SAVING LIVES
CHANGING LIVES

Fill the Nutrient Gap Analysis

Cox's Bazar Rohingya response

Summary Report

WFP
World Food Programme

November 2019

"The Government of Bangladesh has kept its borders open to fleeing Rohingya and leads the humanitarian response. The people of Bangladesh continue to show exceptional hospitality in the face of human tragedy on a massive scale. (...) Rapid and effective humanitarian action has saved many lives, met critical needs and protected nearly one million Rohingya refugees while also responding to impacts on affected host communities. While much has been achieved, the Rohingya crisis in Bangladesh has not fully stabilized."

Joint Response Plan 2019

Fill the Nutrient Gap **Cox's Bazar** | SUMMARY REPORT

Takeaways

- The Bangladeshi and Rohingya communities have similar levels of nutritional vulnerability and would benefit from an integrated humanitarian response.
- Nutritious diets are unaffordable for the majority of Bangladeshi and Rohingya households.
- Nutritional vulnerabilities change throughout the lifecycle. Women and girls' nutritional vulnerability is exacerbated by gender inequalities that produce socio-economic vulnerabilities, which must be addressed.
- General food assistance is insufficient to fully meet the nutrition needs of the Rohingya, mostly due to low access to diverse fresh foods.
- Meeting nutrition needs is difficult, or impossible, when other essential needs remain unmet. Rohingya sell rations to cover unmet needs for fresh foods and other essential goods and services.
- Reselling indicates a supply chain inefficiency from the perspective of the humanitarian actors, but is not necessarily negative for nutrition. Efforts to reduce reselling must consider and address the reasons for reselling and ensure to not do harm.
- Choices for nutritious foods should be enabled by promoting supply and demand of these foods, but should not be imposed.
- Bangladeshi communities could benefit from expanding social protection to increase affordability of nutritious foods.
- For both communities, nutrient intakes could also be improved through complementary interventions such as school/learning center meals, micronutrient supplementation, support to livelihoods/self-reliance activities, and tailored SBCC.
- Rice fortification, smallholder farms/kitchen gardens, and fish ponds are food supply activities that show good potential to increase access to nutrients for the Cox's Bazar population.
- Ultimately, food system changes are required to increase availability and affordability of safe, nutritious foods in the area, e.g. by improving supply chains for nutrition, reducing poverty, and promoting healthy choices.
- Adolescents, the elderly, and the sick have not been sufficiently understood and addressed by the humanitarian response.
- Adapting the humanitarian response to meet the needs of different individuals and households of different compositions is a continuing challenge requiring multisectoral collaboration and coordination.
- Advocacy and communications at national and local levels must promote better understanding of the situation of the Rohingya and of the poorest in the Bangladeshi communities to foster positive perceptions and increased collaboration.

Introduction

The Fill the Nutrient Gap (FNG) analysis in Cox's Bazar, led by WFP, combines an analysis of the nutrition situation in the Rohingya camps and Bangladeshi host communities with a stakeholder engagement process to generate evidence for decision making to improve diets and prevent malnutrition.

Building consensus for improved nutrition

Nutrition is an important pillar in the development of a healthy, productive population and to prevent the intergenerational cycle of malnutrition. Good nutrition enhances physical and cognitive development, prevents disease and increases the potential of the workforce and society. Improving the diets of women and young children brings immediate and long-term health, education and economic benefits. The 2013 Lancet series on maternal and child undernutrition identified a variety of nutrition interventions with proven effectiveness. However, successfully improving nutrition outcomes depends on interventions being tailored to the local context.

Fill the Nutrient Gap (FNG) analysis combines a comprehensive nutrition situation analysis with a stakeholder engagement process. The analysis is comprised of a literature review of available secondary data sources in combination with linear programming using the Cost of the Diet (CotD) software. CotD analysis enables understanding of availability, cost and affordability of a nutritious diet, as well as to model the impact of current and proposed interventions to reduce this cost and increase affordability.

