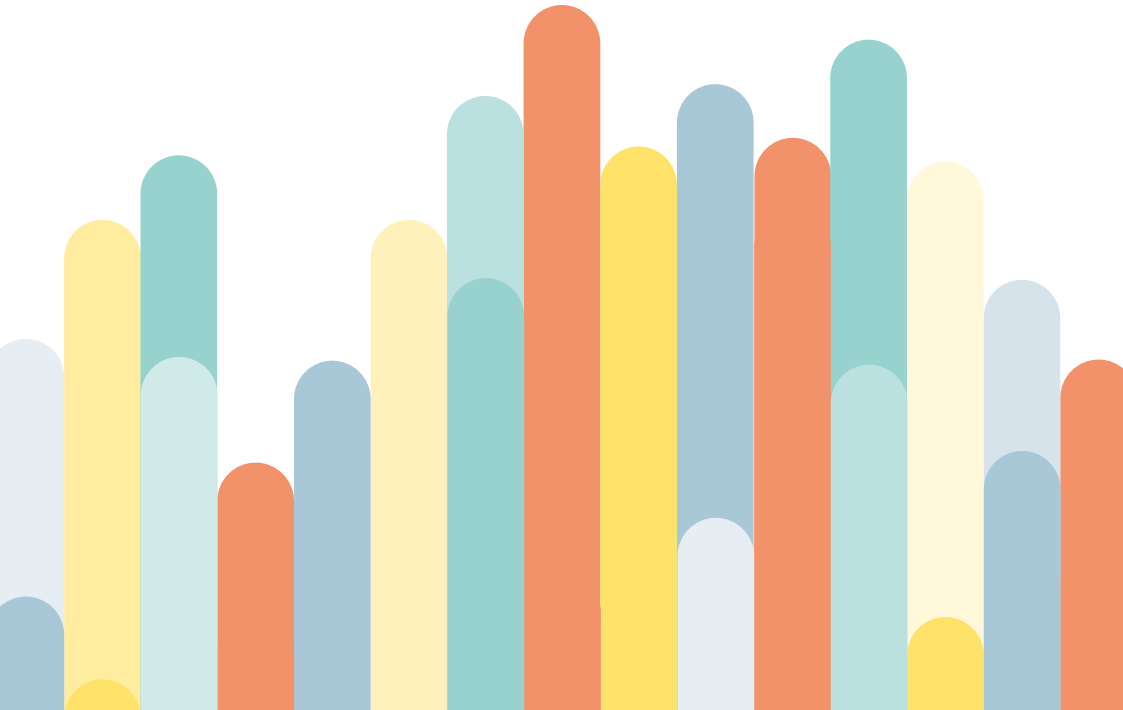


Proximity of Care

A New Approach to Understanding
Early Childhood Development
in Vulnerable Urban Contexts



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in Vulnerable Urban Contexts

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ARUP

Arup is an independent multi-disciplinary firm with more than 14,000 specialists working across every aspect of today's built environment. Our mission to Shape a Better World is driven by our commitment to make a real difference, stretch the boundaries of what is possible, help our partners solve their most complex challenges and achieve socially valuable outcomes.

The Arup International Development team partners with organisations operating in the humanitarian and development sector, to contribute to safer, more resilient and inclusive communities and urban settings in emerging economies and fragile contexts around the globe.



URBAN95

The Bernard van Leer Foundation is an independent foundation working worldwide to inspire and inform large-scale action to improve the health and well-being of babies, toddlers, and the people who care for them.

The Urban95 Initiative aims to improve, through urban planning, policy, and design, the way babies, toddlers, and the people who care for them live, play, interact with and travel through cities.

The Urban95 Initiative asks a bold but simple question:

"If you could experience the city from 95cm - the height of a 3-year-old - what would you change?"

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Introduction



Despite the importance of early years to our personal and social development, the experience of 0-5 year olds has been largely ignored in the design of our cities.

If we design and plan from their perspective - 95cm off the ground - the environments we create can include and bring together people of all ages.

Jerome Frost

Global Cities Leader, Arup

This publication presents the challenges and opportunities confronting early childhood development in vulnerable urban contexts, derived from specialised research by Arup and the Bernard van Leer Foundation (BvLF).

The data is clear: vulnerable urban areas such as refugee and informal settlements house a growing population in critical need, and the number and size of these areas will only increase in the coming decades.

While the specifics of vulnerable areas vary, they consistently pose major challenges for children's optimal development.¹ Living in these contexts has particularly significant negative impacts on young children aged 0 to 5.²

At present, governments, development and humanitarian organisations, and urban practitioners devote little attention to the specific needs of the 0-5 age group in projects aimed at improving conditions in informal and refugee settlements.

This age group's needs are different than those of older children but are often 'lumped in' with them from a planning and policy perspective, or worse, go entirely unrecognised.

In addition, the complexity of vulnerability in these contexts makes it difficult to design and implement effective early childhood development solutions that consider the influence of the built environment.

Arup and BvLF have partnered to help bridge this gap. The Proximity of Care approach was developed to better understand the needs and constraints faced by young children, their caregivers, and pregnant women in informal and refugee settlements; and to ultimately help improve their living conditions and well-being.

The Proximity of Care approach is at the core of a Design Guide that we are developing to help decisionmakers and urban planners mainstream in their projects, policy, and processes the needs of young children, caregivers, and pregnant women living in vulnerable urban contexts, and to profile their work as child- and family-friendly.

To ensure the needs of the Design Guide's end users are properly met, we are working closely with urban practitioners operating in informal and refugee settlements, and with development and humanitarian organisations.

In particular, we are partnering with Civic, Catalytic Action, Konkuey Design Initiative (KDI), and Violence Prevention through Urban Upgrading (VPUU), who are operating in vulnerable urban contexts in various sites across Jordan, Lebanon, Kenya, and South Africa respectively.

We are also strengthening relationships with government authorities in the countries in which we operate, as they are the standard bearers for development.

The Design Guide will be released in the fall of 2020, and it is intended to be a practical tool of first resort for urban planners, city authorities and development actors working in challenging urban contexts.

Arup and BvLF's ultimate aim is to support these professionals to design and build inclusive, liveable, safe and climate-resilient urban spaces where young children can thrive.

Why Early Childhood Development Matters



The early years of a child's life are crucial for healthy physical and mental development.³ Neuroscience research demonstrates that a child's experiences with family, caregivers and their environment provide the foundation for lifelong learning and behaviour.⁴

Cognitive evolution from birth to age five is a 'golden period' during which the stage is set for all future development, including core skills acquisition, establishment of healthy attitudes and behaviours, and flourishing of mature relationships.⁵ 80% of brain architecture develops in the prenatal period, and 60% of adult mental structures develop in the first three years of life.⁶

Negative outcomes resulting from compromised Early Childhood Development are significant.

Long-term studies of children from birth show that developmental inhibition in the first two years of life has harmful effects on adult performance, including lower educational attainment and reduced earning.⁷

The lifelong costs of early deficits are physical as well as cognitive: evidence indicates that adult illnesses are both more prevalent and more serious



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among those who have experienced adverse early life conditions. These socioeconomic and health issues can persist over generations.⁸

Without effective intervention, developmental deficits can become a cycle of lost human capital.

Improving early childhood development, on the other hand, acts as a social and economic engine for communities and societies. Cognitively healthier children are more productive citizens, and quality early childhood development provides a competitive advantage for national populations.⁹

To develop to their full potential, babies and toddlers require not only the minimum basics of good nutrition and healthcare, clean air and water, and a safe environment; they also need plenty of opportunities to explore, to play, and to experience warm, responsive human interactions.¹⁰

In this regard, a child's cognitive, emotional and physical development is intrinsically related to the challenges, needs and wellbeing of their caregiver. The emotional, financial and physical state of a child's caregiver shapes their ability to provide the abovementioned optimal conditions for early childhood development, and to avert development delays.

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More specifically, studies show that mental health problems among caregivers are significantly and negatively associated with infant development outcomes¹¹; while responsive, engaged, and nurturing caregiving correlates with significant improvements in infants' motor development¹². Evidence further indicates that professional development and training programmes for adults improve both early childhood experiences and later life outcomes among children of participating parents¹³.

These findings taken together, it is essential that the challenges and needs of caregivers be accounted for when we think about and try to influence early childhood development.

The physical environment that children inhabit in their very first years is another one of the major factors influencing caregiver-child interactions and other positive behaviours.¹⁴

Studies show that the characteristics of physical space impact learning and memory formation;¹⁵ chronic noise exposure can result in lower cognitive functioning and unresponsive parenting,¹⁶ and crowding can elevate physiological stress in parents and cause aggressive behaviour in young children.

For young children to make the most of their surrounding built environment, those places need to cater to age-relevant developmental needs, while providing affordances and barrier-free access for caregivers.

While young children have very different needs than those over age 5, those needs often remain invisible to government leaders or are 'lumped in' with those of older children from a planning perspective.

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Young children need well-developed and well-maintained child-friendly infrastructure, a network of places that allow them to develop physically, mentally, and socially.¹⁷

Age-appropriate design can mean changes in scale,¹⁸ as well as inclusion of different types and sources of stimulation to help develop fine and gross motor skills, engage language and cognition abilities, and foster socialisation.¹⁹

Young children also need clearly communicated, well-understood and consistently enforced plans and policies that defend and support their rights without distinction, regardless of where they live.

The involvement of young children, their caregivers, and pregnant women in municipal and community decision-making, policy development and urban planning is key to shaping child-friendly environments that account for very young children's specific needs, capacities, and interests.²⁰

Child-friendly urban planning should engage children, parents/caregivers and the wider community in assessment and co-creation activities early in the process. Differences in age

groups need to be considered to fully address beneficiaries' requirements and engagement modes.

Early childhood development is the key to ensuring that children grow up into strong, resilient, thriving adults. Ensuring that children reach their developmental potential requires support from families, communities, and policy; this holistic approach is particularly important in vulnerable urban contexts.



Why an Early Childhood Focus in Vulnerable Urban Contexts



With cities worldwide growing exponentially and global population displacement on the rise, the coming decades will see increasing numbers of children growing up in informal, resource-restricted, and otherwise fragile urban settings. In these areas, the needs of the youngest and most vulnerable often go unheard in decision-making and planning.

By 2030, cities will contain 60% of the global population.²¹ More than 90% of urban growth through 2035 is projected to occur in South Asia and Sub-Saharan Africa. Over this period, the urban population of both regions is expected to more than double.

Currently, over 250 million children in developing countries are at risk of not attaining their developmental potential.²² As the speed of growth inevitably outpaces that of planning, the number of children living in informal settlements in these regions will increase significantly in the coming years.²³

Alongside unprecedented global urban growth, refugee flows are projected to increase in the next decades. Between 2003 and 2018, the worldwide population of people forcibly displaced annually due to persecution or conflict rose from

3.4 million to 16.2 million. Nearly half of the world's 25.4 million refugees reside in cities.²⁴ 85% of these displaced people are being hosted in developing countries. Crucially, 52% of the global refugee population are children,²⁵ and 4.25 million of these refugee children are under the age of five.²⁶

These trends of urbanisation and displacement are occurring against a backdrop of increasingly frequent and severe impacts of climate change. Children will bear the brunt of these effects, with those age 0-5 at particular risk.

While the typologies of vulnerable urban contexts can vary, living in these environments is consistently demonstrated to have significant negative impacts on the optimal development of very young children, as well as their support networks.²⁷

Often, the conditions in informal and refugee settlements are inimical to enriching, healthy environments for children. A distinct absence of state-provided services leaves children and their caregivers reliant upon shadow systems that operate instead. The consistency and stability of these services is typically undermined by periodic cut-offs,²⁸ disputes

and violence,²⁹ and otherwise compromised supply lines.

Housing is often situated on geographically-vulnerable areas, prone to climate-related hazards. Compounding this, the structural foundations of most households are weak, and their climate resilience is compromised. For children especially, dangerous household practices, including caregivers' housebound forms of employment, can expose them to pollutants and unsafe equipment.

Stimulating and safe play space outside of the household is also lacking in many of these contexts. An absence of child-friendly, designated areas for play confines children's learning and play experience to corners or streets, which they may share with traffic. Opportunities for exploration are limited because children may need to remain within the sightlines of the home or their caregivers.

Overall, it is common that city governments do not focus on the distinct challenges and needs of young children in vulnerable urban contexts. Without earmarking specific budgets or creating specialist departments for early childhood

development, it is unlikely that the holistic needs of children can be addressed.

In fact, investing in early childhood development has been proven to be the single most effective method for poor and vulnerable societies to break out of poverty and vulnerability cycles.³⁰

For example, every USD\$1 invested in high-quality 0-to-5 early childhood education for disadvantaged children delivers a 13% annual return on investment, significantly higher than the 7-10% return delivered by preschool programmes alone.

