EXECUTIVE SUMMARY

ROHINGYA CAMPS, COX'S BAZAR, NOVEMBER 2024 – MAY 2025

Led by: UNICEF, in partnership with WFP and ACF UK

Executive Summary

Violence in the Rakhine State, Myanmar, began on 25 August 2017, and drove more than 700,000 Rohingya people to Cox's Bazar, Bangladesh. The refugee camps (Kutupalong and Nayapara registered camps and Kutupalong mega camps) were expanded to host the new influx, which put an immense strain on the existing infrastructure and humanitarian services. The critical nutrition situation led the sector partners to strengthen the comprehensive nutrition programmes to ensure timely treatment and prevention of malnutrition as well as multi-sectoral engagement to bring the malnutrition prevalence down to acceptable levels based on the international thresholds.

Despite efforts to improve the nutrition situation in the Rohingya refugee camps between 2017 and 2022, wasting prevalence continues to rise. It remains a significant concern, particularly among the children under age of five. Wasting increased from 12.3 per cent in 2022 to 15.1 per cent in 2023 (very high, WHO-UNICEF thresholds). Similarly, the prevalence of severe wasting has nearly tripled, rising from 0.7 per cent in 2022 to 2.0 per cent in 2023. Chronic malnutrition (stunting) has remained persistently high, at around 41 per cent. Anaemia is also at near-critical levels among the children under five (38.2 per cent), and at moderate among the women of reproductive age (24.1 per cent).

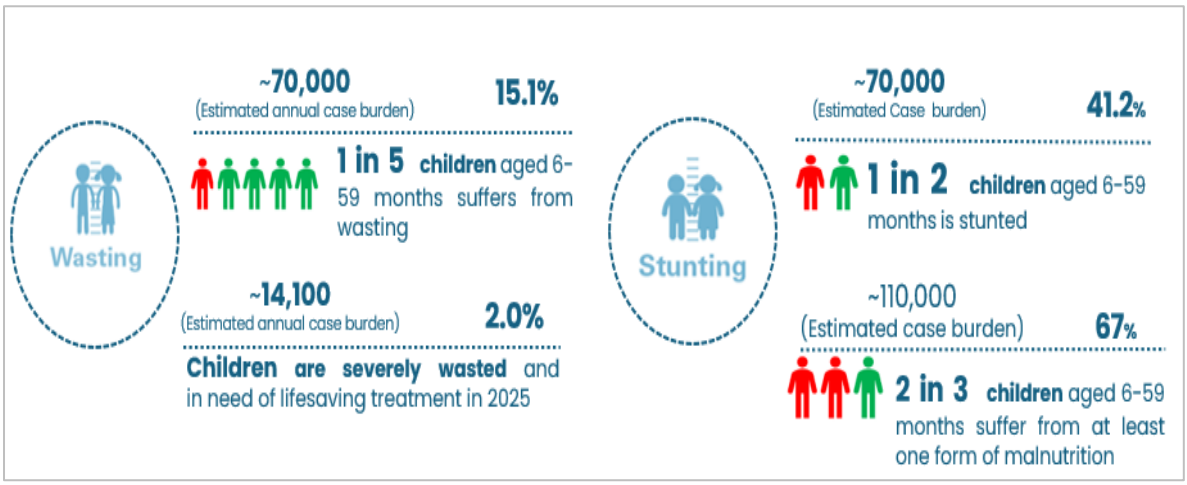


Figure 1: Key highlights from the Standardised Expanded Nutrition Survey 2023

Given the worsening nutrition situation, a Nutrition Causal Analysis (NCA) was deemed necessary to identify the specific risk factors of malnutrition in the camps to inform the nutrition multi-sectoral programming as well as guide programmatic adjustments to address the causes of malnutrition, while also optimising resources and programmatic efficiency.

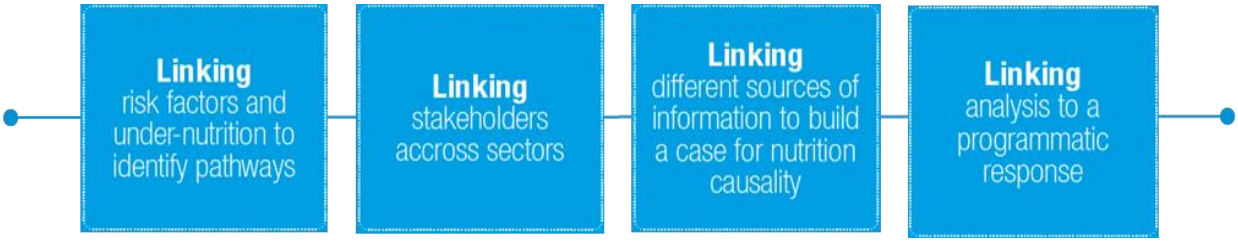
The Link NCA study was conducted from November 2024 to May 2025 aiming to understand the causal mechanisms of undernutrition, notably wasting and stunting, to improve the relevance and efficiency of the Rohingya nutrition response. Of the **20 studied risk factors for malnutrition**, six were identified as having a **major impact** on the prevalence of malnutrition in the study area, as outlined in Figure 2.

Figure 2: Six major risk factors that contribute to undernutrition

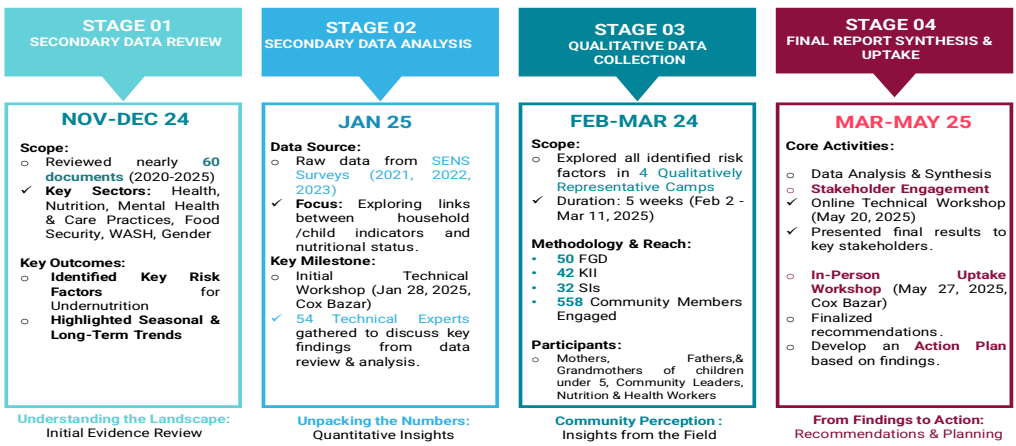
Methodology

A Link NCA Nutrition Causal Analysis is a mixed method for analysing the multi-causality of undernutrition as a starting point for improving the relevance and effectiveness of multi-sectoral nutrition security programming in each context. It is a structured, participatory and holistic study that builds on the UNICEF's conceptual framework with an objective to build an evidence-based consensus on plausible causes of undernutrition in a local context[1] data.

