberculosis, meningitis, pneumonia, skin infections, diarrhoea, malaria, dengue, and hepatitis, to mention a few. Overcrowding also expose young people to delinquent behaviour. Kiwala and Arvidsson (2003: 10) observe that:

“The slums, lacking security of tenure, are the only places young people can find cheaper accommodation. Often sharing with friends or total strangers, they live in overcrowded and dangerous environments. Some are introduced into sex and drugs at an early age, and many find themselves having sexual relationships and babies prematurely. Others mix with criminals and drug barons and become victims as well as offenders . . . young girls [tend] to be at much higher risk in the slums than at home in the countryside”.

In agreement with Kiwala and Arvidsson (2003), Sverdlik (2011:131) notes that overcrowding is the major cause of high prevalence rate of HIV in informal settlements especially among the youth. Yet, improvement to living conditions of people is rarely recognised among those who campaign against HIV transmission.

The problems of poor housing are exacerbated by lack of basic services. This is the responsibility of governments because poor communities cannot afford to meet the cost of these services. But most governments in the cities of developing countries do not provide such services for fear of perpetuating the formation of more slums. Due to limited space, these services are illustrated in Table 5.1

Characteristics	Physical indicators	Physical Outcomes	Impact on children
Inadequate access to safe water	➤ Less than 50% of households have access: • household connection • access to public stand pipe • or rainwater collection	-Contaminated water sources: rivers, wells, old and leak distribution pipes by underground water and sewage. -Water scarcity - High cost: water vendors or water kiosks -Erratic water supply -Water sources not within 15 minutes' walk -Few communal water taps	▪ Diarrheal , cholera, typhoid, hepatitis, bacterial skin infections, ▪ malnutrition ▪ High rates Infant Mortality ▪ Time consuming
Inadequate access to sanitation	➤ Less than 50% of households do not have improved • sanitation: • public sewer • septic tank • pour-flush latrine • ventilated improved pit latrine	-Open or broken sewers - On average 10 households – one pit latrine. -No drainage for waste water: contamination of underground water. -Defecating in open spaces, water, river banks and bushes. -Wrap and throw method of defecating.	▪ Water borne diseases, chronic respiratory diseases, growth stunting ▪ Intestine worm infections ▪ High rates Infant Mortality
electricity; roads; open spaces,	• Lack or poorly maintained roads • Lack of street lights • Uncollected garbage	- Lack of street lighting. -Increased rat density. - High crime rate.	▪ Difficult to work on homework ▪ Children playing in dangerous sites ▪ ▪
Social services: schools,	• Schools located far from the settlement	-Inadequate and Underperforming schools.	▪ High absenteeism ▪ High school dropout rate ▪ High transportation cost or ▪ Low education attainment ▪ Low professional skills attainment
health centres	➤ Widely spaced health centres or none: • Poorly serviced • High staff turnover	-Inadequate/inappropriate healthcare services	▪ Irregular or none antenatal and postnatal check-ups ▪ Low immunization rate ▪ High infant mortality rate ▪ Injuries go untreated
police services	• High rape, physical assaults and theft cases. • High rate of drug addicts. • Gangsters.	-Inadequate or none police services: community policing, police viewed as oppressive.	▪ Victims of all crimes listed ▪ affected psychologically

Table 5.1. Presents some of the basic services that are not provided in informal settlements and their effects on children. Sources: Hardoy and Satterthwaite (1997:266); Pugh (2000: 26); Mahanga (2002:17); Durand-Lasserve and Royston (2002:6); Cousins *et al.* (2002: 40-44); UN-HABITAT (2006/7:xi); Ambert (2006:147); Unger and Riley (2007:1562); Eduardo and Magalhaes (2007:5); Manda (2009:25); Yogis Nguendo (2009:11); (Sverdlik, 2011:123,136,140)

The characteristics of informal settlements reflect the pathways through which poverty impacts on child development as discussed in Chapter Four. This confirms UN-HABITAT's (2003: xxvi) assertion that "slums and poverty are closely related and mutually reinforcing". However, just as we discovered some positive child developmental outcomes of children growing up in deprived areas, the coming section demonstrates how informal settlements provide this opportunity to children.

5.5. Positive Aspects of Informal Settlements

Informal settlements are not only the housing option for the urban poor, they also meet their diverse housing needs. For example, where space is available, poor households may erect multiple rooms to house the growing children – as a mechanism of maintaining privacy; and to accommodate other social needs such as child initiation rituals, wedding and funeral ceremonies, to mention a few (Waldman, 2003:662-672). In contrast, some state housing schemes like the South African RDP houses are not designed to accommodate the poor households' diverse needs like “reasonable living space and privacy” (Huchzermeyer, 2001:2001). The one-roomed house measuring 30 square metres (*ibid.*) may not accommodate a family with grown up children especially if they are boys and girls (see figure 5.16)

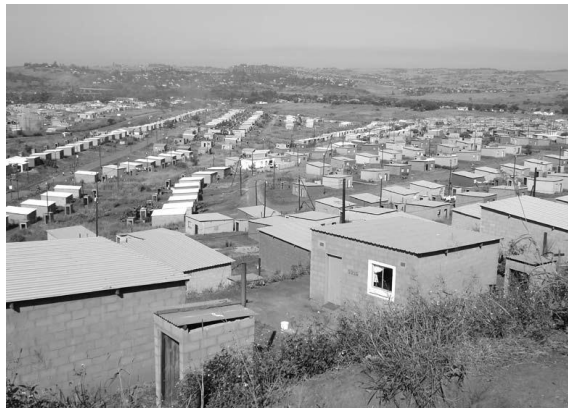


Figure 5.16. The standardised housing units – mostly one-roomed house RDP housing project in South Africa. Source: Copyright: Hunter (2006:160).

Further, informal settlements have long been recognised as places where social capital is strong (Thomas, 2002:127). Harper *et al.* (2000:541) stress that the concept of social capital captures issues of social connectedness, which is recognized as “crucial in adult and child well-being”. Where strong social connections exist, people help each other to get jobs and resources in time of crisis, share childcare, and have ability to participate in issues that affect them (Harper *et al.*, 2000:541). Children as well find their social capital which helps them to build resilience as discussed in Chapter Four.

Another positive aspect of informal settlements is the absence of gated homes or communities. This encourages spontaneous/unregulated play and peer formation among children (Malone, 2006:27-28). Children also benefit from the mixed land use planning, pedestrian environments – all expose children to everyday learning (Swart-Kruger, 2002:114-115). As seen from figures 5.17 and 5.18, the pedestrian environments also provide some form of safety to children as they walk to and from school. This form of safety can rarely be achieved in gated communities.



Figure 5.17. Un-gated communities in informal settlements, Kibera, Nairobi. Source: Copyright: UN-HABITAT (2005)



Figure 5.18. Walking in atmosphere of safety while enhancing play and peer formation in Mbayani informal settlement in Blantyre, Malawi. Source: Copyright: UN- HABITAT (2010).

5.6 Conclusion

Although the data on population of children growing up in informal settlements is scanty, it is an undisputable fact that many children are born and raised up in informal settlements in the cities of developing countries. Yet, many governments in the developing countries seldom recognise these phenomena. Instead, they deprive the informal settlement dwellers security of tenure so that their housing needs remain unrecognised in the national development agenda. The consequences of insecurity of tenure such as forced evictions, force the urban poor to construct poor make shifts homes. They are also deprived of basic services such as water, sanitation, garbage collection, access roads, schools, health centres, and electricity among others. Since the urban poor are denied prime urban land, they are forced to settle on hazardous sites. All these factors have detrimental effects – such as

communicable diseases, fatal accidents, HIV infection, delinquent behaviours and premature deaths - on a growing child. The characteristics of informal settlements clearly reflect UNICEF's (2005) seven dimensions of severe deprivations and they harbour pathways through which poverty impacts on child development.

However, this chapter has reviewed some positive aspects of informal settlements. Firstly, their housing development meets the diverse needs of the poor such as housing older children and some cultural events. This fulfils one element of adequate housing discussed in Chapter Three which states that "children should find their cultural identity in their housing" (COHRE, 2006:74-76). Children also benefit from open society which promotes spontaneous play and peer formation; and mixed land – which promotes parent–child interactions; and rich pedestrian environments which ensures some form of safety to the children.

Overall, this chapter has reviewed both negative and positive aspects of informal settlements. But negative aspects outweigh the positive aspects by far. This calls for urgent response to the plight of children growing up in informal settlements. More importantly, the positive aspects of informal settlements should not be neglected when drawing intervention measures. Chapter Six takes us further to explore how these characteristics of informal settlements influence a child's developmental stages. This information is vital for housing and human settlement policy makers since each stage of a child responds to environmental conditions differently as discussed in Chapter Three. This approach will help to provide targeted intervention measures that focus on the whole child.

Chapter Six: Child Developmental Stages in the Context of Informal Settlements and Poverty

6.1 Introduction

Child developmental psychologists emphasise the importance of understanding child's developmental stages (Duncan *et al.*, 2010:306) because each stage responds to physical and social environmental factors differently (Dawes and Donald, 2003:2). Duncan *et al.* (2010:306) points out that the "family economic conditions in early childhood appear to matter more for shaping later development than economic conditions during adolescence". However, this does not suggest that the other stages of a child should be neglected. For this reason, Dawes and Donald (2003:2) stress that child development intervention programmes must be informed by knowledge of developmental stages, developmental domains (physical, cognitive and social), and ecological aspects that surround the child as discussed in Chapters Two and Three respectively.

This chapter therefore, sets out to explore how the concepts of poverty and informal settlements discussed in Chapters Four and Five affect the developmental stages of a child. Although there is a wide range of studies on the effects of poverty and informal settlements on children, few studies have been conducted in relation to child developmental stages. Many researchers tend to focus on a particular stage – for instance the under-five stage (infants) has received wider attention than the adolescents and has been the target for early childhood development intervention programmes. This is probably because this is a critical stage in human life but just concentrating on the early years of childhood does not help the child because the subsequent stages equally demand support for the child to attain his/her successful adulthood.

The presentation of this chapter is based on a comparative mode –that is starting what child psychologists have theorised about the biological changes that take place at a particular stage of development due to physical and social environmental factors; and assessing how poverty and informal settlements can enhance or disrupt the developmental outcomes. It is

also important to remember that “slums and poverty are closely related and mutually reinforcing” (UN-HABITAT, 2003: xxvi). Therefore, the impacts of these concepts on child development are discussed concurrently.

