

ELGEYO MARAKWET

NUTRITION INVESTMENT CASE

≡ **KENYA**



Despite progress, malnutrition in Elgeyo Marakwet remains a severe public health problem. However, the County government has demonstrated political commitment for preventing malnutrition by investing in the scale-up of low-cost high-impact nutrition interventions. With the support of Nutrition International, county leadership and policymakers developed the Elgeyo Marakwet County Nutrition Action Plan (CNAP) 2019-2023, which sets ambitious targets for the scale-up of nutrition interventions over the next five years. The plan identifies priority multi-sectoral nutrition actions for each sector, defines targets for each intervention, and provides a monitoring and accountability framework as well as costing of interventions, which the county can use for subsequent planning and budgeting. This Investment Case highlights the potential health impacts and economic benefits of scaling up the low-cost high-impact nutrition-specific interventions included in the Elgeyo Marakwet County CNAP.¹

ELGEYO MARAKWET COUNTY CNAP (2019-2023)

TOTAL COST OVER FIVE YEARS:

KSh1.35B

(US \$13.01M)

COST OF HIGH-IMPACT
PREVENTIVE INTERVENTIONS:

KSh449M

(US \$4.31M)

¹While all costs and programs included in the CNAP are important, it is not possible to model the impact of nutrition-sensitive, public health and enabling environment interventions due to lack of evidence of their effects.

THE COST OF MALNUTRITION

HEALTH IMPACTS

The Cost of Hunger in Africa (COHA) study in Kenya report highlighted the high levels of child undernutrition and its lasting health and human capital consequences for the country. For this county investment case, the COHA model was applied at the county level to estimate the level of morbidity, mortality, school repetition, school dropout and reduced physical capacity that can be directly associated to a person's undernutrition before the age of five. It is estimated that 29.9% children under the age of five (KDHS, 2014), which is equivalent to 22,965 children in Elgeyo Marakwet, were stunted. Moreover, malnutrition causes an estimated 4,660 cases of low birth weight and underweight annually. Overall, undernutrition in Elgeyo Marakwet costs the health system approximately KSh 97.6M per year (or US \$0.94M).

HUMAN CAPITAL AND ECONOMIC IMPACTS

In addition to the impacts stunting has on the health of individuals, it can also affect cognitive development in children – and, in turn, reduce a child's educational performance, resulting in increased grade repetition and dropouts. It is estimated that there are 270 cases of grade repetition in Elgeyo Marakwet annually due to stunting, which costs an estimated KSh 3.36M (or US \$32,000) annually to the education system and families.

In addition, stunting affects future economic productivity via increased mortality (i.e. loss of workforce) and lowered labour productivity. Based on the latest data available, it is estimated that the annual losses in economic productivity due to malnutrition in Elgeyo Marakwet were KSh 112M (or US \$ 1.08M). Overall, the annual cost of malnutrition costs in Elgeyo Marakwet is equal to KSh 213M (or US \$2M), which represents 0.33% of its GDP.

THE COST OF MALNUTRITION

ANNUAL HEALTH COST

KSH 97.6M
(US \$0.94M)

ANNUAL EDUCATION COST

KSH 3.36M
(US \$32,000)

ANNUAL PRODUCTIVITY COST

KSH 112.19M
(US \$1.08M)