The study in the Rohingya camps included a review of secondary data sources and a primary qualitative data collection to maintain a mixed-method approach. Despite the availability of secondary quantitative data from the previous Standardised Expanded Nutrition Survey (SENS), the inability to merge children with their respective mothers as well as the limited indicators available in the previous surveys hindered the number of possible statistical associations and the subsequent triangulation of data from available sources.



Key Stages



[1] For more information about the methodology, please refer to www.linknca.org.

Key Findings

A. Casual Pathway of Undernutrition

Based on the collected evidence, **three main pathways can explain most cases of undernutrition** among the children under five in the Rohingya camps, namely, **lack of income opportunities**, **socio-cultural barriers, and poor-quality care** and **sanitation, and limited water availability,** exacerbating **personal, food, and environmental hygiene issues. Figure 1 illustrates these pathways:**

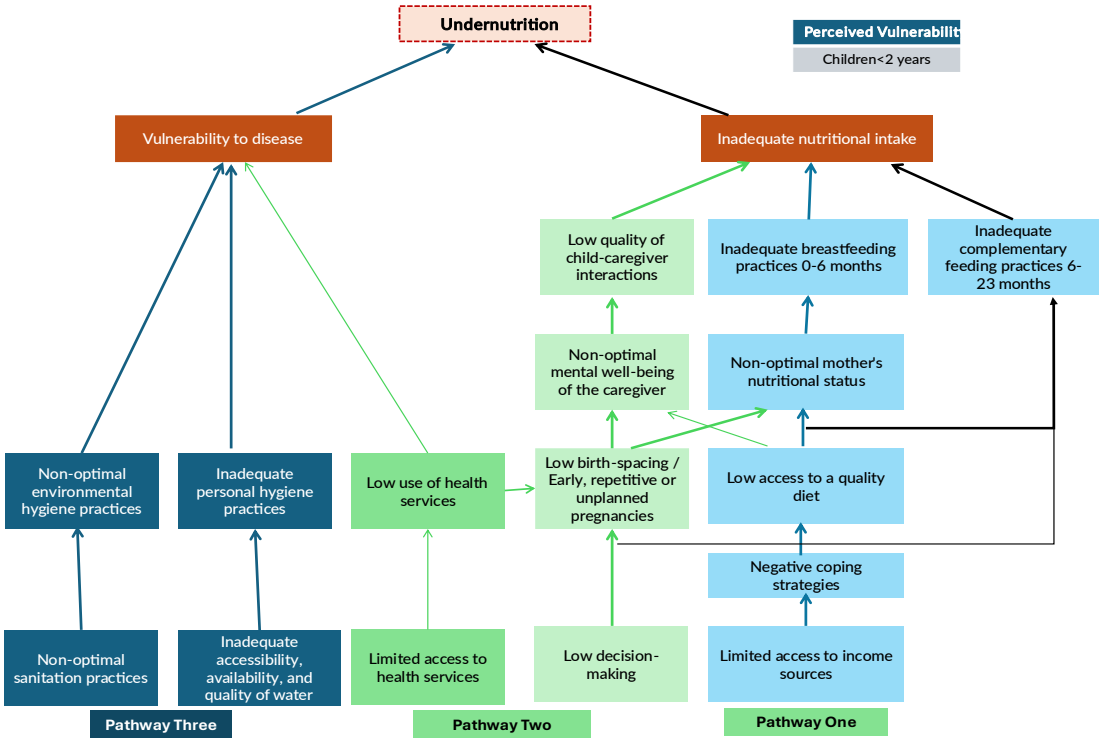


Figure 3: Community perceptions of casual patterns of undernutrition in the Rohingya camps, Cox's Bazar

i. **Lack of income opportunities** is a primary cause of undernutrition in the camps, with most of the income derived from the limited cash-for-work programmes or casual and illegal jobs in the host community. For this reason, the families adopt a variety of **coping strategies,** such as borrowing food, selling rations, reducing meal quality/size, or engaging in risky activities like gambling, drug dealing, or kidnapping with the hope of earning some quick money. Their heavy reliance on food rations **limits access to nutritious diets**, negatively impacting **women's nutrition** and leading to **sub-optimal complementary feeding practices** of the children under-five. At the same time, **many breastfeeding mothers feel that they produce insufficient milk** and resort to introducing **additional foods, often before six months**, like sweet porridges, snacks, or even formula, to calm their children and keep them satisfied.

ii. Despite accessible and free health services, **socio-cultural barriers and poor-quality care** prevent many mothers from seeking timely treatment when their children fall ill. Instead, they rely on local pharmacies, private clinics, or traditional healers, which can delay care and strain finances**.**

iii. **Poor sanitation and limited water availability** exacerbate **personal, food and environmental hygiene issues**, increasing the risk of illness among the children under five, which further weakens their health and nutritional status.

B. Risk Factors Contributing to Malnutrition

Following the triangulation of qualitative and quantitative data, **20 factors (refer to Annex 1)** were identified as risks contributing to undernutrition (wasting and stunting) in the Rohingya camps. The risk factors were categorised as Major, Important, and Minor (Figure 2).

Figure 4 illustrates categorisation of the risk factors:

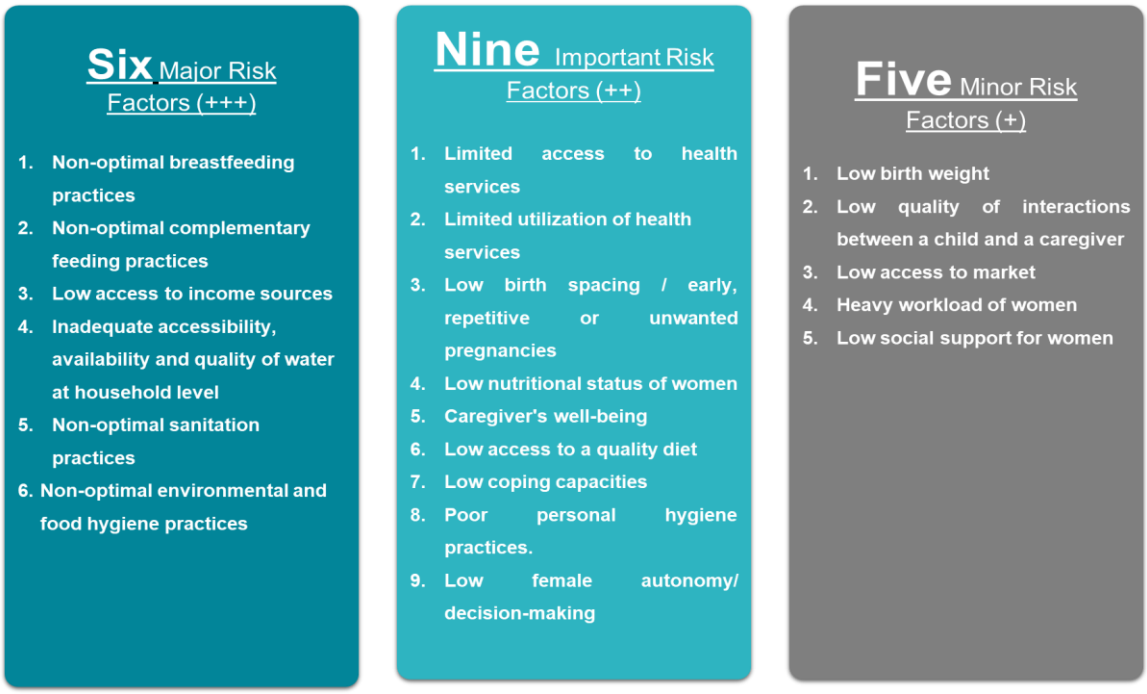


Figure 4: Categorisation of the risk factors

The **six major risk factors** fall under the Nutrition, Food Security and Livelihoods (FSL), and Water, Sanitation and Hygiene (WASH) sectors/systems, as shown in Figure 5.

