

AIROBI, Kenya—In the winding alleyways of Mlolongo, one of Kenya's densest slums, heavy rainfalls from the previous night carpet the road with mud and animal waste, making both nearly impossible to avoid. Visitors approach and remove their shoes at the door to Mama Agnes' home, a mud shack, then step into a room where the air is pungent with the smell of urine and feces. In the darkness, one misstep and a visitor stumbles upon an infant, who

seems unshaken by the accidental nudge. A few steps further lie two dozen more infants, none older than 18 months—some sitting on a broken couch, many lying on the concrete ground. Though all awake, their perfect little bodies remain still, only their bellies rising with each breath. In an eight-foot square space, there are at least 25 babies, and the only sound—silence.

Mama Agnes' home-based day care center is not uncommon across sub-Saha-

ran Africa's informal settlements. In her community of Mlolongo, a population of nearly 300,000 slum-dwellers, there are more than 30 similar home-based day care centers, with new ones opening each day. They constitute an entrepreneurial, community-based solution to a problem unmet by the public sector.

ALTERNATIVE CHILD CARE

Kenya's free primary education policy was launched in 2003 as part of the Education

for All movement, promoted by agencies at the United Nations and World Bank. It has successfully increased the gross primary school enrollment rate from 91 percent in 1999 to 112 percent in 2009—a number exceeding 100 percent because of double-counting of over-age or under-age students who may start late or repeat grades. In Kenya's informal settlements, an equally impressive gross primary school enrollment rate of 105 percent can be seen, though many questions about the quality of education remain unanswered.

Equally unresolved is the question of what happens to children under the age of five years in these

urban slums—children too young to enter formal schooling and too young to fend for themselves. Marked by economic instability—41 percent of households have a daily income of less than \$2.50—and without the luxury of maternity leave, mothers in slums are caught between staying at home with their young infants or seeking labor for the day in a struggle to put food on the table.

Jackline Matanu, a 29-year-old mother of two living in the Mlolongo slums, has tried to get the best of both worlds. She spends the day walking door-to-door to wash clothes, with her one-year-old baby on her back. On a good day, she earns slightly over \$3 for her eight-hour efforts, though

her work is often interrupted by her infant's frequent illnesses. "Going with baby is very tiresome," says Matanu. "Sometimes weather is bad and carrying the baby causes pneumonia. I want to have a good job that sustains my needs for my children."

The majority of working mothers in these informal settlements are employed in factories, small businesses, or as maids in upper-income houses—environments ill-suited to bringing children to work. And in most cases, grandparents and other family members live in rural areas of the country, placing extended family support systems largely out of reach. As

a result, young infants can be left at home alone for four to 12 hours, often tied to furniture to keep them safely within the corrugated steel or mud walls of the home. In

MANY OF THESE
INFORMAL DAY
CARE CENTERS
STRUGGLE
WITH SEVERE
CONGESTION,
LIMITED
VENTILATION,
UNSANITARY
AND UNSAFE
ENVIRONMENTS,
POOR NUTRITION,
AND A LACK OF
STIMULATION AND
PLAY.

Sabrina Natasha Premji is co-founder of Kidogo Early Years, a social enterprise providing high-quality, affordable early childhood care and education in East Africa's urban slums.

some cases, an older child, usually a girl, is pulled from school to care for her younger sibling. But a seven-year-old child looking after her baby brother hardly suffices as effective childcare and breeds a mass of uneducated girls trapped in lives of poverty.

Mama Agnes' home-based day care represents a relatively better option for women in sub-Saharan Africa who bear the brunt of caring for their children, as well as contributing to the household income. For the equivalent of 50 cents to a dollar per day, pre-primary school children under five years old are supervised, allowing their mothers to seek employment. Still, many of these informal daycare centers struggle with severe congestion, limited ventilation, unsanitary and unsafe environments, poor nutrition, and a lack of stimulation and play. Sometimes food is provided by the center's caregivers. In other cases, the responsibility falls to the mothers. However, there is a widespread lack of knowledge within the community with respect to the type of food appropriate for developing children.