The Second Section discusses the environmental effects of maternal’s health on prenatal development. This is one stage that is mostly neglected in the poverty and informal settlements discourse. Conger *at el.* (1963:61) argue that although it is recognised that the new individual’s life commences at conception, many researchers tend to focus on his/her age from the moment of birth. But the environment in which the unborn child grows up has tremendous influence on the latter patterns of growth physically and psychologically (Conger *at el.*, 1963:61; and Duncan *at el.*, 2010:8). Bremner and Slater (2003:96) conclude that it is important to understand foetal period in order to put infant development in a proper context. The Third Section discusses the physical and social environmental impact during and after birth – from month zero to two years. Since this is a critical stage in childhood, this section gives an overview of the child birth process, infant’s care and management, and how these processes are affected by poverty and informal settlements. The following section discusses the effects of poverty and informal settlements on preschool years – ages two to six, middle childhood – ages seven to twelve, and adolescents – ages thirteen to eighteen. Finally, this chapter concludes by summarising the findings.

6.2 Environmental Effects of Maternal’s Health on Prenatal Development

6.2.1 Malnutrition of the Mother

The maternal good health during the pregnancy has “high rates of protective factor” (Craig, 1996:124). She further argues that mothers who “conceive in good health and fitness”, who eat well-nourished food, and are less exposed to health hazards are most likely to deliver healthy babies. She also points out that realistically; the foetus through the mother encounters ‘teratogen’ a special agent that disturbs the development of foetus. Teratogens transmit through the placenta – a “special semi-permeable organ...through which, selective interchange of all substances found in plasma occurs between the circulatory systems of the

mother and the foetus" (*ibid.*:116). This includes water, blood proteins, oxygen, carbon dioxide, and antibodies. Similarly, virus and bacteria that carry infectious diseases such as measles, syphilis, tuberculosis, rubella (German measles) and HIV are transmittable through the placenta (Ausubel and Sullivan, 1970:179; Craig, 1996:116; Bremner and Slater, 2003:110; Bakermans-Kranenburg, Dobrova-Krol, IJzendoorn and Juffer, 2010:237). These infectious diseases, when occurring in the first trimester of pregnancy (0 – 3 months) frequently result in stillbirth, premature birth, and other abnormalities (Ausubel and Sullivan, 1970:180; Craig, 1996:117). Yet the poor living conditions in many informal settlements expose the pregnant mothers to teratogens.

6.2.2 Non-infectious Maternal Condition

Various non-infectious maternal conditions such as hypertension, stress and diabetes may overwhelm a pregnant mother when she is worried about having inadequate money to buy food and clothes for the baby; an un-supporting husband; or is worried about her health status (Fitch, 1988:120; Craig, 1996:124; and Duncan *at el.*, 2010:307). Indirectly, the emotional condition of the mother affects her food intake, decreases food absorption and utilization, thereby affecting negatively the nutritional status of the foetus (Bremner and Slater, 2002:110). This may influence negative birth outcomes such as still birth, low birth weight, prematurity and altered foetal behaviour. Additionally, prolonged and intense maternal anxiety may cause "automatic imbalance... in the immature and susceptible foetal gastrointestinal tract" (*ibid.*:110). This may carry over into neonatal life in the form of "excessive irritability, emotional maladjustment, and reading disability" (*ibid.*).

Within the urban economy, Amis (1995:152) reports that "women are a disadvantaged group, with evidence that they are over-represented by any definition of poverty being overwhelming globally". Wratten (1995:23) concurs with Amis (1995) that many women are employed in informal and low-paid jobs which are located away from their residential areas, and demand them to work long hours. Additionally, in the urban environment, women are increasingly becoming household headers resulting in being overburdened and stressed as they combine the roles of a father, mother, an income generator, and community tasks

(Amis (1995:152; and Harper *et al.*, 2000:543). Regrettably, most poor pregnant women in informal settlements can hardly prevent poor prenatal development because various environmental effects take place before the woman is even aware that she is pregnant (Craig, 1996:124). Yet it is during this period (the first three months of pregnancy) when the foetus develops very rapidly (Bremner and Slater, 2002:110). Bryce, Coitinho, Darnton-Hill, Pelletier and Pinstруп-Andersen (2008: 510) point out that “the period from pregnancy to 24 months of age is a crucial window of opportunity for reducing under-nutrition and its adverse effects”. We can make good use of this opportunity if pregnant mothers are supported to find nutritious food, access functional health centres and improve their living conditions in informal settlements.

6.3 Environmental Impact on Developmental Stages after Birth

6.4 Infancy – 0 to Two years

6.3.1 Child Birth

Child birth has to take place in a safe environment because of the “radical transformation from the protected, supporting environment of the uterus to less certain, and even harsh external environment” (Craig, 1996:126). The first month of the baby’s life is a very critical period because the baby recuperates from birth stress and starts taking up important functions such as respiration, circulation, digestion, and body temperature regulation soon after birth (*ibid.*). Although there are varying attitudes towards pregnancy from culture to culture, Craig (1996:126) notes that the birth processes follow the same biological time table in every society. Yet, in some cultures, at one extreme, expectant mothers give birth by themselves in an open field without anyone helping them to cut the umbilical cord, and continue with their daily routines immediately (Ausubel and Sullivan, 1970:53). At the other extreme, child birth is viewed as an extra ordinary painful experience that requires a hospital or “quasisurgical procedure” (*ibid.*:53), where the foetus, the neonate and the mother are closely monitored (Craig, 1996:148).

While the hospital procedure may look too sophisticated and uncalled for in some cultures, chances of losing the baby in the open field or any other unprotected environment are very high because of that harsh transition. For example, in Kibera informal settlement in Nairobi, traditional birth attendants assist women to deliver their babies (Levine and van Soest, 2009). Though they may be ideally situated within reach by many pregnant mothers, it may be difficult to refer emergency cases to the hospital due to lack of or poorly serviced access roads in the informal settlements (Hardoy and Satterthwaite, 1997:266; Sverdlik, 2011:135). Additionally, the fact that the delivery suite is not within a health environment, some recommended hygienic procedures may be compromised especially due to inadequate or untreated water in the informal settlements (Manda, 2009:15). Yet it is during delivery when mothers are exposed to teratogens that may cause birth defects (Craig, 1996:116).

One of the indicators of adequate housing is accessibility to basic services such as health centres as highlighted by the Centre for Housing Rights and Evictions (COHRE, 2005:24). However COHRE (2005) is silent on the range within which these services should be located. In his research on Child Health Seeking in Malawi, Ashone (2003:38) observed that 57% of pregnant mothers live more than 5 kilometres away from a health facility, and 90% of these mothers attend antenatal care only once during their pregnancies. To make matters worse, the Ministry of Gender, Youth and Community Services (2005:8) in Malawi points out that these health facilities are inadequate; they lack sufficient drugs, medical personnel, proper sanitation and access to safe water. But Murphy (1993) cited in Craig (1996:125) emphasises that one of the most reliable predictors of a full-term; healthy baby is “five or more prenatal visits” to a doctor or health-care centre commencing in the first trimester. He continues to point out that a woman who goes for antenatal clinics from the early months of pregnancy has good health assurance in that she takes care of her health and nutritional needs. Since health services are usually located away from informal settlements, it may be difficult for mothers to observe this requirement.

6.3.2 Infant Care and Management

a. Living Conditions

Infants demand special care and management due to rapid physical development that is taking place. Physical development refers to “physical characteristics like size and shape and changes in brain structure, as well as sensory capacities and motor skills” (Craig, 1996:6). Child developmentalists have revealed that at birth, babies are able to sense and respond to their physical and social environment. In this case a newly born baby demands certain basic needs such as oxygen, sleep, temperature regulation, food and water, and a psychological climate which encourages bonding between the mother/care giver and the child (Fitch, 1985:153). In contrast, the makeshift housing arrangements in informal settlements, often with fragile materials, fall short of thermal properties to keep the required room temperature for the infants (Alsayyad, 1993:33). Surprisingly, as discussed in Chapter Two, those who are involved in early child development programmes focus only on things like growth monitoring, early child-care centres, or improve parenting skills (Engle *et al.*, 2007:30), but then studies are not targeted at improving housing and informal settlements. The benefit of showering the baby with all these programmes but later in the day is found sleeping in a fragile shack or on the streets must be questioned. Risks related to inadequate housing may be one of the reasons infant mortality rate is high in informal settlements (Cousins *et al.*, 2002:xii).

In Engle *et al.*'s (2007) report on the outcomes of three projects on various models for early child development programmes, supported by the World Bank, in Bolivia, Uganda, and the Philippines observed that the Ugandan model had problems in cognitive and psychosocial development possibly because communities did not receive funds to upgrade their homes. The Bolivian model in turn had benefits in cognitive and psychosocial development because communities received funds to upgrade their homes (Engle *et al.*, 2007:229). This shows that improved living conditions have a profound impact on child development. It is for this reason that security of tenure should be treated as a prerequisite for the urban poor.

UNCHS (Habitat)'s Global Campaign for secure of tenure (UNCHS, 1999) cited in Durand-Lasserve and Royston (2002:9) stresses that:

“The granting of tenure is one of the most important catalysts in stabilising communities, improving shelter conditions, encouraging investments in the home based activities which play a major role in poverty alleviation, reducing social exclusion, and improving access to urban services”.

Like other reports/studies, UNCHS (1999) does not mention that security of tenure would benefit child development. Whereas home improvements that come after security of tenure has been granted can play a vital role in the development of a child.

b. Breast Milk

Normally infants survive on breast milk or formula milk. Craig (1996:138) stresses that breast milk is highly recommended over formula milk because it provides “short-term immunity for some diseases by neutralising the toxins found in the body”. Furthermore, breast milk is cheap, instant, highly nutritious, readily available, and free from bacterial contaminants. Additionally, breast feeding increases parent-infant interaction resulting in a “strong parent-infant bond” formation which is necessary for building relationships later in life (*ibid.*:138). Many mothers from poor households in the informal settlements may have this advantage because they stay with their babies even when performing their livelihood activities (Swart-Kruger, 2002:115). Further research has also demonstrated that African babies surpass their European counterparts by far in the development of various activities from the first day after birth. This is because African mothers are good at stimulating their babies when they are breast-feeding them regularly, sleeping with them, and talking to them continually. This practice accelerates motor development (Fitch, 1985:169).