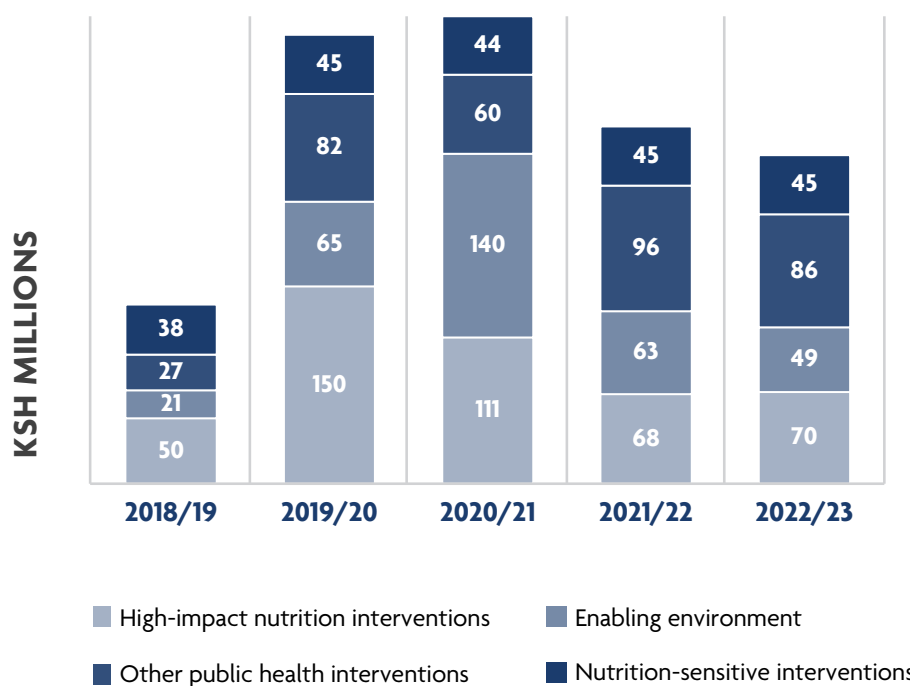
ELGEYO MARAKWET'S COUNTY NUTRITION ACTION PLAN

TOTAL COST OVER FIVE YEARS

The total public investment required to deliver the Elgeyo Marakwet CNAP is estimated to be KSh 1.35B (or US \$13.01M) between 2019 and 2023. Within the CNAP, 33% is allocated to low-cost high-impact nutrition interventions, 16% to nutrition-sensitive interventions, 26% to other public health interventions, and 25% to health and nutrition system and infrastructure costs (enabling environment). This average annual cost of the CNAP is KSh 270.95M (US \$2.6M) per year.

| Category | Total Cost (KShB) | Total Cost (US \$M) | Total cost (%) |
|--|-------------------|---------------------|----------------|
| High-impact nutrition interventions (with severe acute malnutrition (SAM) treatment) | 0.45 | 4.31 | 33% |
| Enabling environment | 0.34 | 3.24 | 25% |
| Other public health interventions | 0.35 | 3.37 | 26% |
| Nutrition-sensitive interventions | 0.22 | 2.09 | 16% |
| Total | 1.35 | 13.01 | 100.0% |

CNAP COSTS BY CATEGORY





COST OF HIGH-IMPACT NUTRITION INTERVENTIONS

Within the package of evidence-based high impact preventive nutrition interventions included in the Elgeyo Marakwet CNAP, the total cost for each preventive intervention over five years is KSh 79.83M (US \$0.77 M) for vitamin A supplementation (VAS), KSh 15.14M (US \$0.15M) for iron and folic acid supplementation (IFAS) in pregnancy, KSh 119.65M (US \$1.15M) for infant and young child feeding (IYCF), KSh 35.59M (US \$0.34M) for weekly iron and folic acid supplementation for adolescent girls (WIFAS), KSh 5.48M (US\$ 0.05M) for zinc and ORS treatment of child diarrhoea cases, KSh 9.79M (US \$0.09M) for kangaroo mother care (KMC), KSh 25.42M (US \$0.24M) for micronutrient powders (MNPs) and KSh 26.47M(US \$0.25M) for other high-impact interventions. In addition, the CNAP estimates that KSh 131.43M (US \$1.26M) is needed for the treatment of severe acute malnutrition.

ANNUAL COST OF HIGH-IMPACT NUTRITION INTERVENTIONS:

PER CAPITA

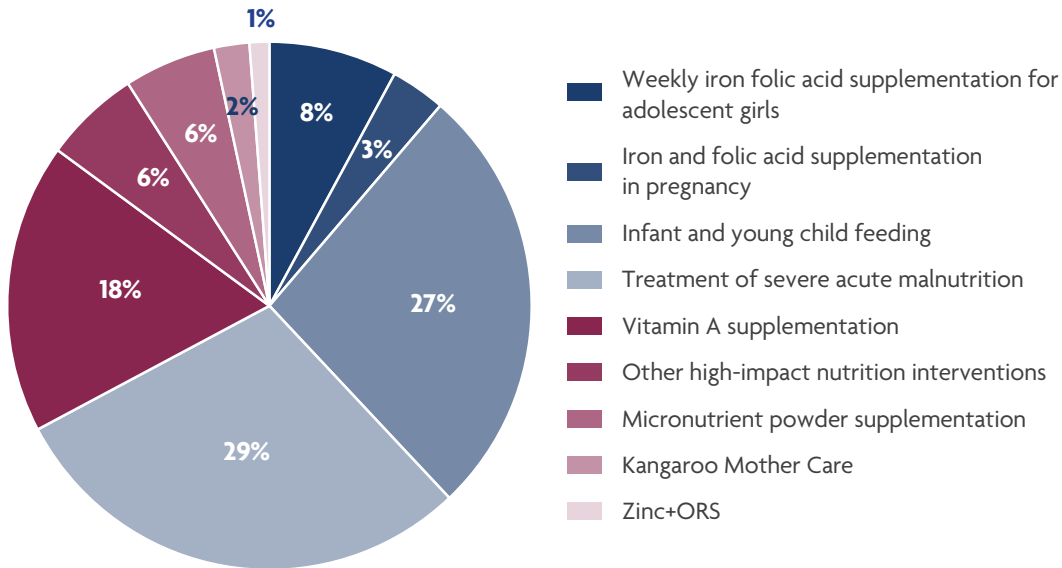
KSh 197.50
(US \$1.90)

PER PREGNANT WOMAN, ADOLESCENT GIRL AND CHILD (UNDER FIVE)

KSh 768.77
(US \$7.38)



BREAKDOWN OF THE COSTS OF HIGH-IMPACT NUTRITION INTERVENTIONS IN THE CNAP

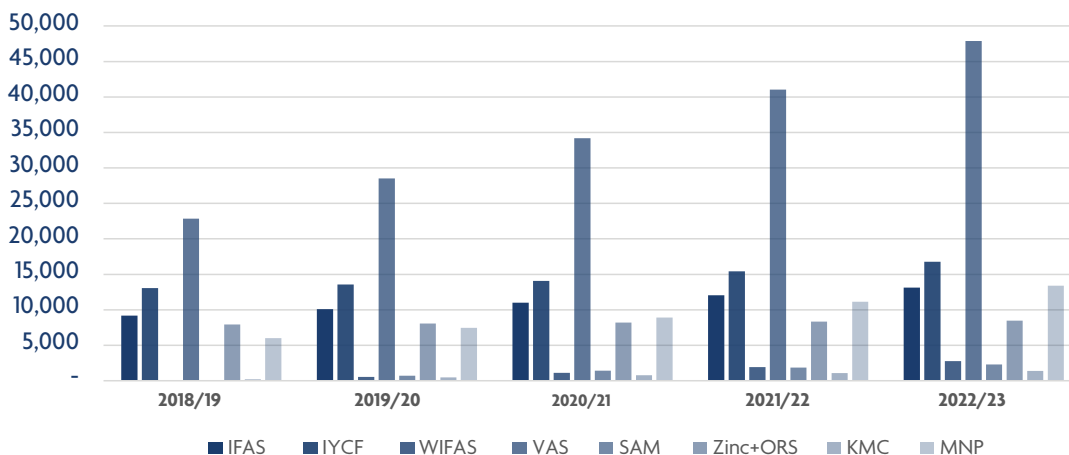


THE HEALTH AND ECONOMIC BENEFITS OF INVESTING IN NUTRITION

INTERVENTION REACH

The preventive high-impact nutrition interventions within the CNAP will reach an average of 81,480 newborns, children, adolescent girls and pregnant women annually. The interventions with the highest reach over five years are VAS, IYCF and IFAS in pregnancy.

