
12-15-2021

Getting it Right! Improving Kenya's Human Capital by Reducing Stunting—A Household Account

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Getting it Right!

Improving Kenya's Human
Capital by Reducing Stunting
-A Household Account



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ACRONYMS

Acronym	Definition
AEW	Agricultural Extension Workers
CHW	Community Health Workers
FGD	Focus Group Discussions
GDP	Gross Domestic Product
HCI	Human Capital Index
HDDS	Household Dietary Diversity Score
HHS	Household hunger Scale
KNAP	Kenya Nutrition Action Plan
KDHS	Kenya Demographic and Health Survey
LIC	Low Income Countries
LMIC	Low-income and middle-income countries
MNCH	Maternal, Newborn and Child Health
NCF	Nurturing Care Framework
PASU	Presidential Policy and Strategy Unit
SDGs	Sustainable Development Goals
UHC	Universal Health Coverage
UNICEF	United Nations Children's Fund
WHO	World Health Organization

FOREWORD



Kenya has made remarkable progress in the last two decades. It has attained middle income status, and has successfully established a diverse and private-sector driven economy. On several social economic indicators, such as education, gender equality, openness and democracy, Kenya scores much higher than its peers.

More than two thirds of Kenyans are under 35 years. Given its very youthful population Kenya's development trajectory will critically hinge on the quality of its youth – their levels of education and skills, their values and attitudes and the overall quality of their health and productivity.

While the heavy investments Kenya has made in the development of its human capital positions the country well to sustain accelerated growth, the trajectory is threatened by high rates of malnutrition. Malnutrition contributes significantly to the country's disease burden and has a disproportionately large pull down effect on overall socio-economic development.

About 26 percent of children in Kenya are stunted. There is mounting evidence that poor nutrition in early life can irreversibly impact on brain development and with

consequences for learning and future productivity. This puts a cap on future earnings. In addition, women who were stunted as children are likely to give birth to low-birth-weight babies which is associated with a higher level of morbidity and mortality. This then perpetuates an intergenerational vicious cycle of stunting and poverty.

Primarily because of the high levels of stunting, Kenya has a human capital score of 0.55 indicating that a child born in the country today is likely to achieve only half of his or her potential. Addressing stunting, and child malnutrition more generally, could raise this score significantly, and enable Kenya to achieve its development potential. This study, recognizes that reducing levels of stunting is one the smartest investments Kenya could make. It analyses the status of stunting in Kenya from a household perspective and points to possible pathways for addressing it.

I sincerely thank all our partners that have contributed to the preparation of this report, in particular the Bill and Melinda Gates Foundation for providing the financial resources, The World Bank and Amref Health Africa for providing technical and operational support, to Population Council for being a strong technical partner in the research design, data collection and writing of the report and finally Sahihi Africa for documenting the household chronicles through the voices of the households.

Ruth Kagia,
Deputy Chief of Staff
Executive Office of the President



ACKNOWLEDGEMENTS

This report was prepared by Dr. Wangari Ng'ang'a of the Presidential Policy and Strategy Unit (PASU); Dr. Timothy Abuya of Population Council with contributions and recommendations from community leaders and national and county executives in Kwale, West Pokot, Nakuru, Nyandarua and Nairobi Counties.

The report team recognizes and thanks all households, key informants and groups who shared experiences featured in the report and allowed their images to be used.

The report team is grateful for the support of the Technical Advisory Committee comprising Julie Mwabe, Elizabeth Kimulu, Dr Aaron Thegeya (PASU), Dr. Mercy Mwangangi (Ministry of Health), Anne Nyagah (Ministry of Agriculture, Livestock, Fisheries and Co-operatives), Anne Bakhilana, Amanda Devercelli, Phelisia Akasa (World Bank), Patrick Codija, Sicily Matu (UNICEF), Martha Nyagaya (Nutrition International), Gladys Mugambi (Scaling Up Nutrition), Dr. Githinji Gitahi (Amref Health Africa), Samburu Wa-Shiko (Bill & Melinda Gates Foundation), Francis Onyango, Chantalle Okondo (Population Council), Edwin Macharia (Dalberg Group) and Dr. Elizabeth Wala (formerly Aga Khan Foundation).

Further, the report team recognizes the excellent support provided by the various technical teams that ensured the execution of this study was successful: data collection, data synthesis and analysis and report writing - Wesley Onsogo, Hellen Collete, Lucy Kerubo, Brenda Nanjala, Harriet Tzindoli and Flora Anyango from Population Council, the entire production team led by Becky Muikia from Sahihi Africa - Rahma Seif, Sammy Wangui, Donald Gregory, Samuel Mugo, Collins Odhiambo, Joe Wangai and Joshua Folorunso for the photography and videography that allowed for the household voices to be heard and finally World Bank - Laura Musonye, Clementina Ngina and Amref Health Africa who supported with all operational processes to ensure smooth and timely delivery of the study.

The report team is thankful for the financial support from the Bill and Melinda Gates Foundation that facilitated the conceptualization and execution of this study.

The report team is deeply grateful to the Deputy Chief of Staff, Mrs. Ruth Kagia, who provided overall leadership and guidance on the design and preparation of the report.

QR CODES



Getting it Right! - Full documentary



Getting it Right! - Photobook



Drivers of malnutrition



Community understanding of stunting influences timely remedial action



Household gender roles, decision making and power dynamics



Livelihood system perpetuates poverty affecting food intake



Promising Pathways



EXECUTIVE SUMMARY

Human Capital Development is central in determining the future productivity of a country's populace. It accounts for the largest share of wealth globally and is a critical pathway to ensuring sustainable and inclusive growth for all. The World Bank defines human capital as people's economically relevant skills, knowledge and health accumulated throughout their lives that enable them to realize their potential as productive members of society. The Human Capital Index (HCI) quantifies the contribution of health and education to the productivity of the next generation of workers. It measures how much economic potential countries forgo due to gaps in the health and education of their people. The unfinished agenda on human development has strong implications for inclusive growth, productivity, and poverty eradication. In the wake of the COVID-19 pandemic, gains in human capital have been eroded and at best stagnated across all parameters.

Prior to the COVID-19 pandemic, the world was recording impressive gains in human capital measures within recent decades

leading to a reduction in child mortality (55% fewer children dying before age 5 years), an increase in life expectancy by over 6 years, nearly 50% fewer children out of school and 44% fewer mothers dying from childbirth. However, major challenges persist in: **1)** the quality of education - only 50% of children meet minimum learning competencies, **2)** coverage by social safety nets - only 1 in 5 poor people in LICs is covered by a social safety net **3)** access to essential health services without impoverishment - over 100 million people/year pushed into extreme poverty following health expenses

In Africa, human capital challenges are acute. Thirty-two (32%) of children under 5 are stunted, 200,000 maternal deaths annually, total fertility rate is 4.8 compared to 2.4 in the world, 71% of the poorest quintile in Africa is not covered by any social protection programme, 50 million children are out of school with low completion rates and poor learning outcomes. These challenges, compounded by the direct and indirect effects of the COVID-19 pandemic, put a strain on Africa's quality of human

capital and dampens the allure of socio-economic liberalization by the capitalization of her demographic dividend. Not only must previous gains be safeguarded but deliberate investments must be put in place to improve Africa's human capital.

Kenya has prioritized investments in human capital as a key element underpinning socio-transformational development towards Kenya's vision 2030. Kenya's HCI score ranks 3rd in Sub-Saharan Africa with a score of 0.55 in 2019. Despite Kenya's relatively high score, there are pockets of sustained underinvestment that curtail further attainment in future productivity. These areas are multi-layered and cross-sectoral requiring a more nuanced approach towards the resolution of challenges therein. If we examine human capital investments across the life-course between conception and age 24 years, there are two "orphaned" age groups, namely, adolescents and the first 1000 days.

A recent study that explored the Impact of COVID19 on adolescents in Kenya showed that up to 16% (270,000) of adolescent girls and 8% (125,000) of adolescent boys did not resume school in January 2021, following abrupt closure of all schools in March 2020 at the beginning of the COVID-19 Pandemic. Over 300,000 girls got pregnant in the first year of the pandemic and over 100,000 girls got married within the same time span.

The first 1000 days are yet another critical period for the production of human capital, a short period wherein interventions in health and early stimulation have far-reaching results. To achieve full potential, a child's development requires investments across various facets: nutrition, health, safety and security, responsive care and early stimulation and learning, best described in the Nurturing Care Framework (NCF). Within this framework, a focus on nutrition is warranted due to the irreversible effects of undernutrition within this critical period.

Stunting within the first 1000 days portends gross functional inadequacies in a child and completely upends a child's future. Firstly, stunting inhibits cognitive function development and higher mentation and therefore the capacity for a full education. This in turn limits future skill development and truncates future earnings. Secondly, stunting bears inter-generational effects with stunted girls more likely to give birth to low birth weight babies, a risk factor for malnutrition and reduced cognitive abilities and thus perpetuating the cycle of poverty. Thirdly, when associated with excessive weight gain in later childhood, stunting predisposes a child to non-communicable diseases which are associated with reduced life expectancy especially in LICs and LMICs.

The cost of stunting

Despite higher-than-average coverage rates of key nutritional interventions in Kenya, stunting prevalence remains persistently high at 26%. This translates to nearly 1.8 million children under 5 years. The Cost of Hunger in Africa analysis published in 2019 estimated the cost of stunting across various sectors. In total, Kenya loses an equivalent of about 6.9% of GDP as a result of undernutrition. Despite several studies depicting quantitative level data of stunting in Kenya: incidence, prevalence, distribution across age strata and wealth quintiles, the explanation behind "*why*" stunting rates remain high across the country remains elusive. In addition, a thorough understanding of household perspectives on chronic malnutrition and in particular stunting has previously not been explored, a critical component in the design of interventions that would be responsive to household needs.

It is against this backdrop that the Presidential Policy and Strategy Unit (PASU) commissioned this study to explore the social determinants of stunting and constraints to better outcomes during early years at the household level and the cross-interaction between the determinants in five diverse counties of Kenya.

Specifically, the study

- 1) Examines key determinants of nutrition at the household level and the cross-interaction between those determinants
- 2) Explores opportunities for leveraging on existing social structures such as religious institutions and welfare groups as entry points for nutrition and interventions to improve early childhood outcomes and
- 3) Describes the external spheres of influence that affect nutrition at the household level.
- 4) Make recommendations on policies and potential entry points for household-level interventions to reduce stunting

The study was conducted across 5 counties reflecting both high stunting rates **and** high absolute numbers of stunted children. Kwale, Nakuru, West Pokot, Nyandarua and Nairobi.

Findings from the study

Stunting is a sign of deeper socio-economic challenges in the household and the community at large. Stunting is compounded by multifaceted complexities in the households, e.g., larger than average family size indicating poor access to family planning, gender parity including decision making dynamics skewed against women, limited access to formal education for the other siblings (and even the parents), limited to no access to social safety nets, and many people living below the poverty line. The research underscores the importance of understanding a household as a wholly functional unit with interdependent parts as opposed to the siloed approach that mainstream institutions take. This perspective undermines the responsiveness of the existing interventions towards human capital development.

Following are the key causes for stunting identified in the study.



- **Stunting is not a visible illness, which limits preventive and timely remedial action.** While acute undernutrition illnesses such as marasmus and kwashiorkor are easily understood in the community, chronic malnutrition and its deleterious effects on the health and development of children are largely unknown. Households mainly focus on ensuring the child is fed (quantity) with little to no prioritization of food quality, an aspect that was seen to be a preserve of the wealthy. Information on balanced diets is scanty and irregular especially after the completion of immunization schedules.
- **Socio-cultural practices such as dietary preferences, feeding practices including which members of the family are fed first, what foods are acceptable for different family members as well as food perceptions in relation to income status were all factors that influenced child feeding practices.** The choice of food given to children, the age of weaning and the foods that a child is weaned on are heavily influenced by inherited family practices passed down generations. There was notable limitation in diversification of food given to children hampered by the perception that children require light meals or limited time for the logistics of preparing food which was perceived to compete with time to make a living. In some cultural settings, men were allowed to eat first or had their portions of food preserved for them and the children and women would share whatever is left. This means, men end up getting their fair share of protein, especially animal protein at the expense of children, adolescents, and women. Alcoholism was also cited as a factor that deprives a household of resources that could be used for food and contributes to child neglect
- **Gender roles and decision-making dynamics significantly influenced child-rearing practices.** In settings where women had decision making autonomy appeared to have well-nourished children compared to those who had limited room for decision making regarding use of farm or animal produce. Across cultural settings, the responsibility of ensuring children are well nourished fell on the women despite limitations on decision making on resource use. At best, decision making was joint but predominantly resource use decisions were made by the men. Another form of disempowerment was the ability to care for children adequately. Women must balance between earning a living and childcare resorting to delegation of childcare to extended family in rural settings or day-care centres in urban settings. Lack of decision-making space also influences the family structure and the use of family planning services. Having several children strains the limited resources available even further, however, the decision of how many children to have is the man's domain.
- **Livelihood systems such as access to markets and environmental weather patterns perpetuate poverty affecting appropriate and adequate food intake.** Poor pricing patterns influenced by middlemen and market saturation leads to unfavourable returns affecting purchasing power of the families. In a season with a bumper harvest, post-harvest losses deplete surpluses as no food preservation, value addition or food ware-housing systems are in place to support the farmers. The diverse ecological profiles influence the choice of crop and/or livestock farmed by the households. Weather patterns such as unpredictable rainfall patterns, severe droughts and scarcity of alternative water sources means that

harvests are erratic, affecting not only what is available for sale, but what is then available on the table for family consumption. With no surplus, all produce is sold to meet other financial obligations. These challenges perpetuate low incomes which could otherwise support dietary diversification. Land leasing arrangements in food secure regions means that farmers do not exercise autonomy over what is grown, and all produce is ferried off to markets in the city or for export. This limits what is available for purchase in the local community. In urban informal settlements, the predominance of the “kadogo economy”- the purchase of goods in small quantities which is immediately affordable to them, means that on average, they pay a higher cost for items. Income flow is erratic and unpredictable and hence the feeding patterns follow as food sources are entirely from purchase.

- **“Institutional blindness” exists for children between age 9 months and age 5 years.** Compliance to immunization is high up to age 9 months after which there is a “loss to follow-up” until the child presents for compulsory primary school education. This means the critical intervention period between age 18-24 months before the lapsing of the 1000-day window and when stunting prevalence is greatest is missed. Interventions introduced at primary school level like school feeding programmes are too late as more than 90% of brain development has already taken place. This curtails potential academic performance, future skill acquisition and therefore labor productivity. This cap directly affects future incomes and thus perpetuates the poverty cycle.



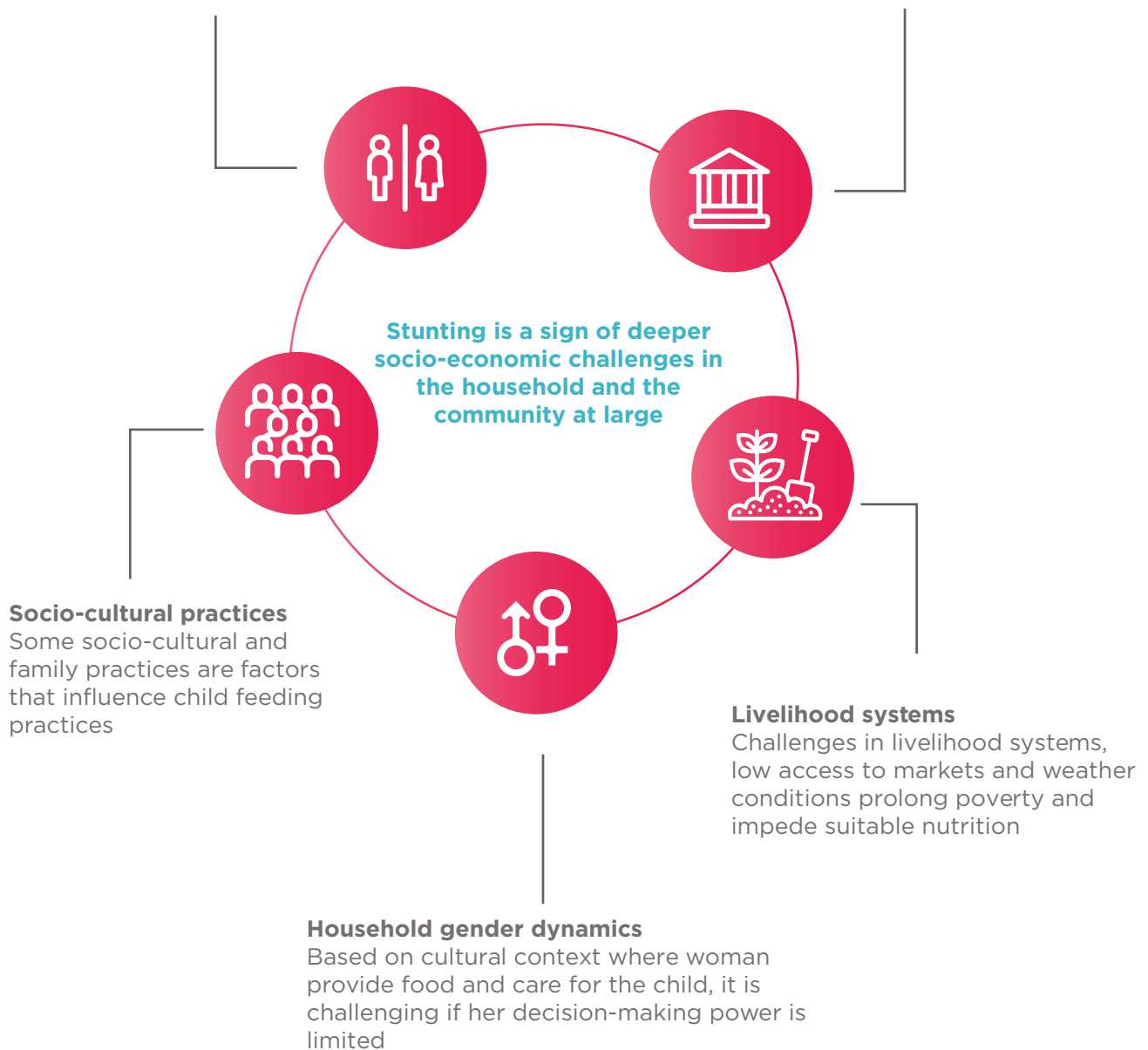
Summary of Key Findings

Understanding of stunting

Stunting is not a visible illness, which limits its understanding among households and hence hinders the actions parents can take to address it.

