

Evaluation of the Nutrition Improvements through Cash and Health Education (NICHE) Programme – Cost Analysis

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Introduction

The NICHE programme is an innovative social protection initiative that integrates nutrition and child protection interventions. Its primary goal is to enhance child outcomes in nutrition and well-being among the most marginalized populations during the critical first 1,000 days of a child's life. The programme provides a cash-top up of Ksh 500 to pregnant women or mothers with a child below age 3 who are part of one of the four main National Safety Net Programme cash transfer interventions. The cash top-up is complemented by community level nutrition counselling and a positive parenting intervention (the latter is piloted in Kilifi only). NICHE is implemented by the government of Kenya (GoK) with technical assistance from UNICEF. It is part of the World Bank and Foreign, Commonwealth Development Office (FCDO)-funded Kenya Social Economic Inclusion Programme (KSEIP) which was launched by the government in 2013 with the aim of strengthening social and economic service delivery.

The NICHE programme seeks to enhance its presence within the social and economic policy space: it strengthens existing systems, aims to increasingly move tasks from UNICEF's technical assistance to the GoK and it is actively preparing for further expansion to a total of nine counties. An evaluation on the implementation to date to provide lessons learned and insights into the success factors and challenges including the programme's cost-efficiency is therefore timely. **This brief presents the cost and cost-efficiency analysis which are part of the overall evaluation.**

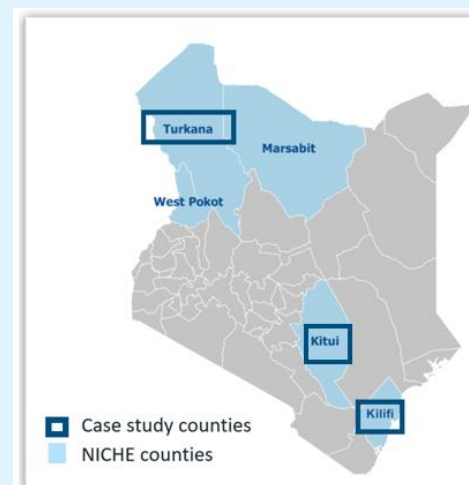
PROGRAMME: the Nutrition Improvements through Cash and Health Education (NICHE) Programme, is a cash top-up programme combined with nutrition and parenting counselling.

WHERE: NICHE is currently implemented in five counties: Kitui, Kilifi, Turkana, West Pokot, and Marsabit.

WHAT: Cost analysis and cost-efficiency analysis

OBJECTIVE: (1) Understand the current expenditures and identify potential efficiency gains in the current implementation, (2) inform decisions on scale-up or other adjustments.

Figure 1. NICHE Counties



Cost Analysis Methods

Data & Methods

The cost analysis uses three sources of data: (1) cost data by fiscal year at national and county level provided by the NICHE secretariat, (2) cost data on technical assistance derived from the NICHE annual reports prepared by UNICEF, (3) NICHE MIS data on the number of beneficiaries enrolled and the total amount spent on cash-transfer top-ups, number of community health promoters (CHPs) being trained etc.

The cost analysis subdivides government expenditures using standard categories such as communication; travel costs and DSA; transportation costs etc.

The framework in Figure 2 shows how cost efficiency analysis compares the input (i.e. cost of implementation and operationalization) to output data (e.g. the number of people enrolled in NICHE). In this case the cost data are the programme expenditures compared to the number of people who received the NICHE top-up of Ksh 500¹. The analysis uses two measures:

1) Cost-efficiency ratio: For every Ksh 1 spent on NICHE, this much value was received by the beneficiaries'

$$\text{Cost-efficiency ratio (CER)} = \frac{\text{Value of goods/transfers}}{\text{Total costs of programme}}$$

2) Cost-transfer ratio (CTR): For every Ksh 1 of value transferred to beneficiaries, this much was spent on operational costs'

$$\text{CTR} = \frac{\text{Cost of delivery}}{\text{Value of goods/transfers}} = \frac{\text{Total costs} - \text{value of goods/transfer}}{\text{Value of goods/transfers}}$$