REACH OF HIGH-IMPACT NUTRITION INTERVENTIONS IN THE CNAP





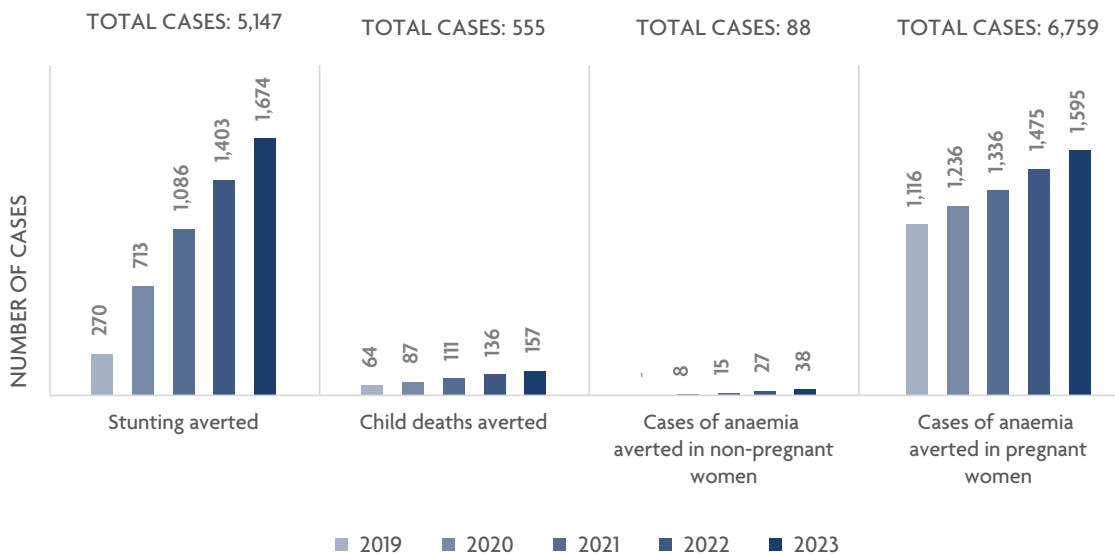
| Intervention | Total reach over five years (2019-2023) |
|--------------|---|
| KMC | 3,937 |
| SAM | 6,318 |
| WIFAS | 6,351 |
| Zinc+ORS | 40,970 |
| MNP | 46,972 |
| IFAS | 55,445 |
| IYCF | 72,929 |
| VAS | 174,482 |

HEALTH IMPACTS

The nutrition interventions within the Elgeyo Marakwet CNAP are projected to have a significant impact on the health of newborns, children, adolescent girls, and pregnant women. The interventions are projected to result in 5,147 additional alive, non-stunted children (a reduction of the prevalence of stunting by approximately 11.9% within five years.) The interventions are projected to result in 6,846 cases of anaemia averted. This impact will reduce the prevalence of anaemia in pregnant women by approximately 21%. In addition, the interventions projected to result in 905 cases of wasting averted, which will reduce the prevalence of wasting in children under five by 2.4%.

Overall, the interventions are projected to result in 555 child deaths averted. The sum of these health impacts results in a potential 36,684 Disability Adjusted Life-Years (DALYs)² averted. In addition to the health impact, these interventions will lead to cognitive and human capital impacts over time such as increased IQ and educational attainment.

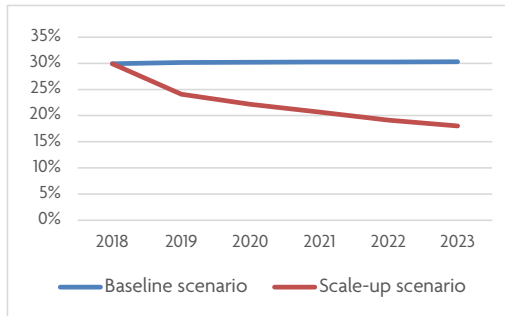
HEALTH IMPACTS OF HIGH-IMPACT NUTRITION INTERVENTIONS



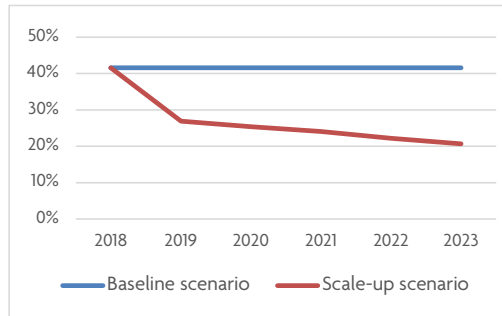
²A DALY averted can be thought as one lost year of "healthy" life.



Prevalence of Stunting in Children



Prevalence of Iron Deficiency Anaemia in Pregnant Women



The CNAP is projected to make a relative reduction of 40% in the prevalence of stunting, of 50% in the prevalence of anaemia in pregnant women, and of 60% in the prevalence of wasting by 2023, which represent important gains towards the World Health Assembly Global Nutrition Targets.