Despite these clear benefits, only two percent of global humanitarian funding is allocated to education; early childhood development programmes only account for a tiny fraction of that amount.³¹

Existing early childhood investments focus mainly on formal educational facilities, which, due to lack of resources and a universalistic approach, tend to underestimate cultural and contextual differences and largely disregard learning opportunities outside the classroom.³² Learning occurs both in and out of the classroom, and to date little has been done to capitalise on out-

of-school time and on the benefits of the built environment in child development.


From their home environment, to the immediate bounds of their neighbourhood, to the mechanisms and systems that run through the city they live in, children are constantly adapting to and learning from the environment around them. A narrow approach that focuses on just one aspect of this – i.e. the classroom – risks depriving children of the explorative, nurturing and stimulating opportunities that these out-of-school elements have to offer.

More specifically, the importance of an Early Childhood Development focus in these contexts is not limited to educational outcomes. Rather, Early Childhood Development is a holistic concept that encompasses a healthy, protective, stimulating and supportive environment for children, their caregivers and pregnant women.

For urban planners, development actors, and government authorities alike, there is no greater chance to reap long-term, society-wide benefits than by improving early childhood development for the generations being raised in vulnerable urban contexts around the globe.



What we mean by 'Vulnerable Urban Contexts'



Vulnerable urban contexts are built environments subject to ongoing shocks and stresses which pose a threat to residents' lives, livelihoods, and the maintenance of social, physical, political and economic systems.³³

We have identified two classes of vulnerable urban context that Arup and BvLF seek to engage: informal settlements and refugee settlements.

While each vulnerable urban context is unique, it is helpful to identify throughlines common to these settings.

Settlements in these contexts tend to be overcrowded, polluted, and lacking health and safety measures considered common elsewhere. Infrastructure in these areas is often incomplete or unsafe; poor waste, sewage, and stormwater management is common, as is a shortage or absence of green space.³⁴

Vulnerable urban contexts tend to have compromised access to urban services, including WASH, power and transit infrastructure.³⁵ Compromised access to urban services is characteristic of tenure insecurity, a common feature in vulnerable urban contexts that is made visually apparent by forced evictions and

temporary or vulnerable shelter materials, among other factors. An absence of legal land titles creates precarious living conditions for settlers and may expose them to coercion and violence at the hands of clandestine landlords or state anti-invasion units.

The universal urban issues of car and street safety, crime and violence are endemic concerns in both refugee and informal settlements.

Broadly speaking, prevailing conditions in these areas (corruption, poverty, hopelessness, resource competition, and lack of oversight) create fertile environments for petty and violent crime, drug trafficking and gang activity. Type and intensity of crime and violence depends on local norms as well as levels of unemployment and marginalisation.

Finally, vulnerable urban contexts tend to be particularly exposed to, and lack infrastructure and service affordances to mitigate climate change impacts.

In general, the elements upon which planners, policymakers and practitioners from the global north-west traditionally rely - hierarchy, predictability, and control - are often overwhelmed by the tendency of vulnerable urban contexts to magnify and intensify complexity.

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Such elements, and the assumptions that underpin them, may also omit the fact that these contexts can be the site of great creativity, innovation and resilience. An absence of state-provided health, protection and support systems can build stronger community ties as informal dwellers rely upon each other and makeshift mechanisms for meeting their needs.

Social capital constructs in informal settlements are shown to be associated with better health outcomes, particularly among children,³⁶ relationships and social cohesiveness in informal settlements

can build community resilience to daily and event-specific challenges or uncertainties;³⁷ and community-led upgrading schemes in informal settlements can actually empower local authorities and contribute to more 'adaptive cities'.³⁸

Globally, the mass mobilisation of organisations like Slum Dwellers International, together with organisations like the UN Refugee Agency (UNHCR) scaling up cash-based assistance to help host economies and refugees become more self-sustaining, also indicate both the agency and self-reliance of individuals living in vulnerable urban contexts.

These benefits and movements taken together, it is important to go beyond simply pejorative understandings of these contexts, to acknowledging both the assets and strategies their inhabitants employ to improve their own living conditions.

TYPOLOGIES OF VULNERABLE URBAN CONTEXTS

In determining broad typologies of vulnerable urban contexts, we consider two variables of a specific settlement: location and duration.

Mapping a settlement's age against integration with urban systems can provide insight into the type of vulnerabilities likely to occur.

Location

Refers to the siting of a settlement's physical footprint in relation to the nearest urban area, and can be either:

Integrated:

Settlements which are directly enmeshed in the urban fabric. Can exhibit improved (but not necessarily high quality) access to urban systems.

Isolated:

Settlements constructed on the urban periphery or interstitial spaces. Isolation generally impairs access to urban systems.

Duration

Refers to the length of time a settlement has been in existence, and can be either:

Established:

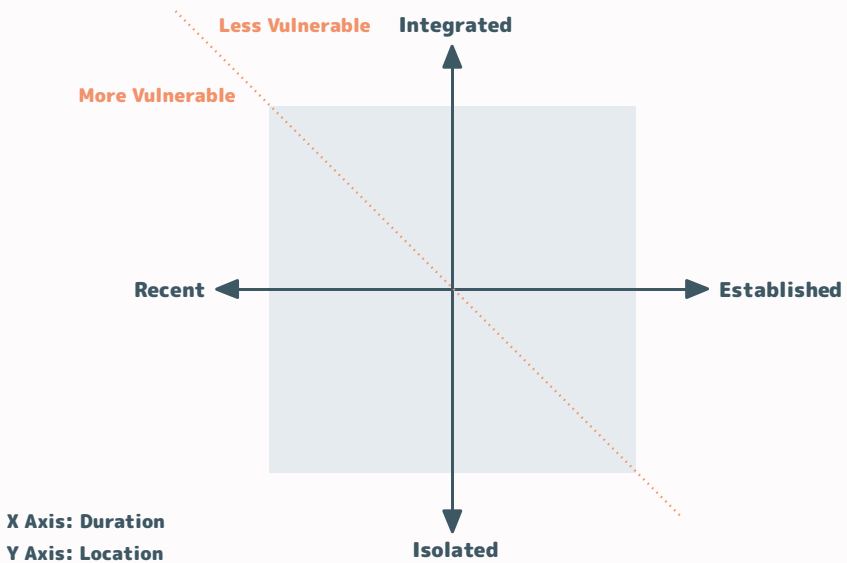
In existence for ten years or longer. Infrastructure and political relationships in these settlements have often assumed a settled order.

Recent:

Settlements less than a decade old, often developed in response to ongoing crises. Layout, materiality and population are often in flux.

In general, settlements in the Established / Integrated quadrant tend to exhibit lower vulnerability than those in the Recent / Isolated category.

This is not a hard and fast rule; some informal and refugee settlements sited in city centres exhibit complex multi-source vulnerabilities.



Diagrammatic layout of vulnerable urban context typology variables
(developed by Arup, 2019)

INFORMAL SETTLEMENTS

Informal settlements are residential areas of any scale where residents lack legal tenure.

UN-Habitat describes an informal settlement as a residential area whose inhabitants face three primary deprivations:

1. Inhabitants have no security of tenure vis-à-vis the land or dwellings they inhabit, with modalities ranging from squatting to informal rental housing.
2. Neighbourhoods usually lack, or lack access to, basic services and city infrastructure.

3. Housing may not comply with planning and building regulations, and is often situated in geographically and environmentally hazardous areas.³⁹

This absence of legal tenure and compromised access to urban systems affects health and safety, and exposes residents to exploitation, eviction, and crime.

Despite these challenges, migration to informal settlements is largely due to the pull factor of economic opportunity, often with future generations in mind.

“Informal Settlements” vs “Slums”

These terms are not interchangeable. Informal settlement refers to an absence of legal land tenure, whereas slum is a qualitative term indicating a severe lack of basic urban services.

The UN definition of a slum household⁴⁰ describes “a group of individuals living under the same roof lacking one or more of the following five conditions:”

1. Access to improved water
2. Access to improved sanitation facilities
3. Sufficient living area, not overcrowded
4. Structural quality/durability of dwellings
5. Security of tenure

In many cultures and languages ‘slum’ carries a pejorative connotation, and any use of the term as an intensifier must be defined explicitly.⁴¹ Notably, the term has also been mobilised as a unifying concept to advocate for slumdweller’s rights (see Slum Dwellers International).

This suggests that listening to and understanding a community’s own characterisations is an important entry point from intervention to intervention.



Khayelitsha, South Africa

Khayelitsha was created in the 1950s as worker housing for Cape Town.

With the advent of free internal movement in 1994, residents of the rural Eastern Cape flocked to the Cape Town area seeking economic opportunity. Within a decade, Khayelitsha had quintupled its planned population and massively expanded its footprint due to construction of informal housing.

Khayelitsha's population was 301,000 at the last census in 2011; since then the settlement may have reached 700,000+ inhabitants.

The settlement's distance from the metro centre remains a key obstacle for residents. Caregivers must spend hours on trains or in taxis to reach city jobs; consequently, children are left on their own or in unregulated daycare facilities for large stretches of the day.

Safety is a key issue in Khayelitsha. The settlement has the lowest police-to-population ratio in the country, and with few diversions for young adults, gang activity, drug trafficking and gun violence are facts of everyday life.



Kibera, Kenya

Founded in the early 1950s in a forest at the edge of Nairobi, Kibera has since been entirely enveloped by the city. Estimates of the current population range from 300,000 to over 1 million; the settlement has garnered media attention due to the (inaccurate) label of ‘the largest slum in Africa.’

Whatever the real figure of Kibera’s population, national and regional authorities do not acknowledge the settlement’s legality, leaving the entire population without access to services or infrastructure from the surrounding city.

A significant majority of Kibera’s population lives without electricity or an in-home water supply. Due to minimal sanitation services, Kibera’s streets are heavily contaminated with waste. The severe topography of the area, poor soil conditions, heavy seasonal rainfall and proximity to the Nairobi river combine to result in regular flooding and structure collapse.

Kibera’s age and size have led to the rise of robust informal economic and educational systems.⁴²



REFUGEE SETTLEMENTS

Refugee settlements are urban areas where refugees self-settle in unclaimed properties or join pre-existing informal settlements.⁴³ These settlements generally arise in response to armed conflict, political unrest, natural disasters, resource shortages, or other crises.

Refugee settlements tend to accrete near national borders, often just inside countries nearest a crisis, or where an economically vibrant nation with restrictive immigration laws controls access from a state with relatively less economic opportunity but fewer restrictions on movement.

By definition, refugees have migrated under duress. Whether from another region or nation, weak ties to the host city expose refugees to obstacles not faced by indigenous residents.

These obstacles may include marginalisation, discrimination, minimal social support networks, vulnerability to crime, violence, and exploitation, as well as issues associated with lack of documentation.

Such challenges may lead some refugees to separate from larger refugee communities, to facilitate their integration and disassociate themselves from the growing stigma of seeking refuge. While refugees tend to cluster in clearly identifiable areas in their host city, it is also not uncommon for refugees to be distributed across the city.

Migration to refugee settlements is largely due to push factors of conflict or climate-related dispossession.

“Refugee Settlements” vs “Refugee Camps”

Arup and BvLF’s work does not encompass planned refugee or internally displaced persons camps. Our work is focused on settlements, e.g. urban spaces where refugees have self-settled, often after leaving planned camps.

Planned camps are intended as sites of temporary refuge; management and layout requirements related to this intent can conflict with those usual in built environment interventions.

More significantly, legal and regulatory structures around planned camps are delicate balances between humanitarian organisations, funding bodies and national governments; engaging with these structures can indirectly result in instability or conflict.

Principles from our work generalise well to camp environments, and practitioners are encouraged to adapt our findings where possible.



Photo courtesy of Catalytic Action

© Catalytic Action

Zaatari, Jordan

Established in 2012 as a temporary camp for refugees from the Syrian conflict, Zaatari is gradually transitioning into a self-provisioning urban conglomeration. As of 2019 the site hosts 78,000 refugees, 20% of whom are under five years old.

Since 2016, UNHCR has been moving away from a top-down model of service provision at the site and instead providing refugees with financial assistance only, intending

that the settlement's increasingly robust internal economy and organic social organisations will suffice to address the material and nutritional needs of residents.

Zaatari is a category-leading example of this type of transition from planned camp to urban settlement, a phenomenon likely to become increasingly widespread over the next 20 years.



Bar Elias, Lebanon

The Bekaa Valley town of Bar Elias had a population of 50,000 prior to the Syrian conflict; refugee influx has more than doubled that number in just under five years.

While the local guest culture embraces the newcomers, the city's service provision and social fabric have been overwhelmed by the sheer number of refugees seeking shelter and economic opportunity in the municipality.

Materially, this influx results in conflicts over space: the town is increasingly ringed by ad-hoc landfills, and available grave sites for deceased family have become a hotly contested commodity.

Socially, this overcrowding results in economic tension: the massive labour market for low-end jobs has significantly disrupted the city's established financial order, leading to resentment and violence.