Nevertheless, extremes of poverty and HIV infection in informal settlements may prevent mothers from utilising this advantage to the maximum. This is because low diet, due to poverty, affect milk production required to satisfy baby's required food intake, resulting in early weaning which has adverse impact on the infant (Craig, 1996:139; Cousins *et al.*, 2002:43). In cases where HIV-positive mothers have been medically advised not to

breastfeed their babies to reduce vertical transmission; using exclusive formula milk becomes difficult in informal settlements because of poverty and limited or unavailable clean water (Ambert, 2006:147). The HIV-positive mothers who are medically allowed to breastfeed their babies for the first six months, may still transmit the HIV to their babies due to high prevalence of helminths (worms) in informal settlements. Lack of sanitation in informal settlements forces people to defecate in open spaces, or engaging in “wrap and throw” means of disposing human wastes, leading to multiplication of worms (Fry *et al.*, 2002:19). The probability to be infected with HIV is high among those who are infected with worms, and they stand high risk of transmitting the HIV to their babies (Ambert, 2006:147). The effects of paediatric HIV infection usually result in “prenatal adversities, poverty, parental substance abuse and illness, and increased risk of child neglect, maltreatment and abandonment” (Bakermans-Kranenburg *et al.*, 2010:237). This means improving living conditions in the informal settlements for the urban poor is one of the key ways in which HIV transmission to the child can be prevented.

6.4 The Preschool Years: Ages Two to Six

6.4.1 Gross Motor Development

During the preschool period, children experience considerable growth but not as rapid as during the first two years. This period is also recognised as the period of gross motor development (Fitch, 1985:194; Maier, 1988:30-31; Craig, 1996:255). It involves the development of major muscles that result in climbing, running, jumping, pushing, pulling, and lifting (*ibid.*). When informal settlements are located in hazardous or dangerous sites like steep slopes or along river banks as discussed in Chapter Five, children naturally get tempted to exercise their physical skills in dangerous places which may lead to injuries and in some cases death (Sverdlik, 2011:123). In addition to motor skills, the child’s memory has developed in this stage. He/she is able to recite considerable information and recognise many objects which he/she saw previously (Cockcroft *at el.*, 2002:184; and Fitch, 1985:206). This means in the home, parents must be sensitive with their private matters to avoid influencing the developing child negatively. Ambert (2006:147) stresses that overcrowding

in the informal settlements and poor housing condition compromise sexual privacy, “which in turn, leads to a decrease in the age of sexual debut”. But at the same time, as discussed in Chapter Five, it should be noted that some people living in informal settlements may have the advantage of building multiple rooms to enhance this privacy while those residing formally in rented units may only have a single room hence compromising on their privacy. To this end, Davis and Harrison (2001:118) emphasise that housing provision should address the diverse needs of the poor.

6.4.2 The Cognitive Theory of Play

During the fourth year, the child demonstrates that he is a social being (Cockcroft *et al.*, 2002:185). A child starts playing with objects like throwing a ball, chasing birds or a dog in front of his/her house (*ibid.*). This discovery made child theorist Jean Piaget as discussed in Chapter Two to develop the cognitive theory of play. He observed that during play, children learn about new and complex objects and agents, and a way to combine and expand concepts and skills (Fitch, 1985:212). In this way, Piaget concluded that play helps the child to develop skills of resolving daily conflicts and learning unsatisfied desires within themselves (Bremner and Slater, 2002:203-204).

Erikson (1950) cited in Fitch (1985:212) describes this period as “crisis of initiative versus guilt” because of the conflict they are experiencing in creating their own autonomy. In this case, parents are supposed to permit their children to explore new places, learn new games, and find new peers. Above all, parents are expected to encourage and reward them for achieving autonomous behaviour (*ibid.*). This calls for human settlements that allow children to play together. If settlements are scattered and gated, it may be difficult for children to exercise this autonomy. Walsh (2006:139) notes that most affluent societies use ‘closed’ play option instead of ‘open-ended’ play option. He argues that “closed play options results from failure to understand both how children play and what stimulates and sustains their interest” (Walsh, 2006:139). As a result, Tranter (2006:122) and Wilhjelm (2002:164) observe that these children miss opportunities for spontaneous play which helps them explore their own neighbourhoods, interact with people in their community and develop a

sense of place. Another effect of regulated play is overweight (obesity) which causes Type 2 diabetes, heart and liver problems (Tranter, 2006:122).

In contrast, informal settlements in a way provide for this opportunity because many people stay together in an open society. Swart-Kruger, in her empirical research conducted through the Growing Up in the City (GUIC) project in Canaansland informal settlement in Johannesburg, discovered that the children had a strong communal spirit in that they shared the same problems and pleasures because they spent greater part of the day playing together (Swart-Kruger, 2002:114). Wilhelm (2002:164) describes this kind of play as “self-governed play among peers in an outdoor environment.” However, some poor locations (marginalised land: prone to landslides, earth quakes, pollution, and floods) (Sverdlik, 2011:123) frustrate this advantage. The situation is worse in most informal settlements because of contiguous housing development that may not provide spaces for children to play safely. However, there are few researchers who have studied how children fair in informal settlements. Swart-Kruger (2002), being one of the researchers, discovered that children in Canaansland informal settlement expressed dissatisfaction with decaying rubbish, stagnant water, and lack of lighting outside their homes which allowed criminals to seek refuge in their settlements when chased by the police. But at the same time they expressed satisfaction because they were able to play and explore places with peers (Swart-Kruger, 2002:112).

6.5 Middle Childhood: Ages Six to Twelve

6.5.1 The Importance of Peer Groups

Middle childhood is a period when children grow physically at a slow rate for a while and then at a faster rate in the late middle childhood “known as prepubertal growth spurt or pubescence” (Craig, 1996:332). During this time, according to psychoanalyst Freud, children do not learn new motor skills but perfect their basic skills acquired earlier (*ibid.*). If children did not acquire the necessary motor skills in the preceding stages, they may be disoriented this time. According to Piaget, children remain in a preoccupation stage until the age of seven, and then they enter a concrete operational stage. In this stage, children are capable

of “structuring and integrating their thoughts into a coherent system” (Fitch, 1985:224). It is also a period of intellectual development because their measurable IQ has stabilised (*ibid.*).

Although the home is considered to be an important socialising environment, peers and the school become major socializing factors for the middle aged group (Craig, 1996:348-349). These new peers help the child not only to have cordial relationships with others, but also to develop cognitively (Fitch, 1985:239). Furthermore, the child may begin to appreciate that other people may have different opinion about a certain social situation. This understanding helps the child to keep relations in middle childhood. Additionally, peer groups help children in developing social skills, achieving equality among themselves, and have a sense of belonging. Further, peers groups provide various opportunities for children to explore and develop their sex roles by changing their attitudes, and discuss their moral challenges (*ibid.*).

But neurotic and psychotic behaviour follows poor peer relationship during elementary school later in life. Children tend to be depressed and become socially challenged (Fitch, 1985:239). Children who grow up in sprawling low density settlements are likely to experience the consequences of poor peer relationship because they rarely interact with their peers. Most serial killers are the product of this phenomenon though several other factors contribute to an individual becoming a serial killer (Cockcroft *et al.*, 2002:30-41). In contrast, children in most informal settlements have the advantage of a compact neighbourhood which enhances peer interaction. However, the problem with informal settlements, often is that open spaces and schools within reach which can facilitate this interaction are inadequate or none. This is because most governments are not willing to release good and adequate land to house the urban poor (Cairncross *et al.*, 1990:1). Durand-Lasserve and Royston (2002:3) stress that overcrowding in informal settlements is a reflection “of increasing disparities in the distribution of worth and resources”. As a result, children can be easily coaxed into bad behaviour.

6.5.2 Parent–child Relationships

During the middle childhood stage, parents strive to impart moral behaviour to their children. Morality describes the “standard by which one judges the correctness of action or behaviour” (Fitch, 1985:233). According to Piaget, children at this stage imagine that identical rules must be obeyed “at all times and in all places” (*ibid.*:233). They also assume that rules cannot be changed since they are created by a higher authority (*ibid.*). In agreement with Piaget, Sigmund Freud, through his psychoanalytic theory, postulated that children are born with various instincts such as aggression and sexual desires that are supposed to be controlled. If parents fail to control these innate drives called ‘id’, children are most likely to be self-centred – without consideration for themselves or others (Cockcroft *et al.*, 2002:299). This is mostly the case with children from affluent societies. Tranter (2006:125) notes that in the affluent societies, parents are mostly away from their homes during the day, leaving fewer adults who may know the children in the neighbourhood, consequently leaving many children without adult supervision.

In contrast, children in informal settlements have an advantage because parents may watch over their and other people’s children while they perform their livelihood activities. Swart-Cruger (2002:115), for example, observes that in Canaansland “toddlers played on the verges during the day under the eye of adults, who used this space to sort out waste materials for recycling”. However, she notes that the relocation of the people from Canaansland to ThulaMntwana - 44 kilometres from the city centre disrupted this advantage. Behrens and Wilkinson (2003:155) point out that when parents’ work places or economic opportunities are located away from residential areas, they need additional travel time and money to pay for transport costs. This affects their ability to be home on time and to save money for their home improvements. Like many other researchers, Behrens and Wilkinson’s (2003) concern is on older people and not young ones. But according to Tranter (2006) and Swart-Cruger (2002) when parents are located away from work places or economic opportunities as is the case with some informal settlements, it also reduces time of interacting with their children as this is the only way of imparting the moral values in their children.

6.6 Environmental Impact on Adolescence

Adolescence is the final stage of childhood. This section begins by reviewing theoretical views of adolescents to aid us understand what it means to be an adolescent and the challenges that surround this stage of child development. Then Section Two discusses the experiences of adolescents in informal settlements based on an empirical investigation.