Institutional aspects

"Institutional blindness" for children aged 9 months to 4 years leads to the critical follow-up period between the ages of 18-24 months being missed



Channels to influence behaviour change and recommended policy responses

The research identified the channels to influence behaviour change and recommended policy responses to improve nutrition in the first 1000 days.

Channels to influence behaviour change

Below are three key interventions that can be applied as pathways toward fighting stunting and malnutrition.

- 1. Engage community social structures that have high levels of trust as potential entry points for interventions to address stunting.** Religious institutions, women's groups including table-banking groups are examples of entities with which households interact regularly (daily, weekly, monthly). They could be used for service delivery eg feeding programs, early stimulation, drivers for behaviour change through education even as they address other socio-economic needs of the household.
- 2. Partner with early childhood development centres (ECDs) to educate parents and caregivers, and to help detect and support children facing malnutrition.** ECD centres can support the county in growth monitoring of young children, where providers can engage such centres to monitor children between the ages of 1-5 years to augment what community health volunteers (CHVs) already do.
- 3. Strengthen community health systems to drive the fight against malnutrition and stunting.** Additionally, there will be a continued engagement of the health sector with other sectors such as social services to ensure that other issues that are leading to malnutrition are addressed.

Recommended policy responses

Additionally, seven priorities, under three-bucket actions, that should be considered for the development of more efficient policies, have been recommended.

- 1. Develop a stronger multi-sectoral government response**
 - a. Consider each household as an integrated unit of production for responsive policy design and programming.** This will allow for reconsiderations in ways certain programs are run, such as the cash transfers, and including voices of families that are directly affected by policies, while designing those changes.
 - b. Improve livelihoods and economic conditions.** The following suggestive policy responses have the potential to help in improving livelihoods and boosting economic conditions in the fight against stunting: 1) Align government market and marketing policies to household realities and needs, 2) Provide post-harvest preservation facilities such as warehousing and warehouse receipting, 3) Strengthen cooperatives to support all farmers and increase their selling power
 - c. Employ data for decision-making** through the use of both quantitative and qualitative data sets to guide nuanced policy design and programming to address stunting.
- 2. Increase political commitment towards health and nutrition**
 - a. Advance political commitment to address stunting** both at the national and county level. Given the consequential effects of undernutrition, the response to stunting at each level should match the burden. This high-level prioritization will begin to bridge the gaps in under investments and accountability.
 - b. Address the institutional blindness period,** a time when the child is between age nine-month at full immunization and age six years at the beginning of grade one and focus on it to ensure that the children get the support and nutrition they need in that time.



CHAPTER ONE: **BACKGROUND**

CHAPTER ONE: BACKGROUND

This chapter provides the background on human capital, malnutrition, and stunting in Kenya and lays out the purpose of the study.

Context of Human Capital

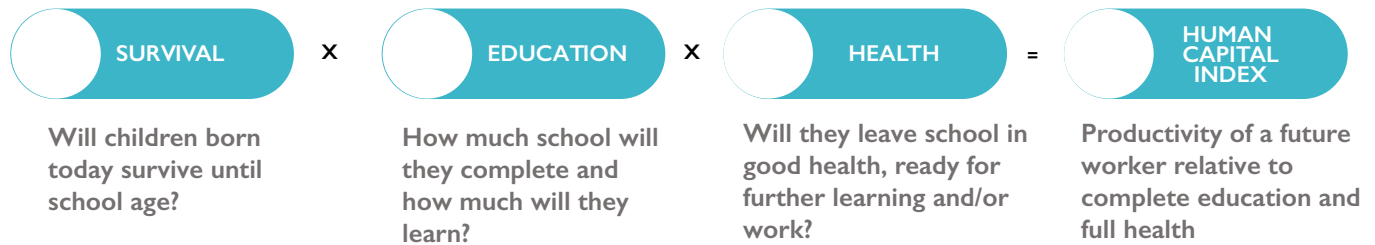
The Human Capital Index (HCI) quantifies the contribution of health and education to the productivity of the next generation of workers. It measures how much economic potential countries forgo due to gaps in the health and education of their people. Scores range from 0-1 and reflect how much people's productivity deviates from the ideal. For instance, a score of 0.7 means that a country would benefit from approximately 70% of the full productivity of its people assuming investments in quality health and education services.

According to the World Bank's Human Capital Index (HCI), Kenya has an HCI of 0.55 indicating that a child born in the country today is likely to achieve half of his or her potential. Even though the country has a good policy framework to address nutritional challenges, its productivity will only be 55% of the full potential it could have if its children benefitted from access to complete, quality education and full health. Investing in the early years (including health, nutrition, early learning, and child protection) is critical to improving human capital outcomes in Kenya.



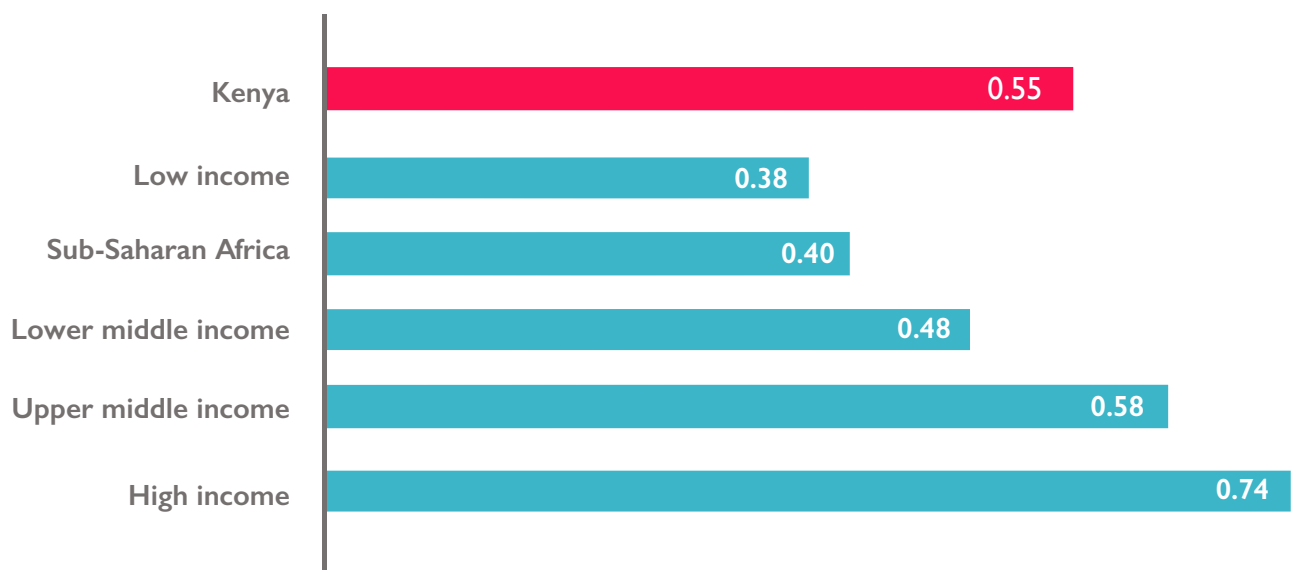
Figure 1: HCI components, Kenya's HCI individual component scores, and performance against other regions

The Human Capital Index is calculated using three indicators:



Kenya's HCI of 0.55 means that the expected productivity as a future worker of a child born today is only 55% of what it could be with complete education and full health.

INDICATOR	ESTIMATE MAXIMUM
Survival	
Probability of survival to age 5	0.951 1
Education	
Expected years of school	10.7 14
Harmonized test scores	455 625
Health	
Survival rate from age 15-60	0.787 1
Fraction of children under 5 not stunted	0.738 1
Human Capital Index	0.52 1



Kenya has done comparatively well in relation to the Sub-Saharan Africa (SSA) average HCI Score (0.40) and indeed to her neighbours. The government's sustained investments in the education sector such as the free primary education programmes, free day secondary education and mobilization for 100% transition from primary to secondary school have yielded good progress. Net enrolment rates at the primary level of 91.2 % overall expected years in school of 10.7 years. In terms of skills building, aggressive enrolment into technical and vocational education and training (TVETs) has increased attendees from 148,009 in 2013 to 275,139 in 2017.

In the health sector, strategic programmes such as the Linda Mama Programme, free services in dispensaries and health centres, increased immunization coverage and a generalized increase in government spending on health, have led to a reduction in infant mortality rate from 52 per 1000 live births in 2013/14 to 39 per 1000 live births in 2016/17 and a reduction in neonatal mortality rate from 31 per 1000 live births to 22 per 1000 live births in the respective time periods. In recent years, social assistance cash transfer programmes have significantly increased through the Inua Jamii programme targeting households with orphaned and vulnerable children, the poor and the elderly. Beneficiaries have increased by an average of 50% across all programmes and this was up-scaled during the COVID-19 pandemic to further benefit an additional 300,000 households.

Despite the improvement, space for further improvement remains. Entrenched geographic and wealth disparities in service delivery drive differences in human capital across different regions in the country. Given the profound layered effects of stunting on human capital development, there is a need to examine drivers of stunting at a household level as part of broader social determinants often examined individually. The cross-interaction of the determinants and the resultant effect is not rigorously documented. This is important as stunting negatively affects the cognitive performance of children^[21].

Additionally, the opportunities for leveraging on existing social structures such as religious institutions and welfare groups as entry points for nutrition and early childhood outcomes interventions have not been explored in Kenya.



Stunting in Kenya

Stunting is the impaired growth and development that children experience from poor nutrition, repeated infection, and inadequate psychosocial stimulation. It is a measure of low height for age (more than two standard deviations below the World Health Organization (WHO) Child Growth Standards median) and is a marker of chronic undernutrition.

Despite global efforts to alleviate hunger and improve nutrition, malnutrition remains a challenge. The prevalence of maternal and child undernutrition in low-income and middle-income countries (LMICs) has remained relatively high^[1-3]. This has been exacerbated by the COVID-19 pandemic leading to disruptions of livelihoods putting millions of people at greater risk of food and nutrition insecurity^[4]. The existence of the double burden of malnutrition - the simultaneous manifestation of both undernutrition and over-nutrition^[5-8], has challenged the nutrition landscape further. One crucial element of the double burden of malnutrition is undernutrition which encompasses stunting, underweight, wasting, deficiencies of essential micronutrients, fetal growth restriction, and sub-optimum breastfeeding^[1,8]. Globally, about 144 million children under the age of five years are stunted^[9].

Nutrition-related factors contribute to 45% of deaths in children under five and more than 50% of child deaths after the first month of life^[11,12]. Furthermore, severely malnourished children have a higher risk of death from illnesses such as diarrhea, pneumonia, and malaria. Undernutrition contributes to low school performance and reduces work capacity and productivity during adulthood. Those who were undernourished in the first 1000 days have an increased likelihood of being overweight and developing associated chronic diseases as well as mental health issues in the future^[15,16].

Interventions to reduce undernutrition, especially during the first 1000 days from conception to the second birthday, have important consequences for survival, resistance to infection, growth, and development throughout life^[8,10]. In these crucial days, the body is quickly laying down its fundamental building blocks for brain development and future growth. Any disturbance leaves a long-lasting mark with irreversible effects^[14].

In Kenya, there has been slow progress over the last 15 years towards reducing malnutrition among children under five years. Estimates from the 2014 Kenya Demographic and Health Survey (KDHS) show that 26% of children under five were stunted, 11% were underweight and 4% were wasted^[13]. Kenya's 4.2% prevalence of wasting among children under five is lower than the average for developing countries (8.9%)^[13]. National averages mask wide variations in stunting across sub-national levels. For example, counties with the highest proportions of stunting are West Pokot and Kitui (46%) followed by Kilifi (39%), Mandera (36%), and Bomet (36%). Counties with the lowest prevalence of stunting are Nairobi, Nyeri, Garissa, and Kiambu, with rates of less than 16%^[13].

Figure 2: Stunting rates by counties, %

Wide variation in stunting rates across counties

Stunting rates vary substantially across counties from 12% in Nairobi to 45% in West Pokot