"Most mothers bring food, but the food is not a balanced diet," says Racheal Nduku, director of Mother Child in Action, a community-based organization that works to improve conditions in home-based daycare centers in the Mlolongo slums. "Sometimes they can bring tea, strong tea, and bread. And that is for the whole day for the baby. It is not enough. It is not balanced."

Nduku knows the importance of ageappropriate food all too well. In 2009, while running errands for the day, Nduku left her two-year-old son in the hands of one of Mlolongo's caregivers. The caregiver fed the baby a large meal unsuitable for a young infant, and carried on with her other duties. Nduku returned to find her son motionless. She rushed him to the local clinic where he was pronounced dead—having choked and suffocated on the meal.

Nduku describes the incident as a challenging setback in her life, but also as a divine intervention that has strengthened her resolve to educate mothers in her community on proper child-caring practices. "God was training me, preparing me to help other mothers with caring for their babies." She has since founded Mother Child in Action, which works with more than 60 home-based daycare centers in Mlolongo, Sofia, and Bondeni slums to teach caregivers proper nutrition and sanitation practices.

Describing the current state of day care centers, Nduku says: "They are congested. Children are sleeping all over. They don't play. Instead of playing, they are sleeping." With significant space constraints and only one to two caregivers for upwards of 40 or 50 infants, there are simply not enough eyes to watch the children. "If the child goes out to play, she or he can get lost, or maybe she can be stolen, and now because the mother is away and she left you with the child, you will be answerable to the mother," says Nduku. So children are confined to the walls of the caregivers' home, forced to lay down throughout the day and remain unnaturally still, presumably for their own safety. "I have a small house," responds Mama Agnes, pointing to her mud shack. "There is no place to sleep and to play. It is a burden God has given me to care for these children."

Nduku says space constraints are only one reason children are discouraged from exploring their surroundings. The caregivers are afraid, she says. "You know it is not legalized. They don't have any license." Home-based day care centers in informal settlements are largely unregulated. Though centers are legally required to have a license, women who operate day care centers in slums are far from meeting the stringent criteria for

ACTION STEPS

Although small-scale, local initiatives exist, early childhood policy and program implementation in much of sub-Saharan Africa is lacking and will require a focused effort by governments linked to the larger educational ecosystem in each country:

- Pre-school education is a good start, but more efforts must be made to ensure programming reaches children during the first 1,000 days of life and must focus on the child using a holistic approach, incorporating health, nutrition, education, and emotional development.
- Private sector players operating in Africa should be particularly interested in improving the quality of early education to ensure a sustainable pipeline of high-quality human capital with the skills and capacity required to power their organizations for years to come.
- Significant increase in financial investment in early childhood programs is necessary to support the evolution of policies and programs and must be linked to results in order to ensure quality and drive better outcomes.
- Social enterprises can play a pivotal role in providing scalable, sustainable early childhood care and education to those living at the bottom of the economic pyramid.
- Opportunities for innovative public-private partnerships exist both in direct service
 provision and supporting social enterprises through new forms of financing, policies,
 and platforms.
- All these efforts must be encouraged by government-supported regulatory, tax, or straight fiscal incentives.

—Sabrina Natasha Premji

this license, which includes having an early childhood education certification. The caregivers also do not have the financial resources to pay the tax required for operating a business. So most centers are unmarked, known only to the community by word of mouth, and children are kept locked inside, away from the lurking eyes of government officials enforcing licensing and taxation policies, or more likely, looking for a bribe.

It is a less than ideal situation. Mothers like Matanu aspire for their children to be clean, happy, and healthy, but caregivers such as Mama Agnes simply do not have the infrastructure to offer an environment where

children can thrive. Local advocates within these slums, such as Nduku, exist in handfuls but their good intentions are short-circuited by limited capacity and resources. The result is a generation of stunted, malnourished, and chronically neglected children, ill-equipped to face the enormous challenges ahead.

EARLY CHILDHOOD DEVELOPMENT

In the early 1990s, basic custodial care was thought sufficient to ensure the well-being of an infant before formal education begins at the primary school level. However, an explosion of knowledge in early childhood development over the past decade has shown

that the first 1,000 days, roughly three years from birth to age three, represent a crucial period of learning and development. Research has shown that while individuals continue to adapt throughout life, 85 percent of brain development takes place during the fetal and early childhood stages. During this critical window, the brain's neural circuits are formed and strengthened, and key learning capacities risk being lost without adequate attention or stimulation.