The Proximity of Care Approach



The Proximity of Care approach is at the core of the Design Guide that Arup and BVLF are developing to support government authorities, urban practitioners, development and humanitarian organisations working in vulnerable urban contexts, to mainstream in their work the needs of young children, their caregivers, and pregnant women, and to profile their work as child and family friendly.

The Proximity of Care Approach was developed to better understand and articulate the relationship between the built environment and early childhood development needs in vulnerable urban contexts, whose interdependencies are not always fully appreciated and addressed.

Proximity of Care describes how various urban systems relate to a child's developmental needs. This approach provides a structure to enable holistic consideration of both hard and soft assets - physical space and infrastructure, human interactions and relationships, and policy and planning support - at different urban scales.

Proximity of Care assesses four primary Dimensions foundational to early childhood development: Health, Protection, Stimulation and Support.

Within each dimension, the framework focuses on beneficiaries' needs at three primary scales of urban interaction: the household, neighbourhood and city levels.

In addition to collecting data on the availability of critical infrastructure and services for caregivers, it is also important to collect data on the use (or non-use) of that infrastructure and those services by those living in vulnerable urban context. As discussed in the previous section, there are also a number of other critical interactions and positive behaviours which have major impacts on caregivers' and young children's wellbeing, and data on the practice of those behaviours is also critical to assessing whether progress is being made."

The resulting understanding of the full spectrum of urban interactions allows urban practitioners, development and humanitarian professionals, and authorities to create a healthy, stimulating, safe and supportive environment that contributes to young children's optimal development, and enhances caregivers' and pregnant women's living conditions and wellbeing.



PROXIMITY OF CARE: DIMENSIONS

The Proximity of Care approach assesses four primary Dimensions foundational to optimal early childhood development, focusing on the Health, Protection, Stimulation and Support needs of young children, their caregivers, and pregnant women as they move through their daily lives and routines in a vulnerable urban context.

Dimension: Support

This dimension considers those factors elements that contribute to a healthy and enriching environment for optimal early childhood development, examining how to improve physical, mental, and emotional health and support cognitive development among young children, their caregivers, and pregnant women.

Dimension: Stimulation

This dimension considers those factors elements that contribute to a nurturing and stimulating environment for optimal early childhood development, addressing how to enhance the quality of children's interaction with caregivers, peers, other adults, and the physical space around them.

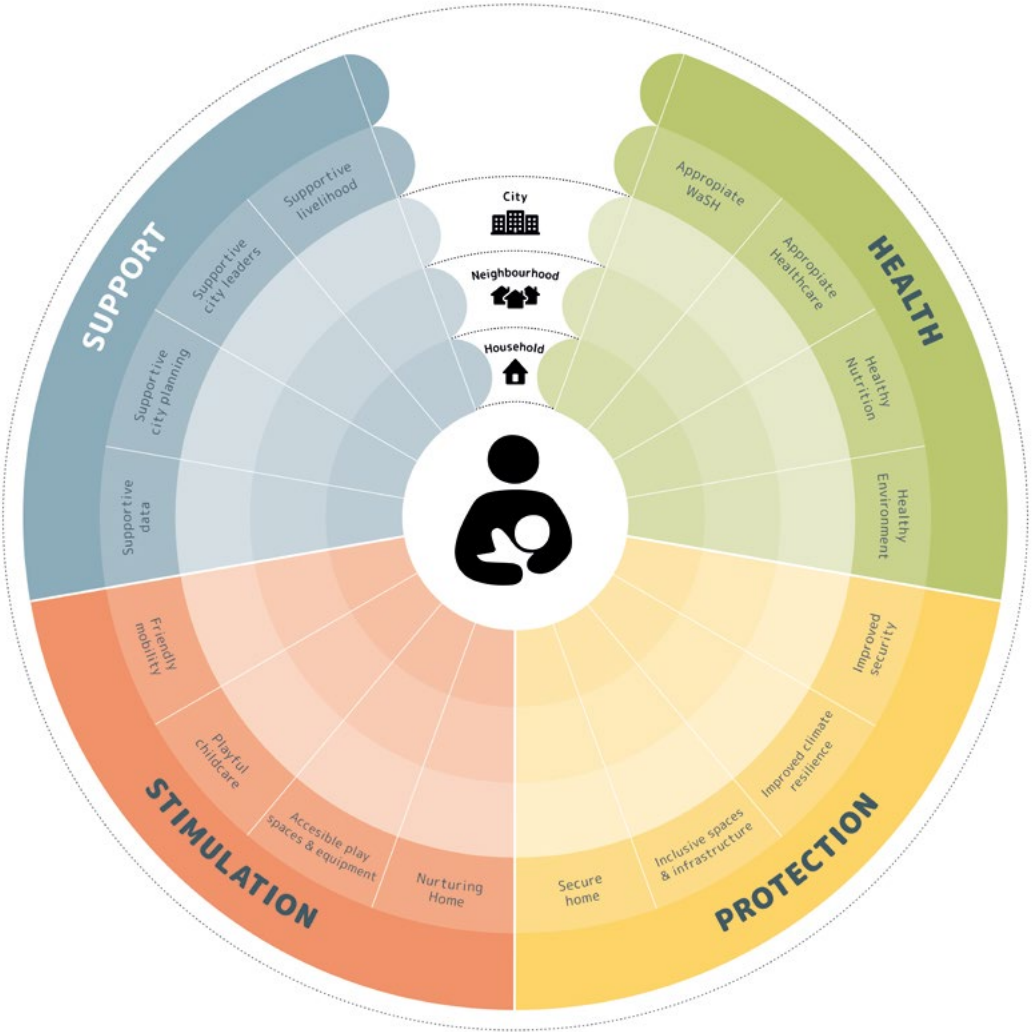
Each of these four dimensions engages four key factor areas, examining a range of indicators against benchmarks of 'what good looks like' at three distinct levels of the urban fabric. This cross-cutting assessment encourages a nuanced understanding of the specific areas most critical to improving early childhood development in a given context.

Dimension: Health

This dimension considers those factors elements that contribute to a safe and secure environment for optimal early childhood development, determining how to reduce risks, mitigate hazards and increase safety for children, and improve caregivers' perception and experience of safety and security.

Dimension: Protection

This dimension considers those factors that contribute to a knowledgeable and supportive environment for optimal early childhood development, looking at how to enhance knowledge, support from city authorities and community members, and include beneficiaries' voices in decision-making and planning.



Visualisation of the Proximity of Care Approach

PROXIMITY OF CARE: LEVELS

The Proximity of Care Approach focuses on beneficiaries' needs at three key scales of urban interaction: the Household, Neighbourhood, and City levels.

These levels are highly context-dependent. Particularly in informal and refugee settlements, definitions of 'household' and 'neighbourhood' may be mutable, encompassing single dwellings, compounds and shared spaces.

Similarly, the 'city' level may depending on context include a provincial or national dimension, where policies that impact early childhood development originate beyond municipal authority.

To improve early childhood development in vulnerable urban contexts, it is necessary to understand the spatial and relational specifics of each level by assessing challenges and opportunities, and to engage with all three levels simultaneously for greatest effect.



Household



Neighbourhood



City

Description

Spaces

Relationships

The household is where the child lives and spends the most time. It is a personal, intimate, and immediate space, where a young child feels confident, can move freely and likely has the most support from caregivers. How children are treated in the household – including caregiver behaviour and interactions between caregiver and child – will influence the child's relationships and sociability through their lives.

The physical space of the household describes the house, flat, shelter or compound, any associated space such as a yard, and immediate street frontage. The household is also commonly the space in which caregivers work. Depending upon the type of work, this could be hazardous to young children sharing the space. Threats of eviction also pose a risk to caregivers and children at the household level.

Relationships and interactions at the household level are intimate and ideally reciprocal, nurturing, supportive and stimulating for the young child, involving parents, siblings, and extended family.

The neighbourhood is where the child develops many spatial and relational skills, interacting with the community alongside a caregiver. It is a local, communal, public space, accessible from home, where a child requires guidance and protection from adults.

The space of the neighbourhood includes play areas, nurseries, schools, community centres, markets, health facilities, and places of worship; it also includes streets, local transit, and connections between these spaces. Neighbourhoods may have their own economies; caregivers of young children without childcare may need to take their children to markets, squares and other public spaces.

Relationships in the neighbourhood are social, educational and commercial, involving neighbours, friends, merchants, clergy, and other adults known to the caregiver. A child's exposure to the behaviours and (dis)connections between these people will influence their interpersonal skills as they grow. The neighbourhood is also where frictions between communities and state authorities manifest themselves.

The City is a distributed, institutional and administrative space, distant from the home and generally not accessible by walking. This level includes regulatory and governance policies which impact early childhood development. The behaviours of city leaders, city-level actors and their attitudes toward child-centric policies will have significant effects on opportunities for children's optimal development. Experiences of tenure insecurity originate at this level.

The space of the city includes local, regional or national offices, regulatory bodies and administrative facilities which the caregiver and child may visit infrequently, but which have a key role in defining the policy and infrastructure environment in which early childhood development occurs. Services provided at city level have an impact at neighbourhood and household levels (e.g. transport infrastructure, hospitals, livelihood opportunities for caregivers, etc).

Relationships at the city level are functional, involving transit and emergency staff, administrators, politicians and decision makers. Young children's visibility and consideration as a group to actors at this level has key impacts on early childhood development, including budgeting, the extent and character of caregivers' access to opportunity, and the child and caregivers' involvement in decision making and planning processes.

Beneficiaries and their Needs

The Proximity of Care Approach considers four key groups living in vulnerable urban contexts:

- Children 0-3
- Children 3-5
- Caregivers
- Pregnant Women

These four beneficiary groups are particularly exposed to and severely affected by inadequate basic services, poor living conditions, limited economic and educational opportunity, and lack of representation in urban policy and planning.⁴⁴

Children Age 0-3

The ‘first 1000 days’ from conception to 24 months old is a critical window of rapid brain development.⁴⁵ During this time, children are extremely physically, psychologically and developmentally vulnerable, and are entirely dependent on adults.

Children Age 3-5

A child’s growing independent mobility at this age provides a broader range of stimulating experiences, but can place strain on caregivers in terms of safety, supervision, and transportation.⁴⁶ Health care, nutrition and protection remain important at this stage, as does the developmental significance of relationship-building.⁴⁷

Pregnant Women

During the antenatal period, health, nutrition and protection are essential for both mother and unborn baby.⁴⁸ The physical and psychological health of the mother, and the support she receives from her community are particularly important.

Caregivers

Caregivers are children’s direct support networks: parents, siblings, extended family and non-related carers.⁴⁹ Parents, as natural primary caregivers, are crucial initial influences, as they demonstrate affection, introduce the child to language, and make the child’s world safe and interesting to explore.⁵⁰



CHILDREN AGE 0-3 THROUGH THE PROXIMITY OF CARE LENS

Optimal development at age 0-3 is characterized by variety of stimulation, nurturing relationships, attachment to primary caregivers, and provision of optimal nutrition.

Children at this age should not, save in exceptional circumstances, be separated from their mother or caregiver.⁵¹

Nurturing, responsive interactions with caregivers forge emotional bonds and are essential for optimal cognitive development.

Loving, engaged, undistracted and particularly nonviolent caregiving helps ensure positive developmental outcomes. Absent or unreliable caregivers negatively affect development; coping strategies developed in response to caregiver neglect can severely compromise children's later relationships.



HOUSEHOLD

Health:

At age 0-3, healthy nutrition is crucial. Ideally this begins with exclusive breastfeeding, starting within the first hour of the child's life and continuing for the first six months.⁵² After six months, optimal nutrition (adequate calorie intake, dietary diversity, and a variety of macro- and micro-nutrients) is key for brain development as well as physical growth.⁵³

Healthcare, including immunization, disease treatment and prevention, and regular check-ups, is critical. Access to WASH facilities should be considered a necessity.⁵⁴

Protection:

Sub-standard housing makes young children increasingly vulnerable to adverse weather conditions.⁵⁵ Conditions inside the household – e.g. hazards arising from dangerous home-based employment – pose a risk to young children, whether that be from inhaling harmful toxins, exposure to accident-prone devices or machinery, and more.

Stimulation:

Rest is as important as stimulation: infants from 0-3 months of age need 14-17 hours of good quality sleep including naps; sleep requirements decline to 12-16 hours from 4-11 months, and 11-14 hours at age 1-2.⁵⁶

Support:

Nurturing relationships are of primary importance and centre around 'serve-and-return' interactions,⁵⁷ where caregivers engage with a child's noise, gesture or expression.



NEIGHBOURHOOD

Health:

Healthcare should be safely accessible from the home, without physical, social or financial barriers to access. Locating health clinics throughout neighbourhoods can offset the financial and temporal burdens of travelling to the city centre to reach larger, public hospitals. Caregivers must be made aware of any identification documents their child requires to be treated at health clinics.