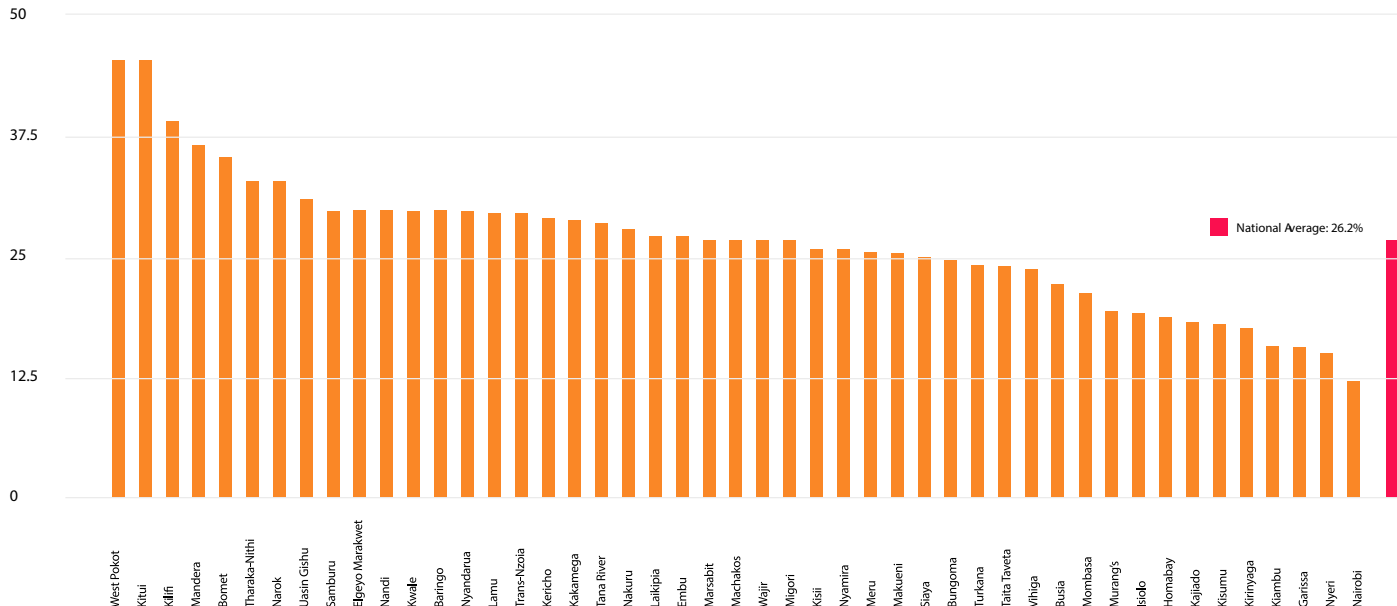
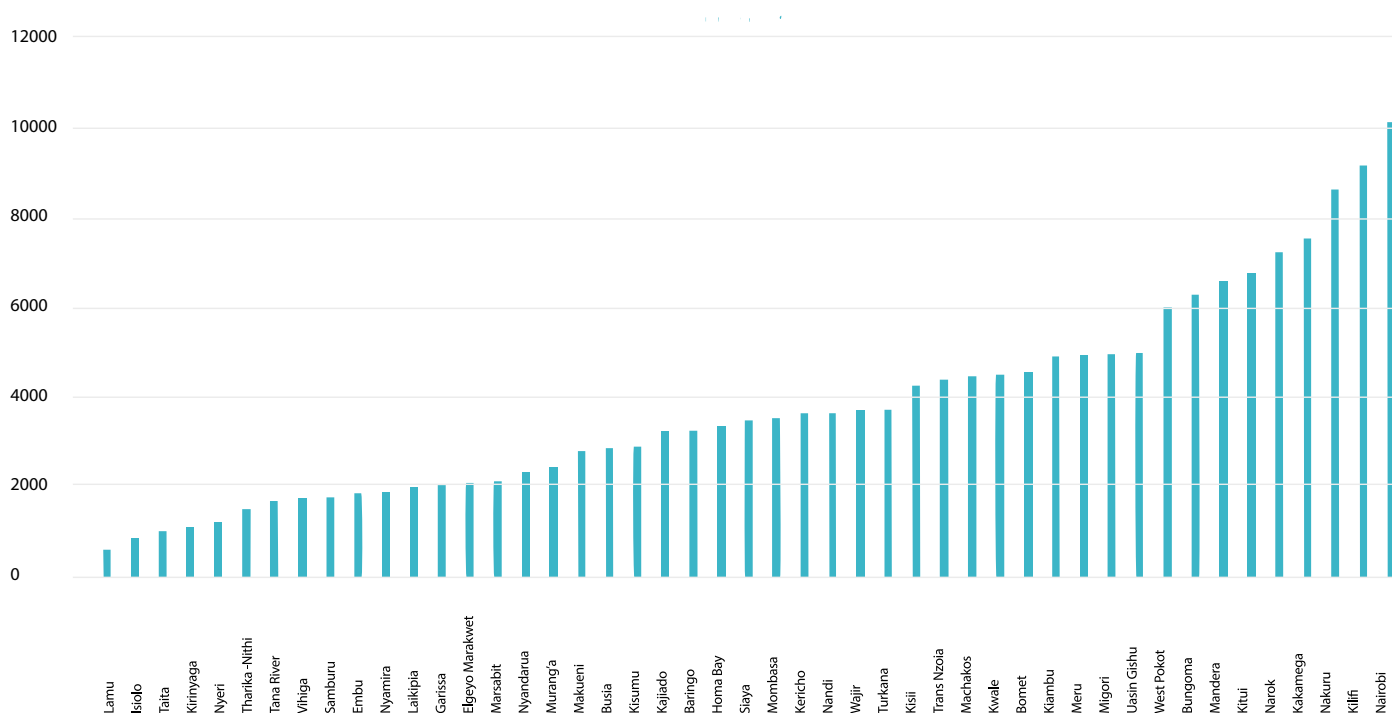


Figure 3: Stunting numbers by counties, # of stunted children 0-5 years

Though stunting rates are higher in rural areas, the absolute number of stunted children is greater in urban areas, particularly in Nairobi

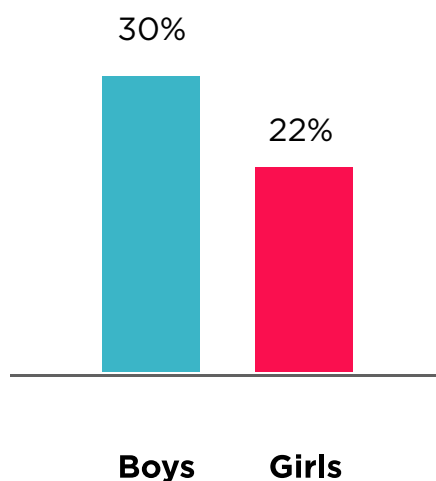


The first months of life from birth to two years are critical to individual-level growth^[14]. Analysis of stunting by age group shows that it is highest (36%) in children aged 18-23 months and lowest (10%) in children aged less than 6 months. Similar patterns occur for severe stunting, with children aged 18-23 months being the most affected (12%), and those less than 6 months being the least affected (3%)^[13]. Stunting levels in Kenya are higher among boys (30%) than girls (22%). They are also higher in rural (29%) than in urban children (20%)^[13].

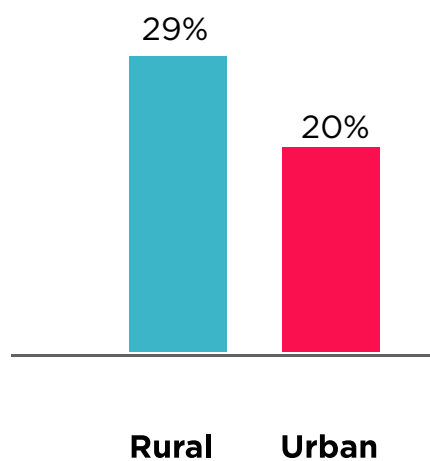


Figure 4: Stunting rates by gender and geographical location

Stunting rates in children by gender



Stunting rates in children by location



Undernutrition is also associated with low progression in the education system. Stunted children had 3.5% fewer grades attained in school compared to non-stunted children. They also have a higher risk of repeating grades (6.7%) compared to non-stunted children (2.8%)^[16]. It is estimated that 16.9% of stunted people of working age in Kenya completed primary school compared to 62.2% of those who were never stunted. 18% of all repetitions were associated with stunting, costing families KES 1.8 billion and the government KES 1.4 billion. The total cost of repetition attributed to stunting is estimated at 0.06% of the GDP^[16].

Stunting also affects productivity at later stages in life as 41.4% of the 31 million people in the working class in Kenya were stunted as children. 20.3 million people of working age are engaged in manual labor, of which 8.4 million were stunted as children leading to productivity losses attributed to stunting estimated at 1.8% of the GDP^[16]. 4.5 million of the working-age population engaging in non-manual activities suffered from stunting in their childhood, with productivity losses estimated at 1.2% of the GDP^[16].

Stunting has affected pregnant mothers bearing children during adolescence since their bodies have very high nutritional requirements for the development of both themselves and the babies. This has been a severe case in Kenya as almost one out of every five girls aged 15-19 is reported to be pregnant or already has a child. As the adolescent female bodies require twice as much iron during pregnancy than normal teenagers, it limits the opportunity to accumulate sufficient iron stores before pregnancy. This has resulted in 16% of adolescents aged 10-19 being anemic. Anemic adolescents are at a higher risk of delivering low birth weight babies or preterm babies compared to their older counterparts. Children from teenage mothers are more likely to be stunted on

their second birthday and perform worse in school. They fall sick more often and contribute to more than half of the following generation of adolescent mothers. This perpetuates an intergenerational cycle of poverty.

The economic impact of child undernutrition on the health sector in Kenya is KES 18.6 billion - 0.3% of the Gross Domestic Product (GDP) - as 19.4% of all child deaths in Kenya are associated with undernutrition^[16]. Specifically, 90.4% of illnesses among children are associated with being underweight, which cost the health sector KES 13.1 billion. While 2.2% of all episodes of childhood illnesses were related to low birth weight (costing KES 4.75 billion for treatment), all the other episodes in childhood illnesses have cost the Kenyan health sector KES 808.5 million - representing 7.4% of the 2.4 million episodes of childhood illnesses^[16]. Families have been the bearer of 44% of the total costs associated with the treatment of undernutrition while the public health system covered the remaining 56%. Deaths associated with undernutrition have also cost Kenya 1.2 million people resulting in losses in the potential income of KES 188 billion. Undernutrition has contributed to the largest share of productivity losses of 53.6%^[16]. The country is therefore estimated to have lost an equivalent of about 6.9% of annual GDP as a result of lost productivity, which suggests a need for concerted multisectoral efforts to address undernutrition^[16].

In response to these trends and in line with the global policies, Kenya has developed several policies and programmatic frameworks aimed at addressing nutrition problems. The current nutrition policy framework is aligned with global and regional frameworks, including the African Regional Nutrition Strategy 2015 - 2025, the World Health Assembly 2025 nutrition targets, and the Sustainable Development

Goals (SDGs) [17]. The over-arching direction for the nutrition sector planning in Kenya is guided by the Vision 2030 [18] and is entrenched in the bill of rights in the Constitution of Kenya 2010 - including the right to health care services, freedom from hunger, a right to adequate food of acceptable quality, and the right of every child to basic nutrition, shelter and health care [19]. The national policy framework operationalizes the National Food and Nutrition Security Policy 2012 which informed the National Nutrition Action Plan 2012-2017 [20] and subsequently the Kenya Nutrition Action Plan (KNAP) 2018-2022 [17]. The current KNAP 2018-2022 spells out the investments required for Kenya to address malnutrition in all its forms and for all ages and promotes cross-sectoral collaboration to address the social determinants of malnutrition sustainably. It also provides an umbrella framework and guidance to counties to develop their own County Nutrition Action Plans [17].

Figure 5: Kenya's Nutritional policy context

Government efforts targeting stunting rates

<p>National Nutrition Action Plan 2018-2022 (NNAP 2018-2022)</p>	<p>Operationalizes the National Food and Security Policy 2012 and its implementation framework (NFNSP-IF) 2017-2022. It spells out the investment required for Kenya to address malnutrition in all its forms and for all ages</p>
<p>Kenya Agri-Nutrition Strategy (2020-2024)</p>	<p>Targets securing access to safe, diverse and nutritious food, by strengthening the national food chain and community production</p>
<p>Scaling-Up Nutritional Interventions</p>	<p>Promotion of exclusive breastfeeding, Vitamin A and Micronutrient supplementation for expectant mothers and children, food fortification, handwashing and deworming, Salt iodization, School Feeding Program</p>
<p>Scaling-Up Nutrition (SUN) Business Network Kenya Strategy (2019-2023)</p>	<p>Elevates the place of private sector in making safe and nutritious food available and affordable</p>
<p>Framework for securing a breastfeeding friendly environment at workplaces (2020-2024)</p>	<p>Provides a national roadmap for coordinated implementation and monitoring of interventions to support breastfeeding in the workplaces both in the public and private sector</p>



Drivers of stunting and malnutrition

The immediate causes of malnutrition capture the physiological reasons (related to food intake and disease) of an individual child becoming malnourished, which in turn are driven by the underlying causes (inadequate household food security, care for women and children, and access to health care). The three levels—immediate, underlying, and basic—reflect the institutional or administrative levels at which the drivers of malnutrition operate [23].

The immediate determinants are interdependent and manifest themselves at an individual level of a child. They include dietary intake and health status defined by the presence of infectious diseases. A child with inadequate dietary intake is more susceptible to diseases that depress appetite, inhibit the absorption of nutrients from food, and compete for a child's energy.

The underlying determinants impact a child's nutritional status through the immediate determinants and manifest themselves at the household level in a variety of ways. Household food security reflects access

to enough food of adequate quality for living an active healthy life. The second underlying determinant is the quality of caring practices for children and women. These include child feeding, health-seeking behaviours, and cognitive stimulation. The obvious aspect of care for women that affects children's nutritional wellbeing is care and support during pregnancy and lactation. Women are typically the main caretakers of children after birth and to provide quality care to them, women need continued adequate food consumption, health care, rest, and measures to protect their mental health. The third underlying determinant is a healthy environment and the availability of services which include access to safe water, sanitary facilities for disposing of human waste, health services, and shelter.

The basic determinants impact the nutritional status through the underlying determinants and manifest themselves at broader geographical levels such as the national, regional, or global contexts. They form the economic, political, environmental, social, and cultural contexts in which children's nutritional status is determined.

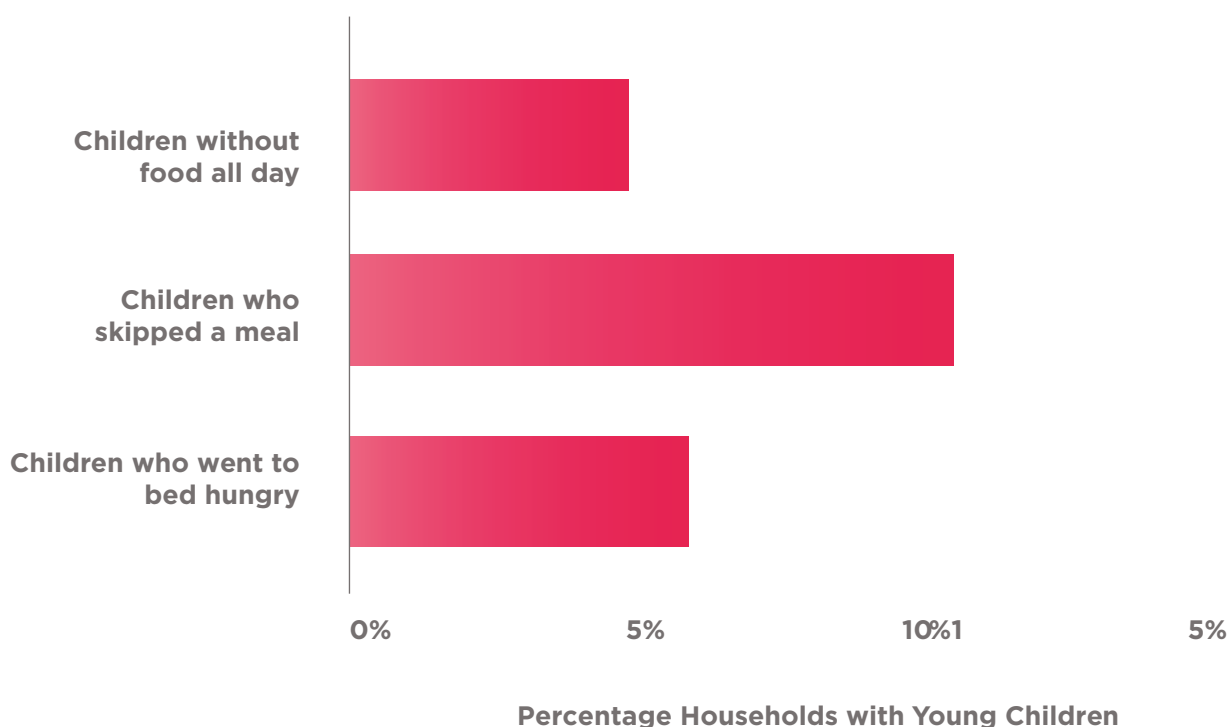
A key basic determinant is income, which influences nutrition through two main routes. First, higher-income is strongly correlated with poverty reduction ^[18] and is an indicator of increased household ability to pay for nutrition inputs such as food, water, sanitation, and medical care. Secondly, higher national income resulting from a pro-poor pattern of growth is associated with greater provision of public services such as health, social protection, and education ^[14]. A country's governance structure and responsiveness to its people's needs can also determine its capacity to effectively formulate and implement sound policies and programs that address systemic factors including seasonality and environmental determinants of malnutrition.