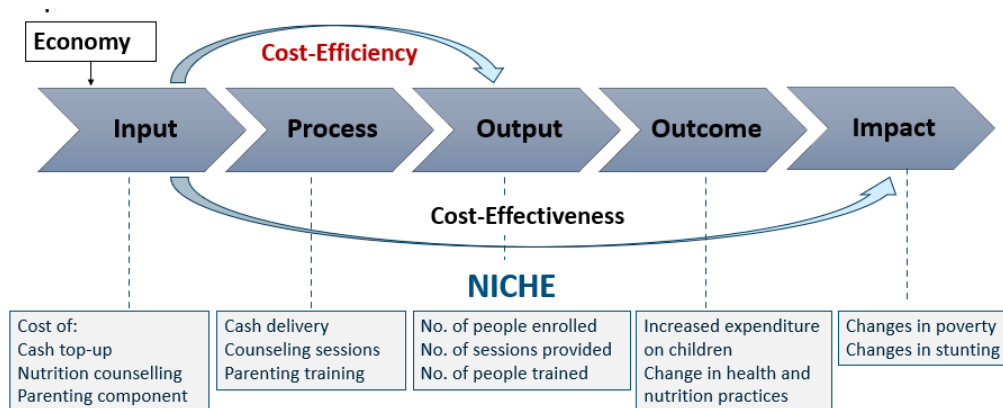
Cost analysis is the analysis of the expenditures made to date on NICHE presented by preselected categories.

Cost-efficiency analysis (CEA) is a method for comparing the cost per output of the NICHE programme that can be compared in various scenarios.

The CEA will tell us the total financial costs (i.e. operational + benefit cost) to add one additional beneficiary to the programme.



Figure 2. Cost-Efficiency Framework



Source: DFID 3Es framework, 2011

¹ NICHE has different groups of beneficiaries for the three different components. The nutrition counselling component is targeted at communities including households which may not receive the top-up. For this reason, this analysis estimates the cost-efficiency separately for each component.

Cost Analysis

TYPES OF COSTS

- **Initial investment costs:** one-time costs required to for instance develop or strengthen systems, develop training or programme materials, develop MIS or grievance systems, etc.
- **Fixed costs:** costs that are necessary to operate or implement the programme and that may occur more than one time, but that are not directly related to the size of the programme, such as communication costs, office equipment, vehicles, software, etc.
- **Variable costs:** costs that are directly related to the size of the programme, such as total cash top-up values and CHP stipends.

Government Expenditure

The national and county governments have spent KSh 224,204,398 on the NICHE programme between the fiscal year of 2020-21 and 2023-2024 including the cash top-up which is distributed at the national level and county level expenditures on NICHE registration, monitoring, promotion and other activities.

- The cash transfer top-up is 87% of the total government expenditure, which is considered *variable costs* as the amount differs for every additional beneficiary that is included.
- The other 13% is spent on e.g. travel + daily subsistence allowance (DSA) (6%), publishing and awareness raising (2%), transportation (2%), communications (1%) etc. These costs consist of *fixed costs* because regardless of the number of beneficiaries involved the costs will exist.

In addition, the government also spends money on NICHE through grant revenue and an Investment Project Financing (IPF) loan. Both sources are funding mechanisms under KSEIP, which in this case are only used for specific expenditure related to training costs, including travel costs, accommodation and DSA. When combining GoK spending with the IPF loan and grant money, DSA and other related training costs take up 51 percent of the total expenditure.

Figure 3. National and County Level Government Expenditure (2020-2024)