COST-EFFECTIVENESS AND BENEFIT-COST

There is a strong evidence base demonstrating that the high-impact preventive nutrition interventions included in the Elgeyo Marakwet CNAP are highly cost-effective. It is estimated that the cost per case of stunting in children is KSh 158,255 (US \$1,519.35). Additionally, the cost per case of anaemia averted is projected to be KSh 2,277 (US \$21.86) for IFAS in pregnancy and KSh 377,739 (US \$3,626.53) for WIFAS for adolescent girls.

By translating this level of health impact into DALYs averted, it is estimated that investing in the high-impact nutrition interventions costs only KSh 12,234 (US \$117.45) per DALY averted. Using a Value of Statistical Life-Year for Kenya, the CNAP is also estimated to yield a benefit-cost ratio of 30:1 in the long-term, which is indicative of excellent value for money from this investment.

HIGH-IMPACT NUTRITION INTERVENTION COST-EFFECTIVENESS:

VERY COST EFFECTIVE

COST PER DALY AVERTED

KSh12,233
(US \$117)

BENEFIT-COST RATIO

30:1

RECOMMENDATIONS

Recommendation 1:

Investment in nutrition is essential to reaching national and county targets.

To accelerate and scale up efforts towards the elimination of malnutrition as a public health problem, the Elgeyo Marakwet county government has identified and costed appropriate interventions and targets that are to be implemented within the CNAP time frame. Dramatic improvements in funding are needed in order to meet nutrition targets and reach the World Bank's estimated US \$30 per child target (WB 2014.) Elgeyo Marakwet County should mobilize domestic and external funding, allocate adequate financial and human resources for nutrition programmes and support the tracking of nutrition budgets to help realize the CNAP objective. In addition, continued advocacy will be key to ensuring increased political and public support for nutrition, resource allocation for CNAP activities and promotion of healthy nutrition behaviours and practices.

Recommendation 2:

Evidence-based and cost-effective, high-impact nutrition interventions should be prioritized to ensure health, human capital and economic benefits are generated.

The CNAP includes a wide range of nutrition-specific and nutrition-sensitive interventions to be implemented across different sectors to help address the causes of malnutrition. The Lancet Series on Maternal and Child Undernutrition (2013) identifies low-cost, high-impact nutrition interventions and the roadmap for scaling up these interventions is included in the CNAP. To reduce negative effects of child undernutrition on health, education and labour sector, Elgeyo Marakwet County should prioritize implementation of these proven low-cost, high-impact interventions.

Recommendation 3:

Strengthen governance and coordination of nutrition interventions at county and sub-county level

The CNAP seeks to ensure that nutrition is systematically embedded into existing governance structures by advocating for and supporting county structures and institutions that plan and manage nutrition programme implementation. The CNAP provides a coordination framework and mechanisms for nutrition actions implemented by various sectors at county and sub-county level. In Elgeyo Marakwet County, the County Nutrition Technical Forum is responsible for coordination. However there has been limited representation from sectors beyond health because nutrition was previously perceived as a health domain issue. To facilitate improved coordination, it is recommended that Elgeyo Marakwet County supports the formation and functioning of multisectoral nutrition committees as stipulated in the CNAP.

Recommendation 4:

Improve nutrition data management in all sectors for better decision making

The CNAP defines a common results measurement and accountability framework for county actions. There is a clear need to routinely collect and collate nutrition data from various sectors to inform planning and budgeting and provide clarity on equity and efficiency of interventions. To improve data management and its use for decision making, Elgeyo Marakwet County should facilitate regular nutrition data/information review during coordination meetings and generation/dissemination of knowledge products.

Recommendation 5:

Support the implementation of the community health strategy to improve health service delivery in the context of COVID-19 and beyond

The COVID-19 pandemic has disrupted nutrition services through health systems and school-based platforms, and decreased purchasing power resulting from economic slowdown, access to nutritious food resulting from disrupted supply chains, and food production. The national government has developed programmatic guidance to ensure continuity of critical and essential services at the household and community level using the existing community health workforce. In Elgeyo Marakwet County, the majority of the community units (CUs) are not operational with only 28% (25 out of 89 mapped) CUs being functional. To ensure continued delivery of health/nutrition services during COVID-19 and beyond, Elgeyo Marakwet County should prioritize budget allocation to support strengthening of community health strategy in line with the Community Health Services Act.