Impact of COVID-19 pandemic on young children

Young children and their families have been disproportionately affected by the various learning and economic shocks the COVID-19 pandemic has inflicted across the world. COVID-19 has disrupted access to education, health services, adequate supplies of food and clean water, financial and job security – these disruptions severely increased global food insecurity and created more stressful home environments. A recent nationally representative survey conducted in Kenya over several waves in 2020 and 2021 provides a snapshot of COVID-19's implications for young children's wellbeing including access to nutrition. The results showed:

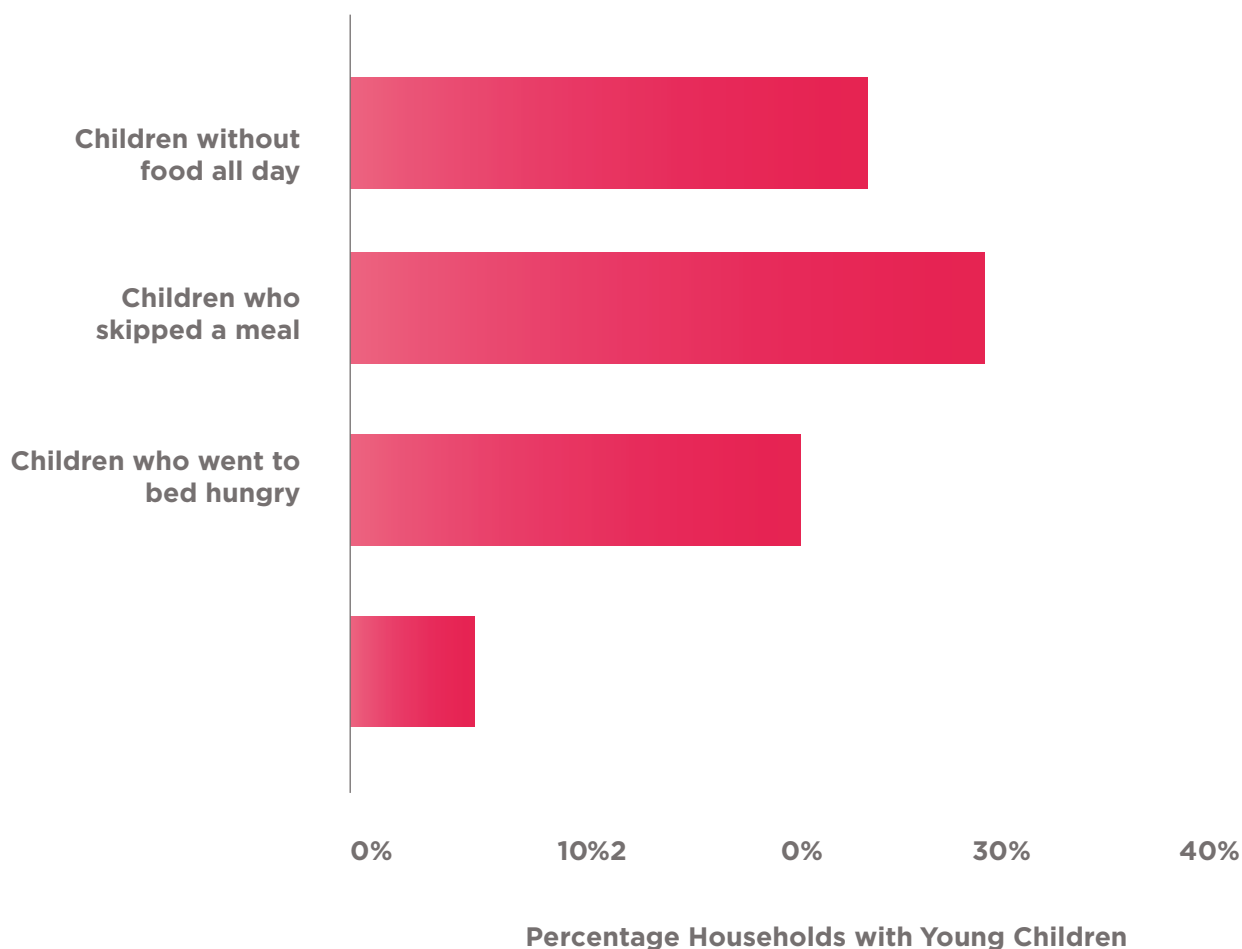
1. Food insecurity is impacting households with young children with stark disparities amongst rural and urban households. 11 percent of families with young children skipped a meal at some point in the past week. In rural households with young children, 14 percent of young children skipped a meal compared to five percent of children in urban households. Similarly, eight percent of children in rural households with young children went to bed hungry compared to only two percent of children in urban households with young children.

Figure 6: Households with young children access to food (age 0-5, January to March 2021)



2. Food insecurity varies across counties. Narok and Siaya experienced the highest rates of food insecurity (57 percent and 54 percent respectively indicated their children had skipped a meal in the last week). Over 20 percent of households with young children from Baringo, Muranga, Lamu, Wajir, Busia, Turkana, Migori, Tana River and Nandi reported children had skipped a meal in the last week.
3. In general, food insecurity was associated with lower levels of education among heads of households. Of households where the head of the household's highest level of education was primary or below, 52 percent had young children who skipped a meal. In households where the head of the household's highest level of education was secondary, 22 percent of households with young children skipped a meal. In households where the head studied beyond the secondary level, only five percent of children had to skip a meal.

Figure 7: Households with young children who skipped a meal by head of household's highest education (ages 0-5, all waves)



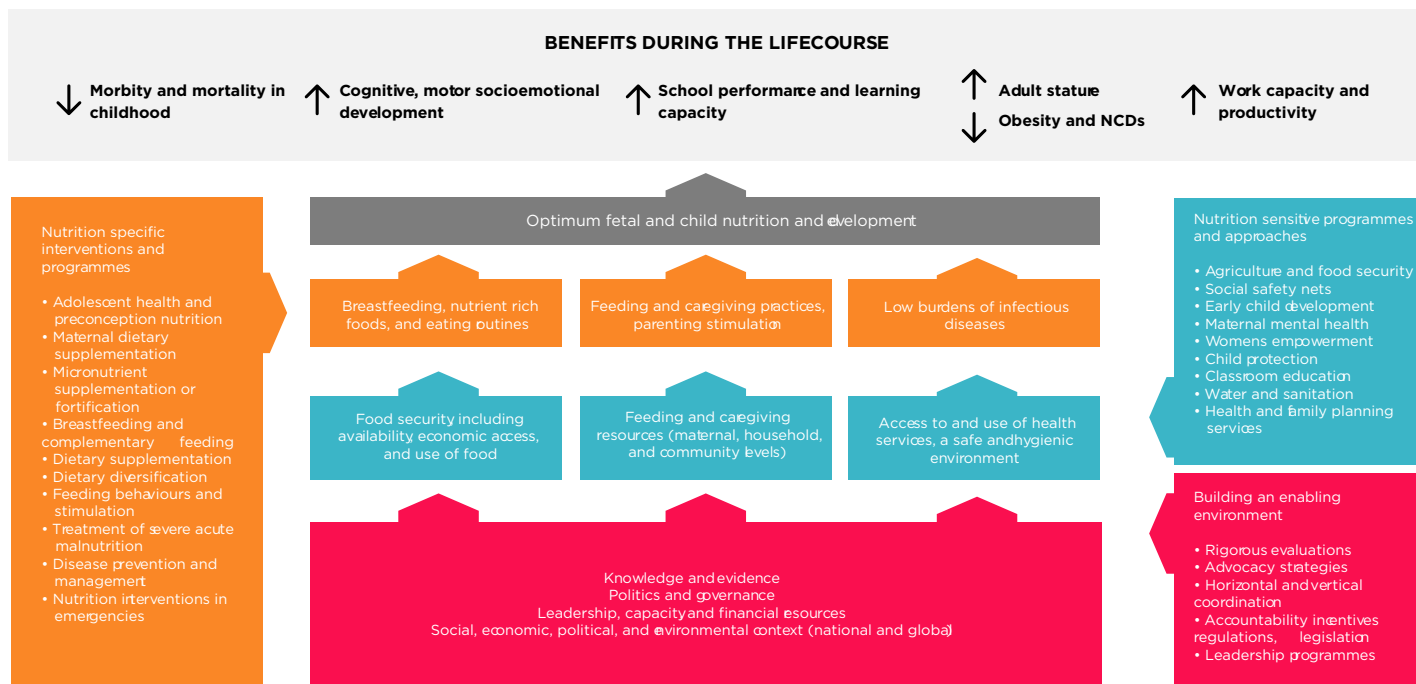
4. Employment status is closely related to a family's ability to provide food for their children. 97 percent of young children skipping a meal are in households where no adult is employed. Conversely, only three percent of young children in households with at least one employed adult are reported to have skipped a meal in the last week



Interventions for improving maternal and child health nutrition.

Several interventions are known to prevent or treat malnutrition. The 2008 Lancet series called for greater priority for national nutrition programs, stronger integration with health programs, enhanced intersectoral approaches, and more focus and coordination in the global nutrition system among international agencies, donors, academia, civil society, and the private sector^[26]. This later informed the 2013 Lancet Framework for Action for achieving optimal foetal and childhood nutrition and development as presented in the figure below^[17]. The framework outlines the dietary, behavioral, and health determinants of optimum nutrition, growth, and development and how they are affected by underlying food security, caregiving resources, and environmental conditions, which are in turn shaped by economic and social conditions, national and global contexts, resources, and governance^[2]. The figure also shows how these determinants of malnutrition can be changed to enhance growth and development, including the nutrition-specific interventions that address the immediate causes of suboptimum growth and development and the potential effects of nutrition-sensitive interventions that address the underlying determinants of malnutrition and incorporate specific nutrition goals and actions^[2].

Figure 8: Framework for Actions to Achieve Optimum Fetal and Child Nutrition and Development Source: Black et al 2013



Source: *The Lancet*

Purpose of the study

This report explores the qualitative determinants of stunting and constraints to better outcomes during the early years of children at the household level, with a lens of how the determinants interact and continue to sustain high levels of stunting.

The study generates evidence on the social determinants of stunting, the constraints to better outcomes during early years at the household level, and the cross-interaction of the determinants in five counties of Kenya. Specific objectives of the study include:

- To examine key determinants of stunting in children at the household level and the cross interaction among these determinants
- To describe the external spheres of influence that affect nutrition and stunting in children at the household level
- To explore opportunities for leveraging existing social structures such as religious institutions and welfare groups as entry points for implementing nutrition interventions to improve early childhood outcomes
- To make recommendations on policies and potential entry points for household-level interventions to reduce stunting

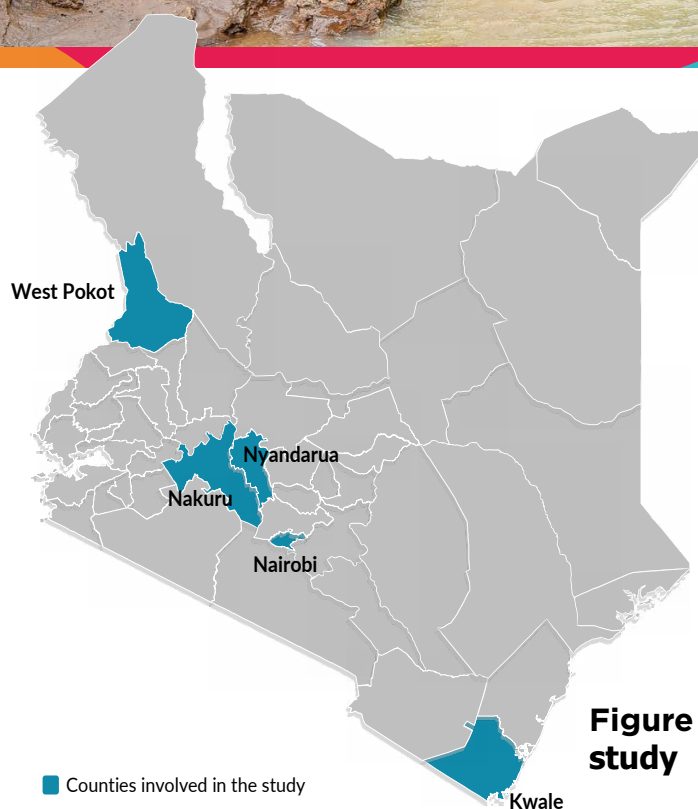




CHAPTER TWO: **STUDY METHODS**

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Evidence on the cross-interaction of the drivers of stunting at the household level was generated using qualitative methods that drew heavily from anthropological approaches and fused with participatory action research methods. The study explored the social context to understand food and livelihood systems, household-level practices regarding food preferences, eating patterns, health and sanitation environment, the supply chain, marketing process, gender roles and responsibilities, and its effect on nutrition practices at the household level.



Study sites

The study was conducted in five counties of Kwale, Nakuru, Nyandarua, Nairobi and West Pokot which have diverse geographical settings and varying stunting levels.

Figure 9: Five counties involved in the study

Table 1: Overview of the five counties

	Kwale	Nyandarua	Nakuru	Nairobi	West Pokot
Geography	In the southern coast of Kenya with a monsoon type of climate that is mainly hot and dry ²⁷	In central Kenya, with plateaus and hilly areas, with a cool and temperate climate ³⁰	In central Kenya, has Mau escarpment, lakes, rivers, mountain ranges & the savannah vegetation that cover much wildlife species ³²	The capital of Kenya, largest urban area in the country	In the western part of the country, with dry plains, hills, and many rivers
Population	866,820 - 51% female (2019) ²⁸	638,289 - 51% female ²⁸	2,162,202 - 50% female ¹³	4,157,757 - 48% female. It has a 3.8% annual growth rate, due to urbanization	621,241 - 51% female (2019). ²⁸ Only 6% have reached secondary school or higher
Average household size	5 Persons ²⁸	3.5 persons mainly living in rural areas ²⁸	3.5 people ¹³	2.9 people	5.3 persons mostly in rural areas ²⁸
Source of household income	Subsistence farming (80% of households)	Agriculture (employs 69% of households)	Agriculture (employs 60% of the	Employment and self-employment	Agriculture (84% of
Crops produced	Maize, cowpeas	Irish potato, peas	Maize, beans, Irish potato, and wheat	Maize, wheat, and rice	Maize, sorghum, fruits, and vegetables
Livestock practices	Poultry, goat keeping	Local poultry dairy cow keeping	Poultry, cattle sheep, and goat keeping	Majority of the people practice small livestock keeping	Cattle and goats - 40% of average household wealth ³⁵

	Kwale	Nyandarua	Nakuru	Nairobi	West Pokot
Food scarcity	70% are food poor. 14% do not have enough food to meet their needs	46% of the population live below the absolute poverty line, and 39% do not have enough food to meet their needs - female headed houses are the most affected	36% of the county's population is food poor	NA	93% of households are unable to meet their needs during off-peak season ³⁵
Period/ Cause of scarcity	Usually between April and June ²⁹	Productivity is low due to diseases, low technology adoption, and climate-related risks (dry spells and intense rains) ³¹	Drought, intense rain, flood, high temperatures have challenged productivity, incomes, and food security	Loss of income and climate-related risks	Droughts and climate change
Stunting prevalence	30% of children under 5 years are stunted and 10.5% are severely stunted. 4.4% are	29.4% of children under 5 are stunted and 8.1% are severely stunted. 2.0% are wasted and 6.8% are underweight, although lower to national levels of 4% wasted and 11%	27.6% of children are stunted while 7.2% are severely stunted ¹³	24% - it has the highest caseload of stunted children in Kenya	Among the highest numbers, 45.9% of children are stunted and 19% are severely stunted, compared to 26% stunted and 8% severely stunted nation-wide. 14% are wasted and 38.5% are underweight ¹³

Data gathering methods

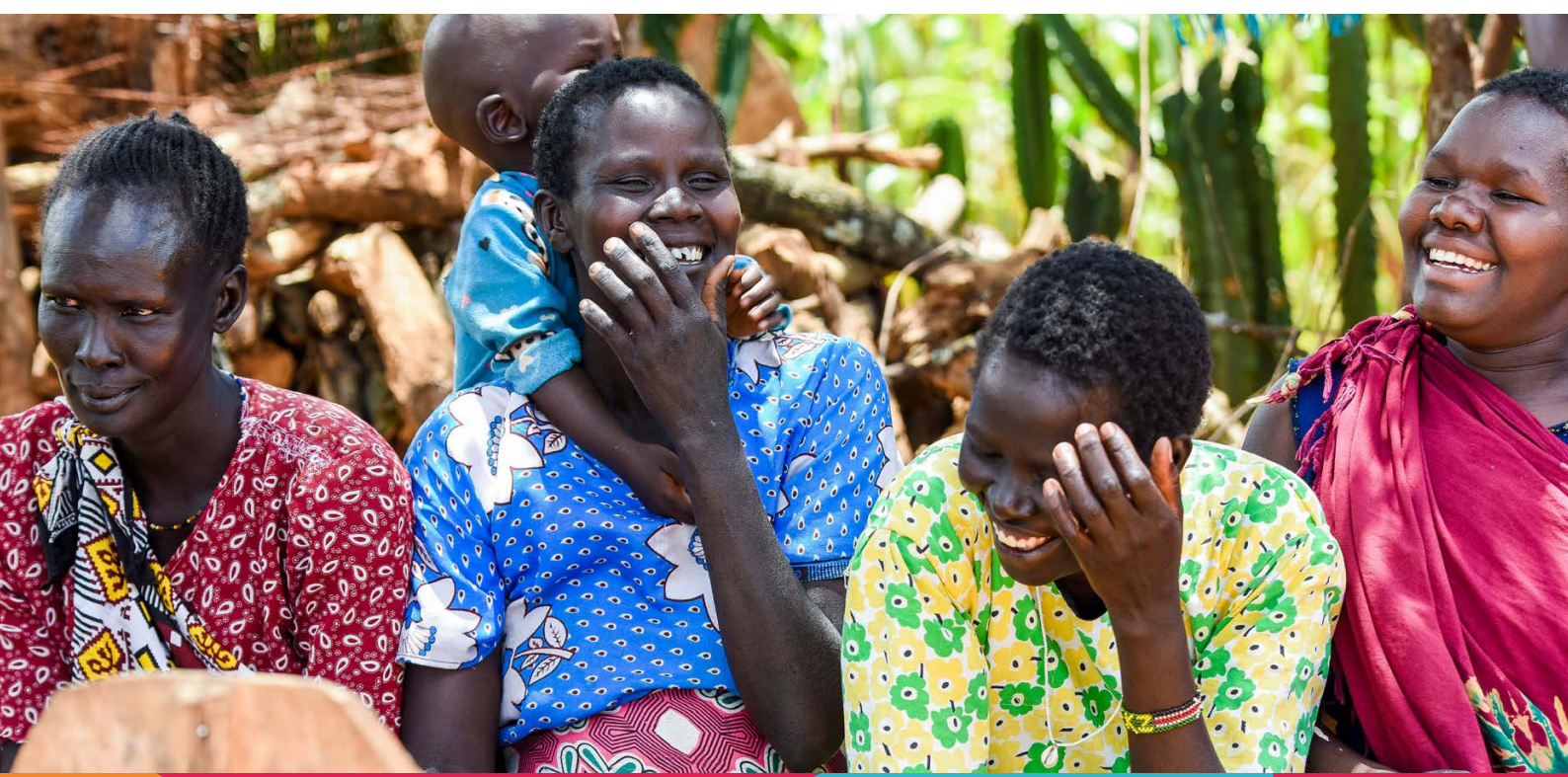
Three data gathering methods were used in the research. This section provides an overview of the methods with the details in the Annex.