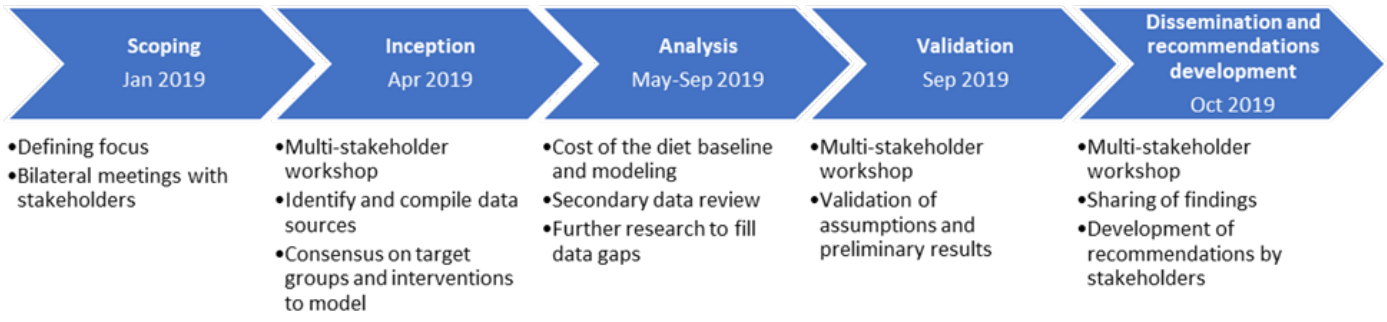
This summary report presents findings from the analysis and a discussion of its process and methodology. By identifying and contextualizing new findings, the FNG analysis contributes towards building consensus around a vision and a path forward for improved nutrition among Rohingya and Bangladeshi populations in Cox's Bazar District in a sustainable way.

Process and Scope of the Analysis

The WFP led the FNG analysis in Cox's Bazar from initial scoping in January 2019 through the discussion and dissemination of results in October 2019 (Figure 1). During the inception workshop held in April 2019, stakeholders agreed on the basic parameters of the analysis. Preliminary findings were presented during the Food Security sector meeting and the validation workshop, both in September. Stakeholder inputs and feedback were integrated in the analysis and final results were disseminated in October 2019. Based on the final results, stakeholders developed recommendations to improve nutrition among Rohingya and Bangladeshi populations in the Cox's Bazar area.

Stakeholders involved in the process include Food Security Sector partners; Nutrition Sector partners; WASH Sector partners; Health Sector partners; and government entities (RRRC).

Figure 1: Timeline of FNG process in Cox's Bazar



Fill the Nutrient Gap: Situation Assessment for Multi-Sectoral Decision-Making on the Prevention of Malnutrition

Malnutrition has two direct causes: inadequate nutrient intake and disease. The Fill the Nutrient Gap (FNG) assessment focuses on gaps in nutrient intake to inform a country's national policies on actions that can be taken to improve nutrition among their population, with a focus on the most vulnerable.

The FNG analyses the extent to which people have choices. It considers the availability, physical access and affordability of nutritious foods required for adequate nutrient intake. It seeks to understand why people make the food choices they do. Finally, it identifies context-appropriate interventions that can be implemented by different sectors to fill nutrient gaps.

The assessment comprises two components:

- A context-specific review of secondary data and information on factors that reflect or affect dietary intake. This includes malnutrition trends over time, characteristics of the food environment, underlying drivers of the food system, and population behaviour related to food and feeding.
- An assessment of the extent to which economic barriers prevent adequate nutrient intake. This uses the Cost of the Diet linear programming software developed by Save the Children (UK), and includes modelling of the economic impact of possible interventions to increase nutrient intake.

Malnutrition cannot be addressed by one sector alone. FNG is designed to inform multisectoral decision-making and therefore engages stakeholders from all sectors including food, health, agriculture, education, and social protection systems throughout the assessment.

It is the stakeholders who define the scope and focus of the assessment. They contribute data and sources of information for identification of context -specific barriers and entry points and develop a shared understanding of the issues and possible solutions. They then identify appropriate nutrition-specific and nutrition-sensitive interventions that can be implemented by different sectors using their existing delivery platforms. These could be social safety nets, food processing and markets, antenatal care, school feeding programmes and others.

The FNG assessment has been developed by WFP with technical support from: the University of California Davis; the International Food Policy Research Institute (IFPRI, Washington DC); Epicentre (Paris); Harvard University (Boston); Mahidol University (Bangkok); Save the Children (UK); and UNICEF.

As of October 2019, the FNG has been completed in 20 countries and is ongoing in another 10.

Cost of the Diet (CotD) Analysis

CotD software uses linear programming to understand the extent to which poverty, food availability and prices may affect the ability of people to meet their nutrient needs. Using food price data collected from markets or from secondary sources, the software calculates the minimum amount, combination and cost of local food that is required to provide individuals or households with their average needs for energy and their recommended intakes of protein, fat and micronutrients. These diets are calculated within defined constraints to prevent the inclusion of unrealistic types or amounts of food and the provision of excessive amounts of nutrients.

The FNG approach defines the Staple Adjusted Nutritious Diet: the lowest cost nutritious diet that includes the typical staple food and excludes food that is considered taboo. This diet is referred to as the nutritious diet throughout this document. Food expenditure data is compared to the cost of the nutritious diet and is used to estimate the proportion of the population that would not be able to afford it.