6.6.1 Theoretical Views of Adolescents

Adolescence is also regarded as critical stage in childhood. One of the renowned psychologist, G. Stanely Hall (1904) cited in Bremner and Slater (2003:388) defined adolescence as “ time of storm and stress, a form of a second birth through which individuals make transition from primitive ways of childhood to the refined values of adulthood”. Building on Hall’s definition, one of the pioneers of modern social psychologist, Kurt Lewin (1939) cited in Bremner and Slater (2003:388) described adolescence’s storm and stress as “interacting forces existing between individual and environment and that these two forces can predict the individual’s behaviour”. To this end, Bremner and Slater (2003:389) summarise that in adolescence:

“Social and personality development is multifaceted and dynamic. It involves several highly interrelated forms of development that encompass abroad range of behaviours, feelings, thoughts, and health-related consequences.... It can be a period of intense interest, excitement, achievement, and happiness. It can be a period of confusion, anxiety, sadness, and disruption. For many youths, adolescence represents a time of accomplishments, health, and well-being: for others it is a time of insurmountable challenges that lead to unsatisfying, troubled and frustrating adulthood”.

This simply means adolescence is a stage when a child is faced with a wide range of choices with both positive and negative outcomes which seriously demand some parental presence and guidance; and institutional support. Blos (1972) cited in Bremner and Slater (2003:389) insists that “parental style has much to do with the success of this transition”. But this fact

may be a challenge too to parents if their physical presence in the house is disrupted by their livelihood activities which are far away from the house or their settlements. As a result the youth, at this vulnerable period of their life may be left alone or with the responsibility of taking care of their siblings (Harper *et al.*, 2003: 543). Since adolescents are at crossroads, they may be easily influenced by short term gratifications in the form of early sexual relationships in exchange for money but eventually lead to early pregnancies, prostitution, HIV infection, and other delinquent behaviours such as alcohol, drug abuse, stealing, and aggression (Bremner and Slater, 2003:402). Consequently, these children may not make it to graduate level, may not find well-paying jobs and will eventually form another generation of poverty (Harper *et al.*, 2003: 543; Moore, 2001:10).

6.6.2 Adolescents in Informal Settlements: Empirical Investigation

Very few researchers have empirically explored how adolescents fair in the informal settlements. In this review, I focus on a unique study by Mamphela Ramphele, which involved three year intense empirical investigation of adolescents' experiences in the New Crossroads informal settlement in Cape Town. Ramphele (2002) discovered that adolescents are more vulnerable to the challenges discussed above. This is because they often operate from dysfunctional families largely because of extremes of poverty, inadequate social amenities, overcrowding, and violent homes and streets (Ramphele, 2002:11). Furthermore, these adolescents have no role models, blurred chances of finding employment, lack love, care, and exposure to real life issues. Sometimes they combine roles of students and income generators for their families (*ibid.*:11-13,15,39,66). They are also affected by the HIV/AIDS epidemic, racial discrimination, and are often associated with criminalities (*ibid.*:14). Additionally, they operate in a community where it is difficult to find good peer relations (*ibid.*:38).

However, it is worth noting that in the same place, Ramphele (2002:11) observes that some adolescents strive to attain a desirable adulthood through resilience. It is resilience that helps the adolescents maintain good peers even if they are the members of the same family, stick to education within a difficult environment – knowing too well that good

education could be the only way out of poverty, make good use of every opportunity at their disposal, and live within their means (*ibid.*:42-43). More importantly, the adolescents are enthusiastic to participate in solving their own problems. For example, when the decision was made to build a Youth Centre which the youth themselves requested as one way of solving their needs, with the guidance of an architect, they designed sketchy perspectives of the proposed centre (*ibid.*:126). These revelations are essential in shaping the kind of interventions that can be targeted at the adolescents from poor communities.

It is also important to note that the youth centre in New Crossroads informal settlement was opened in 1994. Although it proved to be very instrumental in meeting the diverse needs of the youth, it closed down after running for only few years. The problems that led to its closure include poor location – it was located towards the edge of informal settlement exposing the children especially girls to rapists and gang stars. Poor location also reduced girls' participation because of household chores (*ibid.*:125). Further, some parents had negative attitude towards the youth centre. As a result, they rejected the initial idea of locating it at “the heart of New Crossroads near two major schools and a crèche” (*ibid.*:125). These problems were exacerbated by lack of political support and weak administration which was full of unskilled people (*ibid.*:148-149). This shows that there is need to study how best youth centres can work in informal settlements.

6.7 Conclusion

This broad discussion on child development has vividly proved that childhood developmental stages respond to the environment differently. It is therefore imperative to focus on child developmental stages and related ecological factors when drawing up intervention measures. It is important to focus on prenatal care through the creation of favourable living environment for pregnant mothers, safe child delivery, and infant care and management. It is essential to help informal settlements dwellers improve their housing conditions to achieve the room temperature suitable for the infants. It is also important to introduce child day care centres for the infants of some working mothers who may not carry their babies to their places of livelihood activities or may not have other forms of support.

Creation of playing spaces within and outside the homes and within the neighbourhood may encourage the preschool children to exercise their instinct for spontaneous play. The neighbourhood playing spaces may also help those in middle childhood to socialise with friends. It is also important to introduce youth centres within the neighbourhood to take care of diverse needs of adolescents. Throughout the discussion parents/caregiver's presence is being recognised as a vital organ at every stage of childhood for physical, behavioural, and personality/moral development. This can only be enhanced if dwellings are located close to job/economic opportunities and social services.

The study has also reviewed that poverty and informal settlements have both negative and positive impacts on child developmental stages. The positive side of children growing up in the informal settlements is that they may not develop obesity as spontaneous play which is automatically accorded to them by virtue of living in open. It also contrasts the self-centeredness that develops out of living in wealth and isolation. Additionally, it is easy to mobilise poor children to participate in solving challenges of their communities than those from affluent societies. It is important therefore to help children in informal settlements at all stages overcome the negative aspects while enhancing the positive aspects at the same time, so that, though growing up in informal settlements, they should attain the desirable adulthood.

Having discussed what child developmental entails, the environmental factors that influence child development, the link between poverty and child development, the characteristics of informal settlements and their impact on child development, and the impact of the poverty and informal settlements on child developmental stages, the next Chapter synthesises the findings in this research. It is also the concluding chapter of this research report.

Chapter 7: Conclusion: Synthesising the Research Findings

“Given sufficient support human beings can defy the odds and become agents of history” (Ramphela, 2002:123).

7.1 Synthesis

The overall aim of this study was to explore child developmental issues that are not adequately addressed in informal settlement intervention paradigms. Although the data on population of children growing up in informal settlements is scanty, it is an undisputable fact that many children are born and raised in informal settlements in the urban areas of developing countries, hence deserve our attention. My literature review on child development revealed that both physical and social environmental factors play a crucial role in physical, cognitive, and psychosocial development of a child. Child development concentrates on the period when developmental processes are at their peak in a human being – which is from conception until the age of 18 (adolescence) (Fitch 1985:7). Within this period there are significant variations. Therefore, it is important to distinguish and understand the following child developmental stages: prenatal, infancy, preschool, middle childhood and adolescence.

It has been revealed through the literature reviewed in this study that it is important to understand child developmental stages when drawing child development programmes because each stage of child development responds to environmental factors differently. Poor child developmental outcomes due to poor living environments in the early years of a child’s life persist in the later stages even if the living environment has improved. Based on Bronfenbrenner’s (1979) ecological model of human development, the living environment is conceptualised in an orderly fashion of five concentric systems, summarised as follows:

- Microsystem – the home, or day care centre where the developing child engages with caregivers, parents, siblings, friends, classmates, and teachers.
- Mesosystem – school, clinic, and neighbourhood.

- Exosystem – parents’ workplace, community health, welfare systems and neighbourhood.
- Macrosystem – organisation of social institutions such as the economics, social, educational, legal, and political system.
- Chronosystem – dimension of time for psychosocial development.

The ecological model when compared with the seven dimensions of ‘adequate housing’ stipulated in the Principle 4 of the 1959 United Nations Declaration on the Rights of the Child which are essential in realising the child’s right to housing appears incomplete. These seven dimensions are legal security of tenure; availability of services, materials, facilities and infrastructure; affordability; accessibility; location; and cultural adequacy. The Declaration was incorporated into the international human rights legal instrument – the 1989 United Nations Convention on the Rights of the Child (‘the Convention’) (CRC), endorsed by 192 countries worldwide.

While informal settlements have always been associated with poor child developmental outcomes, linking the environmental factors that influence child development reviewed in the child developmental literature and the living conditions of informal settlements reviewed in the literature on informal settlement intervention paradigms, reveal that there are both positive and negative child developmental outcomes of children growing up in informal settlements. This is because there are also both negative and positive aspects to informal settlements.

The negative aspects to informal settlements may result from governments’ negligence to recognise the vital role of informal settlements in housing the majority of urban dwellers, including children, in the Third World cities. Although these governments have made several pledges through UN Declarations, the Convention on the Rights of the Child, the World Fit For Children initiative, and the Millennium Development Goals, to protect the rights of a child, the majority of children suffer violation of the right to adequate housing (Leckie, 2006:5). Regrettably, when children’s right to housing is violated, all other rights of a child

are simultaneously desecrated (COHRE, 2006:26). This is manifested in the appalling living environments in informal settlements as summarised in Table 7.1 below

Characteristics	Physical conditions	Stages	Negative child developmental outcomes
Lack of security of tenure	Forced eviction: -Loss of accommodation, - Disruption of peer groups, access to education, health and recreation facilities.	All stages Preschool to adolescents	- Trauma. - Forced to street life. - Poor social development.
Location	-Away from job/economic opportunities. -Sites hazardous to health.	All stages Middle childhood to adolescents.	-Disrupt of parent-child interaction: -social emotional behaviour -externalising behavioural problems -internalising behavioural problems. -High incidences of injuries, fatal accidents. -Exposure to diseases carrying vectors.
Poverty	- Poor health and nutrition - Parental mental health - Maternal depression.	prenatal to preschool middle to adolescents	-Poor physical health: low birth weight, prematurity, growth stunting, lead poisoning. -Low education attainment: low cognitive abilities, learning disabilities, developmental delay, lower IQ, grade repetition, high school drop-out, unlikely to make it to graduate level.
Poor quality structural homes	-Poor home environment: lack of adequate privacy, space, security, natural lighting and ventilation, and overcrowding.	Prenatal Infants to Preschool middle to adolescents	-Exposure to teratogens: stillbirth, premature birth, and other abnormalities. -High incidences of respiratory infectious diseases and accidental fires – burns and scalds. -Risk behaviours: teenage pregnancies, delinquencies – alcohol, drugs, stealing. -High prevalence of HIV/AIDS infections.
Availability of services, materials, facilities and infrastructure.	-Poor neighbourhood conditions.	Infants Preschool to Middle	-HIV infection through breast feeding. -High incidences of communicable diseases -Malaria, diarrhoea, worm infection.