Social contextualization using in depth interviews

30 in-depth interviews were conducted across five counties to enhance our understanding on the social context and policy landscape with an effect on nutrition at both the county and household levels. The study explored the social context of communities by discussing with various stakeholders from four sub-sectors of health, education, social protection, and agriculture/water at the county level. This generated:

- Information on the drivers of stunting at the household level
- The role of spheres of influence and their potential to address stunting and the related nutritional challenges
- The different ways that sectors can collaborate to support the mother-child pair during the first year of birth

All the interviews were conducted in English by trained research assistants with experience in qualitative research after obtaining written informed consent from the participants



Focus group and participatory discussions with community members

Twenty-one (21) Focus Group Discussions (FGD) were conducted with various groups at the community level to identify persistent drivers of malnutrition, particularly stunting, and opportunities for improving nutrition and other childhood outcomes. The type of group varied in the five settings, but it largely included women groups (including religious ones), men-led groups, and cultural leaders with influence and decision-making roles in the community.

Group sessions were infused within the FGDs with participatory action methods where participants were given a chance to engage each other on issues of malnutrition. Groups were tasked with engaging each other in smaller groups to discuss community eating habits and preferences of various foods, as well as reasons for the preferences, and reported their conversations in plenary for group discussions.

Each FGD was conducted by two trained research assistants with experience in qualitative research after obtaining written informed consent from the participants. The discussions were conducted in Swahili or local languages and were audio-recorded with the consent of participants. All COVID-19 related measures were adhered to during the data collection process.



Case narratives and observations in selected households

Drawing from anthropological methods and approaches, case narratives with six selected household members per county were conducted. Two categories of families in each county were identified. The first comprised three households with a stunted child while the second included three households with children who do not have any form of malnutrition. Households with stunted children were purposively identified either from health facility records or through community health volunteers. In each of the households a minimum of five visits were made after the initial discussion and consenting with the families. Their experiences in managing children, feeding patterns, and social interactions between and within communities were then documented.

The narratives were conducted by trained research assistants with experience in anthropology after obtaining written informed consent from the participants. Depending on the context, we ensured that families with children who have some form of malnutrition, and who were not in any treatment program, were linked to county level services. We also supported families with a small token of appreciation over the entire period equivalent of \$10 or other gift vouchers or food rations during the visits.

Completion of Household Dietary Diversity Score and the Household Hunger Scale

During the case narrative visits to the families described above, families were requested to complete two sets of tools. During the first visit, the families were asked to fill in a dietary diversity tool which is a qualitative measure of food consumption that reflects household access to a variety of foods and is also a proxy for nutrient adequacy of the diet of individuals. The dietary diversity tool is a simple count of food groups that a household or an individual has consumed over the preceding 24 hours. The Household Dietary Diversity Score (HDDS) is meant to reflect the economic ability of a household to access a variety of foods. Studies have shown that an increase in dietary diversity is associated with the socio-economic status and household food security (household energy availability) ^[36].

In addition, families were also requested to complete the Household Hunger Scale (HHS). The HHS is a simple indicator to measure household hunger in food insecure areas ^[37]. The approach is based on the idea that the experience of household food deprivation causes predictable reactions that can be captured through a survey and summarized in a scale. The tool consists of nine occurrence questions and nine frequency-of-occurrence questions. The occurrence questions ask whether or not a specific condition associated with the experience of food insecurity ever occurred during the previous 4 weeks (30 days) ^[37]. The HHS was administered during the last visit.

Table 2: Summary of data collection activities

Study location	In depth interviews	Focus group discussions	Case narratives
West Pokot	6	4	6 households x 5 visit= 30
Kwale	6	4	6 households x 5 visit =30
Nakuru	8	5	6 households x 5 visit=30
Nyandarua	6	4	6 households x 5 visit=30
Nairobi	4	4	4 households x 4 visits=24
Total	30	21	144



Data management

Qualitative data from the in-depth interviews, case narrative, field notes and FGDs were transcribed and translated into English where appropriate and typed in Word. The data was managed using Nvivo12 (QSR International). The study used thematic analysis for all the qualitative data through open coding and progressive categorization of issues emerging from the data and issues identified at the design stage. Themes were further modified as more issues emerged from the data analysis. Categories derived from the data were refined through analysis charts guided by the study's conceptual framework. Themes generated from both initial tool and emerging issues were charted as per objectives and beyond to explore issues that might emerge from the study. Typologies of the key findings are presented along the study objectives.

Data collected from the HDD questionnaire were analysed by creating a score of the sum of the different food groups consumed. The scores were analysed to provide information on the diets of families with different demographic or economic characteristics. Since there is no international consensus on which food groups to include in the scores and the results, we calculated the household dietary scores based on different food groups captured through the research. The HHS data was descriptively analysed to illustrate coping strategies families use when they have insufficient food. The unit of analysis was the household.

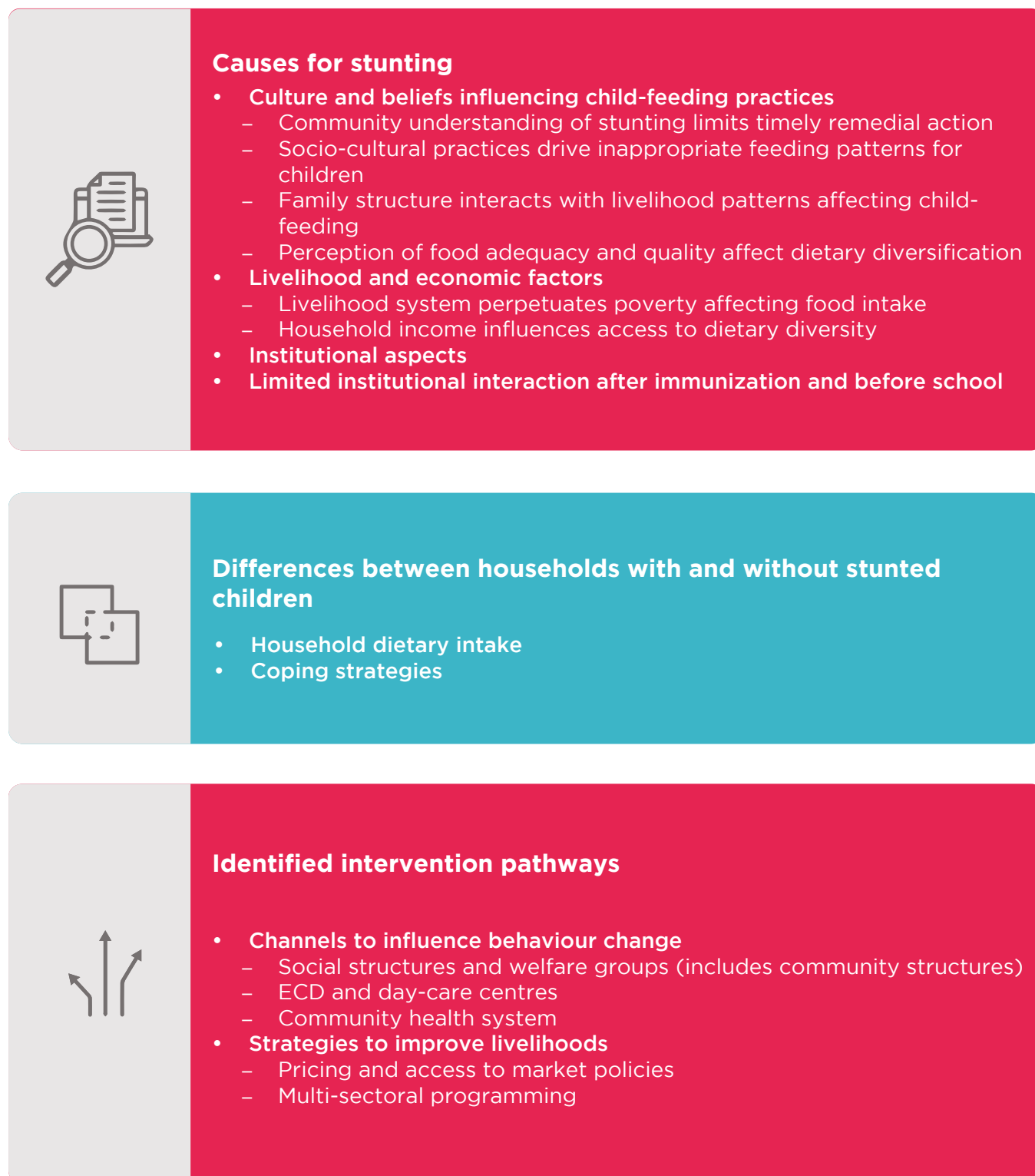


CHAPTER THREE: **KEY FINDINGS**

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This section presents how drivers of stunting interacts in different livelihood settings and the differences between households with stunting and those without.

Figure 10: Structure of the key findings



Causes for stunting

This section provides the research's findings with respect to the causes for stunting. A corresponding video on drivers of malnutrition/stunting can be found here:



Culture and beliefs influencing child-feeding practices

Cultural factors that influence child-feeding practices can be split out into the following:

- Community understanding of stunting limits timely remedial action
- Socio-cultural practices drive inappropriate feeding patterns for children
- Family structure interacts with livelihood patterns affecting child-feeding
- Perception of food adequacy and quality affects dietary diversification

This section explains each of the above factors.

- **Community understanding of stunting limits timely remedial action**

The concept of stunting is defined differently within families and communities. Furthermore, cultural norms and beliefs have an impact on mothers being able to identify the problem and seek timely medical support. Study participants noted that this is driven by the following factors:

1. Lack of understanding about the importance of appropriate nutrition
2. Lack of visible symptoms of stunting causes caregivers to attribute short height to genetics and underestimate the consequences
3. General poor care seeking patterns after the child has finished immunization schedules as well as difficulty to access healthcare causes a delay in early detection
4. Inadequate or incomplete information passed from the healthcare provider to the caregivers and causes caregivers to not fully understand the severity of the situation



5. Superstition, stigma, and shame associated with stunted children causes caregivers to delay early detection

The results are an underestimation of the effects of stunting and seeking of medical help too late.

A corresponding video that is discussing cultural perceptions and lack of information can be found here:



Community understanding of stunting influences timely remedial action

“They [the parents] just see that the child is sick, but they don’t know that the child lacks good nutrition... because they do not have that knowledge of different food combinations”

FGD Nakuru, Cultural leaders

“When you talk to communities, they will tell you there are tall and short people in any community, not understanding that some of these short people are short because they lacked proper nutrition within the first 1000 days and the long-term effects that can have.”

KII, Health sector, Nakuru

“It depends on what your parents fed you when you were young. If it was just ugali and milk, you might think that that is sufficient. For example, some families have beans available, but they don’t feed it to their children. So it’s not always about availability, it’s also about habits and cultural norms.”

KII, Health sector, Nakuru



- **Socio-cultural practices drive inappropriate feeding patterns for children**

- a) Cultural practices perpetuate feeding patterns

The study suggests that the value attached to certain foods and what is culturally preferred for different persons influences what is prepared for children. There were discussions across all livelihood settings that inherited practices shape what is fed to children based on value and taboos associated with certain foods. These practices are often passed onto younger generations and become part of family routines on what is eaten.

Limited diversification of food given to children contributes to stunting. For example, children seem to be fed foods from one group – often carbohydrates such as porridge or potatoes with additional ingredient such as salt or milk. However, other food groups such as fruits and vegetables and proteins are often underrepresented in the diet of children and their families. This is the case in both rural and urban settings, especially where income levels are low and availability and time to prepare nutritious food is limited. Inadequate availability of cooking fuel exacerbates the issue as families choose food that can be cooked quickly, thereby limiting diversification in diets.

Even in places where a variety of food exists and is easily available, children are fed with a mixture of foods that may not always incorporate all the food groups. The underlying reasons contributing to the dietary patterns observed for children include a perception that children require light meals or because parents prefer to make light meals for logistical reasons. Parents tend to balance between making a living and childcare.

The table below illustrates examples of preferred foods fed to children and the underlying reasons.

Table 3: Preferred food given to children

Time	Preferred food for children	Reasons for preparing such food	Evidence from data
Breakfast	Porridge/salt or milk Potatoes mixed with banana Tea with or without milk	Financial capability	“A child that is five years and below only takes porridge but those that are older than five years can eat everything they want.” FGD, Women group, West Pokot
Lunch	Potatoes or bananas with or without other ingredients depending on financial ability	Perception of inability of children to digest other foods	“The children who don't go to school get separate food like potatoes, or we prepare bananas.” FGD, Nakuru
Dinner	Ugali/soup or milk	Financial capability and timing to ensure there are remains for breakfast	“Because milk and ugali is soft the child can digest it. A child cannot digest something hard” FGD, Nyandarua

Another dimension of culture and its effect on dietary intake available to children is the cultural orientation to various food preferred for different gender. For example, there are foods preferred for men that are linked with energy needed by men for the role they play in family.

Men tend to get a larger share of animal proteins at the expense of women, children, and adolescent girls, who needs these animal proteins for their development and to mitigate losses associated with menses. This coupled with taboos about eating certain parts of meat products that only men are supposed to eat, limit access to appropriate protein needed for children and pregnant women.

Overall, social, and cultural orientation of foods influence what and how children are fed limiting opportunities for dietary diversity. Furthermore, diversity is influenced by time, cost, and access to foods that children can be fed.

“

Children's food is mostly porridge and bananas... it is crushed, sieved and then given to the child.

Case narrative, Nyandarua

People don't have time to cook good food for their children. They have to get up, go out and look for work - leaving the children like that and telling them to drink the tea. So the children will drink that until evening and when they come back they cook ugali and eat that.

Case Narrative, Kwale

”



b) Household gender roles, decision making and power dynamics

A corresponding video that is discussing family dynamics and gender roles can be found here:

A QR code is located on the left side of the image. To its right is a large, colorful play button icon. The background of the image shows a person's hands clasped together, with a colorful patterned sleeve visible. The overall image has a dark background with a colorful geometric shape at the bottom.

Household gender roles, decision making and power dynamics

Across all settings, it was clear that in households where female had ability to make decisions on resources available for the family, their children appear to have better nutrition compared to those where women had limited room for decision making. This is the case especially in settings where families cannot sustain themselves economically. However, access to financial resources and knowledge available to women facilitates better nutrition for the family.

Decision making processes manifest differently and varies with context. In some places this is done by the women in consultation with men or sometimes by women alone. Food purchased and cooked is linked to what the bread winner can afford. However, women prioritize what is to be eaten based on what is best for their families while taking into consideration financial restrictions.

In reality however, women are often not having access to financial resources and therefore cannot always decide what food to buy.

“

“In our culture, women do not have access to resources, they are controlled by men. So as much as they want to ensure that their children eat very well, they cannot access the resources adequately.”

KII, Health sector, Nakuru

“We usually let the wife make the decision what to buy and cook based on our ability and availability. Sometimes I decide to buy some meat if I can find it, but otherwise my wife cooks ugali or chapati with tea.”

FGD, Men, Nakuru

”

c) Alcoholism

A common social practice cited is alcoholism which deprives financial resources and affects the ability of families to provide food for children and adequate childcare.