Protection:

Optimally, infants should not be restrained continuously for more than an hour at a time. Access to safe streets for travel with caregivers is crucial for very young children, as is regular access to green space for exploratory play and exposure to nature. In caregivers' workplaces, such as those in markets, squares and other public spaces, children may be exposed to harassment, pollutants and unhygienic conditions. Safe spaces away from these workplaces where young children can play while within the sightlines of their caregiver are essential.

Stimulation:

At this stage children are totally reliant on their parents for both interaction and mobility. Infants should be physically active several times a day, particularly through interactive floor-based play, the more the better.

Support:

Creches and daycare facilities can fill a critical gap for working caregivers; these facilities should be hazard-free, safely and easily accessible from the home, and staffed by trained, qualified, motivated caregiving professionals. Certification of both the facility structure and individual staff members is desirable.



CITY

Health:

Programmes intended to improve early childhood development should recognise the interdependencies between security, nutrition, healthcare, and early learning, especially for prenatal children and 0- to 3-year-olds.⁵⁸

Protection:

Births should be registered, either by authorities, or by humanitarian and development organisations. Documentation is key to providing children with access to the full range of developmentally necessary urban assets and services.⁵⁹

General standards on housing quality must be entrenched at the city level. Where possible, efforts to integrate these into informal or temporary settlements should be made. Similarly, protection of tenure and safety from evictions needs to be guaranteed. Or, if eviction is necessary, tenants should be given adequate notice and the opportunity to participate in resettlement processes.

Stimulation:

Planning and programming of public spaces and institutions should recognise the specific physical needs of caregivers visiting those spaces with 0-3 year old children.

Support:

Authorities should champion documentation, healthcare provision, and daycare availability by ensuring these services are funded, regulated and certified, by including education and awareness of the necessity and availability of these services in planning and policy, and by modelling these offerings through municipal institutions.

CHILDREN AGE 3-5 THROUGH THE PROXIMITY OF CARE LENS

Optimal development at this age is characterized by an expansion of the number and complexity of a child's relationships with other children and adults across a variety of settings.⁶⁰

A child at age 3-5 requires more varied and complex sources of stimulation and opportunities for exploratory play.

Young children experience the world at a much smaller scale than other humans and have far shorter, and more assistance-dependent, range of mobility than older children and adults.⁶¹

Increasing independent mobility allows access to new experiences, particularly dynamic social interactions with siblings, family and visitors to the household, but this greater freedom of movement raises new concerns around safety.



HOUSEHOLD

Health:

Proper nutrition remains important at age 3-5. Through this age span the developing child should ideally broaden intake of a variety of fresh, healthy foods with a wide diversity of macro- and micro-nutrients.

Protection:

The increasing mobility of children at this age presents opportunities for a wider variety of stimulation but requires that caregivers ensure the child's safety with regard to navigating, handling and ingesting objects in the home. Reduction of caregivers' physical and environmental stress is of primary importance; a household environment that supports the caregivers' physical and mental well-being is critical.

Stimulation:

Rest requirements at this age are 10-13 hours of good quality sleep including naps, with a regular bedtime and wake-up time.⁶²

Support:

Well-balanced mental health allows caregivers to recognize the child's needs and respond appropriately. This includes empathizing with the young child's experiences, managing their own emotions and calibrating reactions to their child's dependence.



NEIGHBOURHOOD

Health:

At age 3-5, development focus shifts to playing and exploring more independently in neighbourhood streets and expanding the range of relationships with peers and adults.⁶³

Protection:

Mobility challenges are beneficial, as are complex interactions with other adults and children.⁶⁴ Independent mobility is important to development, resulting in higher levels of physical activity, increased sociability, and improved mental wellbeing, freedom and dignity,⁶⁵ which can also benefit caregivers. It is at this age that children are often 'passed' from their primary to secondary caregivers, such as siblings. This typically increases their outdoor learning and play experience, highlighting the importance of child-friendly play ecosystems within their neighbourhood for children to navigate.

Stimulation:

Physical exercise and a connection to the natural world are associated with a range of physical and mental health benefits, including lower rates of obesity, depression, stress and attention disorders.⁶⁶ Active forms of mobility not only encourage healthier routines, contributing to reduced childhood obesity, but also more frequent social interactions.

Support:

ECD programmes help foster social competency as well as continued cognitive, emotional and language development, preparing a child for success in school.



CITY

Health:

Children age 3-5 require advocacy at the highest levels of urban decisionmaking for promoting their health outcomes. Advocacy serves to represent the distinct health challenges and needs facing children, especially in contexts where these issues are not well understood. A firm advocacy system at city level sets an important precedent and presents an opportunity to filter down health information to the neighbourhood and household levels.

Protection:

The best interests of young children should lead the design and implementation of tools and policy.⁶⁷ This can be achieved through data-driven decision-making that includes perceptions and opinions of beneficiaries in data collection.

Stimulation:

There are obvious limitations to very young children's participation in planning processes, but their inclusion (with adjustments for age) can help normalise both interaction with city authorities and an expectation of civic participation. It is critical to include caregivers in this process, as representatives of children's challenges and needs, but also to convey caregivers' own challenges and needs that have implications for their child.

Support:

Cultivating an awareness and enthusiasm for engagement with civic issues from the youngest possible age begets long-term political and community awareness, providing a route for residents of vulnerable urban contexts to increase a sense of ownership, agency and dignity.

PREGNANT WOMEN THROUGH THE PROXIMITY OF CARE LENS

Early childhood development can be properly understood to begin well before a child is born.

Healthcare is crucial for pregnant women, who need easy access to health services and parental coaching activities.

Supportive partners (or family and friends if partners are absent) are key to improved pregnancy outcomes, as are regular prenatal health check-ups. Pregnant women should obtain a copy of their own medical record, if possible, to improve continuity and quality of care.

Counselling on birth spacing and family planning can have significant positive effects on improving material and emotional resource availability for both children and caregivers.



HOUSEHOLD

Health:

Diverse nutrition is a key contributor to both maternal and foetal health, as is a supportive, low-stress environment with adequate exercise and rest. Pollution and environmental hazards are a key concern during pregnancy: toxins can severely impact foetal birth weight as well as long-term development of the child.

Protection:

Supportive care during labour is an oft-overlooked component of antenatal care. The continuous presence of a 'companion of choice' for emotional and practical support is proven to shorten labour, reduce the incidence of emergency C-sections and lead to better labour outcomes.⁶⁸ This companion can be any person chosen by the pregnant woman: her spouse or partner, a friend or relative, a community member or a doula.⁶⁹

Support:

Postpartum women should receive family and social support; family and friends should be educated about the symptoms of postpartum depression and monitor the new mother's emotional wellbeing for three weeks after birth.



NEIGHBOURHOOD

Health:

Antenatal medical assessment is a key part of improving women's pregnancy experience. At least four antenatal check-ups are recommended.

Medical assessments should include blood testing for anaemia, urine testing for asymptomatic bacteriuria, and clinical inquiry into tobacco use, substance abuse, and the possibility of intimate partner violence.⁷⁰

The health implications of working in dangerous, polluted and/or unhygienic environments, as is common for informal workers and women especially, must be acknowledged.

Protection:

If possible, pregnant women should have an ultrasound scan before 24 weeks; this can detect foetal anomalies and multiple pregnancies and reduce post-term pregnancy labour induction.⁷¹

Support:

Counselling and medical visits should ideally take place at a facility near the woman's home, without physical, social or financial barriers to access. Transportation options to and from assessment visits should take into account pregnant women's pace, size and need for rest while walking long distances or standing for prolonged periods.



CITY

Health:

Pregnant women need healthy, safe and supportive environments at work, at home and access to health services and parental support.⁷²

Adequate pre- and post-natal care,⁷³ including parental coaching, is crucial to positive outcomes and should be included in city health planning and budgets.⁷⁴

Protection:

There is a pressing need for better health assistance for pregnant women during delivery at hospitals. Municipal policy should recognise the developmental importance of breastfeeding and support both time and space for breastfeeding in municipally-associated institutions and the design of transit systems, public buildings, and public spaces.

Support:

Governance tools should aim for a holistic approach to early childhood development issues and include specific legislation, programmes, budgets, regulatory frameworks and training.⁷⁵ For instance, adequate parental leave for both parents should be guaranteed through both government and employer's policies.

CAREGIVERS THROUGH THE PROXIMITY OF CARE LENS

All young children need frequent, warm, responsive interactions with loving adults;⁷⁶ this requires that caregivers have sufficient time and energy to devote to their charges.

Violence, abuse and neglect produce high levels of cortisol, a hormone that contributes to stress, limiting neural connectivity in developing brains.⁷⁷

Positive and non-violent caregiving, where caregivers are sensitive to an infant's signals and respond appropriately, builds stable and responsive relationships. This has long-term effects on the child's cognitive and emotional development,⁷⁸ especially with regard to language acquisition and behaviour.



HOUSEHOLD

Health:

The relationship between child and caregiver is a mutually reinforcing cycle. Providing adequate support for physical wellness, mental health and reducing stress for caregivers results in more affectionate, interactive, and consistent care for the child.

Protection:

Use of positive discipline builds quality of communication, understanding, and trust between caregiver and child, with positive long-term impacts on brain development and social interactions.⁷⁹

Caregivers should provide consistent, engaged feedback to the child, and absolutely never use physical violence against a child in any situation .

Support:

City policy and neighbourhood awareness are critical to providing the economic, nutritional and safety underpinnings of a secure home life for children at the upper end of this age bracket.



NEIGHBOURHOOD

Health:

Parents and caregivers' mental wellbeing and confidence in their ability to support and provide for a child measurably improves young children's development.⁸⁰ Ensuring that caregivers' daily routines run smoothly, and that they have the support of community networks, has a significant impact on mental health and facilitates positive interactions with children.⁸¹

Protection:

Play and green public areas are key for young children's stimulation and development. Properly implemented, child-friendly spaces increase caregivers' perception of safety, reducing stress and allowing more outdoor play time for children, and more socialisation between neighbours.⁸² Improving parents' and caregivers' perception of safety can foster freer play and contribute to reducing caregiver stress.⁸³

Support:

Places for children are also places for adults, hence they should be designed for young children, their caregivers, and pregnant mothers. Any place where children linger with caregivers can be a place of learning, from a supermarket to a bus stop.⁸⁴



CITY

Health:

Caregivers and pregnant women should be involved in planning and policy design through community outreach, ethnographic research and co-design initiatives. Community-led groups / organisations, with deep understanding of the challenges faced by these women, are already promising entry points. These community-based groups can forge partnerships with active city departments or even international organisations, to facilitate the involvement of caregivers and pregnant women in planning and design processes.

Protection:

The developmental importance of parental leave for both parents (or caregivers if not biological parents) should be understood at the municipal level and supported through policy, planning and financial incentives.

Municipal policy can incentivise corporations operating in the city to provide support and wellbeing services to employees; city leadership can take a championship role in this by ensuring city institutions model parental leave and support policy.

Support:

Optimal, holistic early childhood development hinges on caregivers' knowledge and awareness. Communication campaigns and public education to ensure that parents and caregivers possess a knowledge of the full range of care practices (health, nutrition, hygiene and stimulation) is critical.

INFORMAL SETTLEMENTS THROUGH THE PROXIMITY OF CARE LENS

Informal settlements present a number of common challenges to early childhood development at each level of the Proximity of Care scale.



HOUSEHOLD

Cramped living quarters affect physical and psychological wellbeing.⁸⁵ Overcrowding can cause withdrawal mechanisms in young children, as their developing brains attempt to cope with noise and lack of privacy.⁸⁶

Pollutant exposure tends to be higher in informal settlements. Hazards relating to home-based employment can create a dangerous environment for caregivers and young children alike. Unsafe equipment poses an immediate safety risk, while toxins from non-electrical cooking and other activities can have harmful long-term health impacts.

A lack of tenure security, along with the threat of eviction, poses yet another challenge. While evictions may not be planned – as seen in some countries during the coronavirus pandemic – the constant threat can be stress-inducing for caregivers for many reasons, including possible separation from their children and family members during abrupt and coercive resettlement processes.

Informal housing is typified by improvised structures, exposed to weather and climate impacts, often without waste and water management.⁸⁷ Residents can be severely affected by temperature extremes; coping with heat or cold increases physiological stress and can have critical health impacts for young children.

Many residents of informal settlements can only access informal, unstable and often illegal jobs. Parents without stable employment can have difficulty providing sufficient healthy food for young children, and experience increased caregiver stress.



NEIGHBOURHOOD

Informal settlements tend to suffer from minimal WASH provision, substandard roads, poor electrical availability, and an absence of green, public and play areas. Similarly, neighbourhood-based employment hubs, such as markets, squares and other public spaces, pose risks to both the employed caregiver and the young child(ren) that they may need to bring to work.

Reduced opportunity, corrupt or under-resourced policing, and resource competition can lead to crime and substance abuse.⁸⁸ These activities cause violence and insecurity, with impacts on young children's daily freedom and physical safety.

The trauma of living in an area where violence is prevalent can impede proper neural development and lead to coping behaviours such as aggression or withdrawal.