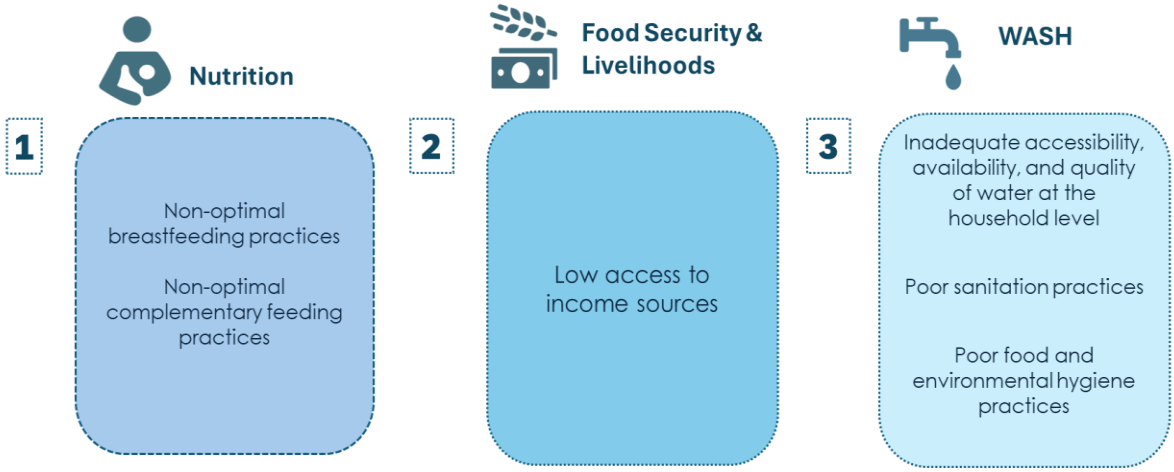


Figure 5: Risk factors under different sectors/systems

Key Findings for the Six Major Risk Factors

The NCA findings highlight several critical areas requiring attention. Notably, three of the six major risk factors are within the WASH sector, highlighting critical issues linked to the water, hygiene, and sanitation situation within the camps. Additionally, the findings emphasise the need for programmatic responses that enhance access to stable income sources in the camps. This will enhance the nutritional status of children and mothers, increase the dietary diversity of the children under-five, and enable the mothers to exclusively breastfeed without resorting to mixed feeding due to concerns about the perceived inadequacy of breast milk in terms of quality and quantity.

The following section of the report provides detailed findings, recommendations, and an action plan on the six major risk factors.

1.Non-Optimal Breastfeeding Practices

Nutrition

Nearly half of the under-five deaths are attributable to undernutrition (WHO, 2024; Govender et al., 2025). Optimal breastfeeding could prevent more than 820,000 deaths annually among the children under five (WHO & UNICEF, 2023; North, 2022).Exclusive breastfeeding for six months has many benefits for the infant and mother. Children who are not exclusively breastfed until six months are at a significantly higher risk of death - nearly three times more likely in some contexts (Biks et al., 2015; Mullany et al., 2008). Exclusive breastfeeding protects children against diarrhoea, lower respiratory infections, and childhood overweight and obesity (WHO & UNICEF, 2023; Hossain et al., 2022; Kramer et al., 2003). Early initiation of breastfeeding, within one hour of birth, protects the newborn from acquiring infections and reduces newborn mortality. Early initiation of breastfeeding within one hour of birth reduces the risk of neonatal infections and mortality (Phukan et al., 2018; AAP, 2006).

The WHO and UNICEF recommend continued breastfeeding up to two years of age or beyond, alongside safe and adequate complementary foods. Continued breastfeeding supports a child's nutrition, immune system, and cognitive development during the second year of life, while also providing emotional security and bonding benefits. Continued breastfeeding up to two years of age or beyond, alongside complementary feeding, supports a child's growth, immunity, and survival, and lowers the risk of infection and mortality (WHO, 2023; Victora et al., 2016).

The 2023 SENS survey revealed that 93.3 per cent of the children aged 0-23 months initiated breastfeeding within one hour, and 69.9 per cent of the infants under six months were exclusively breastfed. Furthermore, the rate of continued breastfeeding among the children aged 12–23 months was **80.3 per cent** (SENS 2023). While these figures reflect relatively high coverage, several underlying factors contribute to non-optimal practices that threaten child health and nutrition outcomes.

Findings from the NCA highlight persistent non-optimal breastfeeding practices rooted in socio-cultural norms, traditional beliefs, and economic hardship. Limited income sources force the families to adopt various coping strategies, leading to poor maternal nutrition, which affects breast milk production. Many mothers, under the influence of grandmothers, practice mixed feeding due to concerns about milk sufficiency, while low birth spacing causes early breastfeeding discontinuation. These practices lead to inadequate nutritional intake and increase the risk of undernutrition in children, as outlined in Figure 6.

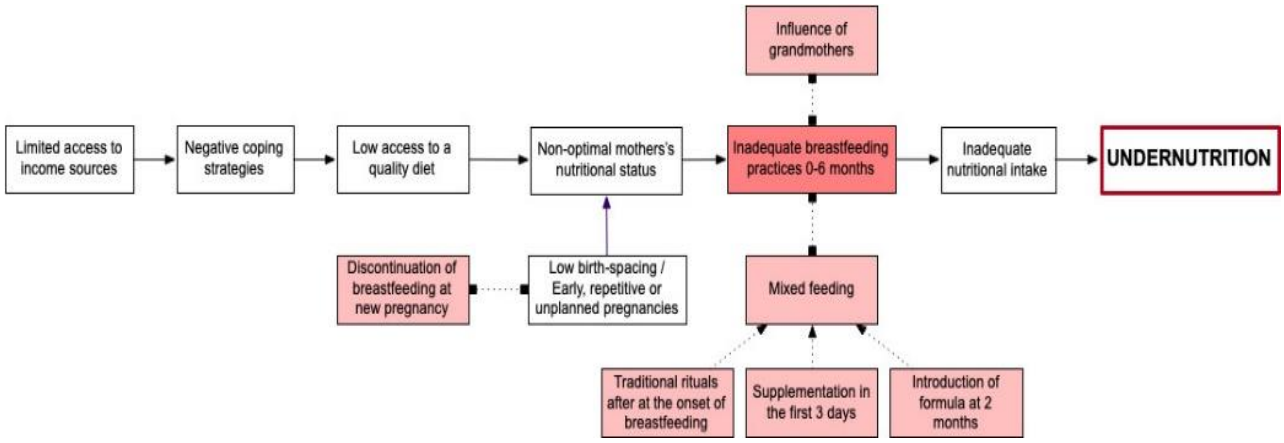


Figure 6: Pathways linking non-optimal feeding practices to undernutrition

The key factors contributing to non-optimal breastfeeding practices, as identified through the qualitative investigation, are summarised below:

i. Initiation of breastfeeding starts shortly after birth, often within the first hour in hospitals. After birth, mothers follow traditional rituals - offering honey, sugar water, dates and something bitter - to introduce children to the sweetness and bitterness of life.
ii. Colostrum was previously believed to cause stomach issues and discarded due to its yellow, sticky appearance linked to "evil eye". Continuous awareness sessions have, however, promoted understanding of colostrum's benefits for brain development, shifting community perceptions.
iii. Women believe that breast milk takes up to three days after birth to fully come in. During this period, many supplement with sugar water, powdered milk, or fortified drinks. In addition, most mothers introduce liquids and semi-solid foods before six months, practicing mixed feeding.
iv. Milk supply is believed to decrease with poor maternal nutrition or birth control use, and low breast milk supply is associated with thinner babies. Women with enough resources often use formula, introduced at ≈ two months. Those unable to afford formula, rely on oat-based fortified drinks or regular milk powder, while some dilute formula to make it last longer.
v. Girls are breastfed about 2.5 years and boys up to 2 years, due to a traditional belief that longer breastfeeding for boys is sinful. Breastfeeding is stopped when a woman falls pregnant again, as the milk is now believed to be produced for the new baby.
vi. Traditional beliefs, perpetuated by grandmothers, affect breastfeeding practices. Many women comply with these practices, even if they contradict the current health advices, out of fear that any issues with their child will lead to blame from husbands and mothers in-law.
vii. During the rainy season, mothers have more time to breastfeed their infants, as they stay more indoors, have fewer household chores and increased time for bonding.

> *A caregiver shared a common practice regarding infant feeding:*
>
> *"When a mother feels that her baby isn't getting enough breast milk within the first six months, she is usually advised by her mothers-in-law, relatives, or neighbours to feed sweet rice porridge, semolina, sago soup with palm candy, or formula milk." (FGD, Female Groups)*

The SENS 2023 reported that the children, who were breastfed within the first hour of birth and those who were breastfed the day before the survey, were less likely to be underweight. Similarly, the SENS 2021 found that the children, who had ever been breastfed, were less likely to be stunted.

Recommendations

I. Children should be breastfed within one hour of birth, breastfed exclusively for the first six months of life, and continue breastfeeding until two years of age or longer. Once children reach six months of age, breastfeeding should be combined with safe and age-appropriate soft, semi-solid and solid complementary foods.

II. Community dialogue initiatives should be implemented ensuring that the minimum standards of social and behaviour change communication are met to promote adaptation of optimal breastfeeding practices, with a focus on addressing the key challenges, such as mixed feeding, cultural beliefs, consumption of sugary foods and liquids between 0-6 months, and use of breast milk substitutes.

III. This can be achieved through:
   a. Establishing mother-to-mother support groups, and engaging the influential family members, such as grandmothers and fathers.
   b. Training and identifying the champion mothers, who can advocate for exclusive breastfeeding as champions.
   c. Engagement with the Heath Sector to strengthen counselling on exclusive breastfeeding into antenatal care (ANC) and postnatal care (PNC) services.
   d. Engagement with local authorities regarding monitoring of supply and utilisation of breast milk substitutes.

IV. Implement systems for early identification of breastfeeding mothers, experiencing mental health challenges, and their timely referral to mental health services.

1. Non-Optimal Complementary Feeding Practices

Nutrition

The Infant and Young Child Feeding (IYCF) practices have a direct impact on the health, development, and nutritional status of the children under two years of age. From six months onwards, children should receive age-appropriate complementary foods in addition to continued breastfeeding to meet their growing nutritional needs. Delayed or inappropriate complementary feeding can lead to growth faltering and increase the risk of nutritional deficiencies. Children with low dietary diversity are significantly more likely to be undernourished.

The 2023 nutrition survey also shows that while breastfeeding practices among the children aged 0-23 months are improving, complementary feeding practices are deteriorating. Only 26.6 per cent of the children aged 6-23 months consume five of the eight recommended food groups. This indicates that more than two-thirds of children are living in food poverty, lacking access to a nutritious and diverse diet. According to the survey, children consumed fewer pulse, egg, dairy products, and "other" (non-vitamin A-rich) fruits and vegetables.

The NCA study revealed that limited income forces the families to adopt coping strategies that reduce access to diverse, nutritious foods, negatively impacting complementary feeding. Consequently, children are introduced late to savoury foods, frequently consuming cheap, sugary, and salty snacks, and mothers often do not reintroduce foods after initial refusal. These practices lead to inadequate nutritional intake and increase the risk of undernutrition in children, as outlined in Figure 7.

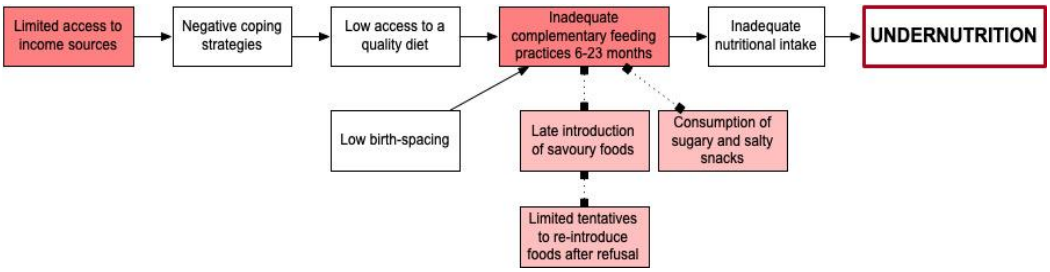


Figure 7: Pathways linking non-optimal complementary feeding practices to undernutrition

The key factors contributing to non-optimal complementary feeding practices, as identified through the qualitative investigation, are summarised as follows:

i. Mothers typically begin introducing solid foods, such as rice, vegetables, and pulse, to their children at around the age of one, as children often show reluctance to eat these foods before that age. Instead, sugary snacks, such as sweet buns, biscuits and cakes along with semolina and sweet porridges, are introduced before six months. These foods are perceived as harmless and can satisfy their children's hunger, as they see them eating with appetite.
ii. At six months, children also start receiving super cereal plus monthly supplements from the nutrition centre and are fed two-three times a day with it. Some families purchase ready to use therapeutic food (RUTF) for their children under-five, believing that this will make them strong and healthy.
iii. Children under 12 months rarely eat savoury foods. At that age, they start consuming small portions of meat or fish, vegetables, and rice. By 1.5-2 years, they eat similar foods as the family, but in smaller portions. Foods provided to boys and girls are the same.
iv. Children prefer eating sweet and salty snacks, which are affordable, colourful, and readily available in the camps with parents often buying them to calm their children. Fruits are scarce in the camps and mainly available in the host community. Mothers value foods like vegetables, fruits, and protein-rich items, but often struggle to afford them.
v. Based on nurses' perceptions, the Rohingya mothers frequently face challenges in establishing optimal complementary feeding practices, which makes this moment particularly vulnerable to wasting. When a child refuses to take new foods, mothers typically do not try to reintroduce them. Additionally, introduction of new foods can occasionally result in diarrhoea, which further discourages mothers from offering these foods again.
vi. Children aged 6 to 23 months, especially those from the families with multiple siblings under five, were said to be particularly vulnerable to wasting.