“

“With regards to how the money is used, it will depend on what type of man he is. There are those who are drunkards and that is where there is a problem. Alcohol and substance abuse is one thing that is affecting our community – it causes laziness and inability to provide food causing malnutrition.”

KII, Nyandarua

“Careless mothers who take alcohol have no time to work to get food for their children.”

FGD, Women, West Pokot.

”



- **Family structure interacts with livelihood patterns affecting child-feeding**

Young parents without adequate knowledge on childcare and single parent families with limited social and financial support experience challenges of being able to feed their children well. Furthermore, large families including polygamous families seem to have more children who suffer from various forms of malnutrition.

“When women are having children in short intervals, before one is done with breast feeding the mother is already pregnant again, that’s when the baby’s health suffers.”

Case narrative,6, Kwale

“The culture is biased against women. When a man marries more women, he becomes the king. But they struggle to feed their family which causes starvation and poor nutrition. For example, someone has four wives and they do not do family planning, which means each wife gives birth yearly. When you give birth yearly and children are supposed to be breastfed for at least one and half year to two years, these children are subjected to several sufferings because the mothers deny them breast milk and starts feeding them on full starch when a child is supposed to fully breast feed.”

KII, West Pokot

“People are having a very high number of children and it’s not possible to feed them adequately. In some areas, people eat in turns. when one child has eaten lunch, it means that they won’t eat supper. Another child will eat supper. So, it’s very difficult to have three full meals in a day, in most households.”

KII, Nakuru



- **Perception of food adequacy and quality affects dietary diversification**

The study explored the perception of food and how that perpetuates stunting. Respondents were asked to discuss what is attractive food and how that affects eating patterns. It was clear that attractive food may not necessarily have nutritional value. It is food that reflect status and preferences in terms of taste. On the other hand, food that is consumed daily because there are no alternatives is in general considered unattractive food.

Related to this is the perception of food that is considered food for the rich or poor. Perceived food for the poor is determined by availability of money to buy variety of foods, how the food is acquired, or time and

cost taken to prepare it. Food for the rich is associated with what most people cannot afford to buy and thus eat less frequently. For example, vegetables are perceived to be food for the poor, while animal proteins are considered to be food for the rich. In essence, food considered for the poor may be disregarded for less nutritious food. These observations imply that there seems to be an interaction between perception of food and level of income. This coupled with changing lifestyle means that people are adopting feeding habits that may not necessarily be healthy.

Other than the type of foods eaten, frequency of eating is influenced by livelihood and varies with context with many instances where families do not have three meals a day.

“Quality has no room...it is like only the quantity matters. That is why for most of the society their meals are made up of only of carbohydrates.”

KII, Education sector, Kwale

“Every food has to be prepared in a certain way for it to retain its nutritional value. People who are illiterate often prepare food without consideration to that, they just boil it so much that the nutritional value is gone but it still makes them full.”

KII, Health sector, West Pokot

“I think attractive food is what is considered food for the rich people. So, when people tell you that a mother was told to eat well, they mean a mother was told to eat beef, liver, or eggs. We know that a meal of maize and beans (githeri) is quite healthy and very nutritious, but it is not attractive.”

KII, Health sector, Nakuru

“If you are a visitor then you will not even be served vegetables. You will be served either milk or meat because you are a respected visitor and if you are given vegetables that makes you not look important.”

KII, Health sector



Livelihood and economic factors

This section explains the effect of challenges in the livelihood systems and broader economic factors on malnutrition. While farming, livestock rearing or other livelihoods common in the country do not directly affect nutrition, however, the challenges inherent in these sectors limit the income generating potential of households and limit access to nutrition, factors that are explored in the section.

- **Livelihood system perpetuate poverty affecting food intake**

- a) Agrarian system of livelihood

In agrarian settings, most families practice small-scale mixed farming combining agricultural produce and animal husbandry. Produce is mostly used for household consumption; surplus being sold to meet financial obligations. Six challenges affect production in the agrarian setting that are causing families to not be able to access a balanced diet:

1. Farmers lack expertise and knowledge on good agricultural practices to ensure maximum yield.
2. Persistent bad weather patterns experienced through recurrent drought characterized by poor rains or too heavy rains are worsening and are threatening food availability.

A corresponding video that discusses environmental factors such as drought and famine, can be found here:



3. Fees from middlemen and inability to store produce during harvest season leads to an oversupply, which affects prices and therefore farmers' income negatively. Farmers also incur additional or unanticipated costs of preparing produce for the market, making families vulnerable to unknown rules and regulations. There are few policies in place to protect farmers against being forced to sell to middlemen at low prices not covering the costs of production. Some policies that are in place are not consistently enforced at all steps of the supply chain and some have unintended consequences, such as encouraging families to focus on crops that yield commercial value at the expense of foods that can be used to enrich dietary intake and offer diversity. Duration from planting to harvesting also plays a role as households prefer to grow crops with a shorter period to generate income to meet other social obligations at household level.
4. High cost of farm inputs forces farmers to sell all high-quality produce and leaving those that cannot meet market quality for household consumption.



4. Inability to plant a variety of crops and use of modern methods of farming partly due to knowledge gaps and financial constraints, which continue to perpetuate small scale farming. When local practices are passed down from older generations focusing on certain crops this can result in communities failing to grow other crops that provide higher nutritional value.
 5. Challenges of land ownership and adjudication process limit the ability of communities to use their farms effectively for maximum economic outputs. Where communal ownership of land is still practiced, there are common conflicts disrupting farming and livelihoods.
1. One is small-scale leasing, which costs families from Ksh. 1000 to Ksh. 13,000 depending on location of the farm and its fertility. Some families are leasing farms away from home due to better weather conditions which means that family members stay away for long periods of time limiting opportunities to better childcare including feeding practices.
 2. The second category of leasing practice are large farms who employ locals and attract young laborers from other regions. Cases of stunting were observed to be common among families that work in such farms due to a combination of long working hours with minimal time to care for children including preparing appropriate food for them. Commodities are often transported elsewhere to be sold, leaving local communities with limited access to potentially nutritious food that could help diversify their dietary intake.

Furthermore, leasing practices are affecting childcare practices and leave children with insufficient care and nutrition:

“People do a lot of farming in this area, but they get less produce because of droughts and that’s why most of them have reduced income and turn to cutting down trees and burning charcoal so that they can get their daily meal.”

FGD, Religious leaders, Kwale

“If it’s harvesting time for potatoes, they are in huge supply and because demand stays constant the prices go down. And that’s when middlemen come in. They buy all our produce and store it somewhere. And then during scarcity, they bring the produce back to sell it to the same households at very exorbitant prices, which many can’t afford it, because they sold at very low prices.”

KII, administrative office, Nakuru

“When policies were introduced that potatoes need to be bought in 50kg sacks, the price plummeted. A 20kg sack would go for at least 300 to 400 shillings, but now it only sells at 80 shillings. It never used to be sold in 50kg sacks and we were not asked for our perspective when the policy was introduced.”

FGD, Men, Nyandarua

“When it comes to mangoes the good ones are sold in crates and low-quality ones are utilized by the family. For milk, I think they sell almost everything in highlands. That’s why we have malnutrition in those areas, despite having a lot of milk production”

KII, Agricultural sector, Nyandarua



b) Pastoralist livelihood system and livestock production

The second category of livelihood system is the one that focuses on livestock production which cuts across two livelihood systems – those that are only pastoralists or those that do mixed farming. In both settings, livestock is kept as an insurance for tough times, with proceeds from the sale being used to meet other financial obligations such as pay school fees or buy food.

However, small livestock keepers, who are not well established, find it hard marketing their products with pricing dictated by middlemen, affecting income to support

household needs. In addition, households may sell the produce from the animals, but this is restricted to certain types of livestock such as chicken and rabbits since they reproduce faster but not goats or cows, which are only used during special occasions. Culture influences consumption of livestock products, for instance, use of animals for food or sale is limited by the value attached to the animals. Additionally, the number of animals kept determines the social class, thus, decision making on what and when a certain animal can be sold for local consumption or for use to meet basic needs, such as food, affects the ability to meet dietary intake for the families.

“

Somebody has 200 herds of cattle and are regarded as rich within their community, but they would not sell one of the 200 to for example pay for their health requirements at homes unless someone is very sick. The value of a cow is more than the value of their health. So you have people who have resources available to them, but they are not making good use of these resources to help them.

”

c) Urban informal setting

The third form of livelihood examined is the urban informal setting, which is characterized by both formal and informal sources of income. Formal employment ranges from teaching to working in government agencies and industry, among others.

The second category of livelihood is the informal employment system, which include those working as casual laborers, owning small, unregistered businesses to sell secondhand clothes or groceries, or working in the transport industry or construction.

Urban livelihoods affect feeding practices in two main ways. Firstly, families with both parents having to earn an income often do not have enough time to take care of their babies sufficiently - in many cases older siblings have to step in, or children are taken to daycare centres as young as age 4 months. Secondly, many families live from hand to mouth or have highly fluctuating daily income, resulting in food times that would contribute to a balanced diet being above their means.

- **Household income influences access to dietary diversity**

Low income not only affects ability to access and prepare adequate and nutritious food for children, but also ability to access adequate food for the lactating mother influencing breastfeeding. This often leads to an early start of complementary feeding affecting children's development. Additionally, it appears like perception of foods for lactating women have a bearing to breastfeeding practices. There are mixed perceptions on what lactating women should eat, with the largest influence being culture, availability, and beliefs about the pregnancy. For example, in the agrarian setting, women reported that cooked bananas, arrowroots, rice, potatoes, sweet potatoes, and soup is preferred food for lactating mothers. Other preferred food is ugali, eggs, *mukimo* (potatoes with green beans) with other greens such as kales, spinach meat, black beans, and green grams.



Other than poor feeding patterns for breastfeeding mothers, caregiver knowledge on value of breastfeeding contributes to an early start of complementary feeding.

Household's limited budget availability affects whether caregivers can feed their children with nutritious food. Across different livelihoods, families could not estimate the cost of adequate nutrition. What families spend on food varies with context but is driven by the dietary practices characterized by limited diversity and exacerbated by contextual challenges like the COVID-19 pandemic and seasonal variations of weather patterns. In the urban informal setting, the dominance of the

"*kadogo*" economy, where families spend what they have for a day, makes it hard for them to plan for children's meals effectively.

Limited financial resources disempower women's ability to plan on what to cook for the children and care for their children adequately. Those with limited resources appear to have challenges balancing childcare and earning a living, delegating such roles to house helps or daycare centers. The latter on one hand can act as an avenue of positive behavior change towards nutrition. However, many people cannot afford day care and sometimes the daycare center does not have the ability to feed the children.

“The first problem is poverty within the family, and you find that people eat what they get and not what they want; and the second thing is that the mother might have insufficient breast milk because she doesn’t get enough food and if the milk is insufficient then the baby gets weaned early on to substitute foods despite the too young age.”

FGD, Religious leaders, Kwale

“I will buy those foods that I can afford and maybe those foods do not contain vitamins, but due to my financial status I cannot allow myself to buy other food that can strengthen my body.”

FGD, Women group. Kwale

“The situations can vary depending on where these families come from. In the informal settlements, some families have even less than Kshs. 100 per day. Some people do not eat anything for 24 hours because of that. Some are able to afford some ugali. So, they ate one type of food. COVID-19 had a huge bearing on the food choices and the availability of food. So, most of them had to really cut down as they wanted to save their money so that they would be able to pay for rent or be able to take their children to school. Food had to be compromised and therefore there is a lot of food insecurity.”

KII, Health sector, Nakuru

“Some mothers cannot afford to pay for the baby care, because she has too many children or not enough money. She has to earn money to send her children to school, to pay rent and buy food. So she leaves her other children, sometimes as young as five-year-old, with children under five months. You can imagine, a five-year-old left to feed an infant.”

KII, Health sector.



Institutional aspects

- **Limited institutional interaction after immunization and before school**

Compliance to immunization is high up to age 9 months after which there is a “loss to follow-up” until the child presents for compulsory primary school education. This means the critical intervention period between age 18-24 months before the lapsing of the 1000-day window and when stunting prevalence is greatest is missed. Interventions introduced at primary school level like school feeding programmes are too late as more than 90% of brain development has already taken place. This curtails potential academic performance, future skill acquisition and therefore labor productivity. This cap directly affects future incomes and thus perpetuates the poverty cycle

Differences between households with and without stunted children

Household differentiators

Across all households, income was a driver to access to nutrition for children, however, three key distinct differentiators were observed between households whose children experienced stunting and households whose children did not experience stunting.

Table 4: Differentiators across households

Differentiators		Features- Households with stunting	Features- Households without stunting
Empowerment	Decision-making space for women	Women have limited decision making power on the use of resources	Women have some empowerment to make decisions on resource use Women have access to financial resources to influence daily intake h
	Knowledge of appropriate nutrition and care practices	Caregivers have limited financial resources and have increased workloads as a result. This limits their ability to balance care practices and work	
	Ability to navigate certain cultural practices	Families that have limited spousal support, as well as relatively isolated families, may fail to feed their children effectively	Families where spousal support and families that are not scattered have wider community and society support
Environmental changes		Families have poor sanitation and limited access to water	Families have access to water and better sanitation

Household dietary intake

In addition to the case narratives collected from the 28 households, we generated a HDDS. The table below provides a description of the foods eaten in the last 24 hours for both households with stunted families and those without. Although there were no major differences in the overall HHDS score in either household, families with a stunted child appear to have larger family size, did not eat any meat products, eggs or had lower proportions eating milk or milk products in the last 24 hours preceding the first visit.

The table below shows that families with a stunted child had lower dietary diversity than families without a stunted child. Average family size can be considered as one of the factors that contributes to it.

Table 5: Household dietary diversity score

Food types eaten and dietary score	Families with a stunted child		Families without a stunted child		Total (n=28)	
	13	(%)	15	(%)	28	(%)
Average family size (SD)	7.1	(3.2)	5.8	(1.9)	6.5	(2.6)
Food categories eaten in the last 24 hours	13		15		28	
Cereals	13	(100.0)	15	(100.0)	28	(100.0)
White tubers and roots	7	(53.8)	8	(53.3)	15	(53.6)
Condiments	5	(38.5)	10	(66.7)	15	(53.6)
Sweets	6	(46.2)	7	(46.7)	13	(46.4)
Dark leafy vegetables	11	(84.6)	15	(100.0)	26	(92.9)
Milk and Milk Products	6	(46.2)	10	(66.7)	16	(57.1)
Fish and sea foods	4	(30.8)	3	(20.0)	7	(25.0)
Vit A and other fruits	7	(53.8)	6	(40.0)	13	(46.4)
Legumes nuts and seeds	6	(46.2)	5	(33.3)	11	(39.3)
Flesh meats	0	(0.0)	3	(20.0)	3	(10.7)
Other vegetables	9	(69.2)	10	(66.7)	19	(67.9)
Eggs	0	(0.0)	3	(20.0)	3	(10.7)
Oils and fats	9	(69.2)	8	(53.3)	17	(60.7)
HDDS (SD) (0-12)	5.6	(2.1)	6.2	(2.6)	5.9	(2.4)

Eight households with a stunted child experienced lack of food due to lack of resources compared to six with those that did not have stunted child, as shown in the table below.

Table 6: Experience of hunger

In the last 30 days	Families with a stunted child		Families without a stunted child		Total	
% of households where any member	14		14		28	
Had no food to eat due to lack of resources	8	(57.1)	6	(42.9)	14	(50.0)
Went to bed hungry because there was no food	8	(57.1)	5	(35.7)	13	(46.4)
Went whole day and night without food	7	(50.0)	4	(28.6)	11	(39.3)
Frequency of experiencing no food	8		6		14	
1-2 times	1	(12.5)	1	(16.7)	2	(14.3)
3-10 times	4	(50.0)	4	(66.7)	8	(57.1)
10 times and more	3	(37.5)	1	(16.7)	4	(28.6)
Frequency of going to bed hungry because there was no food	8		5		13	
1-2 times	1	(12.5)	0	(0.0)	1	(7.7)
3-10 times	5	(62.5)	4	(80.0)	9	(69.2)
10 times and more	2	(25.0)	1	(20.0)	3	(23.1)



Coping strategies

Both qualitative data and the hunger scale suggest that families cope with the issue of lack of food in variety of ways presented in the table below. A common example of livelihood-based strategy used is borrowing either from shops or neighbors for later return often seen as mutual support for future -referred to as “*atakufinyia*” -meaning the neighbor will return the favor another day when you are in crisis. Consumption based strategies include reducing the number of meals eaten per day was manifested in different ways. Skipping meals happens with a priority to young children to ensure they eat, families may also choose to eat in turns, eating less preferred meals or downsizing various types of food per week.