Informal settlements are often sited in environmentally hazardous areas, exposed to impacts of climate change, natural and manmade disasters.⁸⁹ Droughts can mean long, stressful journeys to secure daily water needs; poor drainage provision can mean severe flood risk and exposure to waterborne pathogens.



CITY

Participation in interventions may be seen as dangerous due to risk of visibility to authority. Eviction is a constant threat, particularly in newer informal settlements sited on developable land.⁹⁰

For informal workers, exploitation and harassment – sometimes from municipal authorities – create abusive, poorly-remunerated and precarious conditions. This has implications for the safety of caregivers, as well as their ability to generate adequate disposable income to purchase food items and other household necessities.

Data collection is a key issue in informal settlements. The speed with which informal spaces are adapted and inhabited often outpaces official census or survey assessments; fluid physical boundaries and constant population flux can further complicate accurate recordkeeping.

Datasets must be collected in an apolitical and agnostic manner; accurate mapping and categorizing of informal settlements' structures and populations is essential for adequate, and adequately apportioned, service delivery.

Informal settlements tend to have complex relationships with local and even national authorities. Officials may view informal settlements as less deserving of policing and service provision or may simply refuse to acknowledge a settlement's existence.

REFUGEE SETTLEMENTS THROUGH THE PROXIMITY OF CARE LENS

Refugee settlements present a number of common challenges to early childhood development at each level of the Proximity of Care scale.



HOUSEHOLD

Regardless of material living conditions, the stress of transition for refugees is universally severe.

Prolonged displacement of refugee children from their homes introduces a variety of traumas, any one of which would be sufficient to cause toxic stress. Refugee families will likely have encountered military or ethnic violence, some degree of privation or malnutrition, and exposure to natural hazards, crime and abuse along their relocation journey.

Displacement reduces caregivers' individual agency and opportunity to provide income, adding to stress and contributing to destructive coping behaviours among adults, including domestic violence.⁹¹

The combined strains of migration impose an overhead on mental bandwidth that measurably reduces parenting capacity and caregivers' emotional engagement, intensifying cumulative developmental risk for children.



NEIGHBOURHOOD

The neighbourhood level can be a place of social tension in refugee settlements.

Refugee populations can place pressure on local services already struggling to meet the needs of the urban poor.⁹² Refugees often find themselves in conflict with local communities over resources, land, or religious differences. These conflicts cause insecurity for both young children and caregivers, compromising freedom of movement and social integration.

The most vulnerable populations (unaccompanied and separated minors, single-parent families and child-led households) are at particular risk from the threats of vulnerable urban contexts, including theft, street violence, and sexual and physical abuse.⁹³

Refugees face the additional threat of detention and deportation, especially when host country policy excludes them from the official labour market.⁹⁴



CITY

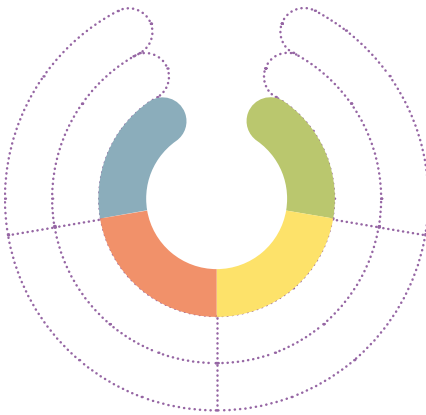
While city authorities may welcome refugees, national host government policies are generally becoming more restrictive in countries of first asylum globally.

Host governments are crucially important in providing early childhood care. In many countries, responsibilities for provision of this care is delegated to local municipal government, where budgets may not be adequate to the task.

Refugees often devise organic solutions to issues which in more established contexts would be handled by municipal authorities: these include the development of informal social protection networks, self-funded revolving loan groups, and community-generated schools and clinics

Birth registration is a critical issue for children born in urban refugee settlements.⁹⁵ Complicated or costly administrative registration procedures, coupled with insufficient awareness among expectant mothers of the importance of registration, leads to undocumented children. Lack of birth registration can have lifelong consequences.

Recommendations: Household Level



These recommendations are based upon desk-based research and early applications of the Proximity of Care framework. Though they are key recommendations and important reflection points for actors working on early childhood development in vulnerable urban contexts, they are not exhaustive.

Young children living in vulnerable urban contexts face a complex set of challenges and cumulative developmental risk.⁹⁶

For children, exposure to physical and health threats, poor WASH facilities, nutrition, service access, and caregiver stress are among the most significant challenges.

A single stressor (overcrowded dwellings, unsafe surroundings, or chronic noise) has a fixed detrimental effect on early childhood development, but the additive effects of multiple stressors (chronically noisy, overcrowded dwellings in unsafe surroundings) scale exponentially.

These compounding stressors, and the resulting onset of toxic stress, are what place young children in vulnerable urban contexts at such an extreme developmental disadvantage.

Every opportunity to reduce caregiver stress is a chance to indirectly improve early childhood development.

Safety and security, economic opportunity, and free time are all constrained resources for caregivers in vulnerable urban contexts.

Freeing up these resources leads to more engaged caregiving; more engaged caregiving leads to thriving children.

Children's spaces need to be safe, peaceful, healthy and stimulating.

Protection from violence, particularly domestic abuse, is an absolute need for early childhood development. Young children need proper nutrition and sanitation as a bare minimum.

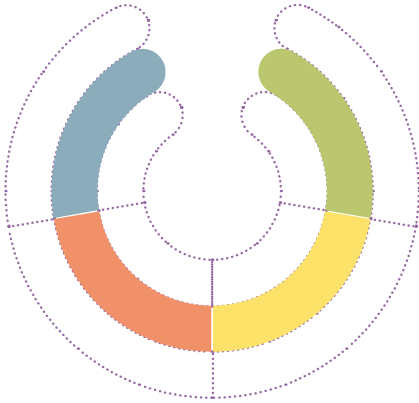
Reduction of chronic noise and sensory disruption is as important as health and hygiene. Beyond these minimum standards, children need street and playspace designs that support stimulating play.

Nonviolent, nurturing and engaged cognitive and socio-emotional caregiving is a critical need, not a nice-to-have.

Telling stories to, playing with, and singing to a young child, and responding to 'serve-and-return' interactions are neither universally instinctual nor superfluous.

These interactions are as crucial to thriving development as are safety, nutrition and physical health. Ensuring that these behaviours are treated seriously by designers, planners and city authorities as grounds for both physical interventions and caregiver education is a key component of ECD support.

Recommendations: Neighbourhood Level



These recommendations are based upon desk-based research and early applications of the Proximity of Care framework. Though they are key recommendations and important reflection points for actors working on early childhood development in vulnerable urban contexts, they are not exhaustive.

Local knowledge is critically important for successful early childhood development initiatives.

The complexity of vulnerable urban contexts' relationship with the surrounding urban area often spurs the development of local solutions to issues that in other situations might be dealt with by municipal authorities.

Understanding the evolution of these workarounds and adapting them to support external interventions can help make the difference between a merely well-intentioned project and a successful one.

Absent official engagement, community structures and leadership are key gatekeepers and allies in developing interventions. Where official engagement can be relied upon, community structures and leadership are key facilitators and can help ensure community buy-in.

Lack of agency is corrosive to people and communities; dignity should be a core value in any intervention.

Feelings of personal helplessness are a significant source of stress and contribute to cycles of addiction and abuse. If this feeling permeates a community, it can dissolve the social bonds upon which safe, healthy, vibrant neighbourhoods depend.

Restoring a sense of agency and dignity to residents of vulnerable urban contexts is critical to delivering change.

Decision-making creates a durable sense of ownership.

While any development project must be approached from in both the top down (permitting, buy-in, safety) and bottom up (local knowledge and perspective), pushing decision-making as far down the chain of authority as possible can empower vulnerable communities, providing a sense of ownership which can help initiatives succeed over the long term.

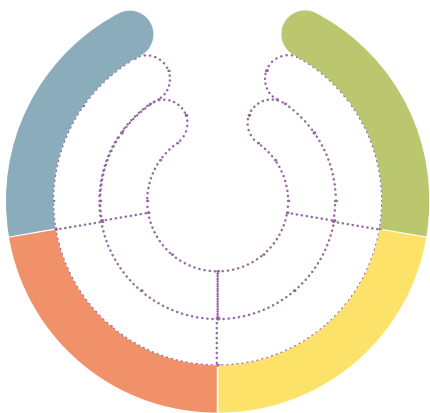
Interventions in vulnerable urban contexts should benefit the surrounding community as well as targeted populations, and these benefits should be clearly communicated.

Singling out vulnerable areas, or inhabitant groups specific to those areas, for intervention projects can generate ill-will from surrounding urban communities and risks stoking sectarian, tribal or political conflict.

Ensuring that both the messaging and implementation of interventions highlight benefits to the broader urban community at large can defuse resentment.

Each intervention should be treated as an opportunity to create dialogue and build rapport between residents of vulnerable urban areas and members of surrounding communities.

Recommendations: City Level



These recommendations are based upon desk-based research and early applications of the Proximity of Care framework. Though they are key recommendations and important reflection points for actors working on early childhood development in vulnerable urban contexts, they are not exhaustive.

Understanding the history and nature of an area's relationship to authority is key to effective interventions.

Relationships between vulnerable communities and authority are often complex. Official stances towards informal settlements vary: an area that in one city presents an opportunity to burnish municipal credentials via upgrading may in another city be considered an eyesore under threat of eviction. Careful assessment of local political relationships is key to developing successful approaches.

Life-course economic analysis can shift stakeholder perceptions.

Children's issues naturally encourage adult decision-makers to take a long-term view. Public expenditures compounding over the lifetime of a developmentally compromised child can be substantial; the cumulative social efficiencies of improving early childhood development should be quantified for stakeholders.

Pregnant women's needs are a powerful case-building tool.

While children's needs often fall 'below the radar' of municipal or regional authorities, pregnant women are generally afforded respect and compassion across cultures and societies; their position as adults with agency allows their needs to be 'taken seriously' by authority structures in a way often unavailable to children.

Built environment affordances for pregnant women -- including reduced exposure to pollution, material protection from environmental and human hazards, and rest areas incorporated into public spaces and transit systems -- generalize well to the needs of young children. Pregnant women can be thought of as 'needs ambassadors' when interacting with local, regional or national officials with regard to interventions in a vulnerable context.

Nuanced, accurate data is critical for addressing complex ECD challenges.

A lack of regularly updated, nuanced datasets is common in vulnerable urban contexts. Municipal or national data collection is often infrequent, incomplete or affected by political considerations, down to the level of basic demographics.

Where data is current, population averages can blur subgroup inequities that affect conditions in vulnerable urban contexts. The number of overlapping challenges to healthy early childhood development in these areas can be overwhelming; starting with data-gathering and constantly challenging assumptions can help find effective, efficient solutions.

What's Next?



The Proximity of Care Approach will be field-tested in collaboration with project partners in four pilot sites, each featuring a distinct vulnerable urban context:

- The informal settlement of Khayelitsha in Cape Town, South Africa, in collaboration with Violence Prevention through Urban Upgrading (VPUU).
- The informal settlement of Kibera in Nairobi, Kenya, in collaboration with Konkuey Design Initiative (KDI).
- The refugee neighbourhood of El Mina in Tripoli, Lebanon, in collaboration with Catalytic Action.
- The refugee settlement of Azraq in Mafraq Governate, Jordan, in collaboration with Civic.

Data gathered through our field research at these pilot sites will support development of the Proximity of Care Design Guide, a modular toolkit for government authorities, development and humanitarian organisations, and urban practitioners working in vulnerable urban contexts.

The Design Guide will provide robust, user-friendly, context-

sensitive design principles, tools, and policy recommendations to help design meaningful interventions that overcome barriers and address unmet needs of the target beneficiaries -- ultimately helping to build inclusive, liveable, safe and climate-resilient urban settlements where young children can thrive.



Definitions



Beneficiaries

The intended beneficiaries of the Design Guide are children from 0-5 years old, their caregivers, and pregnant women. While these groups form the focus of our efforts, the Guide is expected to deliver benefits to the wider community in vulnerable urban settlements where interventions described in this document take place.

Built Environment

The physical and functional characteristics of an urban settlements, including buildings, infrastructure (blue, green and grey) and open spaces.

Context

The characteristics (physical, environmental, cultural, socio-economic, historical and governance) that constitute the setting where the project takes place. This project addresses vulnerable urban contexts, such as informal settlements and refugee areas

Early Childhood Development (ECD)

The physical, cognitive, linguistic, and socio-emotional development of children from the prenatal stage up to age five, a developmental period during which many adult capabilities and characteristics are shaped.