> *A caregiver shared a common practice regarding infant feeding:*
>
> *"We often buy sweet buns, biscuits, and cakes, as these are affordable and keep the children full. Usually, we give snacks to the children to prevent them from crying, because if they cry, we become upset." (FGD, Female Group)*

Recommendations

I. Develop and integrate social and behaviour change activities to promote optimal complementary feeding practices through diverse approaches, such as community engagement, nutrition education, and media campaigns to reduce consumption of unhealthy sugary and salty snacks among the children under five, targeting their mothers,

grandmothers, and fathers. This will include demonstrations of complementary feeding options by utilising seasonally available fruits and vegetables.

II. Implement innovative community engagement strategies to prevent diversion of RUTF, RUSF, and WSB supplements.

2. Low Access to Income Sources

Food Security & Livelihoods

The NCA findings also indicate that limited income opportunities inside the camps and inability to source legal and stable jobs outside create heavy reliance on humanitarian aid and occasional remittances. This dependence drives negative coping strategies, reducing access to diverse and nutritious diets for both the mothers and children under five, leading to inadequate nutritional intake and consequently higher risk of undernutrition, as outlined in Figure 8.

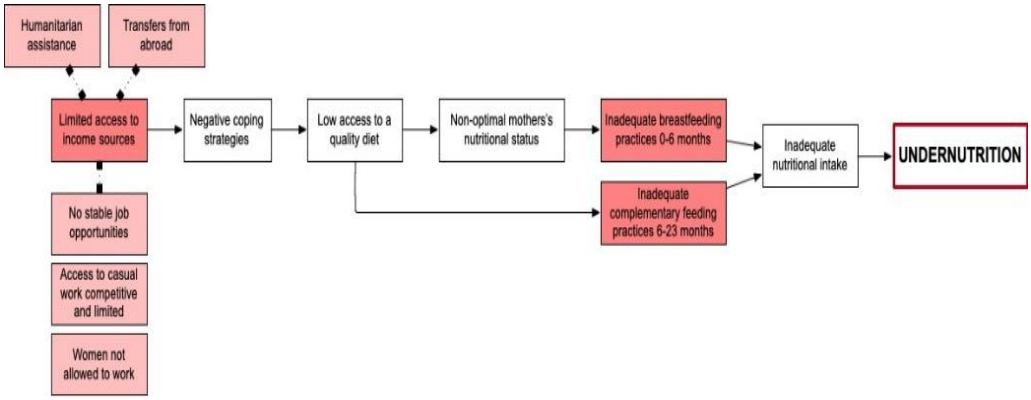


Figure 8: Pathways linking limited access to income sources to undernutrition

The key factors contributing to low access to income sources, as identified through the qualitative investigation, are summarised below:

I. There are no stable job opportunities in the camps, with most men working only some days during the month for the organisations doing tasks like cleaning and construction, while some work as religious teachers or volunteers. Casual work is competitive and limited, with more demand than supply. After a major camp construction work in 2020, demand for labour dropped, and corruption in cash-for-work programmes worsened employment prospects.

II. Men often illegally engage in agricultural, construction, and fishing activities, facing risks at checkpoints when exiting the camps. They earn around 500-600 BDT daily for short-term jobs, or 3,000-4,000 BDT for longer-term harvest or planting activities. Opportunities peak during the harvest and seeding periods, but decline in the summer and rainy seasons. Besides, kidnapping is an emerging concern, with big ransom demands increasing fear of going outside.

III. Some families receive money from relatives abroad via apps like Bkash, often facilitated by host community members, who take a share as interest.

IV. Culturally women are not allowed to work, though a few women do home-based work like sewing or crafting for community members. On a few occasions, teenage daughters or educated women volunteer in the camps for NGOs and contribute to household income.

> *A fathers' group shared the challenges the fathers face due to economic hardship:*
> *"We have limited income opportunities. Previously, we could find work like building latrines, roads, and houses in the camps. But now only a few jobs are available in the camp area. As a result, we have to go outside the camp to the host community for work, such as farming or agricultural labour. Sometimes, we become so desperate for money that we sell our rations, such as sugar, pulse, and oil. We use these items in small quantities at our houses to save some for selling later and buying other necessities." (FGD, Fathers' Group)*

The secondary data from 2021 to 2023 lacked essential indicators for correlational analysis. Consequently, no correlational analysis was possible due to data limitations (SENS 2021–2023).

Recommendations

I. Collaborate with the Food Security and Livelihood Sector partners to enhance income-generating activities within the camps through:
   a. Microenterprise skills, such as recycling empty sachets, small handcrafts, and soap making.
   b. Small-scale farming activities, including pond aquaculture, poultry, gardening, and kitchen gardening, and provision of farming inputs, which will also improve dietary diversity of the children under five.
   c. Vocational and technical training for youth.
   d. Cash-for-work activities involving volunteer engagement to provide immediate income support and sustainable livelihood options.

II. Continue advocating with the Government of Bangladesh to enable the Rohingya population to participate in income-generating activities and to ease existing restrictions, thereby promoting economic self-reliance and improving their livelihoods.

3. Inadequate Accessibility, Availability and Quality of Water at Household Level

Limited water supply, worsened by growing camp populations, reduces per person daily availability. According to the SENS 2023, the proportion of households that used domestic water, collected from protected/treated sources with protected containers only ≥ 20L/person/day, was above 60 per cent in the mega camps and 67.4 per cent in the registered camps. This hampers mothers' ability to maintain adequate hygiene for their children, increasing their vulnerability to disease and consequently undernutrition, as outlined in Figure 9.

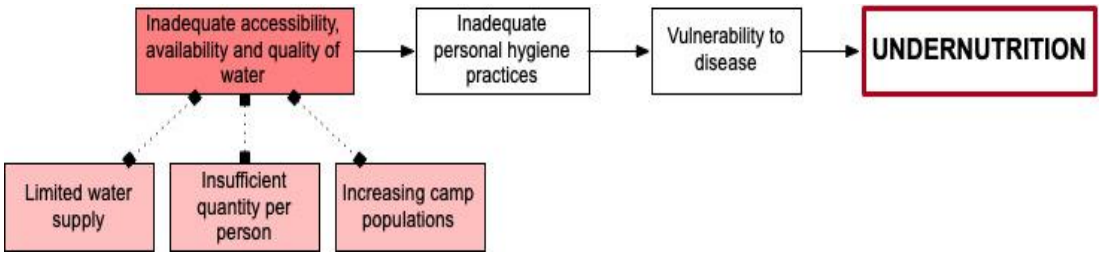


Figure 9: Pathways linking poor access to water supply to undernutrition

The key factors contributing to low access to income sources, as identified through qualitative investigation, are summarised below:

I. Water is mainly collected from tap stands or tube wells, with most of the camps experiencing limited supply - often only one hour a day - making it difficult to meet daily needs. Water access is especially challenging in the hilly areas, where walking distances and long waiting times double or triple collection time. A few households with financial resources can access private pipelines for an additional 10 minutes of water per day for 500-700 BDT monthly.