“.....most families had to really downsize their budget for food. If households were used to possibly eating meat three times a week, it would go to once a week or not at all. And they would eat the very basic just to hold their stomachs. You would even find mothers giving strong tea and, let us say, something like ugali to their children. But those who had their small gardens still continued growing and still had access to some of those foods. But in areas, especially the informal settlements, the impact was really huge.”

KII, Health sector, Nakuru

“Probably the coping mechanism would be to avoid the expensive foods or the foods that need to be purchased, and they consume more of the locally available food, the cheaper foods, like the legumes but they are nutritional. So they are avoiding the expensive food but concentrating on the cheaper but nutritional foods”

KII, Health sector, Nyandarua

In terms of insurance-based strategy, families source food from engaging in farming activities that is paid back in the form of food.

“.... someone like me might not have money to pay for weeding my farm and then I find someone else who also doesn't have the money to pay for weeding on their farm; we then decide to help each other and weed on the farms in shifts...that's how we help each other on the farms. We also do similar thing when it is harvesting and instead of paying you give out maize to someone who is hungry”

Case Narrative, Kwale

The table below lists the coping strategies used by families with and without a stunted child. While the strategies used are similar, differences in family size can be a driving factor.

Table 7: Coping strategies to lack of food

Strategies	Families with a stunted child		Families without a stunted child		Total	
		(%)		(%)		(%)
Livelihood based strategies	14	(%)	14	(%)	28	(%)
Sold household assets/goods	5	(35.7)	1	(7.1)	6	(21.4)
Reduced non-food expenses on health (including drugs) and education	8	(57.1)	9	(64.3)	17	(60.7)
Sold productive assets or means of transport	3	(21.4)	2	(14.3)	5	(17.9)
Spent savings	11	(78.6)	8	(57.1)	19	(67.9)
Borrowed money / food from a formal lender	9	(64.3)	9	(64.3)	18	(64.3)
Sold /leased land	9	(64.3)	9	(64.3)	18	(64.3)
Withdrew children from school	7	(50.0)	6	(42.9)	13	(46.4)
Sold last female animals	3	(21.4)	3	(21.4)	6	(21.4)
Begging	6	(42.9)	3	(21.4)	9	(32.1)
Sold more animals (non-productive) than usual	2	(14.3)	2	(14.3)	4	(14.3)
Overall rating of household's food security status	14		14		28	
Food secure	1	(7.1)	3	(21.4)	4	(14.3)
Experienced stress	1	(7.1)	1	(7.1)	2	(7.1)
Experienced Crisis	1	(7.1)	1	(7.1)	2	(7.1)
Emergency	11	(78.6)	9	(64.3)	20	(71.4)
Consumption based strategies	14		14		28	
Relied on less preferred, less expensive food	9	(64.3)	9	(64.3)	18	(64.3)
Borrowed food or relied on help from friends or relatives	7	(50.0)	7	(50.0)	14	(50.0)
Reduced the number of meals eaten per day	11	(78.6)	11	(78.6)	22	(78.6)

Table 7: Coping strategies to lack of food (Continued)

Strategies	Families with a stunted child		Families without a stunted child		Total	
Reduced portion size of meals	50	(357.1)	56	(400.0)	106	(378.6)
Reduction in the quantities consumed by adults/mothers for young children	10	(71.4)	8	(57.1)	18	(64.3)
Sent household members to eat elsewhere	4	(28.6)	3	(21.4)	7	(25.0)
Went an entire day without eating	6	(42.9)	2	(14.3)	8	(28.6)
Insurance based strategies	14		14		28	
Increased casual labor	9	(64.3)	8	(57.1)	17	(60.7)
Some household members worked for food only	6	(42.9)	4	(28.6)	10	(35.7)
Migration of one or more household members or sent an adult household member away to seek work	4	(28.6)	3	(21.4)	7	(25.0)
Increase the number of household members out of the village in search for work	3	(21.4)	2	(14.3)	5	(17.9)



CHAPTER FOUR: CHANNELS TO INFLUENCE BEHAVIOUR CHANGE

CHAPTER FOUR: CHANNELS TO INFLUENCE BEHAVIOUR CHANGE

This chapter provides the channels identified during the research that can influence behaviour change. The Government of Kenya has made great advances in improving the welfare of children in Kenya and remains committed to expanding opportunities for all young people. Although this demographic has and continues to face many challenges during the pandemic, there are existing platforms that can influence behaviour change. This section examines potential entry points for community nutritional programming.

- **Social structures and welfare groups**

Synthesis of the drivers alongside different livelihoods, empowerment of women within households, financial stability and decision-making space, will all contribute to improved outcomes when it comes to caring and adequately feeding children in their first 1000 days. Additionally, existing social structures such as religious

organizations and other welfare groups such as mother support groups, will provide a suitable entry point for early intervention. Using such structures will increase reach, and it will be crucial to intentionally target both men and women. The need to empower women with knowledge to make better decisions, using structures such as mother-to-mother groups, table-top banking groups or other forms of social welfare groups, can help them make better decisions when it comes to feeding their children. Given that stunting appears to be a function of broader social economic challenge that is tied to inadequacies in knowledge, an approach that goes beyond the health sector could be considered for community nutrition programming. This could take the form of various channels for community education including using religious leaders, or teachers to be ambassadors. These sets of people are largely trusted in communities and can help break cultural barriers associated with poor dietary diversity.





“Itikafu will help you because it is a symposium of people from different places. They are Muslims who have been invited from different places, to come and discuss religious issues. Information will spread faster, as these participants return home and share what they have learned from Itikafu.”

FGD, Religious leaders, Kwale

“The teachers too should talk to the parents about this information in school during school meetings; when the parents come there, the teachers have a good chance to be heard”

FGD, Religious leaders, Kwale

“Parents can be reached in our church, we can use the time to teach them about love and about good nutrition, I think there would be changes”

FGD, Men, Nakuru

“We could use the existing support group of mothers who are breastfeeding. Any woman who delivers in the facility is linked to such a group for support, and these kinds of groups can be used to educate mothers more about nutrition. If these groups can be empowered with knowledge, I think that would be of great help, leading conversations about health and nutrition.”

KII, Health sector



In addition, organized women groups can help not only in identification of families with stunted children, but also in short term targeted programs such as those that focus on various forms of vulnerability. It is also crucial to engage men as key decision makers in families, using locally relevant structures and avenues for a common understanding of how their engagement benefit the health of their children. In settings with existing men’s groups, they can be sensitized on issues of child development using such platforms.

Another social structure that can be used is the government **Nyumba Kumi** structure. This structure could help with early identification of stunted children. Members of the **Nyumba Kumi** can be educated and act as an avenue to educate people. Nyumba Kumi, together with local leadership such as chief’s barazas under the ministry of interior, can help with sensitization.

“ The government should arrange to reach people from Nyumba Kumi, so that they can know who doesn't have food in their households”

Case narrative, Nyandarua



“The Nyumba Kumi program is very weak currently, but we can revive it. Nyumba Kumi provides a forum for some of these things to be discussed at that level, where the community can identify stunting as a problem and discuss it. It's a forum where we can have civic education on stunting.”

KII, Adm, Nakuru

For financial empowerment, cash transfers could be provided to vulnerable families in identified regions more prone to stunting. This could be based on an initial mapping accompanied with an understanding of underlying drivers, for accurate targeting.

“At household level, it would be important to increase the number of beneficiaries in the cash transfer program because many households have not been targeted. Another thing is to raise the amount, that is to increase the amount from 2,000 per month to maybe 3,500 a month, putting in consideration the current economic situation 2000 to a family with about seven kids is very little.”

KII, Kwale





- **Early Childhood Department (ECD) and day care centers**

Empowerment of families using Early Childhood Department (ECD) centers could be instrumental in addressing information gaps as well as encourage behavior changes that can address stunting. To become centers that fight against child stunting and lead behavior change towards positive dietary uptake, ECD centers need to be adequately funded.

Through these centers, teachers will be able to detect children facing malnutrition at home and flag them early, for them to benefit from enhanced school feeding programs as a way to ensure a more balanced diet for the children. ECD centers can support the county in growth monitoring of young children, where providers can engage such centers to monitor children between the ages of 1-5 years to augment what community health volunteers (CHVs) already do. This will also help catch those vulnerable or at-risk children.

“

Also, the pre-primary teachers should be targeted, equipping them to properly handle the child because they spend a lot of time together. They need to be brought on board and intensify campaigns to promote nutrition to the infant...

KII, Education

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ECD centers could be instrumental in linking with the health sector, for improved outcomes. Since one of the main challenges is early identification of those stunted, ECD together with organized day care centers can help in monitoring of growth and development of children between ages 9 months till 4 years when they formally join the schooling system. This could take the form of data exchange between sectors about the status of the children including simple growth monitoring that can be delegated to such centers and linked to facilities.

The ECD centers could be an avenue for incorporating nutrition education into the curriculum in the context of the current education system. ECD teachers could also be equipped with nutrition education together with parents by taking advantage of existing forums such as school meetings, school boards to help sustain the education. Day care centers could be instrumental in behavior change and build a knowledge base for parents and families.

“

I think one of the things that I am particularly grateful for with the new education system is that from a very early age, we are now teaching our children the basics of nutrition, something that we lost somewhere along the way. Now we are going back to this, just teaching our children what good nutrition is.

KII, Health sector, Nakuru

If we are supported, we can have a certain time, go to these baby cares, talk to the caregivers, and maybe try to support them even if it is not financially. You know knowledge is power, so we just give them ideas on how they can keep their baby cares

KII, Health sector, Nakuru

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- **Community health system**

Within the health sector, it will be beneficial to continue strengthening community health systems, to educate caregivers about good nutrition, to enhance baby friendly initiatives, to stimulate early identification and follow up. The engagement of the health sector with other sectors such as social services will ensure that other social issues that are driving malnutrition, are also properly addressed.

A corresponding video that discusses promising pathways can be found here:



“

“Through the community health strategy and our Community Health Volunteers, we have a basic package for nutrition covering and focusing a lot on the first 1000 days of a child’s life. So, through the community health strategy and the Community Health Volunteers, we are able to reach the community, the mothers, the fathers, bringing them together even in groups just to be able to discuss what it is we are doing right in our community and what is it that we need to improve on, to ensure our children are growing well”

KII, Health sector, Nakuru

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CHAPTER FIVE: RECOMMENDATIONS FOR POLICY RESPONSE

CHAPTER FIVE: RECOMMENDATIONS FOR POLICY RESPONSE

This chapter presents a summary of nuanced themes that emerged from this study, policy priorities, and potential entry points.

Develop a stronger multi-sectoral government response

- **Consider each household as an integrated unit of production for responsive policy design and programming**

Stunting at the household level presents as a multi-faceted challenge affecting different socio-economic areas. Consequently, addressing stunting will require a multi-layered and integrated understanding of the household. The following suggestive policy responses have the potential to help adequately address stunting:

- Develop cross-sectoral action from the national level to the lowest administrative unit to ensure programming is responsive to household needs
- Set up multi-sectoral coordination platforms that will align programming priorities to address nutritional challenges
- Recalibrate cash transfer programs to model the pattern of resource use at the household level. This may include developing composite indices as measures of improvement of young children's wellbeing, critical not only for measuring progress but also for purposes of accountability of resources. A similar experience case in Brazil shows that cash transfer programs, in conjunction with other interventions such as improvements in quality and quantity of food produced by small farmers, increased rates of female education and expansion maternal and child health services and water and sanitation systems, reduced under-5 stunting from 35% in 1974 to 7% in 2007



- Incorporate household voices in programming through valid representation in taskforces, resource allocation, and public participation forums. It will be important to ensure active household participation especially of poor households, in the design of social assistance and cash transfer programs

- **Improve livelihoods and economic conditions**

Different livelihoods display a set of commonalities in child feeding practices, however, some unique patterns are associated with specific livelihood patterns. The choice of livelihood is influenced by weather patterns, cultural practices including intergenerational influences, and opportunities availed by circumstance or by government policies. The outcomes of these factors affect household incomes and therefore affect the ability of families to avail food for children. In addition to the absolute income a household makes, some perspectives were unique to livelihood settings. The following suggestive policy responses have the potential to help in improving livelihoods and boosting economic conditions in the fight against stunting:

- Align government market and marketing policies to household realities and needs including policies that are inclusive of small-scale farmers and the quantities of their farm produce
- Provide post-harvest preservation facilities such as warehousing and warehouse receipting to allow seasonal produce sales to attract higher prices
- Strengthen cooperative movements to support all farmers and increase their selling power

- **Collect and avail nuanced data for improved policy advancement**

Detailed and nuanced data is critical for appropriate policy response when addressing stunting. County disaggregated data demonstrates differences in stunting prevalence with counties such as West Pokot having rates as high as 46%. A closer look demonstrates that in counties with lower prevalence, the absolute number of stunted children is quite high, e.g., Nairobi has greater than 100,000 stunted children. Policy response must match both high stunting prevalence and high absolute numbers of stunting.

Increase political commitment towards health and nutrition

- **Advance high-level political commitment**

Sustained high-level political commitment towards nutrition is a critical requirement for successful interventions on stunting. The priority to address nutritional challenges should match the burden. This will harness resource mobilization and align programming priorities. Experience from other countries, such as Ethiopia, can provide examples of best practices. Ethiopia has established high-level cross-sectoral coordination by bringing together 9 ministries on a single platform to engage in stunting reduction strategies with positive results.

The county governments in Kenya must lead from the front on addressing stunting. Considering that health, agriculture, and early childhood development are all devolved sectors, the county governments are best placed to coordinate program design and delivery for addressing stunting within their jurisdictions. Currently, investments across the three sectors are different and there is an opportunity for improved coordination in service delivery.



- **Identify and focus on the institutional blindness period**

Between age nine-month to full immunization and age six years at the beginning of grade one, there is “institutional blindness” in the lives of young children. This lag period misses the opportunity not only in interventions to address nutritional challenges but early childhood development in children. The following suggestive policy responses have the potential to adequately address that lag:

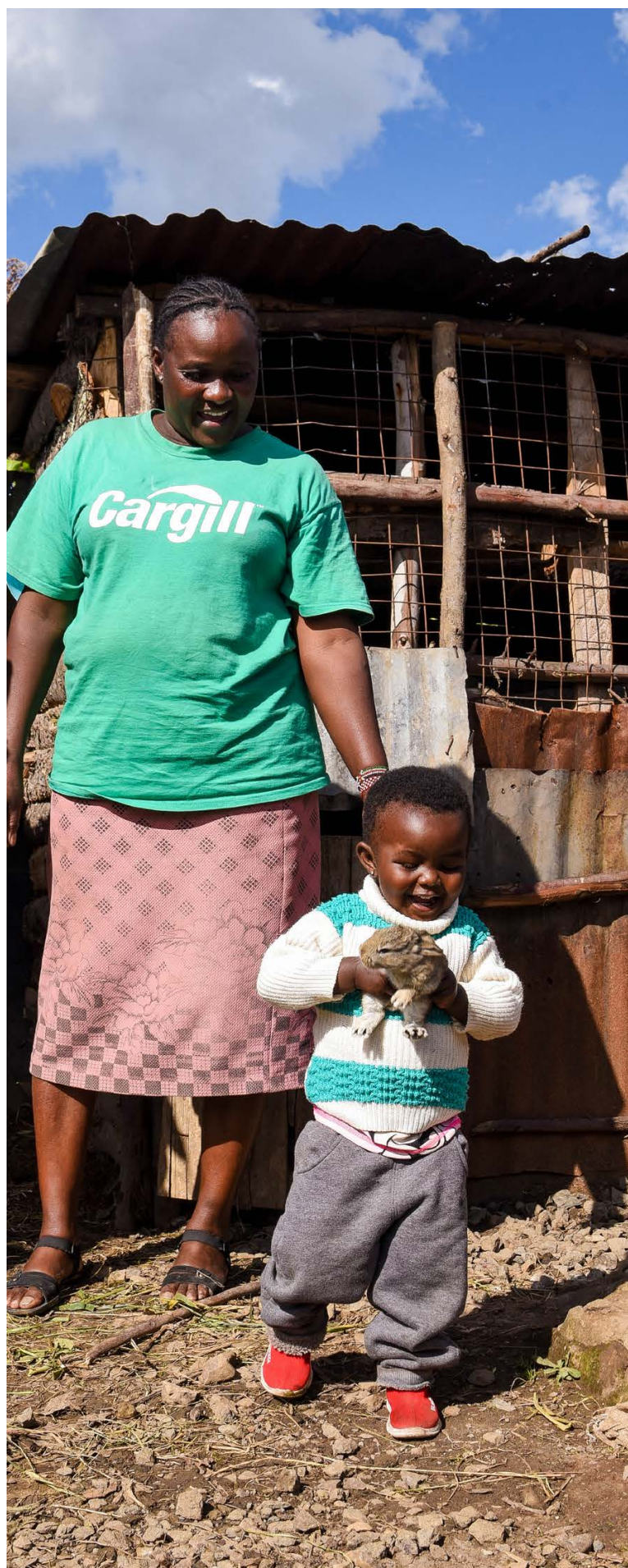
- Strengthen Community Systems for direct household engagement through Community Health Volunteers (CHVs), Agricultural Extension Workers (AEW) programs. Nyumba Kumi system can also be used as sensitization mechanisms and service delivery platforms on proper childcare practices
- Engage social structures within the community such as religious institutions, welfare groups, table-banking and boda boda groups that engage with households at regular intervals as entry points for sensitization on proper childcare practices
- Strengthen institutional arrangements of early childhood development centers (ECDs) and day-care centers. Standardization of a service delivery package will be the basis of system strengthening such as increased resource allocation, infrastructure development, and increased recruitment of teachers and instructors
- Develop institutional frameworks that govern day-care centers to encompass components of early childhood development including early stimulation, health, nutrition, responsive caregiving and safety, and security

Create and deliver targeted household support, focusing on women

- **Re-allocate the decision-making power to the responsible caregiver**

The responsibility for child-feeding and childcare, in general, falls disproportionately more on women, however, women have very little decision-making space in the household. Lack of autonomy also extends to the use of family planning and therefore large family sizes overconsume household resources even further. This is complicated by the balance between childcare and earning a living. Women resort to third-party entities such as day-care centers to meet these demands. The following suggestive policy responses have the potential to influence change in this aspect:

- Restructure social assistance programs, especially cash transfers to put resources in the hands of women who, across the board, bear the responsibility of childcare. Case experiences in Bolivia and Peru show that integration of nutrition into social protection strategies, including promotion of breastfeeding, support of family planning use, complementary feeding with fortified foods from age six to 23 months, and through multi-sectoral approaches implemented nationally, regionally and at district levels, can reduce stunting
- Empower women through education programs that could be run through entities that women engage with regularly, such as Women's groups, table-banking groups, religious groups, etc.