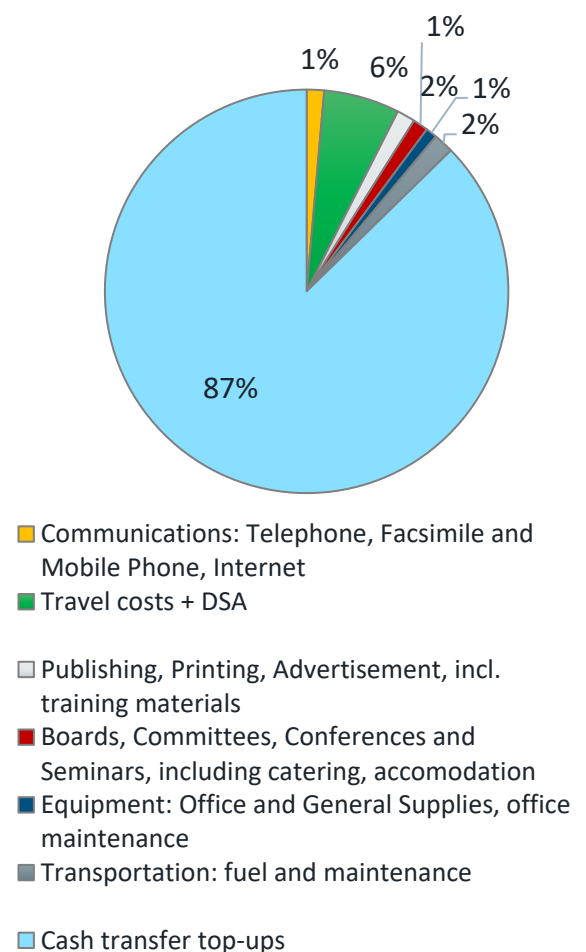


Figure 4. National and County Level Government Expenditure (2020-2024)

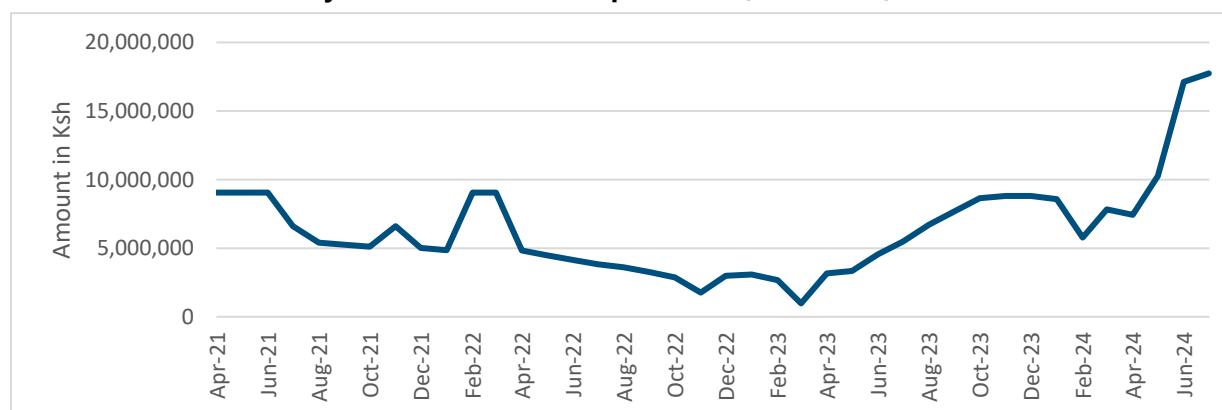


Figure 4 shows the total amount of money distributed as cash top-ups, since the start of the programme. In total Ksh 254,591,000 or USD 1.9 million² has been distributed between March 2021 and June 2024. There are fluctuations in the number of registered households. The uptick between May and June 2024 highlights the latest large scale registration efforts.

Table 1. Summary of Costs

	TOTAL 2020-2024	2020-2021	2021-2022	2022-2023	2023-2024*
NICHE expenditure by GoK	244,204,398	36,037,500	53,776,500	18,849,000	135,541,398
IPF loan	161,402,132	15,581,700	66,379,680	11,009,182	68,431,570
Grant revenue	64,495,372		17,607,200	14,496,772	32,391,400
UNICEF – Technical Assistance (core activities only)	417,824,539	104,456,135	146,238,588	104,456,135	62,673,681
TOTAL NICHE funds	887,926,441	156,075,335	284,001,968	148,811,089	299,038,049
	Categorized costs				
Initial investment costs (technical assistance)	1,224,778,217	299,778,217	431,600,000	296,040,000	197,360,000
Operational costs from UNICEF TA	135,792,975	26,114,034	67,896,488	26,114,034	15,668,420
Fixed costs (e.g. training, equipment, advertisement)	256,877,902	26,101,700	86,716,880	25,505,954	118,553,368
Variable costs (cash top-up)	213,224,000	25,517,500	51,046,500	18,849,000	117,811,000
TOTAL NICHE funds	887,926,441	156,075,335	284,001,968	148,811,089	299,038,049

