Effects of Stunting on Human Capital

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Human capital, malnutrition and early childhood in Kenya

A child born in Kenya today will be 55% as productive as he or she could be with access to a complete, quality education and full health

- Kenya’s Human Capital Index (HCI) score is .55.
- The biggest human capital deficits (and opportunities to improve) are related to childhood malnutrition and learning outcomes.

Investing in the early years will be critical to building human capital in Kenya

- A child’s early years are a critical period to invest to promote learning, health and future productivity.
- In the first five years of life, 90% of all brain development occurs.
- Good nutrition is necessary for children to survive but insufficient to ensure they thrive.

Despite progress in recent years, malnutrition is still high in Kenya, with a stunting rate of 26% for children below the age of 5 (as of 2014)

- The national stunting rate has reduced from 35% in 2009 to 26% in 2014
- Wide disparities persist across geographical, wealth and education backgrounds, as well as between different age brackets, with disparities in maternal health and education as key factors influencing children’s nutrition and overall development.
Kenya’s score within the distribution of countries varies by indicator.

Kenya is in the lowest quartile for Probability of Survival to Age 5 and Adult Survival Rate and in the middle two quartiles for Expected Years of Schooling, Harmonized Test Scores and Learning-Adjusted Years of School and Fraction of Children Under 5 Not Stunted.

When we examine Kenya’s distribution within the complementary indicators, we see Kenya is in lower quartile for Adolescent Fertility Rate and Social Safety Net Coverage and in the middle two quartiles for Gross Secondary Enrollment, Percent of Adolescent Girls in School and Contraceptive Prevalence.
Conceptual framework for understanding stunting

Benefits during the life course
- Cognitive, motor, and socioemotional development
- School performance and learning capacity
- Adult stature
- Obesity and NCDs
- Work capacity and productivity

Nutrition specific interventions and programmes
- Adolescent health and preconception nutrition
- Maternal dietary supplementation
- Micronutrient supplementation or fortification
- Breastfeeding and complementary feeding
- Dietary supplementation
- Dietary diversification
- Feeding behaviours and stimulation
- Treatment of severe acute malnutrition
- Disease prevention and management
- Nutrition interventions in emergencies

Nutrition sensitive programmes and approaches
- Agriculture and food security
- Social safety nets
- Early child development
- Maternal mental health
- Women's empowerment
- Child protection
- Classroom education
- Water and sanitation
- Health and family planning services

Optimum fetal and child nutrition and development
- Breastfeeding, nutrient-rich foods, and eating routine
- Feeding and caregiving practices, parenting stimulation
- Low burden of infectious diseases

Food security, including availability, economic access, and use of food
- Feeding and caregiving resources (maternal, household, and community levels)
- Access to and use of health services, a safe and hygienic environment

Knowledge and evidence
- Policies and governance
- Leadership, capacity, and financial resources
- Social, economic, political, and environmental context (national and global)

Building an enabling environment
- Rigorous evaluations
- Advocacy strategies
- Horizontal and vertical coordination
- Accountability, incentives, regulation, legislation
- Leadership programmes
- Capacity investments
- Domestic resource mobilisation

THE LANCET
“Stunting is a cyclical process because women who were themselves stunted in childhood tend to have stunted offspring, creating an intergenerational cycle of poverty and reduced human capital that is difficult to break.”

BENEFITS OF INVESTING IN NUTRITION

✔ Children who are not stunted are 33 percent more likely to escape poverty as adults
✔ Reductions in stunting can increase GDP by up to 11 percent in Asia & Africa
✔ Early nutrition programs can:
  ✔ Increase school completion by one year
  ✔ Raise adult wages by 5-50 percent
Malnutrition during early childhood in Kenya today
Wide variation in stunting rates across counties

Stunting rates vary substantially across counties from 12% in Nairobi to 45% in West Pokot.
Though stunting rates are higher in rural areas, the absolute number of stunted children is greater in urban areas, particularly in Nairobi.
Stunting rates are high in Arid and Semi Arid Lands (ASAL) counties.