- **Prioritize maternal and adolescent nutrition**

An adequate response to young children's nutrition must begin with maternal nutrition during pregnancy. Maternal undernutrition is the genesis of nutritional deficiencies in newborns putting them at higher risk of having low birth weight babies, predisposition to neonatal infections, and neonatal death. Adequate intake of energy-rich foods, iron, calcium, and other important micronutrients compromise the growth of both the mother and the unborn child. This increases the chances of low-birth-weight babies who have a higher risk of neonatal complications. Post-birth, economic stress makes adequate nutrition for the adolescent mother and child challenging.

Strengthening maternal nutritional programs including micronutrient supplementation provides a strong nutritional foundation for the new-born and is essential to breaking the intergenerational cycle of stunting, disease, and low productivity. Delaying the age at first pregnancy through keeping adolescent girls in school and equipping them with the right skills will contribute to breaking the intergenerational cycle of malnutrition, poverty, and disease.



CHAPTER SIX: **CONCLUSIONS**

CHAPTER SIX: CONCLUSIONS

The first 1000 days are a pivotal period in a child's development and confer multi-layered health and economic benefits in a child's future life as well as provide a country with strong human capital for continued growth and prosperity. Stunting, a marker of chronic undernutrition, impedes not only in the physical health of the child but also capacity for education, skills development, and therefore future earnings. It is a marker of the inadequacy of the environment to which children have been exposed early in life. The link between physical and cognitive development during the early years accounts for the association between stunting in early life and cognition and productivity in later life, which eventually help build a high human capital.

Progress towards reduction of stunting

in Kenya has been slow and has likely worsened with the COVID-19 pandemic. Early investments in health and nutrition in low-income settings may be difficult to achieve, but feed into cognition and their effect does not diminish. These associations have important implications for the design and sequencing of interventions.

Previous studies have detailed quantitative aspects of stunting such as age strata distribution, wealth quintile distribution, prevalence, incidence, and intercounty differences. This study has brought out unique perspectives from the household level as to why stunting persists in Kenya. The nuances outlined here-in will form an important foundation for future policy design and programming to ensure responsiveness to household realities.



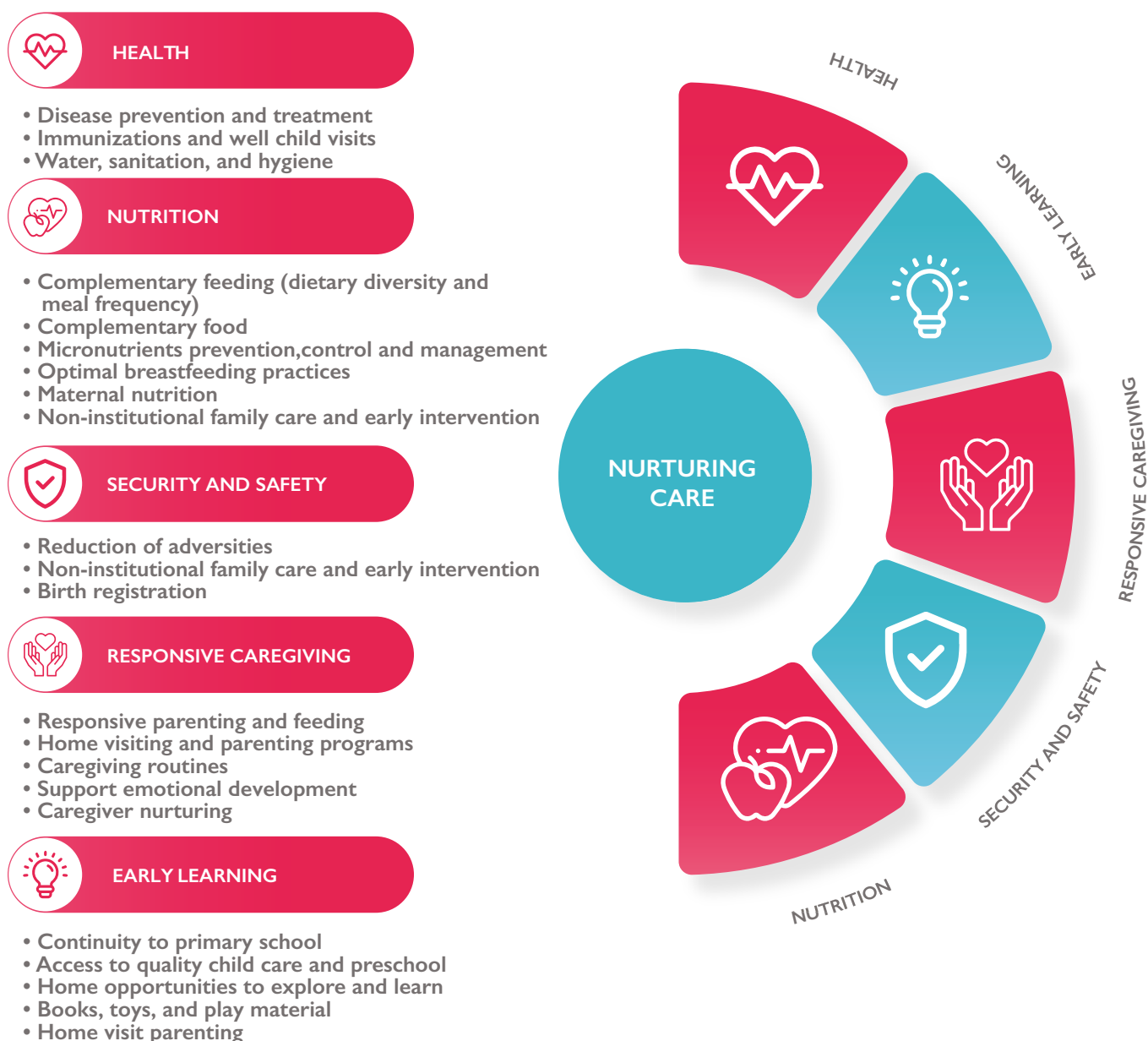
ANNEXES

Annex 1: Nurturing Care Framework

Child development entails the biological, psychological, and emotional changes that occur in human beings between birth and the conclusion of adolescence. It is a continuous process with a predictable sequence yet having a unique course for every child. This period lays the foundation for health, well-being, learning and productivity throughout a person's whole life, and has an impact on the health and well-being of the next generation. The Nurturing Care Framework (NCF), developed by the World Health Organization (WHO) and UNICEF in collaboration with other partners, is a widely accepted framework for the development of children in the early years. NCF comprises of five components, which include: Health, Nutrition, Safety and Security, Responsive Care, and Early Learning.

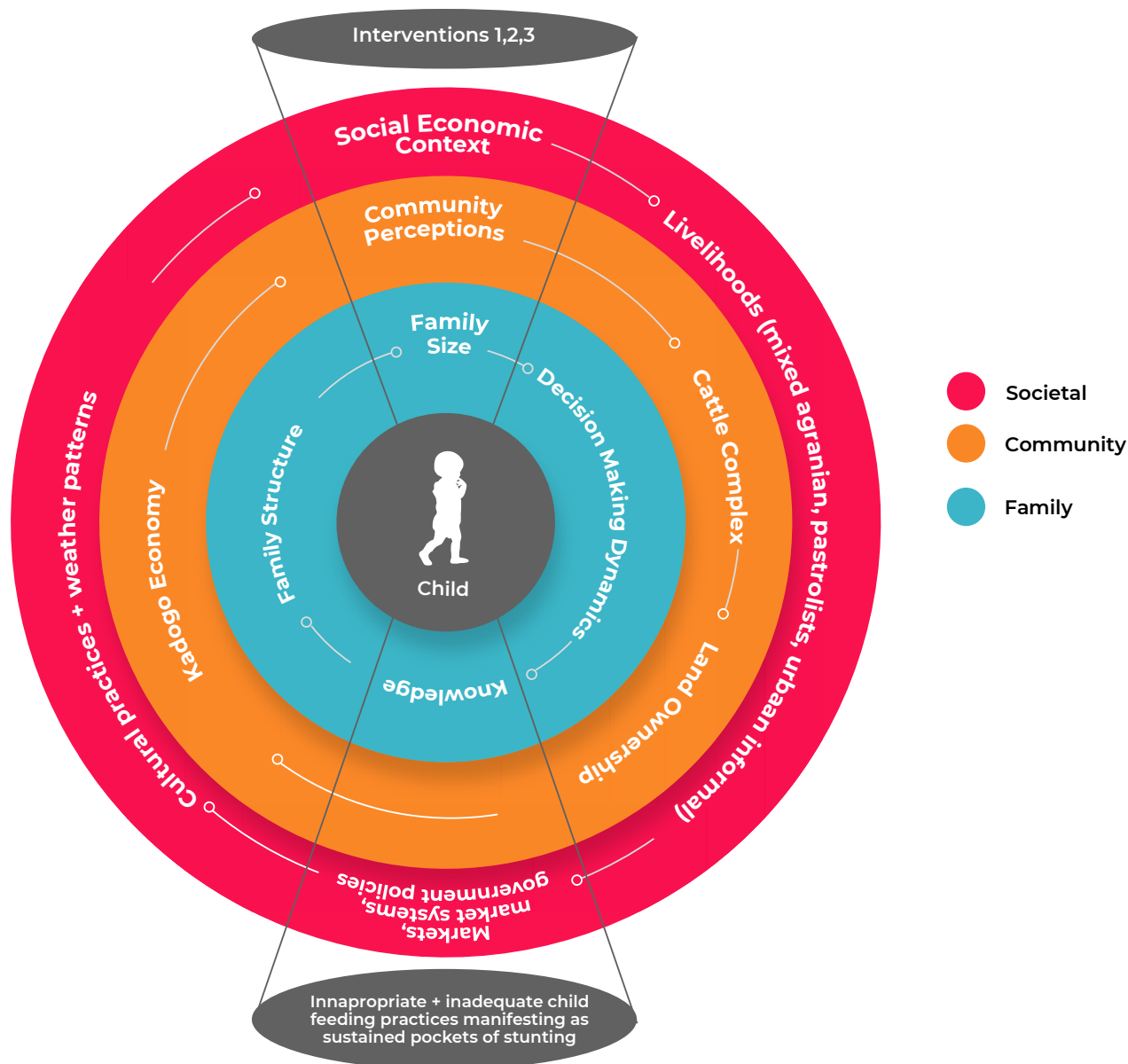
Figure 11: Nurturing care framework

Components of Nurturing Care Framework



Annex 2: Interaction of the drivers of stunting

Figure 12: Diagrammatic representation of complex interaction of drivers of stunting across spaces



Addressing stunting via a lens that traverses complex interactive spaces in the child's life. Although this is acknowledged as a necessity, how to penetrate and intervene through the intersectionality is not easy and is not well calibrated in programming.

a) Society

- Broader socio-economic and livelihood patterns will influence what and how families care for children including feeding patterns. This is compounded by weather patterns manifest in unpredictable drought patterns, resulting from environmental degradation facilitating food insecurity at household level. This, regardless of context threatens availability of food for families

- Wider environmental determinants such as access to water and sanitation, which may increase infections, create additional burden to women who are primary caregivers
- Families live in a changing social cultural context characterized by gender and social cultural norms, role in childcare practices which in certain instances will impact choice of livelihood practices manifest in attachment to inherited practices, gender roles, decision making at household level perpetuating a cyclic process of poverty
- Policy and government system - influence supply chain, cost of production, pricing system perpetuating middlemen. Unstructured market system, post market damages, dysfunctional agricultural extension system all influence what income reaches the household.
- Community I
 - At the community level - livelihoods are affected by land ownership and adjudication. In urban setting, the hand to mouth household economy and dependency for a daily income makes it difficult for families to have adequate time for proper childcare practices.
 - Perceptions of food and gender influences on type of food eaten by various people will impact food choices, intake and what type is cooked
- At household level dynamics have direct impact on the childcare practices including feeding
 - Family structure and size, decision making dynamics, knowledge on food intake, early identification of stunting, household eating patterns competing social needs and care practices from pregnancy to early childhood determines dietary intake

To influence what and how children are fed, interventions that cuts across all three levels will ensure children access appropriate food and are exposed to childcare practices that will reduce stunting in various pockets



Annex 3: Details on data gathering methods

Social contextualization using in depth interviews:

Under in-depth interviews, we explored

- Buying and selling of food
- Food supply chain
- Marketing of food products
- Use of what remains for household consumption.

- Identifying existing community arrangements, religious institutions, and social groups that could provide a strategic entry point to interventions targeting stunting
- Potential ways to improve malnutrition and other outcomes during early years at the community and county levels

Focus group and participatory discussions with community members:

Here, we explored:

- The cultural perception of food - What is considered good and attractive (or less attractive) food from the perspectives of members of community groups
- The types of food considered to be for poor people and those which signal wealth and prosperity
- The gender roles and responsibilities at the household level - e.g., right to different crops and livestock, decision-making process, and division of labor
- The nature of economies at the community level - including buying and selling of food, food supply chains, marketing of food products, and use of what remains for household consumption
- The drivers of stunting at the household, community, and county levels
- The potential entry points to improve malnutrition and other outcomes during early years at the community and county levels - including community arrangements, religious institutions, and social groups that could provide a strategic entry point to interventions targeting stunting

Case narratives and observations in selected household: Here, our aim was to understand:

- Caregivers' experiences with stunting and the interaction with health care systems or other social structures
- The dynamics of the household economy and the gender role and responsibilities affecting nutrition
- Parental engagement in the cognitive development of their children to examine the role of parental interaction with children in influencing overall outcomes
- The description of gender roles and responsibilities at the household level, e.g., right to different crops and livestock
- The decision-making process, e.g., how income is spent
- The division of labor
- The role of ethnicity and how it plays out in influencing stunting
- The role of off-farm income, employment, pastoralism, and agricultural production i.e., which pastoral/agricultural products are used for home consumption and which ones are used for sale; availability and prices of food items for sale; any natural resource management, health, and sanitation practices, e.g., access to clean water, animals near the household
- The cultural perception of food, i.e., Are there any cultural food taboo which affect the nutritional status of mothers and children? What is considered good and attractive (or less attractive) food? Are there types of food which are only for poor people, and likewise are there types of food which signal wealth and prosperity? What are the eating practices? Does the household eat together or do the household members eat in turn?
- The services families have access to for improving nutrition and support for their children's development
- The level of knowledge parents and caregivers have and the practices they are using
- The amount of money families are spending on children's nutrition and early childhood services
- The implications of COVID-19 for young children's nutrition at the household level

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