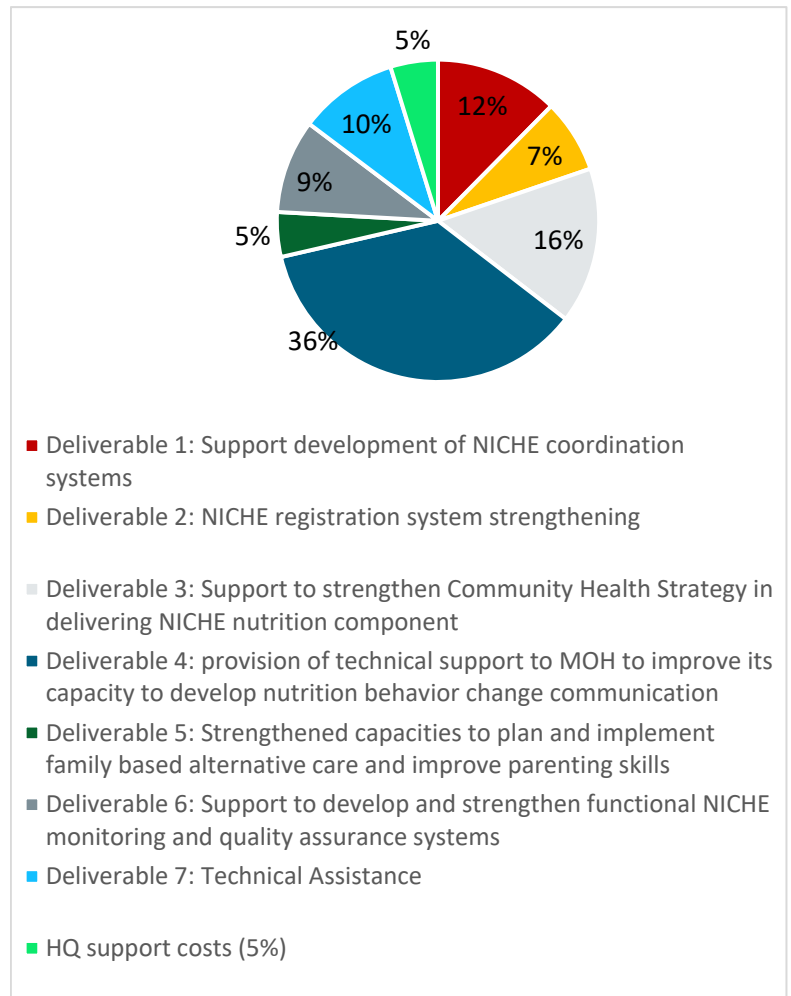
² Using current USD with an exchange rate of Ksh 1= USD 0.007735.

Costs of Technical Assistance

The technical assistance (TA) expenditure for NICHE was made between 2020-2021 and 2023-2024. UNICEF planned to spend USD 11,285,000 over the initial three years of implementation. The expenditure categories align with UNICEF’s key deliverables on NICHE:

- **Deliverable 1:** developing functional coordination systems including the development of the Memorandum of Understanding and Operational Manual: 12%.
- **Deliverable 2:** improvement of registration capacity at the county level to update new beneficiaries through mass registration or on-demand registration: 7%.
- **Deliverable 3:** refinement of the community health strategy to deliver nutrition interventions as part of the BFCI including training of community health promoters (CHPs) and community health assistants: 16%.
- **Deliverable 4:** technical support to the Ministry of Health to develop behavioural change messages and nutrition behavioural change communication and to deliver the nutrition counselling sessions: 36%.
- **Deliverable 5:** integration of the child protection through positive parenting programme for violence prevention within NICHE in Kilifi: 5%.
- **Deliverable 6:** development of a functional NICHE MIS to register cash top-up beneficiaries as well as indicators measured on nutrition or parenting and further support for a functional monitoring, evaluation, reporting and learning system: 9%.
- 10% of general technical assistance and 5% headquarters support costs.

Figure 5. Technical Assistance Expenditure by UNICEF (2020-2024)



Deliverables 3, 4 and 5 of the TA were explicitly earmarked for activities associated with the core components envisioned under NICHE, such as the nutrition support, social and behavioural change interventions and parenting (in Kilifi only).