II. Water is collected in pitchers and buckets, though many leave containers open during transport, risking contamination. Women and girls bear most of the task, sometimes assisted by men or boys, particularly when women are ill or face harassment at tap stands.
III. Most people have access to about 10 litres of water per day, but at least 20 litres are needed for hygiene and cooking. Water quality is generally good, but complaints include strong chlorine odours and occasional presence of worms, especially after prolonged shortages.
IV. During the rainy season, access to water increases, as the Rohingya community relies more on rainwater for bathing and cleaning. Besides, low charge of solar pumps due to lack of sun reduces water availability, and slippery roads make collection more challenging. Conversely, during the summer, water demand increases due to higher temperature and increased drinking needs.
V. In Teknaf, lack of aquifer makes the community fully reliant on surface water stored during the rainy season, which becomes particularly challenging during the summer.
VI. Since 2022, water management has improved with NGO involvement, reducing the number of non-functioning taps. Despite progress, increased camp populations and damaged infrastructure, like broken tube wells, continue to strain water supply, with repairs sometimes delayed for months.

> *A caregiver highlighted challenges related to water access:*
>
> *"Water is supplied for only one hour once or twice a day. Since 2022, the situation has worsened, because water access has reduced in comparison to the previous years." (FGD, Female Caregivers)*

Quantitative data from the SENS 2021 indicated that the children from households using handpump boreholes, as their main water source had a higher risk of concurrent wasting and stunting, while those relying on public tap standpipes had a lower risk.

Recommendations

I. Collaborate with the partners to ensure that the sector standards are met for adequate daily water supply, providing a total runtime of four hours and a minimum of 20 litres per person per day, while continuously monitoring and maintaining water quality across all the camps. Additionally, given the water scarcity in Teknaf, explore opportunities for rainwater harvesting and reservoir construction to enhance water availability.
II. Advocate for transitioning from mini water networks to larger, integrated water systems to ensure consistent, high-quality water supply across all the camps.
III. Strengthen social and behaviour change activities to promote the benefits of chlorinated water over tubewell water, and to discourage use of private pipelines sourced from the host community to ensure safer water practices.

4. Inadequate Sanitation Practices

The NCA study revealed that the shortage of functional latrines, exacerbated by increasing populations and lack of maintenance, as well as open defecation practiced by the children under five contribute to the non-optimal sanitation practices. The 2023 nutrition survey revealed that while over 99 per cent of the households used a toilet, the proportion of the children under five doing so was much lower, at 30.1 per cent. Two-thirds of the children (67.6 per cent) practiced open

defecation – a rise from the 58 per cent reported in the 2022 WASH KAP survey. This situation contributes to the non-optimal environmental hygiene practices that increase children's vulnerability to diseases and consequently malnutrition, as outlined in Figure 10.

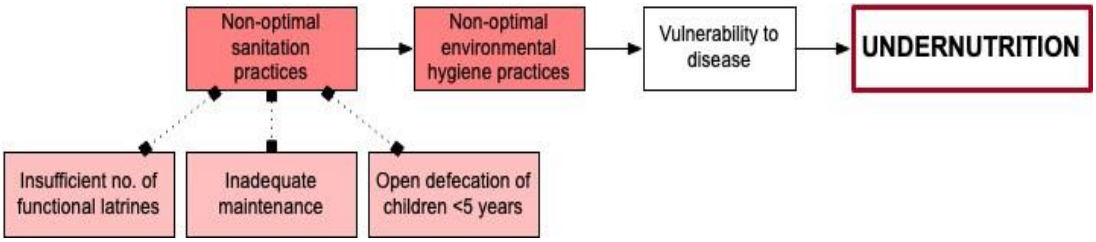


Figure 10: Pathways linking inadequate sanitation practice to undernutrition

The key drivers contributing to inadequate sanitary practices, as identified through qualitative investigation, are summarised as follows:

I. In most of the visited camps, the residents have few latrines shared by multiple families, causing long wait times - up to 30 minutes - especially in the morning. The number of functional toilets has declined since 2023, as population growth outpaces repairs.
II. Overall cleanliness remains poor, leading to unhygienic conditions and health risks, like diarrhoea and infections, among children.
III. Additionally, space constraints prevent new toilet construction.
IV. While adults usually avoid open defecation, the children under five often use drains or nearby areas, with some faecal disposal happening openly near homes or in playgrounds.
V. Women prefer to go in groups for safety and to avoid harassment from men and boys. Toilets are harder to access during the rainy season due to muddy, slippery roads and overflowing facilities, especially downhill.

> *A male group described how poor sanitation conditions affect children's health and hygiene:*
>
> *"Due to inadequate maintenance, two-three latrines are often unusable. Cleaners employed by CIC do not clean them regularly, thus reducing children's access to sanitary facilities. As a result, children often defecate outside. Additionally, they play near open areas in front of latrines, which exposes them to unhygienic conditions that lead to diarrhoea and skin diseases." (FGD, Male Groups)*

The quantitative data from the SENS 2022 showed that the children using alternative toilet facilities were at higher risk of wasting. The children whose faces were not disposed of in a latrine also had a higher risk of wasting, while those practicing open defecation were more likely to be stunted. Similarly, the SENS 2021 found that the children using plastic bags or potties were more likely to be wasted.

Recommendations

I. Strengthen community engagement through dialogue, sensitisation, and mobilisation, focusing on promoting appropriate sanitation practices, and using malnutrition as a trigger to motivate action.

II. Enhance latrine accessibility by improving privacy, protection, and safety features, making them more inclusive, for example, by installing locks, doors, lights, or providing torches.
III. Monitor and ensure construction of new toilets and/or timely repair of current facilities, adjusting to the increased population and new arrivals.

5. Inadequate Food and Environmental Hygiene Practices

The NCA also revealed that non-optimal sanitation practices, driven by growing camp populations, inadequate waste and drain management, and livestock kept in sleeping areas, compromise environmental hygiene in the camps. This heightens children's risk of disease and consequently undernutrition, as outlined in Figure 10.

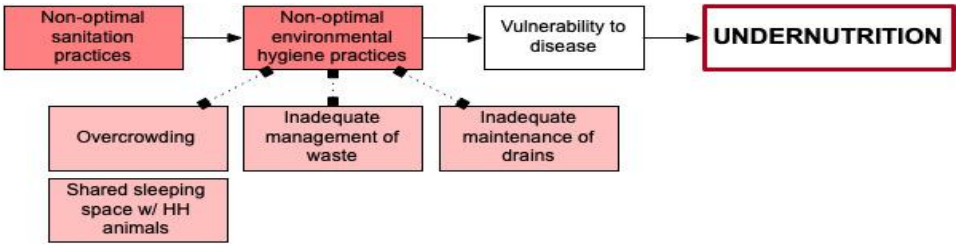


Figure 10: Pathways linking inadequate food and environmental hygiene practice to undernutrition

The key drivers contributing to inadequate food and environmental hygiene practice, as identified through qualitative investigation, are summarised below:

I. Overcrowding, garbage, unclean drains, and open defecation lead to poor environmental hygiene in the camps. The community is facing significant challenges due to limited living space and a continuously growing population. This is compounded by poorly ventilated houses and creates an unhealthy and unhygienic environment, characterised by persistent unpleasant odour.
II. Parents reported that young children suffer both mentally and physically due to lack of adequate space for play. Instead, they play near drains adjacent to their homes, which increases risk of diseases, such as diarrhoea and scabies as well as bad stomach linked to strong smell.
III. Despite efforts to maintain cleanliness in kitchen area, constraints related to space and resources, such as water shortage and absence of dustbins, make it difficult to maintain hygiene. Cooked food is typically stored in pots used for cooking and reheated before consumption.
IV. The summer months are more challenging, as heat leads to food spoiling more quickly.
V. Chicken, a vital source of animal protein for families, exacerbate the situation, as there is no specific area to keep them. They roam freely throughout the camp during the day and are put inside houses at night, often in the same room where children and other family members sleep.