The ASAL counties tend to have higher rates of stunting. ASAL counties in Kenya include: Baringo, Garissa, Isiolo, Mandera, Marsabit, Samburu, Tana River, Turkana, Wajir, Embu, Kajiado, Kilifi, Kitui, Kwale, Laikipia, Lamu, Makueni, Meru, Narok, Nyeri, Taita Taveta, Tharaka Nithi and West Pokot (Kenya Rural Development Programme (2014)).
The counties with the highest stunting rates are not necessarily the counties with the highest # of stunted children, though there are 14 counties with both high rates and high absolute #

<table>
<thead>
<tr>
<th>County</th>
<th># Stunted</th>
<th>County</th>
<th>Stunting Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siaya</td>
<td>36619</td>
<td>Marsabit</td>
<td>26.5</td>
</tr>
<tr>
<td>Mombasa</td>
<td>37089</td>
<td>Machakos</td>
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<td>Kericho</td>
<td>38288</td>
<td>Embu</td>
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<td>Nandi</td>
<td>38297</td>
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<td>Wajir</td>
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<td>Nakuru</td>
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<td>Turkana</td>
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<td>Tana River</td>
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<td>44660</td>
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<td>46748</td>
<td>Lamu</td>
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<td>47222</td>
<td>Trans-Nzoia</td>
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<td>Nyandarua</td>
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<tr>
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<td>Baringo</td>
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<tr>
<td>Meru</td>
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<td>Kwale</td>
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<td>Migori</td>
<td>51910</td>
<td>EMC</td>
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<td>Uasin Gishu</td>
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<td>Nandi</td>
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<td>West Pokot</td>
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<td>Samburu</td>
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<td>Narok</td>
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<td>Nairobi</td>
<td>105763</td>
<td>West Pokot</td>
<td>45.9</td>
</tr>
</tbody>
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15 Counties with high stunting rates and high # of stunted children:
- Nandi
- Uasin Gishu
- Machakos
- Narok
- Bomet
- Mandera
- Kilifi
- Kitui
- West Pokot
- Kwale
- Tans-Nzoia
- Kakamega
- Kericho
- Nakuru
- Nairobi
Stunting and poverty are interrelated

Stunting rates in Kenya by wealth quintile

- The prevalence of stunting in the poorest quintile is 2.5x higher than in the richest quintile.
- Nearly 36 percent of children below 5 years old in the lowest wealth quintile are stunted.
- The rates of nearly 14% and 21% respectively in the richest and second richest quintile indicate that poverty is not the only driver and broader behavior change strategies will be needed.
Prevalence of stunting and GNI per capita, Kenya and selected peer countries
• Malnutrition remains a challenge in Kenya – characterized by:
  • Slow progress towards reducing malnutrition among children under five years over the last 15 years
  • Wide variations among counties and age groups

• Understanding what drives malnutrition is critical for developing sustainable context-specific interventions

• We aim to use **qualitative** methods to explore the following:
  • The determinants of stunting and constraints to better outcomes during early years at the household level
  • Household- and system-level determinants of malnutrition
  • The external spheres of influence that affect the nutrition of the household
### Proposed work programme

<table>
<thead>
<tr>
<th>Work stream</th>
<th>Focus areas</th>
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| **Work stream 1** - identifying missing interventions and opportunities to improve or expand existing interventions | -- Interaction between the child and the caregiver and their immediate social influences at a household level as well as an analysis of the gendered household economy and the livelihood system, role of ethnicity and nutritional related cultural perception of food  
-- Explore off-farm income, employment, pastoralism/agricultural production systems  
-- Parental interaction with children influencing child outcomes such as emotional and cognitive aspects |
| **Work stream 2** - enhancing coordination mechanisms, monitoring, and evaluation plans for improving early childhood outcomes | -- A description of the external spheres of influence that affect the nutrition of the household  
-- Social mapping of the services (public and non-state) available to the family to support young children’s nutrition and development  
-- Potential entry points to improve malnutrition and other early years outcomes at the community and county levels  
-- The extent to which families experience “convergence” of key services |