Table 2. Distribution of UNICEF TA funds by activity and cost type

Component	Allocation (US\$)	Percentage of TA budget
1. Core Activities	3,848,164	34.1
Of which: Investment	3,074,154	
Operations	774,010	
2. Nutrition and SBCC	6,905,011	61.2
Of which: Investment	5,225,805	
Operations	1,679,206	
3. Parenting	531,825	4.7
Of which: Investment	236,250	
Operations	295,575	

Cost-Efficiency Analysis

The cost-efficiency analysis is conducted separately for each NICHE component since the inputs and outputs differ. The analysis below estimates the cost per output separately for the cash top-ups, the nutrition activities, and the parenting component. All central government spending is considered core and thus allocated to each component. The investment and operations portions of the UNICEF TA are allocated to each component as appropriate.

Cash top-up

For the cash top-up cost-efficiency is estimated for three scenarios of which Scenario 1 is the current situation.

- **Scenario 1 (cost-efficiency of NICHE top-up):** The total amount spent is categorized into fixed and variable costs (the cash top-up) from government, and the operational costs from the UNICEF TA (Ksh 135.8 million). For the cash top-up, the NICHE MIS reports distributing Ksh 254.6 million between 2020 and 2024. Over time the cost per household come down, starting at Ksh 1,372 per household in 2020-21 to Ksh 1,176 in 2023-24, a decline of 14 per cent. Taking the latest year cost estimate, and the fact that the average household received Ksh 535 (as there can be more than one eligible child), the cost-efficiency ratio is 46.2%. In other words, for every Kenyan shilling spent on the NICHE operationalization and top-up payouts, Ksh 0.46 goes to the beneficiary and Ksh 0.54 are spent on operational costs.
- **Scenario 2 (cost-efficiency of NICHE top-up when only using 75 percent of previous training costs).** This scenario shows the cost-efficiency if training costs are reduced, which was a common suggestion in the key informant interviews. This can happen if fewer trainings are needed now that NICHE is more established or if trainings are organized in innovative ways that cut into, for instance, the costs needed for travel and DSA. Within this scenario, the cost per household is Ksh 1,250 per month and Ksh 15,001 per year (or USD 116) using the average over

the four years. The cost-efficiency calculation indicates that from every Ksh 1 spent on NICHE, between 34 and 51 percent reaches the beneficiary households.

- **Scenario 3 (cost-efficiency of NICHE top-up with double the benefit size).** This scenario shows the cost-efficiency if the benefit size were Ksh 1,000 instead of Ksh 500. Within this scenario, the cost per household is Ksh 1,911 per month and Ksh 22,931 per year (or USD 177) when using the average over the four years. The cost-efficiency for this scenario is 56.5 per cent, on average ranging between 47 per cent and 63 per cent. This is the highest efficiency ratio all three scenarios. While cost-efficiency increases, it should be noted that the total budget needed to fund this scenario increases with 14.7 per cent of the total expenditures on NICHE.

Table 2. Cost-Efficiency Scenarios for cash top-ups

	Average 2020-2024	2020-2021	2021-2022	2022-2023	2023-2024*
Scenario 1: Total costs excluding initial investment					
Cost per beneficiary household in Ksh per month	1,370	1,372	1,751	1,265	1,176
Cost per beneficiary household in Ksh per year	16,435	16,461	21,008	15,174	14,113
Cost per beneficiary household in USD per year	127	127	162	117	109
Cost-efficiency	39.3%	39.3%	30.4%	42.3%	46.2%
Scenario 2: Total costs excluding initial investment and 75% of training costs needed					
Cost per beneficiary household in Ksh per month	1,250	1,310	1,585	1,174	1,057
Cost per beneficiary household in Ksh per year	15,001	15,715	19,023	14,092	12,688
Cost per beneficiary household in USD per year	116	121	146	109	98
Cost-efficiency	43.1%	41.1%	33.6%	45.5%	51.4%
Scenario 3: Total costs excluding initial investment but with an increase in top-up to Ksh 1,000					
Total costs for transfer if increased to Ksh 1,000**	510,396,120	67,690,080	137,102,760	76,345,200	229,258,080
Cost per beneficiary household in Ksh per month	1,911	1,913	2,298	1,810	1,712
Cost per beneficiary household in Ksh per year	22,931	22,957	27,575	21,723	20,548
Cost per beneficiary household in USD per year	177	177	212	167	158
Cost-efficiency	56.5%	56.5%	47.0%	59.7%	63.1%