> *A religious leader reflected on the challenges of maintaining hygiene in the community:*
> *"In our religion, it is said to stay clean and maintain hygiene. But due to lack of proper space and dustbin, we are unable to dump garbage in specific places and stay clean. The dirt from one person's house moves to another's house, which causes quarrel." (KII, Religious Leaders - Imam)*

The secondary data from 2021 to 2023 lacked essential indicators for correlational analysis. Consequently, no correlational analysis was possible due to data limitations (SENS 2021–2023).

Recommendations

I. Conduct community engagement activities at household level to promote proper waste management and disposal. This will include regular monitoring and waste collection by community volunteers, alongside community-led waste cleaning and drainage clearance campaigns and collaboration among the WASH and site management sectors to establish community-led teams responsible for regular cleaning.
II. Introduce contextually appropriate solutions for managing household animals within living spaces to reduce pathogen transmission, especially in the households with vulnerable groups, such as the women of reproductive age and children under five. This can be achieved by involving community members in making animal cages using locally available materials like bamboo or recycled items.
III. Encourage community members to consume only freshly cooked food, focusing on the WHO five keys to safer food.

Limitations

- **Lack of secondary data:** Despite availability of multiple SENS data (2021-2023), the collected indicators were quite restricted compared to the hypothesised risk factors examined in this study. Furthermore, only the children and household modules could be merged, excluding the indicators available in the women's module, which further reduced the number of available indicators for regression analyses.
- **Statistical associations:** It is advisable to assess statistical associations with caution, as the observed links do not necessarily prove causality, while the unobserved links do not mean that causality does not exist.
- **Confounding variables:** The statistical analyses carried out in this study are based on unadjusted regression models that do not consider the effects of confounding variables.
- **Lack of privacy during discussions:** Despite good attendance of participants in the FGDs, the crowded environment limited privacy during conversations. This lack of confidentiality hindered ability of the teams concerned to explore sensitive topics related to gender issues and negative coping mechanisms in greater depth.

Action Plan

Non-Optimal Breastfeeding Practices Recommendations	Activities	Short/Mid-term	By whom	By when
Implement community dialogue initiatives (ensuring that the minimum standards of social and behaviour change communication are met) to promote optimal breastfeeding practices, with a focus on addressing the key challenges, such as mixed feeding, cultural beliefs, consumption of sugary foods and liquids between 0-6 months, and use of breast milk substitutes.	1. Incorporate key messages on the disadvantages of mixed feeding practices, consumption of sugary foods and liquids among the infants aged 0–5 months, and the use of breast milk substitutes (BMS) in the existing health and nutrition education package to promote optimal breastfeeding practice and reduce risk of undernutrition and related health issues. 2. Develop community dialogue packages, including all the issues like sugary foods, promotion of IYCF practices, etc. 3. Identify the champion lead mothers at community level and train them on community dialogue packages and provide performance-based incentive, like cash, prize, etc. 4. Engagement with local authority on BMS supply monitoring.	1. Short-term 2. Mid-term 3. Mid-term 4. Short-term	Lead by UNICEF with Nutrition Sector and partners, IYCF TWGs, UN, UNICEF, WFP, UNHCR, Health Sector	1. By Sep 2025 2. By Dec 2025/June 2026 3. By Dec 2025/June 2026 4. By Sep 2025
Implement systems for early identification of the breastfeeding mothers experiencing mental health challenges, and timely referral to mental health services.	1. Incorporate rapid assessments for the BF mothers suffering from mental health in IYCF package at INF, where IYCF counsellor will conduct a rapid assessment and refer them to MH services. 2. Capacity building of mental health service providers on optimal breastfeeding practices - more focused on the breastfeeding mothers.	1. Short-term 2. Short-term	Lead by UNICEF with Nutrition Sector and partners, IYCF TWGs, UN, UNICEF, WFP, UNHCR, Health Sector	1. By Sep 2025 2. By Sep 2025
Non-Optimal Complementary Feeding Practices **Recommendations**	**Activities**	**Short/Mid-term**	**By whom**	**By when** Error! Bookmark not defined.
Develop and integrate social and behaviour change (SBC) activities to promote optimal complementary feeding practices through diverse approaches, such as community engagement, nutrition education, and media campaigns to reduce consumption of unhealthy sugary and salty snacks among the children under five, targeting the mothers of children under-five, grandmothers, and fathers.	1. Review the existing SBC materials on complementary feeding for inclusion and harmonisation of the messages on unhealthy sugary and salty snacks. 2. Conduct community awareness sessions for mothers, fathers, grandmothers, mothers-in law, and others. 3. Organise community dialogues (with majhi, imam and other influencers) 4. Review all ongoing SBC activity-based formative research for effective community awareness and dialogues.	1. Short-term 2. Mid-term 3. Mid-term 4. Mid-term	Led by UNICEF with Nutrition Sector and partners, IYCF TWG, UN agencies, SBC unit from each organisation	1. By Sep 2025 2. By Dec 2025 3. By Dec 2025 4. By Dec 2025
Implement innovative community engagement strategies to prevent diversion of RUTF, RUSF, and WSB supplements.	1. Instead of monthly, bi-weekly distribution system can be implemented, considering the caseload and crowd. 2. Cut packets of WSB and give in containers during bi-weekly distribution. 3. Periodic market monitoring and mobile court implementation through law-enforcement agencies to check supply of the aids in the market. 4. Community awareness/dialogues with different target groups (mothers, fathers, grandmothers, mothers-in-law, majhi, imam and other influential	1. Short-term 2. Short-term 3. Short-term 4. Mid-term	Led by WFP with CMAM TWG, Nutrition Sector and partners, camp authorities	1. By Sep 2025 2. By Sep 2025 3. By Sep 2025 4. By Dec 2025