Table 7.1. A summary of the characteristics of informal settlements and their impact on child developmental stages. Source: Own construction from the literature review on Chapters Four and Five.

On the other hand, the compact settlement pattern in many informal settlements may encourage positive child developmental outcomes. These are summarised in Table 7.2 below.

Characteristics	Physical conditions	Stages	Positive impacts on child development
Rudimentary housing	-Advantage of building multiple rooms.	All stages Preschool to adolescents	-Certain degree of protective factor from adverse effects of weather. - Enhanced privacy.
Poverty	-Social and economic responsibilities at a tender age.	middle child hood to adolescents	-Develop strong bonds with their younger siblings - Build self-esteem, self-motivation, self-actualization, economic autonomy and responsibility.
Compact settlements	-Mixed land use: Strong social networks (protective factor): family, schools, neighbourhoods, and organized community groups and programs. -Open society. -Form of safety.	Preschool Middle childhood Adolescents	Develop sense of competence, formation of meaningful relationships, and feeling a sense of belonging. - Opportunities for spontaneous play, exploring own neighbourhoods, interacting with people in their community, and developing a sense of place. -Peer groups: develop social skills, sense of equal share, an atmosphere to explore and developing their sex roles, to discuss their moral challenges. -Resilience: stick to good peers, stick to education, make good use of every opportunity at their disposal, live within their means, and participate in solving their own problems. -Self-regulation: have aspirations for a better future, delay gratification, improve impulse control: stay indoors, relocate close to educational institutions (self-boarding).
	Parent-child interaction:	Infancy Preschool to Middle childhood adolescents	-Parents-child bonding through breast feeding. -Personality and moral development. -Moral /personality development. -Guidance and support.

Table 7.2 A summary of positive aspects to informal settlements and positive child developmental outcomes. Source: Own construction from the literature review on Chapter Five and Six.

7.1 Proposed Recommendations

By highlighting the negative and positive aspects of informal settlements, and negative and positive child developmental outcomes, one finds that governments and policy makers should aim at developing strategies that overcome the negative aspects but complement the positive aspects of informal settlements and positive child developmental outcomes. This study suggests a number of strategies that can be employed which are discussed below.

a. Prenatal Stage

There is a need to support pregnant mothers by providing health care centres within a walking distance to encourage regular prenatal and postnatal check-ups, and safe baby delivery. This could be realistically achieved through facilities such as mobile clinics or community workers trained in supporting pregnant mothers. The literature indicates that when health care centres are located 5 kilometres away from informal settlements, most pregnant mothers attend the prenatal check-ups only once during their pregnancies (Ashone, 2003:38). There is a need to conduct research on what could be the recommended walking distance for pregnant mothers. It is also important to look into other aspects that make the health care centres functional. These include provision of sufficient drugs, medical personnel, sanitary facilities, treated clean water, and vehicular access roads to facilitate the movement of mobile clinics even during rainy season and in case of emergencies.

b. Infant Stage

The infant stage depends to a larger extent on microsystem. But the presence of mothers/caregivers and siblings may be disrupted due to livelihoods and educational activities respectively. It has been reviewed in this study that women are increasingly becoming household-heads playing both roles as mothers and bread winners. Therefore, there is need to create child care centres for working mothers who may not carry their babies to their places of livelihood or may not have other forms of support. Child care centres can provide some form of employment to other women especially retired women who may be interested in child care. It has been reviewed in this study that social capital in informal settlements should not be taken for granted, extremes of poverty can even disrupt

the well-established social networks (Harper *at el.*, 2003:541). That is why it is important to compensate the women who may be taking care of the infants. But provision of child care centres may also trigger other problems such as encouraging some mothers to abandon their babies at the centres, institutionalisation of child care centres instead of maintaining the homely environment, and difficulties to identify responsible people who can run the centre with motherly affection to all the infants among others. This shows there is a need to conduct studies on how best child care centres can be managed in informal settlements.

The infants should be kept under certain room temperatures to avoid harsh transition from the prenatal environment. Much as we appreciate the ingenuity of informal settlement builders in constructing their homes, most of the building materials they use and building techniques they employ fall short of meeting the suitable room temperature for the infants. It is important to provide additional baby blankets to infants during winter in informal settlements to combat respiratory infections, besides immunizations. But this is not a sustainable intervention. There is a need for “professional guidance” (Vestbro, 1998:4) and establishment of building technology support organisations that focus on building materials used in informal settlements. This will help informal settlements builders achieve thermal properties and some degrees of building permanence suitable for the infants. Professional guidance is also required to work with local communities’ talents to design spaces and plot sizes (*ibid.*) because the growing infants need playing spaces inside and outside the house to explore their immediate environment – as agents of their own development. However, the informal settlement dwellers can only be expected to construct good quality permanent structures when they are granted security of tenure.

c. Preschool Stage

The preschool stage also depends on the microsystem. Provision of small crèches at various points in the neighbourhood may enhance formation of playing groups, provision of playing spaces, and exploration of their neighbourhoods and nature. This will encourage the preschool children to exercise their natural instinct for spontaneous play. It may also encourage interaction between parents and teachers especially if the informal settlement is located close to livelihoods activities. This could be one of the solutions where a child can

hardly find space inside and outside the home due to overcrowding and contiguous housing development in many informal settlements.

d. Middle Childhood.

There is need to provide smaller but several playing spaces within the neighbourhood for those in middle childhood to socialise with friends as opposed to a conventional 'once-off' big open space (if any) mostly located at the edge of the settlements – which is not safe and encourages regulated play. Sometimes this age group gets carried away with open spaces such as swampy areas, steep slopes, and garbage dumping sites; the provisional open spaces may also serve to prevent children from accessing dangerous sites. But there is need to furnish these places with some playing facilities that can attract children. The provision of infrastructure services such as paved walkways particularly help this age group to benefit from pedestrian environments which provide some form of safety as they walk to and from schools.

e. Adolescents

Adolescents face complex challenges in informal settlements which force many of them to engage in delinquent behaviours. Introducing youth centres within the neighbourhood may begin to solve several challenges the adolescents face. The youth centre may provide opportunities for the adolescents to access information, build social networks which help them to build resilience and find other forms of support, form homework/study groups, develop inspirations, and participate in solving their own community problems (Ramphela, 2002:141). Based on Ramphela's empirical investigation in New Crossroads informal settlement, the youth centre that was provided in 1994, although it proved to be very instrumental in meeting the diverse needs of the youth, closed down after running for only few years. This shows that there is need to consider other factors that may constraint the operations of youth centres in informal settlements.

Firstly, it may not be possible to secure a large piece of land to construct one big building which can house all the activities provided by the youth centre. It may be better to distribute the activities of a youth centre into various small structures within the

neighbourhood. For example one structure may be used for library activities while another structure may be used for skills development. The advantage with this arrangement would be that it may encourage the youth to meet in small groups and engage in alternative activities. This means there may not be a need to provide many buildings as various activities may take place in the same space. Since such a youth centre can also be used in the evenings for homework and studies, it may also encourage participation of all children including girls because of some form of safety provided by pedestrian environments within the neighbourhood in the evening. The buildings may maintain the residential character as opposed to a one big facility building in an informal settlement which the local community does not take ownership of.

Secondly, it is ideal to train some people in the informal settlement who may run the daily activities of the centre. The advantage with this arrangement is that the local people may be familiar with the living conditions of many youths hence may be able to deal with the root causes of challenges the youths face in that informal settlement. This may also encourage high level community participation leading to dispel the negative attitudes some parents have towards youth centres. Lastly, the first and second recommendations do not suggest that the youth centres will stand alone without external support. There would be need for local governments to employ overseers who will be providing guidance and monitoring the activities of the youth centres in informal settlements.

f. How to Achieve the Proposed Recommendations

To achieve the above recommendations tailored to the different child developmental stages, there is a need to focus on microsystem, mesosystem, and exosystem. The aim should be the transformation of informal settlements into compact settlements with mixed land use (schools, health centres, parents work places/livelihoods, markets and playing facilities, to mention a few) to be within proximity of informal settlements. This will encourage parent-child interaction for all stages of child development – for bonding, moral and personality development, and guidance. This should be coupled with provision of legal security of tenure – to ensure good structural quality homes; availability of services – for portable treated water and sanitation facilities, and infrastructure services – to ensure

accessible roads, storm drainage and sewer systems, and electricity; accessibility – to ensure user friendly housing and services to vulnerable children like the disabled; location – to avoid locating the poor communities and their children on life threatening sites, and away from social facilities and economic activities; and cultural adequacy – for the children to find their cultural identity through their housing (COHRE, 2006:260).

Although the macrosystem is expected to provide these services, very few governments, however, have resources and capacity to make this kind of provision. Likewise, informal settlements dwellers may not afford to pay for child care services and all other user fee services. It is important that the governments should recognise the presence of non-governmental organisations (NGOs), Community Based Organisations (CBOs) and individuals of good-will who provide various supports to informal settlements dwellers. This can be done through provision of enabling environments such as reducing lengthy bureaucracies in land administration, and lessening standards on infrastructure development (UN-HABITAT, Malawi, 2010:xvii) instead of imposed high standards which cannot be realised locally. The governments may also facilitate the NGOs, CBOs and individuals to work collaboratively so that the needs of all stages of a child are adequately addressed.

It is also important to note that the complexities of many existing informal settlements may pose big challenges to the introduction of basic services, facilities or spaces I have suggested although they are beneficial to the growing children. This is what Mamphela Ramphele experienced in New Crossroads informal settlements when the dwellers rejected the initial idea of locating the youth centre at the heart of New Crossroads (Ramphele, 2002:125). While the campaigns for informal settlements upgrading are underway, there is also need to encourage state parties to develop land distribution systems that prioritise the needs of the urban poor especially the growing children. The new land distributions systems should make provision for children's requirements in their initial plans to avoid disturbing well established communities.