Nutritional counselling

Table 3 gives the cost analysis for the community level nutrition counselling activities. To avoid double-counting investment costs from the UNICEF TA are not included. Roughly 61 per cent of the UNICEF TA is for nutrition counselling activities, of which 76 percent is investment and the remaining operational costs (whether fixed or variable). Government costs at the county level are included because they include nutrition counselling related activities implemented through the MoH. The total costs are estimated at Ksh 923.7 million over the performance period, with higher costs in the first two years due to the upfront investment costs.

The annual report from UNICEF indicated that the nutrition activities were just getting started in the first year, and that around 15 percent of NICHE registered households were reached. This led to a high per person cost of Ksh 30,515 in the first year. Per person costs come down over time to Ksh 1,188 in 2024.

A key feature of the NICHE nutrition component is that it is not exclusive to NICHE households; the MIS data indicates that the total number reached are typically six times the number of NICHE households. These numbers are added to Table 15 and the associated per person costs decrease substantially to an average of Ksh 250 over the period.

The nutrition component also includes the formation of mother-to-mother support groups, who receive initial training and support from CHPs and then subsequently meet on their own once per month. NICHE has supported the formation of 6,822 such groups over the project period. Using a conservative estimate of eight members per group to estimate the number of caregivers who have received support through NICHE. Including all households reached through groups and within the community brings the average per person cost to Ksh 220.

Table 3. Cost-efficiency Estimation – Nutrition counselling component

	TOTAL 2020-2024	2020-2021	2021-2022	2022-2023	2023-2024*
Initial investment costs (from UNICEF TA)	678,449,691	169,612,423	237,457,392	169,612,423	101,767,454
Operational costs (from UNICEF TA)	214,247,271	53,561,818	74,986,545	53,561,818	32,137,091
Fixed costs (e.g. training, equipment, advertisement)	30,980,398	10,520,000	2,730,000	0	17,730,398
TOTAL NICHE funds	923,677,360	233,694,240	315,173,937	223,174,240	151,634,942
Total reached through MtMSG (8/group)	136,432	13,640	27,288	40,928	54,576
Total reached with counselling - NICHE households only	196,403	2,100	76,199	76,140	41,964
Total reached with counselling – all households	979,361	2,100	285,197	417,955	274,109
Cost per beneficiary in Ksh - NICHE households only	1,249	30,515	1,020	703	1,188
Cost per beneficiary in Ksh - all households	250	30,515	273	128	182
Cost per beneficiary in Ksh - all + MtMSG	220	4,071	249	117	152

Parenting component

Table 4 gives the cost analysis for the pilot of the parenting component in Kilifi. Deliverable 5 under the UNICEF TA is concentrated on the parenting component and accounts for about 5 per cent of the TA budget. For this component about 44 per cent is used for investment and the majority of 55 per cent were used as operational costs (whether fixed or variable). The operational or variable costs for this component were estimated at Ks 38.2 million for the duration of the pilot. Since it is a pilot costs are estimated for the duration of the period rather than per year.

Since the start of the parenting component 750 NICHE beneficiaries were reached through group sessions, and 1,3332 other non-NICHE households participated in sessions. In addition, 12,178 home visits were completed. The cost per beneficiary during this initial period was therefore Ks 2,680 or USD 20. Since this component is only implemented in one county programme-wide costs such as technical and steering committee meetings and reporting modules and data system work are carried by a relatively small number of beneficiaries. With expected expansion these costs will be divided over a larger number of beneficiaries which will lower the cost per person. Estimations with more child protection volunteers involved and a larger number of home visits leads to a decrease to about USD 10 per beneficiary.