Children living in severe poverty and adverse situations, including violence, ne-

glect, malnutrition, chronic infections, and exposure to environmental toxins, are at an elevated risk of impaired cognitive function. An infant who lacks consistent and nurturing interactions—being left at home during the working hours—is at an increased risk of sustained activation of the brain's stress responses, which disrupts neural circuits necessary for memory and learning. This can also predispose the child to stress-related physical and mental disorders throughout his or her life.

A child with stunted growth by two years of age

is more likely to exhibit cognitive deficits, translating to less time spent at school and less information learned. The accumulation of cognitive and educational deficits result in an estimated 22 percent loss of annual income in adulthood. Further, nations with high child-stunting rates annually lose 5 to 17 percent of their gross domestic product due to a diminished labor pool and lower economic activity.

This catapults into a worldwide economic emergency affecting international trade and economic growth. Globally, the effects of malnutrition during the first 1,000 days of life cost \$1.4 trillion to \$2.1 trillion a year, the equivalent of 2 to 3 percent of global GDP in lost economic productivity. The reality is these losses are preventable with effective service provision during early childhood.

The evidence overwhelmingly shows that failure to protect and nurture development during the early years not only erodes the rights of millions of children to reach

> locks individuals and com-80 percent or more of urban populations in sub-Saharan Chad, Ethiopia, Madagascar, access to early childhood care

their full potential, but also munities into inter-generational cycles of poverty. With a billion people living in slums globally, including countries such as Niger, and South Sudan, the lack of and education are issues that cannot be ignored.

SHAKY FOUNDATIONS Globally, there has been a trend toward establishing

early childhood frameworks, with 34 countries adopting comprehensive systems in

the past four years, and 50 more currently in the process of developing policies. In a region where 30 percent of the population is in their early years, having so many children on a shaky foundation for growth and development ought to be considered sub-Saharan Africa's first priority. In the past five years, many countries have responded with robust policy frameworks, including Ghana and Ethiopia. In Kenya, the government has

PARENTS,

PARTICULARLY

AMONG POOR

HOUSEHOLDS,

HAVE OPTED

TO SEND THEIR

CHILDREN

DIRECTLY TO

PRIMARY SCHOOL,

BYPASSING ANY

FEE-PAYING EARLY

CHILDHOOD

SERVICE.

put forth a complex early childhood development architecture situated within the larger Education for All movement—signaling a strong direction, but supported by a meager annual budget of \$3.9 million. This represents less than 0.2 percent of the country's total budget for education, or less than \$1 per child per year—hardly sufficient to ensure access to affordable early childhood care.

Despite substantial progress in some isolated locations, early childhood services across sub-Saharan Africa are hampered by limited teaching and learning materials, an

overemphasis on formal center-based models without regard to alternative approaches, inadequate community participation, insufficient nutrition and health services, lack of trained teachers, and a failure to adopt policies that transition from pre-primary and primary schools. Moreover, the push for free primary education across much of the continent has adversely affected progress in pre-primary schools. Parents, particularly among poorer

households, have opted to send their children directly to primary school, bypassing any feepaying early childhood service. Or parents send their infants to home-based and other alternative day care centers without paying, on the principle that pre-primary services should be free. Since teachers' salaries and the provision of these services depend largely on parents' contributions, the reluctance to pay has resulted in the loss of teachers, the closing of centers and in many regions, including northeastern Kenya, even the collapse of the pre-primary school system altogether.

For Mama Agnes, the failure of one of the mothers to pay for daily child care hit an extreme in March 2013. "Even that child, I stay with her," she says, pointing to an infant lying with the heap of other children in her home-based day care. "The mother has left. I don't know where she is." Nduku explains this is not uncommon. "Sometimes they bring their children, and when they fail to get money, they run away, leaving their child with the daycare owner," says Nduku.

OUT OF AFRICA

With governments focusing on policies and frameworks, the burden of implementing

early childhood development services has fallen largely on civil society where the concept of child care is not new, nor is the impetus for innovation—especially beyond Africa.