It is also essential to be flexible when designing intervention measures of informal settlements because the living conditions of informal settlements differ from one informal settlement to another. One strategy that may work in one informal settlement may not

work in another. Universalism may be one of the reasons UN Declarations at times have little effect at local level. Drawing on the same experience, it is important to contextualise the strategies of providing intervention measures to children growing up in informal settlements. In all this it is important to remember the chronosystem because many good ideas die due to lack of time frame. More importantly, child's issues are urgent in nature – if we do not help them today “empower themselves” (Grotenhuis, 2006:6) the future of our societies in developing countries is at stake. A conceptual framework diagram showing the linkages between child developmental stages, risks and opportunities of informal settlements and conditions of poverty to highlight potential areas of intervention for housing policy is presented in Table 7.3

7.2 Proposed Areas for Further Research

This research report has triggered various points for further research arising from the complexities of child development and informal settlements. One of the areas which could be studied is how best child care centres can be managed in informal settlements so that the developmental process of infants (which is a crucial stage of a child) growing up in these centres is not disrupted. Another area that could be researched is to find best strategies that would make youth centres functional within an informal settlement to produce the intended results. It is also important to investigate ways of strengthening a working relationship between child development experts and housing practitioners and planners in order to achieve child-centred approaches in housing and human settlement developments.

I hope that the findings of this research will serve to further our understanding of child development and enhance our compassionate care of children, and in turn, uplift the status of world's children especially those growing up in informal settlements and their children, and eventually break the cycle of poverty.

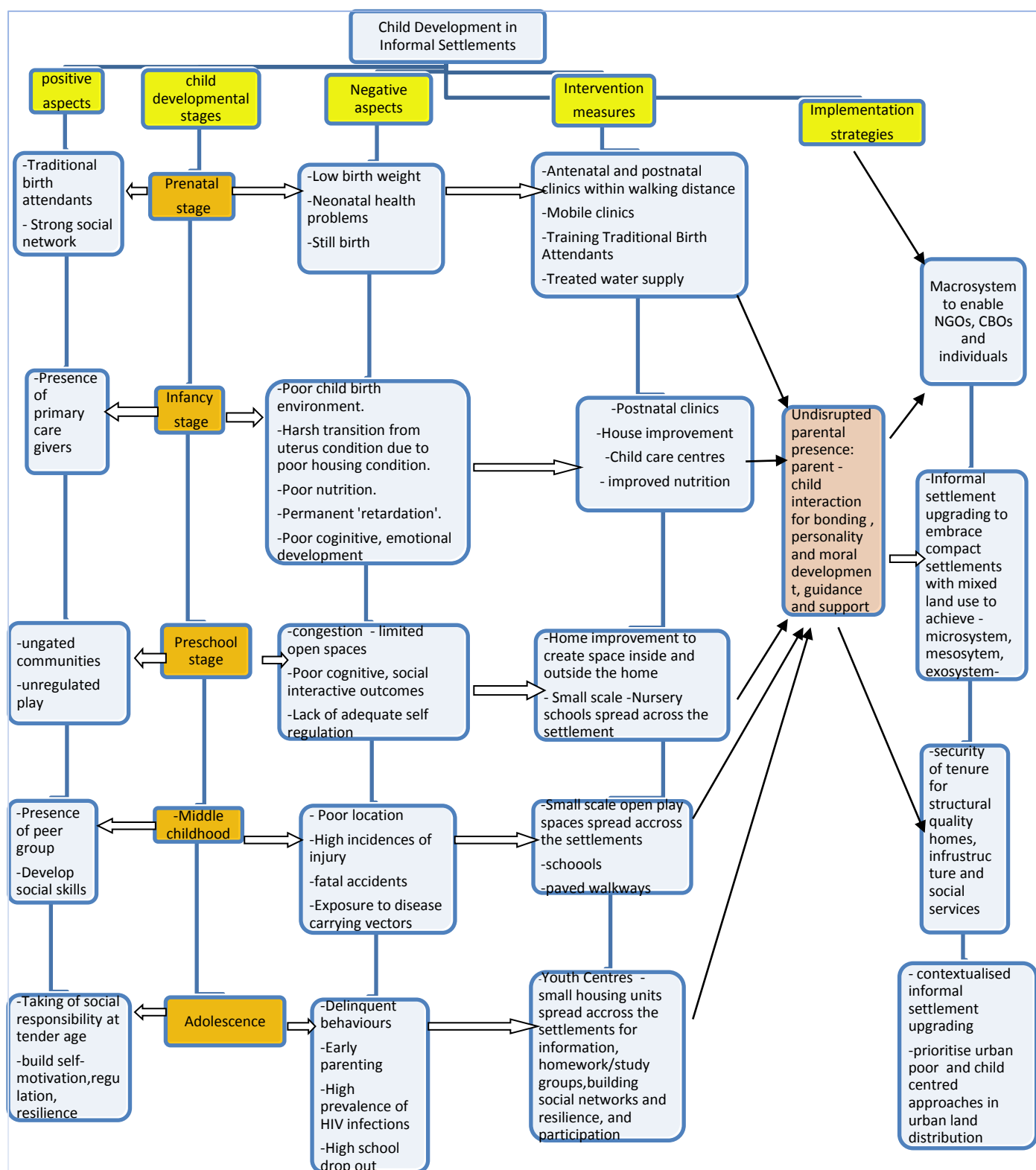


Table 7.3 A conceptual framework diagram showing the linkages between child developmental stages, risks and opportunities of informal settlements and conditions of poverty to highlight potential areas of intervention for housing policy. Own construction from a synthesis of the research report and recommendations.

Reference List

Abebe, T. and Kjørholt, A., 2011. Young people, participation, and sustainable development in an urbanizing world. A Working Paper, United Nations Human Settlement Program, UN-Habitat. Available online at http://www.globalyouthdesk.org/Research/ArticleDownload.aspx?fname=A20114126322_1.doc, accessed 12 January 2012.

Aber, L., Bennett, N.G., Dalton, C., Conley, D.C., Li, J. and Neil, G., 1997. The Effects of poverty on Child Health and Development. Columbia. *Annual Review Public Health*, 18:463–83.

Alsayyad, N., 1993. Squatting and Culture. A comparative Analysis of Informal Developments in Latin America and the Middle East. *HABITAT INTL*, 17(1):33-44.

Ambert, C., 2006. An HIV and Aids lens for informal settlements policy and practice in South Africa. In Huchzermeyer, M. and Karam, A., (eds), *Informal Settlements: A perpetual challenge?* UCT Press, Cape Town.

Amis, P., 1995. Making sense of urban poverty. *Environment and urbanisation*, 7 (1):145-157

Annan, K., 2006/7. Foreword. In *State of The World's Cities 2006/7. The Millennium Development Goals and Urban Sustainability: 30 Years of Shaping the Habitat Agenda*. UN-HABITAT, Kenya.

Annan, K., 2005. Foreword. In *The state of the World's Children 2005: Childhood Under Threat*. UNICEF, New York.

Ansell, N. (2005). *Children, youth and development*. Routledge, London.

Ashorn, U., 2003. Child Health-Seeking in Lungwena, Malawi. Unpublished Academic Dissertation for public discussion in the auditorium of Tampere School of Public Health, University of Tampere, Tampere, 16 May.

Association of teachers and lectures, London, 2010. Independent Review on Poverty and Life Chances: Response from the Association of Teachers and Lecturers. Association of teachers and lectures, London. Available online at http://www.atl.org.uk/Images/IndepReviewonPovertyandLifeChances_Oct2010.pdf, accessed 1 December 2011.

Ausubel, D.P. and Sullivan, E.V., 1970. *Theory and Problems of Child Development*. Second Edition. Grune and Stratton, New York and London.

Auriat, N., 2002. Introductory Note. In Chawla, L. (ed), *Growing Up in an Urban World*. Pp. 11-13, Earthscan, London.

Baker, J.L., 2008. Urban Poverty: A Global View. The international Bank for Reconstruction and Development/The World Bank, Washington, DC. World Bank, Urban Papers, UP-5. Available on line at <http://siteresources.worldbank.org/INTURBANDEVELOPMENT/Resources/336387-1169585750379/UP-5.pdf>, accessed 12 January 2012.

Bakermans-Kranenburg, M.J., Dobrova-Krol, N. A., van IJzendoorn, M.H. and Juffer, F., 2010. Effects of Perinatal HIV Infection and Early Institutional Rearing on Physical and Cognitive Development of Children in Ukraine. *Child Development*, 81 (1):237–251.

Behrens, R. and Wilkinson, P., 2003. Housing and urban passenger transport policy and planning in South African cities: A problematic relationship? In Harrison P., Huchzermeyer, M. and Mayekiso, M. (eds), *Confronting fragmentation: Housing and urban development in a democratising society*. Pp. 155-174, University of Cape Town Press, Cape Town.

Blades, M., Cowie, H. and Smith, P.K., 2003. *Understanding Children's Development*. Fourth edition. Blackwell Publishing, Australia.

Blos, P., 1972. The Child analyst looks at the young adolescent. In Coles, R. and Kagan, J. (eds.), *12 to 16: Early adolescence*. Norton, New York.

Boyden, J. and Feeny, T., 2003. *A Review of Contemporary Literature and Thought on Children and Poverty: Rethinking the Causes, Experiences and Effects*. Children and Poverty Series Part I, Christian Children's Fund, Virginia.

Boyden, J. and Feeny, T., 2003. *Children and Poverty, Shaping a Response to Poverty: A Conceptual Overview and Implications for Responding to Children Living in Poverty*. Children and Poverty Series Part III, Christian Children's Fund, Virginia.

Bremner, G. and Slater, A., (eds) 2002. *An Introduction to Development Psychology*. Blackwell Publishing Ltd, Australia.

Bronfenbrenner, U., 1979. *The Ecology of Human Development. Experiments by Nature and Design*. Harvard University Press, England.

Brooks-Gunn, J. and Duncan, G.J., 1997. The Effects of Poverty on Children. *The Future of Children*, 7 (2):55-71.

Brooks-Gunn, J., Duncan, G. J., Smith, J.R. and Yeung, W.J., 1998. How Much Does Childhood Poverty Affect the Life Chances of Children? *American Sociological Review*, 63 (3): 406-423.

Brooks-Gunn, J. and Duncan, G.J., 2000. Family Poverty, Welfare Reform, and Child Development. *Child development*, 71(1):188-196.