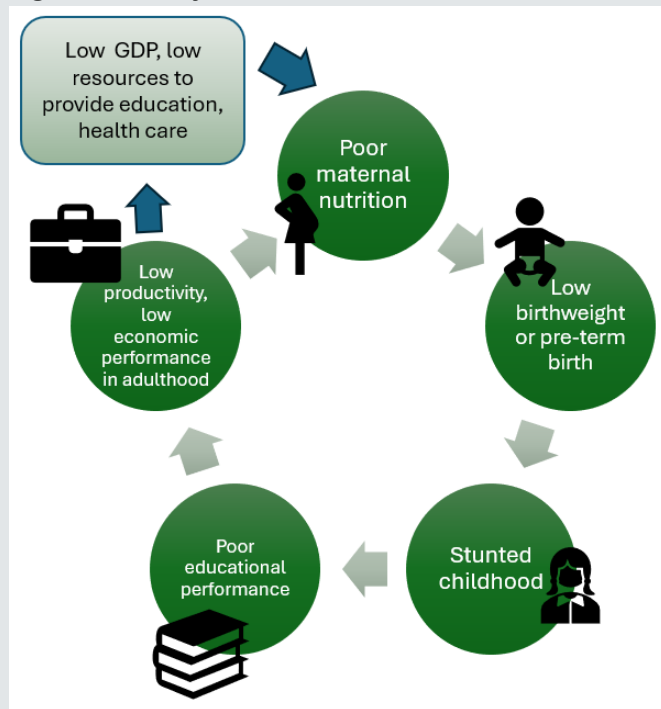
Table 4. Cost-efficiency Estimation – Parenting component pilot

	TOTALPilot in Kilifi
UNICEF - Technical Assistance (Parenting)	68,755,656
Initial investment costs (from UNICEF TA)	30,542,986
Operational costs (from UNICEF TA)	38,212,670
TOTAL NICHE funds	68,755,656
Total reached through group sessions (NICHE beneficiaries)	750
Total reached through group sessions (Other beneficiaries)	1,333
Total reached through home visits	12,178
Total	14,261
Cost per beneficiary in Ksh per year- group sessions + home visits	2,680
Cost per beneficiary in USD per year- group sessions + home visits	20.73

TEXTBOX 1. COST OF INACTION

Cost-efficiency analyses focus on the economic costs of the programme and do not include the social cost of inaction or estimations of broader benefits for the community. The social costs of the programme should also be considered to understand what the broader repercussions or gains are from the implementation of the NICHE. For example, if malnutrition or stunting is not prevented it can lead to a downwards spiral with health complications, low educational performance and ultimately low productivity as shown in Figure 6. From a well-being as well as an investment perspective it may be better to act now rather than waiting to solve the problem later. A further comprehensive estimation of (non-) economic costs and benefits are needed to assess the long-term impact on the Kenyan society.

Figure 6. Life cycle effects and malnutrition



A recent study estimated that stunting costs Kenya USD 2.85 billion nationwide if left untreated. A reduction of the current stunting rates by 3 percentage points will save the country USD 4.33 million (Jain, et al, 2024). An additional cost-benefit analysis shows that Kenya has a cost-benefit ratio of 18.7 suggesting that a USD 1 investment in reducing stunting leads to a USD 18.7 economic return. As a high burden country in sub-Saharan Africa (meaning a country with widespread stunting) the average cost for a comprehensive intervention was estimated at the time at USD 102.50 per child to achieve such gains (Hoddinott et al., 2013).

RECOMMENDATIONS TO IMPROVE COST-EFFICIENCY

Based stakeholders' comments on efficiency combined with the findings on the cost analysis and the various scenarios of the CEA there are three suggested recommendations that may contribute to making NICHE more cost-efficiency.

- **Reduce operational costs.** Qualitative research suggested training cost by providing more cost-efficient options which could either be online or more localized to avoid DSA and travel costs.
- **Assess the true value of the cash top-up and whether an increase would be efficient and feasible.** In particular taking in mind regional differences as well as differences over time. Since its start the NICHE top up has not been increased yet, leaving a lower purchasing power over time due to continuous inflation. Simultaneously, the increase of the benefit size estimated in scenario 4 of the cost-efficiency analysis suggests a large gain in efficiency.
- **Increasing coverage and caseload can help to increase efficiency** by expanding the number of beneficiaries include or increasing the value of benefit they receive while spreading out the fixed costs over a larger base.



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