More than four decades ago, at a construction site in New Delhi, Meena Mahadevan noticed infants tottering around, exposed to extreme heat and dust, while their parents worked. She set up a tent and arranged

for a caregiver to supervise

the children during working hours, marking the beginning of what is now a nonprofit organization with over 650 day care centers. Mobile Crèches has provided child care services to 750,000 children from birth to age 12 on construction sites and in slums across New Delhi, Bombay, and Pune, working as well with community-based organizations to lobby for the needs of children and inform policy discussions at state and national levels. The approach is holistic, protecting and promoting the health, nutrition, and development of young children.

Unlike many informal day cares in the slums of sub-Saharan Africa, the day care at

"THOUGH THE
WHOLE WORLD
KNOWS IT'S
CRITICAL AND
EVERYTHING IS
DEPENDENT ON
CHILDREN, THEY
ARE TREATED
LIKE SUB-HUMAN

BEINGS."

New Delhi's Mobile Crèches is well-structured, divided between activities, such as singing, storytelling, meals, and nap times an indication of the importance placed on well-trained teachers and the principles of early childhood development. Rather than building parallel structures to the government's existing programs, Mobile Crèches works alongside authorities to strengthen their Integrated Child Development Services initiatives and expand access to more slumdwelling children. "Though the whole world knows it's critical and everything is dependent on children, they are treated like subhuman beings," explains Mridula Bajaj, executive director of Mobile Crèches. "As citizens in their own right, young children should get early childhood care and education services. This is the mechanism to provide equity and give them a good start."

Running a holistic child care program for families living at the bottom of the pyramid comes at a cost. Although partly supported by corporations at construction sites, Mobile Crèches is largely dependent on local and international donations, which make up more than 80 percent of their total budget. Without this influx of capital, their operations would collapse, along with the future trajectories of the children they serve.

SOCIAL ENTREPRENEURSHIP

To combat the challenge of being donor-dependent, a handful of innovative social enterprises have begun leveraging core business concepts to provide child care to low-income families in a financially sustainable and scalable way.

Hippocampus Learning Centers delivers a high-quality kindergarten program for children aged three to six years in rural Karnataka, India. The focus of their pre-school program is selecting and enabling local women to deliver their unique educational

curriculum while leveraging low-cost, local learning materials. The organization aims to have each village center cover its operating costs and teachers' salaries through fees of \$2 to \$5 per child per month charged to parents. The for-profit organizational model has attracted the attention of impact investors, with Acumen & LoK Capital making an investment of over \$1 million in 2012 to help the organization reach more than 100 villages and 7,000 students in the region.

Alternatively, aeioTU, based in Colombia, operates holistic Child Development Centers providing integrated services, including education, nutrition, and care for children below the age of six. Using exploratory processes that allow children to develop creative and critical thinking in different areas of knowledge, aeioTU encourages families and communities to be part of the learning process. Since its inception in 2009, aeioTU has established 16 centers with a 10-year objective of reaching some 20,000 children across the country.

What differentiates aeioTU from its traditional peers is the way it funds its operations. Although it still relies on government subsidies, donations, and private grants, the organization has been piloting an innovative cross-subsidization model to improve the sustainability of its operations. Child Development Centers are positioned in both higher-income urban areas and lower-income rural communities at varying price points. Profits generated through their higher-income operations are funneled back into the organization to support their activities targeting lower-income communities. In essence, the fees paid by one urban child help support child care services for two additional children in rural centers.

aeioTU is also experimenting with other revenue-generating activities, including speaking engagements across Latin America and the manufacturing and selling of child-appropriate furniture and materials used at their centers. The organization's push toward more sustainable earned income financing lays out a promising model for future early childhood interventions targeting low-income communities.

Finally, Sudiksha Knowledge Solutions Pvt. Ltd., based in Hyderabad, India, provides high-quality pre-school education to children in both poor rural and urban communities utilizing a model inspired by franchising. The management team at Sudiksha has explicitly built their model around recruiting, training, and supporting women entrepreneurs to operate their 20 schools in the region. They are building a robust set of incentives linked to performance to encourage budding entrepreneurs, including paying women a portion of the center's earnings.