Informal Settlements

Residential areas that by at least one criterion

fall outside official rules and regulations. This document adopts the UN-Habitat definition of informal settlements¹¹⁷ as residential areas facing three primary deprivations:

1. Inhabitants have no security of tenure vis-à-vis the land or dwellings they inhabit, with modalities ranging from squatting to informal rental housing
2. Neighbourhoods usually lack, or lack access to basic services and city infrastructure
3. Housing may not comply with current planning and building regulations and is often situated in geographically and environmentally hazardous areas

Mental Bandwidth

A colloquial term for cognitive function capacity, humans' fixed amount of cognitive resources available for processing complex tasks. The cognitive overhead imposed by poverty, prolonged stress or material vulnerability can measurably and lastingly impair decision-making performance, focus, attention span, and fluid intelligence. Cognitive capacity can be reduced by circumstance or environment even when biological markers of stress are absent.

Refugee Settlements

Urban areas where refugees self-settle, either in unclaimed properties or in pre-existing

informal settlements.⁹⁷ Refugee settlements generally arise in response to a crisis, such as armed conflict, political unrest, natural disaster, or resource shortage. Refugee settlements can accrete near national borders, often just inside countries nearest a given conflict or disaster, or where an economically vibrant nation with restrictive immigration laws controls access from a more permissive state.

Toxic Stress

A physiological response occurring when a child experiences strong, frequent, and/or prolonged adversity – such as physical or emotional abuse, chronic neglect, exposure to violence, or accumulated family hardship – without adequate adult support. Prolonged activation of biological stress response systems can disrupt brain development and increase risk for stress-related disease well into adulthood.

Urban Context

The definition of ‘urban’ varies between, and often within, countries over time.⁹⁸ Common criteria include administrative or political boundaries of a physical area; minimum threshold population (typically 2,000 people, although this varies globally between 200 and 50,000); or the presence of urban services (power, water and waste systems). Urban contexts can be understood as “diverse, dense and dynamic”⁹⁹ settlements, exhibiting high

population density; a greater proportion of built-up area than their surroundings; diverse economic functions and income opportunities; and complex, interdependent social pressures.¹⁰⁰

Users

Parties who will implement and advocate for the Design Guide. These include urban practitioners, decision makers, development and humanitarian organisations, and private investors.

Vulnerability

Vulnerability encompasses a variety of concepts and elements, including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.¹⁰¹ Vulnerability addresses the degree to which a population, individual or organization is unable to anticipate, cope with, resist and recover from the impact of natural, social, political, or economic shocks and stresses to a satisfactory and sustainable quality of life.¹⁰²

Vulnerable Urban Contexts

Vulnerable urban contexts are built environments whose residents are exposed to ongoing stresses and shocks that pose a threat to residents’ lives, livelihoods, and the maintenance of social, natural, physical, political and economic systems.¹⁰³

Bibliography

- Aerts, J. and Anthony, M. "Shaping Urbanization for Children: A Handbook on Child-Responsive Urban Planning," *Cities & Health* (UNICEF, 2018)
- Agier, Michel. "Afterword: What Contemporary Camps Tell Us about the World to Come," *Humanity: An International Journal of Human Rights, Humanitarianism, and Development*7, no. 3 (2016)
- Agier, Michel and Lecadet, Clara. *Un Monde de Camps* (Paris, La Découverte, 2014).
- Akporji, Chii and Carlin, Anne. "Annual Report 2007," *Cities Alliance, Cities without Slums*, 2007
- Amorós Elorduy, Nerea. "The Impact of Humanitarian Shelter and Settlements on Child Protection," *Forced Migration Review* 55, no. June (2017)
- Anderson, Allison and Hodgkin, Marian. "The Creation and Development of the Global IASC Education Cluster," *Paper Commissioned for the EFA Global Monitoring Report 2011, The Hidden Crisis: Armed Conflict and Education*, 2010
- Archer, D., Luansang, C., and Boonmahathanakorn, S. "Facilitating Community Mapping and Planning for Citywide Upgrading: The Role of Community Architects," *Environment and Urbanization* 24, no. 1 (2012)
- Beise, Jan et al., "Advantage or Paradox? The Challenge for Children and Young People of Growing up Urban," 2018. https://data.unicef.org/wpcontent/uploads/2018/11/AdvantageOrParadox_web.pdf.
- Berlanda, Toma and Amorós Elorduy, Nerea. *Between Rural and Urban, Socially Active Ecosystems* (ASA Studio, 2014)
- Bernard van Leer Foundation, "Small Children, Big Cities," *Early Childhood Matters*, no. November (2014)
- Black MM, Walker SP, Fernald LCH, et al, for the Lancet Early Childhood Development Series Steering Committee. Early childhood development coming of age: science through the life course. *Lancet* 2016; published online Oct 4.
- Britto, Pia et al., "Early Moments Matter for Every Child," *Unicef*, 2017, 9, <http://data.unicef.org/ecd/development-status>
- Calogero, Anna et al., "A Participatory Approach to Urban Planning in Slum Neighbourhoods of the Metropolitan Area of Port-Au-Prince," *Urban Crises Learning Partnerships*, vol. Summary Re, 2017, <http://pubs.iied.org/pdfs/G04284.pdf>
- Campbell, L. (2016) *Stepping Back: Understanding Cities and Their Systems*. ALNAP Working Paper. London: ALNAP/ODI.
- Cappa, Claudia. "The Formative Years: UNICEF's Work on Measuring Early Childhood Development," 2014.
- Chawla, Louise. "Growing up in Cities: A Report on Research under Way," *Environment and Urbanization*9, no. 2 (1997)
- Chawla, Louise. *Growing up in an Urbanizing World* (Routledge, 2016)
- Chawla, Louise. *Growing Up in an Urbanising World*, ed. Louise Chawla, Children, Youth and Environments (London, Routledge, 2001).
- Chawla, Louise and Driskell, David. "The Growing Up in Cities Project," *Journal of Community Practice*14, no. 1–2 (2006)
- Christensen, Pia and O'Brien, Margaret. *Children in the City: Home Neighbourhood and Community*, ed. Christensen and O'Brien (London: Routledge, 2003)
- Cotterill, Nicholas et al. *The Long Wait: Filling Data Gaps Relating to Refugees and Displaced People in the Calais Camp*. Refugee Rights Europe, 2016. <https://is.gd/OZaQKC>
- Crea, T., Calvo, R. and Loughry, M. "Refugee Health and Wellbeing: Differences between Urban and Camp-Based Environments in Sub-Saharan Africa," *Journal of Refugee Studies*28, no. 3 (2014)
- Crisp, Jeff and Jacobse, Karen. "Refugee Camps Reconsidered," in *Forced Migration Review*, vol 2, August 1998
- Darling, Jonothan. "Forced Migration and the City: Irregularity, Informality, and the Politics of Presence," *Progress in Human Geography*41, no. 2 (2016)
- Davis, M. *Planet of Slums* (London: Verso, 2006)
- Desgroppes and Taupin, "Kibera: The Biggest Slum in Africa?"
- Dix, Sara. "Urbanisation and the Social Protection of Refugees in Nairobi," <https://odihpn.org/magazine/urbanisation-and-the-social-protection-of-refugees-in-nairobi/>, 2006
- Dovey, Kim and King, Ross. "Forms of Informality: Morphology and Visibility of Informal Settlements," *Built Environment*37, no. 1 (2011)
- Evans, Gary W. "Child Development and the Physical Environment," *Annual Review of Psychology*57, no. 1 (2006)
- Evans, Gary W. "Cumulative risks need comprehensive responses", Bernard van Leer Foundation, "Small Children, Big Cities," 2014
- Evans, Gary. W. and Saegert, S. "Residential Crowding in the Context of Inner-city Poverty," in *Theoretical Perspectives in Environment-Behavior Research*, ed. Seymour Wapner et al. (US, Springer, 2000)
- Ferguson, Kim T. et al., "The Physical Environment and Child Development: An International Review," *International Journal of Psychology*48, no. 4 (2013)
- Hailey, Charlie. *Camps: A Guide to a 21st Century Space* (MIT Press, 2009)

Harrison, Phillip. "The Policies and Politics of Informal Settlement in South Africa: A Historical Perspective," *Africa Insight*22, no. 1 (1992)

Hart, R. et al., *Cities for Children: Children's Rights, Poverty and Urban Management.*, ed. Roger Hart et al., Earthscan (London, Routledge, 1999)

Heckman, James. "The Heckman Equation. The Economics of Human Potential," <https://heckmanequation.org/the-heckman-equation/>, n.d.

Hodnett ED, Gates S, Hofmeyr GJ, Sakala C. Continuous support for women during childbirth. *Cochrane Database Syst Rev*. 2015

Horta, Bernardo L. and Victora, Cesar G. *Long-term Effects of Breastfeeding: A Systematic Review*. World Health Organisation. Geneva. 2013

Intergovernmental Panel on Climate Change, Annex to the Assessment Report 4 (2014)

The International Federation of Red Cross and Red Crescent Societies, "What Is Vulnerability," <https://www.ifrc.org/en/what-we-do/disaster-management/about-disasters/what-is-a-disaster/what-is-vulnerability/>, 2019

Ionescu, Mihaela et al., "Early Learning and Development Standards for Children from Birth to 7 Years Old," 2010.

Karsten, L. and Van Vliet, W. "Children in the City: Reclaiming the Street," *Children, Youth and Environments*16, no. 1 (2006)

Katz, Irit. "The Global Infrastructure of Camps," *Medium*, 2017.

Katz, Irit. "A Network of Camps on the Way to Europe," *Forced Migration Review*, no. 51 (2016)

Kramer, Michael and Kakuma, Ritsuko. "Optimal Duration of Exclusive Breastfeeding," *Cochrane Systematic Review*, 2012

Knox Clarke, P. and Ramalingam, B. (2012) Meeting the Urban Challenge: Adapting Humanitarian Efforts to an Urban World. ALNAP Meeting Paper. London: ALNAP/ODI

Krishnamurthy, S., Steenhuis, C., and Reijnders, D. *MIX & MATCH: Tools to Design Urban Play* (Bernard van Leer Foundation, 2018)

Landau, Loren B. "Urban Refugees Study Guide," *Forced Migration Online*, 2009

Lo, S., Das, P. and Horton, R. "Early Childhood Development: The Foundation of Sustainable Development." *The Lancet*. 2016

Lukacs, Michael and Bhadra, Dipasis. "VCA Lessons Learned," vol. 21, 2003

Lynch and Banerjee, *Growing Up in Cities: Studies of the Spatial Environment of Adolescence in Cracow, Melbourne, Mexico City, Salta, Toluca, and Warszawa*

Matthews, Hugh. "The Street as Liminal Space: The Barbed Spaces of Childhood," in *Children in the City: Home Neighbourhood and Community*, ed. Pia Christensen and Margaret O'Brien (London: Routledge Falmer, 2003)

Milner, James. "Protracted Refugee Situations," in *The Oxford Handbook of Refugee and Forced Migration Studies*, ed. Elena Fiddian-Qasbiyeh et al., Online (Oxford, Oxford University Press, 2014)

Montessori, Maria. *The Absorbent Mind* (New York, Dell Publishing, 1984)

Mpanje, D., Gibbons, P. and McDermott, R. "Social Capital in Vulnerable Urban Settings: An Analytical Framework," *Journal of International Humanitarian Action*3, no. 1 (2018)

National Institute of Urban Affairs, "Compendium of Best Practice of Child Friendly Cities," *Bernard van Leer Foundation*, 2017

National Scientific Council on the Developing Child. (2012). *The Science of Neglect: The Persistent Absence of Responsive Care Disrupts the Developing Brain: Working Paper*

Nolan, Laura B. "Slum Definitions in Urban India: Implications for the Measurement of Health Inequalities," *Population and Development Review*41, no. 1 (2011)

Parnell, Susan and Pieterse, Edgar. "The 'Right to the City': Institutional Imperatives of a Developmental State," *International Journal of Urban and Regional Research* 34, no. 1 (2010)

Peteet, Julie. "Producing Place, Spatializing Identity, 1948–68." In *Landscape of Hope and Despair: Palestinian Refugee Camps*, 93-130. University of Pennsylvania Press, 2005.

Piaget, Jean and Inhelder, Bärbel. *The Child's Conception of Space*. London, Routledge and Kegan Paul, 1956.