	groups) on aid diversion.			
Low Access to Income Sources **Recommendations**	**Activities**	**Short/Mid-term**	**By whom**	**By when Error! Bookmark not defined.**
Collaborate with the Food Security and Livelihood (FSL) Sector partners to enhance income-generating activities within the camps.	1. Strengthen the engagement of community workfare/cash-for-work programmes by engaging refugee volunteers in activities in support of environment, such as reforestation, maintenance of roads, drainage and canals, slope protection/stabilisation and other similar work to increase their income. 2. Joint advocacy with the government and other relevant stakeholders, including donors, to increase income-generating activities to support the most vulnerable households based on targeting criteria.	1. Short-term 2. Mid-term	Led by FSL Sector with Nutrition Sector, camp authorities, and community leaders (majhis).	1. By Sep 2025 2. By Dec 2025
Continue advocating with the Government of Bangladesh to enable the Rohingya population to participate in income-generating activities and to ease existing restrictions, thereby promoting economic self-reliance and improving their livelihoods.	1. Develop short policy briefs, highlighting how enabling IGAs can reduce reliance on food aid and improve nutrition outcomes, supported by evidence from the NCA on the impact of economic constraints on malnutrition. 2. Conduct joint advocacy at national level with the Government of Bangladesh alongside the FSL Sector and UN partners to promote policy changes, enabling legal IGAs for Rohingya refugees and easing movement restrictions.	1. Short-term 2. Mid-term	Led by Nutrition Sector	1. By Sep 2025 2. By Dec 2025
Sub-Optimal Accessibility and Availability and Quality of Water **Recommendations**	**Activities**	**Short/Mid-term**	**By whom**	**By when Error! Bookmark not defined.**
Collaborate with the partners to ensure that the sector standards are met for adequate daily water supply, providing a total runtime of four hours and a minimum of 20 litres per person per day, while continuously monitoring and maintaining water quality across all the camps. Additionally, given the water scarcity in Teknaf, explore opportunities for rainwater harvesting and reservoir construction to enhance water availability.	1. Facilitate equitable distribution of appropriate quality and quantity of drinking water in line with the sector standards (20L/person/day) across all the camps, considering optimising surface water options, particularly during the dry season, and rationing during scarcity. 2. Optimise surface and rainwater harvesting/capturing in ponds and reservoirs, particularly in Teknaf area.	1.Short-term 2.Mid-term	1.Led by DPHE with WASH Sector and partners 2.Led by DPHE with WB-ADB funding	1. By Sep 2025 2. By Jun 2026-Dec 2026
Advocate for transitioning from mini water networks to larger, integrated water systems to ensure consistent, high-quality water supply across all the camps.	1. Develop sector guidelines for big water networks and adopt as sector standards. 2. Advocate for conversion/upgradation of all existing mini-water networks (where feasible) to big water distribution networks.	1.Short-term 2.Short-term	Led by DPHE with WASH Sector	1. By Sep 2025 2. By Sep 2025
Sub-Optimal Sanitation Practices at Household Level **Recommendations**	**Activities**	**Short/Mid-term**	**By whom**	**By when Error!**

				Bookmark not defined.
Strengthen community engagement through dialogue, sensitisation, and mobilisation - focused on promoting appropriate sanitation practices, using malnutrition as a trigger to motivate action.	1. Facilitate community-led cleaning activities, monitoring and reporting of the state of infrastructure to ensure timely maintenance. 2. Mobilise caregivers and mothers (including teachers in learning centres) to conduct practical demonstration and education (on materials and tools appropriate for children on usage of latrines). 3. Sensitise mothers and caregivers on immediate disposal of under-3 children's faeces in latrines. 4. Operationalise the sector policy on private WASH facilities to discourage the community members from using private latrines inside houses.	1.Short-term 2.Short-term 3.Short-term 4.Short-term	Led by working groups from WASH and SBC sectors of UNICEF	1. By Sep 2025 2. By Sep 2025 3. By Sep 2025 4. By Sep 2025
Enhance latrine accessibility by improving privacy, protection, and safety features, making them more inclusive - for example, by installing locks, doors, lights, or providing torches.	1. Engage with the sector partners to ensure that all latrines are provided with adaptive features to provide privacy, protection, and safety, making them more inclusive, e.g., by ensuring locks, doors, lights, or providing torches, 2. Engage with the communities to implement cost-free measures to enhance inclusive access to the WASH facilities.	1.Short-term 2.Short-term	1.Led by DPHE with WASH Sector 2. Led by working groups from WASH and SBC sectors of UNICEF	1. By Sep 2025 2. By Sep 2025
Inadequate Food and Environment Hygiene Practices				
Recommendations	**Activities**	**Short/Mid-term**	**By whom**	**By when Error! Bookmark not defined.**
Conduct community engagement at household level to promote proper waste management and disposal. This will include regular monitoring and waste collection by community volunteers, alongside community-led waste cleaning and drainage clearance campaigns, and collaboration between the WASH and site management sectors to establish community-led teams responsible for regular environmental cleaning.	1. Strengthen community-led youth groups to manage and dispose waste correctly ensuring regular waste monitoring collection. 2. Integrate and dissemination messaging on managing and disposing waste properly at household level through community volunteers. 3. Focus on community mobilisation and awareness raising for increased participation during the campaign.	1.Short-term 2.Short-term 3.Short-term	1.Led by WASH Sector SBC group with Nutrition Sector, partners and UN agencies	1. By Sep 2025 2. By Sep 2025 3. By Sep 2025

ANNEX 1: Summary of risk factor categorization, Rohingya camps, Cox's Bazar

Risk factor[2]		Scientific literature	Literature review	Secondary data analyses	Technical experts	Community consultation	Qualitative team	Seasonal/ historical variations	Final categorisation 2025	Interpretation
A	Limited access to health services	++	++	NA	++	+++	+++	+	++	Important
B	Limited utilisation of health services	++	+	+++	++	NA	+	+	++	Important
C	Low birth spacing/ early, repetitive or unwanted pregnancies	+++	++	NA	++	++	++	++	++	Important
D	Low birth weight	+++	NA	NA	+++	NA	NA	NA	+	Minor
E	Low nutritional status of women	+++	++	NA	+++	+	++	+	++	Important
F	Caregiver well-being	+++	+++	NA	++	+	++	++	++	Important
G	Non-optimal breastfeeding practices	+++	++	++	+++	+	+++	++	+++	Major
H	Non-optimal complementary feeding practices	+++	++	+++	+++	+	++	++	+++	Major
I	Low quality of interactions between a child and a caregiver	+	+	NA	+	+	+	+	+	Minor
J	Low access to quality diet	++	++	NA	+++	+	++	+++	++	Important
K	Low access to income sources	++	+++	+	++	+++	+++	+++	+++	Major
L	Low access to markets	+	+	NA	+	NA	+	+	+	Minor
M	Low coping capacities	++	++	+	+	+	+++	+++	++	Important
N	Inadequate accessibility, availability and quality of water at household level	++	+++	++	++	+++	++	+++	+++	Major
O	Poor sanitation practices	++	++	+++	++	+++	++	+++	+++	Major
P	Poor personal hygiene practices	++	+++	++	++	++	+++	++	++	Important
Q	Poor food and environmental hygiene practices	+++	+++	NA	++	++	+++	+++	+++	Major
R	Heavy workload of women	++	++	NA	+	NA	+	+	+	Minor

[2]All data sources were targeting the Rohingya refugee camps with an exception of scientific literature, which has a global scope.

S	Low female autonomy/ decision-making	+	+++	NA	+	++	+	NA	++	Important
T	Low social support for women	++	++	NA	+	NA	+	+	+	Minor

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