In addition, Sudiksha is implementing a technology platform as a means of content management, communication with parents, and as an administrative tool to ensure the seamless day-to-day functioning of each school. The organization makes no apologies for its use of business strategies, even publicly proclaiming that "charity is not scalable. Free service has its limits.... The poor are only asking for an affordable education and not a free education."

THE FUTURE AND BEYOND

The role of non-state child care providers in sub-Saharan Africa is less pronounced. Non-formal, privately-owned pre-schools exist in some slum communities on a fee-for-service basis, but are accessible by less than 18 percent of the population and only cater toward children age three to five years old. When available, they are generally an extension of primary school, characterized by high teacher to student ratios, with desks and chairs, as well as training in num-

bers and literacy, and exams to chart progress. Much to the chagrin of early childhood specialists, there is little, if any, emphasis placed on creativity, problem solving, and emotional development, and therefore does not take into account the whole child.

The challenge is that if governments continue to rely solely on the private sector to offer fee-based pre-school programs in low-income settlements, issues of quality could snowball into major concerns over equity and access by risking the exclusion of disadvantaged families from any type of early childhood development service. Operating solely on fees from low-income families also puts pressure on center owners to reduce high-cost items, such as the number of caregivers, putting children back in chairs and desks rather than in environments where they are free to move, explore, and interact with their surroundings.

To provide high-quality early childhood care and establish a solid foundation for future growth and development, a concentrated effort from both public and private entities is required. More specifically, for-profit businesses must prioritize early childhood care as a strategic, long-term investment. Their financial and in-kind support of early childhood services, in the form of space, supplies, and key inputs, goes beyond demonstrating corporate social responsibility. It is a necessary component to ensure current productivity, particularly where women constitute a large portion of their workforce, as well as a tool to develop future labor productivity.

Similarly, governments hamstrung by their brief tenure in power and hence fixated on short-term gains, should view early childhood care as an investment in developing the nation's human capital. Although proficient in numerous technical skills, sub-Saharan Africa has been criticized for having a workforce lacking creativity, criti-

cal thinking, and problem-solving skills required to deal with its unique and complex development challenges. Nurturing early brain development fosters the development of such skills that promote innovation.

One form of effective public-private partnership seeks to provide sufficient capital to support the provision of early childhood education. Called social impact bonds, or Pay for Success Loans, these are a new mechanism to blend social objectives with private resources, particularly where government budgets remain tight, and the problem exists on a scale that is beyond the realm of philanthropy alone.

The concept was first tested in 2010 to reduce recidivism in a central England prison. To date, only 18 social impact bonds have been issued worldwide, including the first ever early childhood education bond in Salt Lake City, Utah in May 2014. But they provide an optimistic vehicle to pair risktaking investors with nonprofit organizations tackling massive social issues—all in an environment that safeguards the government from unnecessary risk.

Social impact bonds rely on three parties: private investors to fund the project, a nonprofit organization to implement it, and a third party to measure the results. If the project succeeds, and evidence shows that the government saved money over the long-term, the government adopts the program and investors are repaid with a healthy return. If the project fails to have sufficient impact or cost-savings, investors' returns are limited, and the program may be abandoned without any financial implications for the government. The nature of this partnership

creates incentives for all parties to ensure social objectives are being met. Social impact bonds are a risk-free way for governments to pay for demonstrated results.

Whether funded through philanthropy or innovative financing mechanisms, the provision of early childhood development services, particularly in informal settlements, is critically important to protect early brain development and help children reach their full potential. Early childhood education policy and program implementation still needs to be considered within the larger perspective of the school system, by effectively linking with primary schools to retain benefits captured in the early years. Better oversight, regulation, and quality control standards from a supervisory level are potential tools to achieve this.

As the rights of millions of children across sub-Saharan Africa are eroded in unsuitable child care environments, it is helpful to know that around the world, whether in New Delhi's transient construction sites. rural communities of Colombia, or the dilapidated slums of Kenya, local innovators are emerging with bold, context-driven solutions to meet the demand for early child care and education. They must be encouraged, with the support of public and private players, to expand their offerings, attract new operators, and scale their organizations to fulfill the significant local demand. In this respect, they are the true heroes, who despite all odds, are helping children in their early years reach their full potential while they still can—perhaps the single most costeffective way of improving the quality of life for populations in Africa and vast stretches of the developing world.