Riggio, Eliana and Kilbane, Theresa. "The International Secretariat for Child-Friendly Cities: A Global Network for Urban Children," *Environment and Urbanization*12, no. 2 (2000)

Roy, Anaya. "Urban Informality: Toward an Epistemology of Planning," *Journal of the American Planning Association* 71, no. 2 (2005)

Roy, Anaya and Al Sayyad, Nezar. *Urban Informality : Transnational Perspectives from the Middle East, Latin America, and South Asia, Transnational Perspectives on Space and Place*. (Oxford, Lexington Books, 2004)

Sefali, Pharie. "Khayelitsha turns 30." *GroundUp Magazine*, October 2013 <https://www.groundup.org.za/article/khayelitsha-turns-30/>

Sinclair, Margaret. "Education in Emergencies," in *Learning for a Future: Refugee Education in Developing Countries*, 2001

Slone, M. and Mann, S. *Effects of War, Terrorism and Armed Conflict on Young Children: A Systematic Review*. Child Psychiatry and Human Development, vol 47. (2016) <https://is.gd/CN9EOi>

Strong-Wilson, Teresa and Ellis, Julia. "Children and Place: Reggio Emilia's Environment as Third Teacher," *Theory Into Practice* 46, no. 1 (2007)

Uhrmacher, Bruce P. "Uncommon Schooling : A Historical Look at Rudolf Steiner, Anthroposophy, and Waldorf Education," *Curriculum Inquiry* 25, no. 4 (1995)

UN-Habitat, "Habitat III Issue Papers - 22- Informal Settlements"

UN-Habitat, *The Challenge of Slums: Global Report on Human Settlements 2003* (Nairobi, United Nations Human Settlements Programme, 2003)

UN-Habitat, "UN-Habitat and the Kenya Slum Upgrading Programme," *Strategy Document*, 2007, <https://unhabitat.org/books/un-habitat-and-kenya-slum-upgrading-programme-kensup/>

UN-Habitat, "Kibera Integrated Water Sanitation and Waste Management Project," Progress and Promise: Innovation in Slum Upgrading, 2014

UN-Habitat, *The State of African Cities 2008. A Framework for Addressing Urban Challenges in Africa*. (Nairobi, United Nations Human Settlements Programme, 2008)

UNESCO, "Strong Foundations: Early Childhood Care and Education," vol. 11, 2007

UNHCR, "Population Statistics," 2017, <http://popstats.unhcr.org/en/demographics>

UNHCR, "UNHCR's Global Shelter and Settlement Strategy, 2014-2018," 2014

UNHCR, "Global Trends: Forced Displacement in 2017," *Global Trends*, no. 25 JUNE 2018 (2018): <https://www.unhcr.org/5b27be547.pdf>

UNHCR, "The Implementation of UNHCR's Policy on Refugee Protection and Solutions in Urban Areas", vol. 21, 2012

UNHCR, "Protracted Refugee Situations: The Search for Practical Solutions," in *The State of the World's Refugees*, 2006, 112.

UNICEF, "Building Better Brains: New Frontiers in Early Childhood Development," 2014, <http://www.unicef.cn/en/index.php?m=content&c=index&a=show&catid=220&id=2189>.

UNICEF - State of the world's children (2012)

UNICEF, *We the Children-World Summit for Children* (New York, UNICEF, 2001)

Wachs, Theodore D. "Celebrating Complexity: Conceptualization and Assessment of the Environment," in *Measuring Environment Across the Life Span: Emerging*

Methods and Concepts, ed. Theodore D Wachs and S L Friedman (American Psychological Association, 1989)

Wachs, Theodore D. "Developmental Perspectives on Designing for Development," in *Spaces for Children: The Built Environment and Child Development* (New York, Plenum Press, 1987)

Wachs, Theodore D. "Expanding Our View of Context: The Bio-Ecological Environment and Development," *Advanced Child Development* 31 (2003)

Ward, Colin. "Children of the Streets," *New Society* 77, no. 1228 (1986)

Walker SP, Chang SM, Wright A, Osmond C, Grantham-McGregor SM. Early childhood stunting is associated with lower developmental levels in the subsequent generation of children. *J Nutr* 2015; 145: 823–28

WHO. "Companion of Choice During Labour and Childbirth for Improved Quality of Care." Geneva: WHO, 2016.

WHO. WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience. Geneva, Switzerland: WHO 2016.

WHO. WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience: Summary. Geneva, Switzerland: WHO; 2018.

WHO Guidelines on Physical activity, Sedentary Behaviour and Sleep for Children Under 5 Years of Age.

WHO, UNICEF, WBG. "Nurturing Care for Early Childhood Development: A Framework for Helping Children Survive and Thrive to Transform Health and Human Potential". Geneva: World Health Organisation, 2018

Wisner, B. and J Adams, J. "Environmental Health in Emergencies and Disasters. A Practical Guide," *WHO Library Cataloguing in Publication Data*, 2002.

Woodhead, Martin. "Early Childhood Development in the SDGs," *Young Lives Policy Brief* 28, no. January (2016)

The World Bank, "How to Make Poverty Alleviation Strategies Participatory,

<http://go.worldbank.org/LKOR0QOC70>, 2016

Yáñez, Tinajero, and Lombardi, "Early Learning: Lessons from Scaling up Early Childhood Matters,"

End Notes

1. Jens Aerts and David Anthony, "Shaping Urbanization for Children: A Handbook on Child-Responsive Urban Planning," *Cities & Health* (UNICEF, 2018).
2. Jens Aerts and David Anthony, "Shaping Urbanization for Children: A Handbook on Child-Responsive Urban Planning," *Cities & Health* (UNICEF, 2018).
3. Selina Lo, Pamela Das, and Richard Horton. "Early Childhood Development: The Foundation of Sustainable Development." *The Lancet*. 2016 [http://dx.doi.org/10.1016/S0140-6736\(16\)31659-2](http://dx.doi.org/10.1016/S0140-6736(16)31659-2)
4. UNESCO, "Strong Foundations: Early Childhood Care and Education," vol. 11, 2007; UNICEF, "Building Better Brains: New Frontiers in Early Childhood Development," 2014, <http://www.unicef.cn/en/index.php?m=content&c=index&a=show&catid=220&id=2189>.
5. Gary W. Evans, "Child Development and the Physical Environment," *Annual Review of Psychology* 57, no. 1 (2006): 423–451; Claudia Cappa, "The Formative Years: UNICEF's Work on Measuring Early Childhood Development," 2014.
6. Gary W. Evans, "Child Development and the Physical Environment," *Annual Review of Psychology* 57, no. 1 (2006): 423–451; Claudia Cappa, "The Formative Years: UNICEF's Work on Measuring Early Childhood Development," 2014.
7. Selina Lo, Pamela Das, and Richard Horton. "Early Childhood Development: The Foundation of Sustainable Development." *The Lancet*. 2016 [http://dx.doi.org/10.1016/S0140-6736\(16\)31659-2](http://dx.doi.org/10.1016/S0140-6736(16)31659-2)
8. Walker SP, Chang SM, Wright A, Osmond C, Grantham-McGregor SM. Early childhood stunting is associated with lower developmental levels in the subsequent generation of children. *J Nutr* 2015; 145: 823–28.
9. James J Heckman, "The Heckman Equation. The Economics of Human Potential," <https://heckmanequation.org/the-heckman-equation/>, n.d.
10. Krishnamurthy, Steenhuis, and Reijnders, MIX & MATCH: Tools to Design Urban Play; Bernard van Leer Foundation, "Urban 95. An Urban Starter Kit, Ideas for Action," 2018; Lia Karsten and Willem Van Vliet, "Children in the City: Reclaiming the Street," *Children, Youth and Environments* 16, no. 1 (2006): 151–167.
11. Siqi Zhang, Ruirui Dang, Ning Yang, Yu Bai, Lei Wang, Cody Abbey and Scott Rozelle, "Effect of Caregiver's Mental Health on Early Childhood Development across Different Rural Communities in China," *International Journal of Environmental Research and Public* , 15 (11).
12. Fringillo, E. A., Nguyen, P. A., Saha KK, et al., 2017, "Large-Scale Behaviour-Change Initiative for Infant and Young Child Feeding Advanced Language and Motor Development in a Cluster-Randomized Program Evaluation in Bangladesh". *The Journal of Nutrition*, 147 (2): 256-63.
13. Katherine Magnuson and Holly Schindler, 2019, "Supporting Children's Early Development by Building Caregivers' Capacities and Skills: A Theoretical Approach Informed by New Neuroscience Research". *Journal of Family Theory & Review*, 11 (1).
14. Theodore D Wachs, "Celebrating Complexity: Conceptualization and Assessment of the Environment," in *Measuring Environment Across the Life Span: Emerging Methods and Concepts*, ed. Theodore D Wachs and S L Friedman (American Psychological Association, 1989), 357–392; Theodore D Wachs, "Developmental Perspectives on Designing for Development," in *Spaces for Children: The Built Environment and Child Development* (New York, Plenum Press, 1987), 291–307; Theodore D Wachs, "Expanding Our View of Context: The Bio-Ecological Environment and Development", *Advanced Childhood Development* 31 (2003): 363-409.
15. Maria Montessori, *The Absorbent Mind* (New York, Dell Publishing, 1984); Teresa Strong-Wilson and Julia Ellis, "Children and Place: Reggio Emilia's Environment As Third Teacher," *Theory Into Practice* 46, no. 1 (2007): 40–47, doi:10.1080/00405840709336547; Bruce P. Uhrmacher, "Uncommon Schooling: A Historical Look at Rudolf Steiner, Anthroposophy, and Waldorf Education," *Curriculum Inquiry* 25, no. 4 (1995): 381–406, doi:10.2307/1180016; Jean Piaget and Bärbel Inhelder, *The Child's Conception of Space* (London, Routledge and Kegan Paul, 1956).
16. Evans, G.W. (2006). Child development and the physical environment. *Annual Review of Psychology* 57: 423–51.
17. Arup, "Cities Alive: Designing for Urban Childhoods," 15–16; Bernard van Leer Foundation, "Urban 95. An Urban Starter Kit, Ideas for Action."
18. Arup, "Cities Alive: Designing for Urban Childhoods."
19. Rebello Britto et al., "Early Moments Matter for Every Child"; Mihaela Ionescu et al., "Early Learning and Development Standards for Children from Birth to 7 Years Old," 2010.
20. Louise Chawla and David Driskell, "The Growing Up in Cities Project," *Journal of Community Practice* 14, no. 1–2 (2006): 194; UN General Assembly, Convention on the Rights of the Child; UNICEF, "Building child friendly cities: A Framework for Action," 2004, 6; Woodhead, "Early Childhood Development in the SDGs," 1.
21. Jens Aerts and David Anthony, "Shaping Urbanization for Children: A Handbook on Child-Responsive Urban Planning," *Cities & Health* (UNICEF, 2018).
22. Black MM, Walker SP, Fernald LCH, et al, for the Lancet Early Childhood Development Series Steering Committee. Early childhood development coming of age: science through the life course. *Lancet* 2016; published online Oct 4. [http://dx.doi.org/10.1016/S0140-6736\(16\)31389-7](http://dx.doi.org/10.1016/S0140-6736(16)31389-7).
23. UN-Habitat, "Habitat III Issue Papers - 22- Informal Settlements," in United Nations Conference on Housing and Sustainable Urban Development, vol. 2015, 2015, 0–8.
24. UNHCR, "Global Trends: Forced Displacement in 2017," *Global Trends*, no. 25 JUNE 2018 (2018): 76, <https://www.unhcr.org/5b27be547>.