As part of the FNG process in Cox's Bazar, CotD analysis was undertaken for both Rohingya and Bangladeshi populations in the area. The analysis disaggregates the Rohingya population into five catchment areas and the Bangladesh population adjacent to the camps in two upazilas: Teknaf and Ukhia. The REVA 2 dataset provided food price data as well as data on household food expenditure required for the analysis.

The lowest cost of a nutritious diet was estimated for a modelled "standard household" of five members, which included a breastfed child of 12–23 months, a child of 6–7 years, an adolescent girl of 14–15 years, a breastfeeding adult woman and an adult man. Additional modelling was conducted for individuals of different sex and age groups, and for varied household compositions, as part of a demographics analysis to contextualize the findings beyond the "standard household".

At least two portions of the preferred staple food – identified to be rice – were included per day to account for approximately 50 percent of dietary energy. This was done for all household members except the child aged 12–23 months, who received at least one portion per day.

CotD software was used to model interventions proposed by stakeholders to examine their potential impact on reducing the cost and improving the affordability of a nutritious diet for individuals and/or households.

The selection of potential interventions for modelling was informed by secondary data review and stakeholder consultations. It included:

- general food assistance through in-kind distributions and vouchers;
- disaster risk reduction and other cash for work programs;
- livelihoods or self-reliance activities;
- increased availability of local nutritious food;
- meals at schools or at learning centers;
- micronutrient supplementation, complementary food or specialized nutritious foods (SNF) made available through the market and/or humanitarian assistance and/or social safety nets; and
- rice fortification.

Modelled interventions are theoretical, do not take into consideration implementation costs (borne by the households and/or implementing partner) and would need to be accompanied by complementary behaviour change interventions to promote nutritious choices by consumers.

Methodology

The analysis combines a secondary literature review and Cost of the Diet (CotD) linear optimization to examine availability and affordability of a healthy diet (1,2) (Figure 2). The secondary data analysis is focused on identifying barriers to accessing and consuming nutritious foods, nutritionally vulnerable groups of the population, and opportunities for policy and programme interventions to improve nutrition using a food systems approach (Figure 3). Stakeholders recommended 66 reports, white papers, grey papers, and national survey data for review.

The CotD analysis estimates the minimum cost of purchasing a nutritious diet with locally available foods. A nutritious diet is one that meets - but does not exceed - the individual's energy and fat requirements while meeting requirements for all other nutrients, including protein, vitamins and minerals. By contrast, an energy only diet is one that meets only energy requirements. To ensure this optimized nutritious diet takes into account basic dietary preferences, it was restricted to include at least two portions of the preferred staple food, which is rice.

Next, the cost of the diet is compared with the current household food expenditure. If a household spends less on food than the cost of the diet, the household is considered unable to afford a nutritious diet. This assumes no elasticity of household food expenditure. The estimate of non- affordability is an estimate of the share of households unable to afford a nutritious diet. It is conservative because it assumes optimized choices of nutritious foods; actual non-affordability is likely to be higher.