Bryce, J., Coitinho, D., Darnton-Hill, I., Pelletier, D., Pinstrup-Andersen, P., 2008. Maternal and child under nutrition: effective action at national level. *Lancet*, 371(9611):510-26.

Buchanan, N., Dodson, J. and Sipe, N., 2006. Children in the urban environment. In Gleeson, B. and Sipe, N. (eds), *Creating Children Friendly Cities. Reinstating kids in the city*. Pp. 86-102, Routledge, London and New York.

Cairncross, S., Hardoy, J.E. and Satterhwaite, D., (eds) 1990. *The Poor Die Young. Housing and Health in Third World Cities*. Earthscan, London.

Chawla, L., 2002. Cities for Human Development. In Chawla, L. (ed), *Growing Up in an Urban World*. Pp. 16-34, Earthscan, London.

Cockcroft, K., Hook, D. and Watts, J., 2002. *Development Psychology*. UCT Press, Cape Town.

Cohen, S. and Comiskey, T.S., 1977. *Child Development: Contemporary Perspective*. F.E. Peacock Publishers, Adelaide.

Centre on Housing Rights and Evictions (COHRE), 2005. *Any Room for the Poor? Forced Evictions in Johannesburg, South Africa*. Centre on Housing Rights and Evictions, Geneva.

COHRE, 2006. *Defending the Housing Rights of Children*. Centre on Housing Rights and Evictions, Geneva.

Chambers, R., 1995. Poverty and livelihoods whose reality counts? *Environment and Urbanisation*, 7 (1):173-204.

Chronic Poverty Research Centre (CPRC), 2005. The Chronic Poverty Report 2004–05. The Chronic Poverty Research Centre, Manchester. Available online at http://www.ChronicPoverty.org/upload/s/publication/files/CPR1_ReportFull.pdf, accessed 5 January 2012.

Cities Alliance, 1999. *Cities Alliance action plan*. Cities Alliance, Washington, D.C.

Conger, J.J., Mussen, P.H., and Kagan, J., 1963. *Child Development and Personality*. Second edition. Harper and Row, New York.

Cousins, B., Fry, S. and Olivola, K., 2002. Health of children living in Urban Slums in Asia and the Near East: Review of Existing Literature and Data. Asia and Near East Bureau of USAID, Washington, D.C. Available online at http://pdf.usaid.gov/pdf_docs/Pnacq101.pdf, accessed 2 November 2011.

Craig, G.J., 1996. *Human Development, seventh edition*. Prentice Hall, New Jersey.

Davidziuk, A., Delamonica, E., Gonzalez, E.D. and Minujin, A., 2005. Children Living in Poverty. A review of child poverty definitions, measurements, and policies. Desk Review paper for UNICEF's Conference on Children and Poverty: Global Context, Local Solutions, UNICEF, New York. Available online at http://www.unicef.org/policyanalysis/files/child_poverty_final_draft_4_05.pdf accessed 12 December 2011.

Davidziuk, A., Delamonica, E., Gonzalez, E.D. and Minujin, A., 2006. The definition of child poverty: a discussion of concepts and measurements. International Institute for Environment and Development (iied). *Environment and Urbanization*, 18: 481-500.

Davis, C. and Harrison, M., 2001. *Housing, Social Policy and Difference: Disability, ethnicity, Gender and Housing*. The Policy Press, Southampton.

Dawes, A. and Donald, D., 2005. *Improving Children's Chances: Developmental Theory and Effective Interventions in Community Contexts*. Children and Poverty Series Part II, Christian Children's Fund, Virginia.

Duncan, G.J, Ziol-Guest, K. and Kalil, K., 2010. Early-Childhood Poverty and Adult Attainment, Behaviour, and Health. *Child Development*, 81(1):306-325.

Durand-Lasserve, A. and Royston, L., 2002. *Holding Their Ground: Secure Land Tenure for the Urban Poor in Developing Countries*. Earthscan, London.

Eduardo, R. and Magalhaes, F., 2007. Facing the Challenges of Informal Settlements in Urban Centers: The Re-urbanization of Manaus. Inter-American Development Bank, Washington, D.C. available online at <http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=1442373>, accessed on 12 February 2012.

Engle, P.L., Black, M.M., Behrman, J. R., Cabral de Mello, M., Gertler, P.J., Kapiriri, L., Martorell, R., and Young, M.E. and the International Child Development Steering Group, 2007. Child development in developing countries Strategies to avoid the loss of developmental potential in more than 200 million children in the developing world. *Lancet*, 369: 229-42.

Erikson, E., 1950. *Childhood and society*. Norton, New York.

Erickson, E., 1963. *Childhood and society*. Second edition. Norton, New York.

Freedman, D., 1965. An ethological approach to the genetic study of human behaviour. In Vandenberg, S.G. (ed.), *Methods and Goals in human genetics*. Academic Press, New York.

Fitch, S.K., 1985. *The science of child development*. The Dorsey Press, New York.

Gilbert, A., 2007. The return of the Slum: does language matter? *International Journal of Urban and Regional Research*, 31 (4): 697-713.

Gordon, D., Nandy, S., Pantazis, C., Pemberton, S.A. and Townsend, P.B., 2003. *Child Poverty in the Developing World*. Policy Press, London.

Gordon, D., 2005. Indicators of Poverty and Hunger. Expert Group Meeting on Youth Development Indicators United Nations Headquarters, New York, 12th – 14th December. Available online at http://www.un.org/esa/socdev/unyin/documents/ydiDavidGordon_poverty.pdf, accessed 12 December 2011.

Grotenhuis, R., 2006. Foreword. *Defending the Housing Rights of Children*. COHRE, Geneva.

Hall, G.S., 1904. *Adolescence: its psychology and its relations to physiology, anthropology, sociology, sex, crime, religion and education*. Sidney Appleton, London.

Hardoy, J.E., and Satterhwaite, D., 1997. Building the Future City. In Gugler, J., (ed). *Cities in the Developing World. Issues, Theory, and Policy*. Oxford University Press, New York.

Harper, C., Marcus, R. and Moore, K., 2003. Enduring poverty and the conditions of childhood: Life course and intergenerational poverty transmissions. Childhood Poverty Research and Policy Centre (CHIP), London. *World Development*, 31 (3): 535–554.

Harvey, D., 2003. Capital of Modernity. *New Left Review*, 53:23-40

Huchzermeyer, M. and Karam, A., 2006 (eds). *Informal Settlements: A perpetual challenge?* UCT Press, Cape Town.

Huchzermeyer, M., 2001. Housing for the poor? Negotiated housing policy in South Africa. *Habitat International*, 25: 303-331.

Huchzermeyer, M., 2011. *Cities with 'Slums'. From informal settlement eradication to a right to the city in Africa*. UCT Press, South Africa.

Hunter, M., 2006. Informal Settlement as spaces of health Inequality: The changing economic and spatial roots of the AIDS pandemic, from Apartheid to Neoliberalism. Centre for civil society research report No. 44. Centre for Civil Society, University of Kwazulu Natal, Durban.

Jenkins, P., Smith, H., and Wang, Y.P. (eds) 2007, *Planning and Housing in the Rapidly Urbanising World*. Routledge. London and New York.

Kellett, P. and Moore, J., 2003. Routes to home: homelessness and home-making in contrasting societies. *Habitat International*, 27 (2003) 123-141.

Kessen, W., 1965. *The child*. John Wiley and Sons, New York.

Kiwala, L. and Arvidsson, M., 2003. Young women and urbanization: Trying to cope in crowded cities. In UN-Habitat. *Habitat debate: young people in an urbanizing world*, 9(2):10.

LaBarba, R., 1981. *Foundations of development psychology*. Academic Press, New York.

Leckie, S., 1994. Social Engineering, Occupying Powers and Evictions: The Case of Lhasa, Tibet. *Environment and Urbanization* 6 (1): 74-88.

Leckie, S., 2006. Foreword. In *Defending the Housing Rights of Children*. COHRE, Geneva.

Levine, J. and Van Soest, L., 2009. *Good Fortune*. Documentary, Transient Pictures. New York

Lewin, K., 1939. Field theory and experiment in social psychology. *American Journal of Sociology*, 44:868-897.

Mahanga, M.M., 2002. *Urban Housing and Poverty Alleviation in Tanzania*. Dar as salaam University Press, Dar as salaam.

Maier, H.W., 1988. *Three Theories of Child Development*. Third Edition. University of Washington. University Press of America.

Malone, K., 2006. A key player in a global movement for child friendly cities. In Gleeson, B. and Sipe, N. (eds). *Creating Child Friendly Cities: reinstating kids in the city*. Pp 13-32, Routledge, London.

Manda Zeleza, M.A., 2009. Water and Sanitation in Urban Malawi. Can the Millennium Development Goals be met? A study of informal settlements in three cities. The Scottish Government and International Institute for Environment and Development. Available online <http://pubs.iied.org/pdfs/10569IIED.pdf>, accessed 27 September 2010.

Mehrotra, S., 2006. Child Poverty. Poverty and Governance. UNDP Regional Centre for Asia, Bangkok. Available online at <http://santoshmehrotra.web.officelive.com/Documents/paper18.pdf>, accessed 5 January 2012.

Ministry of Gender, Youth and Community Services (Malawi), 2003. *National Policy on Early Childhood Development*. Ministry of Gender, Youth and Community Services, Lilongwe.

Mittler, P., 1971. *The study of twins*. Middlesex, England.

Moore, K., 2001. Frameworks for understanding the intergenerational transmission of poverty and well-being in developing countries International development Department. Chronic Poverty Research Centre, Birmingham. Available online at http://www.chronicpoverty.org/uploads/publication_files/WP08_Moore.pdf, accessed 12 December 2011.

Murphy, P.A., 1993. Preterm birth prevention programs: A critique of current literature. *Journal of Nurse-Midwifery*, 38(6):324-335.

Mutter, S. 2005. Community participation – Land share site. UN-HABITAT, Borei Keila. Available online at http://habnet.unhabitat.org/image_gallery/uploads/up_13048.jpg, accessed 29 March 2012.

Mwelu, J., 2008. Young children scavenge for valuables in dumpsite in Nairobi, Kenya. UN-HABITAT, Nairobi. Available online at http://www.unhabitat.org/content.asp?img_id=1058&catid=556&typeid=53&image_catid=271, accessed 29 March 2012.