- pdf; UNHCR, "Figures at a Glance," <https://www.unhcr.org/afr/figures-at-a-glance.html>, 2019.
25. UNHCR, "Global Trends: Forced Displacement in 2017," *Global Trends*, no. 25 JUNE 2018 (2018): 76. <https://www.unhcr.org/5b27be547.pdf>; UNHCR, "Figures at a Glance," <https://www.unhcr.org/afr/figures-at-a-glance.html>, 2019.
26. UNHCR, "Population Statistics," 2017, <http://popstats.unhcr.org/en/demographics>.
27. Jens Aerts and David Anthony, "Shaping Urbanization for Children: A Handbook on Child-Responsive Urban Planning," *Cities & Health* (UNICEF, 2018).
28. Sheela S. Sinharoy, Rachel Pittluck and Thomas Clasen, "Review of drivers and barriers of water and sanitation policies for urban informal settlements in low-income and middle-income countries," *Utilities Policy*, 2019, 60.
29. Antina von Schnitzler, "Democracy's Infrastructure: Techno-Politics & Protest after Apartheid," Princeton University Press, 2016.
30. Denboba et al., "Stepping up Early Childhood Development: Investing in Young Children for High Returns"; Heckman, "The Heckman Equation. The Economics of Human Potential."
31. WHO, UNICEF, WBG, "Nurturing Care for Early Childhood Development: A Framework for Helping Children Survive and Thrive to Transform Health and Human Potential," Geneva: World Health Organisation, 2018, 11.
32. <https://en.unesco.org/gem-report/sites/gem-report/files/12%20-%20Projected%20growth%20of%20slums%20in%20Africa.pdf>.
33. The International Federation of Red Cross and Red Crescent Societies, "What Is Vulnerability," <https://www.ifrc.org/en/what-we-do/disaster-management/about-disasters/what-is-a-disaster/what-is-vulnerability/>, 2019; Michael Lukacs and Dipasi Bhadra, "VCA Lessons Learned," vol. 21, 2003; B. Wisner and J Adams, "Environmental Health in Emergencies and Disasters. A Practical Guide," WHO Library Cataloguing in Publication Data, 2002
34. UN-Habitat, "Habitat III Issue Papers - 22- Informal Settlements"; Akporji and Carlin, "Annual Report 2007"; Kim Dovey and Ross King, "Forms of Informality: Morphology and Visibility of Informal Settlements," *Built Environment* 37, no. 1 (2011): 11–29, doi:10.2148/benv.37.1.11; Ananya Roy and Nezar AlSayyad, *Urban Informality: Transnational Perspectives from the Middle East, Latin America, and South Asia*, *Transnational Perspectives on Space and Place*. (Oxford, Lexington Books, 2004); Lubaina Rangwala et al., "Prepared Communities. Implementing the Urban Community Resilience Assessment in Vulnerable Neighbourhoods of Three Cities," 2018.
35. UN-Habitat, "Habitat III Issue Papers - 22- Informal Settlements," 2, 4; Chii Akporji and Anne Carlin, "Annual Report 2007," *Cities Alliance, Cities without Slums*, 2007, 11. UN-Habitat, "Habitat III Issue Papers - 22- Informal Settlements," 2, 4; Chii Akporji and Anne Carlin, "Annual Report 2007," *Cities Alliance, Cities without Slums*, 2007, 11.
36. Rima R. Habib, Amena El-Harakeh, Micheline Ziadee, Elio Abi Younes and Khalil El Asmar, "Social capital, social cohesion, and health of Syrian refugee working children in informal tented settlements in Lebanon: A cross-sectional study." *PLOS Medicine*, 2020.
37. Stephen Vertigans and Neil Gibson, "Resilience and social cohesion through the lens of residents in a Kenyan informal settlement." *Community Development Journal*, 2019.
38. M.C. Georgiadou and C. Loggia, "Community-led upgrading for self-reliance in informal settlements in South Africa: a review". RICS COBRA 2016, Toronto, Canada, 19-22 Sep.
39. UN-Habitat, "Habitat III Issue Papers - 22- Informal Settlements"; UN-Habitat, *The Challenge of Slums: Global Report on Human Settlements 2003* (Nairobi, United Nations Human Settlements Programme, 2003), doi:10.1108/meq.2004.15.3.337.3; UN-Habitat, "The State of the World's Cities."
40. UN-Habitat, "Habitat III Issue Papers - 22- Informal Settlements," 2.
41. UN-Habitat, "Habitat III Issue Papers - 22- Informal Settlements"; Nolan, "Slum Definitions in Urban India: Implications for the Measurement of Health Inequalities."
42. Desgropes and Taupin, "Kibera: The Biggest Slum in Africa?"; Marras, Ngito, and Sarago, "Map Kibera Project."
43. UNHCR, Policy on refugee protection and solutions in urban areas; UNHCR, "The Implementation of UNHCR's Policy on Refugee Protection and Solutions in Urban Areas"; UNHCR, "Global Trends: Forced Displacement in 2017."
44. Bernard Van Leer Foundation, "Urban 95. An Urban Starter Kit, Ideas for Action"; Aerts and Anthony, "Shaping Urbanization for Children: A Handbook on Child-Responsive Urban Planning"; Rangwala et al., "Prepared Communities. Implementing the Urban Community Resilience Assessment in Vulnerable Neighbourhoods of Three Cities."
45. Martin Woodhead, "Early Childhood Development in the SDGs," *Young Lives Policy Brief 28*, no. January (2016): 1.
46. Pia Rebello Britto et al., "Early Moments Matter for Every Child," *Unicef*, 2017, 9, <http://data.unicef.org/ecd/development-status>.
47. UNESCO, "Strong Foundations: Early Childhood Care and Education," vol. 11, 2007; UNICEF, "Building Better Brains: New Frontiers in Early Childhood Development," 2014, <http://www.unicef.cn/en/index>.
48. UNESCO, "Strong Foundations: Early Childhood Care and Education," vol. 11, 2007; UNICEF, "Building Better Brains: New Frontiers in Early Childhood Development," 2014, <http://www.unicef.cn/en/index.php?m=content&c=index&a=show&catid=220&id=2189>.
49. Pia Rebello Britto et al., "Early Moments Matter for Every Child," *Unicef*, 2017, 9, <http://data.unicef.org/ecd/development-status>. 9.
50. Leonardo Yáñez, Alfredo Tinajero, and Joan Lombardi, "Early Learning: Lessons from Scaling up Early Childhood Matters," 2011; Bernard van Leer Foundation, "Small Children, Big Cities," *Early Childhood Matters*, no. November (2014): 1–68.
51. Yáñez, Tinajero, and Lombardi, "Early Learning: Lessons from Scaling up Early Childhood Matters," 5.

52. The United Nations General Assembly, Convention on the Rights of the Child.
53. Michael S. Kramer and Ritsuko Kakuma, "Optimal Duration of Exclusive Breastfeeding." *Cochrane Systematic Review*, 2012. <https://doi.org/10.1002/14651858.CD003517.pub2>
54. Sukanya Krishnamurthy et al., Child-Friendly Urban Design. Observation on Public Space from Eindhoven (NL) and Jerusalem (IL), Bernard van Leer Foundation, 2018, 11.
55. Black, Walker, Fernald et al. "Early Childhood Development Coming of Age: Science through the Life Course." *The Lancet*, vol. 389 Issue 10064. 2016.
56. Luis Triveno, Elizabeth Hausler, Niels Holm-En and Peter Yanev, "To build resilient cities, we must treat substandard housing as a life-or-death emergency." *World Bank Blogs*, 2017.
57. WHO Guidelines on Physical activity, Sedentary Behaviour and Sleep for Children Under 5 Years of Age.
58. National Scientific Council on the Developing Child. (2012). *The Science of Neglect: The Persistent Absence of Responsive Care Disrupts the Developing Brain: Working Paper 12*, 1.
59. Woodhead, "Early Childhood Development in the SDGs." 1; UNICEF, *We the Children-World Summit for Children* (New York, UNICEF, 2001), 64.
60. UN General Assembly, Convention on the Rights of the Child; UNHCR, UNHCR policy on refugee protection and solutions in urban areas; UNHCR, "The Implementation of UNHCR's Policy on Refugee Protection and Solutions in Urban Areas."
61. Selina Lo, Pamela Das, and Richard Horton. "Early Childhood Development: The Foundation of Sustainable Development." *The Lancet*. 2016 [http://dx.doi.org/10.1016/S0140-6736\(16\)31659-2](http://dx.doi.org/10.1016/S0140-6736(16)31659-2).
62. Bernard van Leer Foundation, "Urban 95. An Urban Starter Kit, Ideas for Action," 7.
63. WHO Guidelines on Physical activity, Sedentary Behaviour and Sleep for Children Under 5 Years of Age.
64. Arup, "Cities Alive: Designing for Urban Childhoods," 16.
65. Arup, "Cities Alive: Designing for Urban Childhoods"; Rebello Britto et al., "Early Moments Matter for Every Child." 9–10; Krishnamurthy et al., *Child-Friendly Urban Design. Observation on Public Space from Eindhoven (NL) and Jerusalem (IL)*.
66. Arup, "Cities Alive: Designing for Urban Childhoods"; The UN General Assembly, Convention on the Rights of the Child.
67. Arup, "Cities Alive: Designing for Urban Childhoods," 39.
68. The United Nations General Assembly, "Convention on the Rights of the Child," United Nations § (1989), doi:UN Doc. A/RES/44/25.
69. WHO, "Companion of Choice During Labour and Childbirth for Improved Quality of Care." Geneva: WHO, 2016. 1
70. Hodnett ED, Gates S, Hofmeyr GJ, Sakala C. Continuous support for women during childbirth. *Cochrane Database Syst Rev*. 2015;(7):CD003766.
71. WHO. WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience. Geneva, Switzerland: WHO 2016.
72. WHO. WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience: Summary. Geneva, Switzerland: WHO; 2018.
73. Bernard van Leer Foundation, "Urban 95. An Urban Starter Kit, Ideas for Action."
74. The United Nations General Assembly, Convention on the Rights of the Child.
75. Bernard van Leer Foundation, "Urban 95. An Urban Starter Kit, Ideas for Action."
76. Ocharan et al., "Child-Centred Urban Resilience Framework."
77. Bernard van Leer Foundation, "Urban 95. An Urban Starter Kit, Ideas for Action," 7.
78. Lake, Anthony. *Early Moments Matter for Every Child.*, iv.
79. Bernard van Leer Foundation, "Urban 95. An Urban Starter Kit, Ideas for Action," 11.
80. Bernard van Leer Foundation, "Urban 95. An Urban Starter Kit, Ideas for Action," 10.
81. Bernard van Leer Foundation, "Urban 95. An Urban Starter Kit, Ideas for Action," 11.
82. Bernard van Leer Foundation, "Urban 95. An Urban Start Kit, Ideas for Action," 11.
83. Bernard van Leer Foundation, "Urban 95. An Urban Start Kit, Ideas for Action," 25.
84. Bernard van Leer Foundation, "Urban 95. An Urban Start Kit, Ideas for Action," 31.
85. Bernard van Leer Foundation, "Urban 95. An Urban Start Kit, Ideas for Action," 23.
86. UN-Habitat, "Habitat III Issue Papers - 22- Informal Settlements"; Dovey and King, "Forms of Informality: Morphology and Visibility of Informal Settlements"; Akporji and Carlin, "Annual Report 2007." 2.
87. Kim T. Ferguson et al., "The Physical Environment and Child Development: An International Review," *International Journal of Psychology* 48, no. 4 (2013): 437–468, doi:10.1080/00207594.2013.804190; Evans, "Child Development and the Physical Environment"; Gary W Evans and Susan Saegert, "Residential Crowding in the Context of Inner City Poverty," in *Theoretical Perspectives in Environment-Behavior Research*, ed. Seymour Wapner et al. (US, Springer, 2000), 247–267.
88. UN-Habitat, "Habitat III Issue Papers - 22- Informalettlements"; Dovey and King, "Forms of Informality: Morphology and Visibility of Informal Settlements"; Akporji and Carlin, "Annual Report 2007."

89. Aerts and Anthony, "Shaping Urbanization for Children: A Handbook on Child-Responsive Urban Planning"; Desgroppes and Taupin, "Kibera: The Biggest Slum in Africa?"; Harrison, "The Policies and Politics of Informal Settlement in South Africa: A Historical Perspective."
90. UN-Habitat, "Habitat III Issue Papers - 22- Informal Settlements"; Mpanje, Gibbons, and McDermott, "Social Capital in Vulnerable Urban Settings: An Analytical Framework"; UN-Habitat, *The Challenge of Slums: Global Report on Human Settlements 2003*.
91. Barjor Mehta, Arish Dastur, and Steffen Janus, "Approaches to Urban Slums: A Multimedia Sourcebook on Adaptive and Proactive Strategies," The World Bank, 2008; UN-Habitat, "Habitat III Issue Papers - 22- Informal Settlements"; Akporji and Carlin, "Annual Report 2007."
92. Slone, M. and Mann, S. *Effects of War, Terrorism and Armed Conflict on Young Children: A Systematic Review*. *Child Psychiatry and Human Development*, vol. 47. (2016) <https://is.gd/CN9EOi>
93. UNHCR, UNHCR policy on refugee protection and solutions in urban areas, 3
94. UNHCR, "The Implementation of UNHCR's Policy on Refugee Protection and Solutions in Urban Areas," 2012.
95. UNHCR, UNHCR policy on refugee protection and solutions in urban areas, 3.
96. UNHCR, "The Implementation of UNHCR's Policy on Refugee Protection and Solutions in Urban Areas," vol. 21, 2012.
97. Evans, Gary. "Cumulative risks need comprehensive responses". Bernard van Leer Foundation, "Small Children, Big Cities," 2014.
98. UNHCR, Policy on refugee protection and solutions in urban areas; UNHCR, "The Implementation of UNHCR's Policy on Refugee Protection and Solutions in Urban Areas"; UNHCR, "Global Trends: Forced Displacement in 2017."
99. UNICEF - State of the world's children (2012), p.10
100. Knox Clarke, P. and Ramalingam, B. (2012) *Meeting the Urban Challenge: Adapting Humanitarian Efforts to an Urban World*. ALNAP Meeting Paper. London: ALNAP/ODI <https://www.alnap.org/help-library/meeting-the-urban-challenge-adapting-humanitarian-efforts-to-an-urban-world>.
101. Campbell, L. (2016) *Stepping Back: Understanding Cities and Their Systems*. ALNAP Working Paper. London: ALNAP/ODI. <https://is.gd/VLnDs9>
102. Intergovernmental Panel on Climate Change, Annex to the Assessment Report 4 (2014)
103. VCA Lessons Learned - International Federation of Red Cross and Red Crescent Societies p. 2 Environmental health in emergencies and disasters: a practical guide. WHO 2002, p.13.
104. The International Federation of Red Cross and Red Crescent Societies, "What Is Vulnerability," <https://is.gd/YrPjyx>, 2019; Michael Lukacs and Dipasis Bhadra, "VCA Lessons Learned," vol. 21, 2003; B. Wisner and J Adams, "Environmental Health in Emergencies and Disasters, A Practical Guide, WHO Library Cataloguing in Publication Data, 2002.



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