Mwelu, J., 2010. Favela, Rio de. UN-HABITAT, Rio de Janeiro Janeiro. Available online at http://www.unhabitat.org/content.asp?img_id=950&catid=556&typeid=53&image_catid=277, accessed 29 March 2012.

Napier, M., undated. Informal settlement integration, the environment and sustainable livelihoods in sub-Saharan Africa: Programme for Sustainable Human Settlements. Council for Scientific and Industrial Research (CSIR), Pretoria. Available online at <http://www.oecd.org/env/indicators/index.htm>, accessed 5 January 2012.

Nicolas, G.M., 2002. Baseco informal settlement in Manila, the Philippines. UN-HABITAT, Manila. Available online at http://www.unhcs.org/content.asp?img_id=1524&catid=172&typeid=53&image_catid=172, accessed 29 March 2012

Oberg, C., 2003. The Impact of Childhood Poverty on Health and Development. *Health Generations*, 4 (1): 1-12.

Papert, J., 1996. Piaget's history. In Wadsworth, B.J. (ed), *Piaget's theory of cognitive and effective development: Foundations of constructivism*. Longman, New York.

Perret, M., 2011. Avo Marta stands in front of her traditional house. UN-HABITAT, Timor-Leste. Available online http://www.unhcs.org/content.asp?img_id=1480&catid=556&typeid=53&imagecatid=277, accessed 29 March 2012.

Piaget, J., 1952. *The origins of intelligence in children*. International Universities Press, New York.

Pugh, C., 2000. Squatter settlements. Their sustainability, architectural contributions, and socio-economic roles. *Cities*, 17 (5): 325–337.

Ramphela, M., 2002. *Steering by the stars: Being young in South Africa*. Tafelberg, Cape Town.

Reese, H., 1982. Behaviour analysis and life-span developmental psychology. *Development Review*, 2 (2):150-161.

Reade, M., 2007. Children in Informal Settlements in Haiti. UN-HABITAT, Haiti. http://www.unhabitat.org/content.asp?img_id=352&catid=174&typeid=53&image_catid=174, accessed 29 March 2012.

Riggio, E., 2002. Child Friendly cities: good governance in the best interest of the child. *Environment and Urbanisation*, 14 (2):23-24.

Riley, L.W. and Unger, U., 2007. Slum Health: From Understanding to Action. *PLoS Medicine*, 4 (10): 561-1566.

Sears, R.R., 1970. Relation of early socialisation experiences to self-concept and gender role in middle childhood. *Child Development* 41: 267-289.

Scarr, S. and Weinberg, R., 1978. The influence of "family background" on intellectual attainment. *American Sociological Review*, 43:674-692.

Schwartzman, J., 2005. *Promoting the Agency of Young People. Children and poverty working Paper Four*. Children and Poverty Series Part IV, Christian Children's Fund, Richmond, Virginia.

Sesma, A., 2003. Childhood Poverty: Pathways and Programs. *Health Generations*, 4 (1): 1-12.

Sipe, N., Buchanan, N., and Dodson, J., 2006. Children in the urban environment. A review of research. In Gleeson, B. and Sipe, N. (eds), *Creating Children Friendly Cities. Reinstating kids in the city*. Pp. 86-102, Routledge, London and New York.

Sverdlik, A., 2011. Ill-health and poverty: a literature review on health in informal settlements. *Environment and Urbanization*, 23 (1): 123-242.

Swart-Kruger, J., 2002. Children in a South African Camp Gain and Lose a Voice. In Chawla, L. (ed), *Growing Up in an Urban World*. Pp. 111-133, Earthscan, London.

The free dictionary, 2012. The living environment definition. Available online at <http://www.thefreedictionary.com/environment>, accessed 7 February 2012.

The University of Manchester, Institute for Development Policy and Management and Brooks World Poverty Institute, 2010. Chronic Poverty in sub-Saharan Africa Achievements, Problems and Prospects. The University of Manchester, Institute for Development Policy and Management and Brooks World Poverty Institute, Manchester. Available online at <http://www.un.org/esa/socdev/social/meetings/egm10/documents/Chimhowu%20Paper.pdf>, accessed 5 January 2012.

Thomas, E.P., 2002. Local Participation in Development Initiatives: The Potential Contribution of an Understanding of Social Capital. *Urban Forum* 13 (2): 116-131.

Tomlinson, M. and Walker, R., 2010. Poverty, adolescent well-being and outcomes later in life. *International Development*, 22(4): 1162–1182.

Tranter, P., 2006. Overcoming social traps A key to creating child friendly cities. Reinstating kids in the city. In Gleeson, B. and Sipe, N. (eds), *Creating Children Friendly Cities. Reinstating kids in the city*. Pp. 121-135, London and New York.

Tutu, D., 2011. Foreword. In *The South African Child Gauge 2010/2011*. Children's Institute, University of Cape Town.

UNCHS (Habitat), Nairobi, 1997. *Informal Settlement Upgrading: The Demand for Capacity Building in Six Pilot Cities: Amman, Ankara, Caracas, Concepci'on, Ibadan and Nkayi*. Earthscan, London.

UNCHS (Habitat), 1999. *Global Campaign for Secure Tenure. Implementing the Habitat Agenda: Adequate Shelter for All*. United Nations Centre for Human Settlements (Habitat), Nairobi.

UN-Habitat, undated. City of Nairobi Environment Outlook. Available online at http://www.unep.org/geo/pdfs/NCEO_Report_FF_New_Text.pdf, accessed on 12 February 2012.

UN-HABITAT, Nairobi, 2003. *The Challenge of slums. Global Report on Human Settlement 2003*. Earthscan, London.

UN-HABITAT, 2005. Housing in informal settlements, Kibera, Nairobi. UN-HABITAT, Nairobi. Available online at http://www.unhabitat.org/content.asp?img_id=330&catid=277&type_id=53&image_catid=277, accessed on 12 February 2012.

UN-HABITAT, 2005. Housing in informal settlements. UN-HABITAT, Nairobi. Available online at http://www.unhabitat.org/content.asp?img_id=330&catid=277&type_id=53&image_catid=277, accessed 29 March 2012.

UN-HABITAT, 2005. Informal settlement – An old man with his kids in front of his house at slum area in Ibbagwatte, Colombo. UN-HABITAT, Colombo. Available online at http://www.unhabitat.org/content.asp?img_id=739&catid=556&type_id=53&image_catid=277, accessed 29 March 2012.

United Nations Human Settlements Programme, (UN-HABITAT), Nairobi, 2005. Situation Analysis of Informal Settlements in Kisumu. Kenya Slum Upgrading Programme. Cities Without Slums Sub-Regional Programme For Eastern and Southern Africa, United Nations Human Settlements Programme (UN-HABITAT), Nairobi.

UN-HABITAT, Nairobi, 2006/7. *State of The World's Cities 2006/7. The Millennium Development Goals and Urban Sustainability: 30 Years of Shaping the Habitat Agenda*. Earthscan, London.

UN-HABITAT, 2007. Informal Settlement - A bridge at a slum in Mexico City. UN-HABITAT, Mexico. Available on line at http://www.unhabitat.org/content.asp?img_id=747&catid=556&typeid=53&image_catid=277, accessed 29 March 2012.

UN-HABITAT, 2007. A shanty town in a slum of Monrovia. UN-HABITAT, Monrovia. Available online at http://www.unhabitat.org/content.asp?img_id=500&catid=556&typeid=53&image_catid=277, accessed 29 March 2012.

UN-HABITAT, 2007. Informal settlements in Kibera slum. UN-HABITAT, Nairobi. http://www.unhabitat.org/content.asp?img_id=385&catid=556&typeid=53&search=Nowshera%20&searchType=&image_catid=271, accessed, 29 March 2012.

UN-HABITAT, 2008. Informal settlements, Madagascar. UN-HABITAT. Available online at http://www.unhabitat.org/content.asp?img_id=502&catid=212&typeid=53&image_catid=212, accessed on 12 February 2012.

UN-HABITAT, 2008. Informal Settlement - Families outside their shanties in Phnom Penh. UN-HABITAT, Phnom Penh. Available on line at http://www.unhabitat.org/content.asp?img_id=803&catid=7&typeid=53&image_catid=7, accessed on 12 February 2012.

UN-HABITAT, Malawi, 2010. *Malawi Urban Housing Sector Profile*. UNON, Nairobi.

UNHCR, 1994. Refugee Children: Guidelines on Protection and Care. UNHCR, Geneva. Available online at <http://www.unhcr.org/cgi-bin/texis/vtx/protection/openDoc.pdf?tbl=P%20TECTION&id=3b84c6c67>, accessed 12 February 2012.

UNICEF, 2001. Child Poverty in Rich Nations. Innocenti Report Card. Issue No.1, UNICEF, New York. Available online at <http://www.unicef-irc.org/publications/pdf/repcard1e.pdf>. Accessed 22 January 2011.

UNICEF, 2005. *The state of the World's Children 2005: Childhood Under Threat*. UNICEF, New York.

UNICEF, 2006. Children Living in Poverty: Overview, Measurements and Policy. UNICEF, New York. Available online at http://www.unicef.org/Children_Living_In_Poverty.pdf, accessed 12 December 2011

Vestbro, D.U., (ed.) 2008. Are architects and planners obstacles to slum upgrading? Papers from a seminar in Barcelona, April. Available online at <http://arcpeace.org/NewARC-Peace/Publications/EnablingBook3.pdf>, accessed 11 January, 2012.

Waldman, L., 2003. Houses and the ritual construction of gendered homes in South Africa. *Journal of the Royal Anthropological Institute*, 9:657:679.

Walsh, P., 2006. Creating child friendly play spaces. In Gleeson, B. and Sipe, N. (eds), *Creating Children Friendly Cities. Reinstating kids in the city*. Pp. 136-150, Routledge, London and New York.

Wilhelm, H., 2002. Large but Not Unlimited Freedom in a Nordic City. In Chawla, L. (ed.), *Growing Up in an Urban World*. Pp. 161-182, Earthscan, London.

Wratten, E., 1995. Conceptualizing urban poverty. *Environment and urbanization*, 7(1):11-33.

Yogis Nguendo H.B., 2009. Human Settlement, Land Management and Health in Sub Saharan Cities. *International Journal of Human and Social Sciences* 4 (1): 9-17.