Figure 2: The FNG analytical process

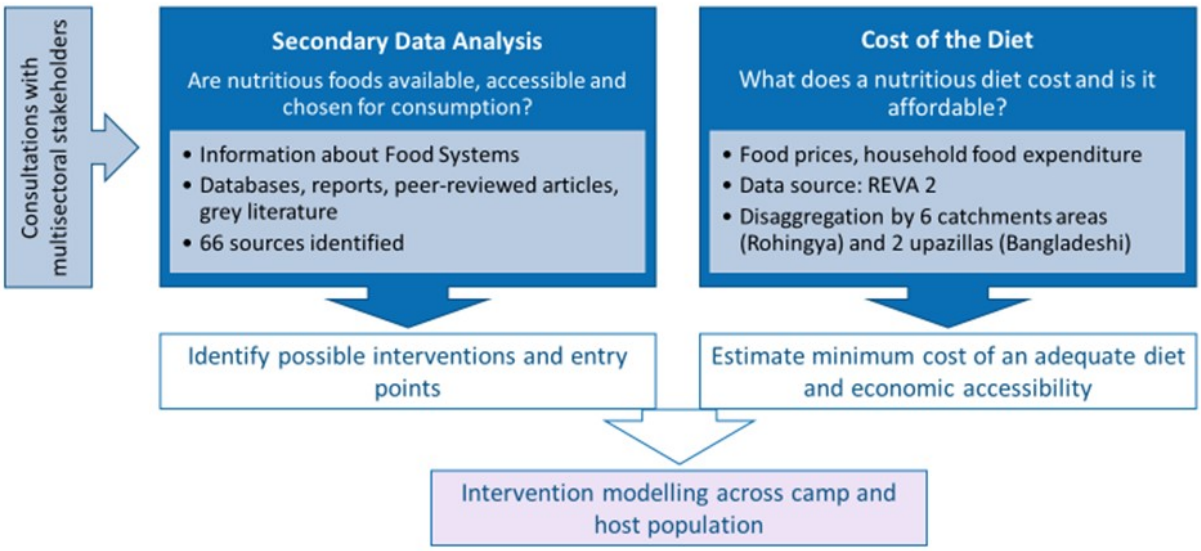
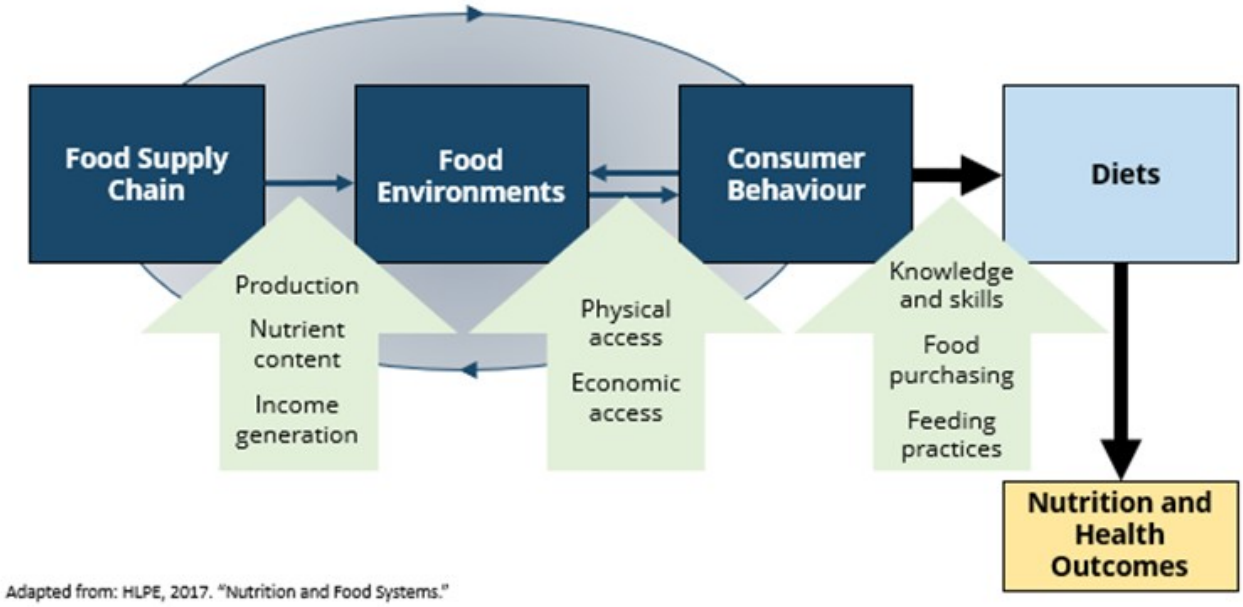


Figure 3: Food systems for diets and nutrition and health outcomes framework



Adapted from: HLPE, 2017. "Nutrition and Food Systems."

Findings

1. Bangladeshi and Rohingya populations have overlapping but distinct vulnerabilities.

Bangladeshi and Rohingya have cultural ties from a long history of cross border trade and movement. Teknaf and Ukhia were among the 10% most deprived areas of Bangladesh before the influx of Rohingya fleeing Myanmar in 2017. The two upazilas are particularly vulnerable because of their difficult terrain, poor infrastructure, poor land productivity, limited WASH and health services and vulnerability to cyclones (3).

The influx has created downward pressure on wages, depletion of natural resources, crowding, heightened protection risks, and increased tensions (3). The poorest amongst the Bangladeshi community are most affected by the influx as many of them lost access to previously farmed lands, have reduced work opportunities and are faced with depleted forest resources for foraging.

Both populations are vulnerable. The Rohingya population is almost entirely dependent on humanitarian assistance for survival, and the Bangladeshi host community, especially its poorest segments, is impacted by the negative effects of the influx on their local environment and economy. While the Rohingya report greater access to education and health services than the Bangladeshi, they suffer comparatively more than the latter from near inexistent incomes, low living standards, and limited food access (4).

Similar levels of malnutrition exist in the two communities: wasting for children 6-59 months is at 11% and stunting around 30% (6,7). Acute malnutrition in women is more prominent in the Rohingya population (15% for Rohingya compared to 8% for the Bangladeshi non-pregnant or lactating women aged 15-49) (8).

Though having similar dietary patterns, the Rohingya report to more frequently revert to harmful and unsustainable coping strategies to cover their basic needs than do the Bangladeshi (5). For both groups, consumption of fresh nutritious foods is too low, while rice is consumed in excess of dietary guidelines (5,9).

Figure 4: Multi-dimensional poverty indicators in Rohingya and Bangladeshi populations (% of households reporting experiencing deprivation in this area) (5)

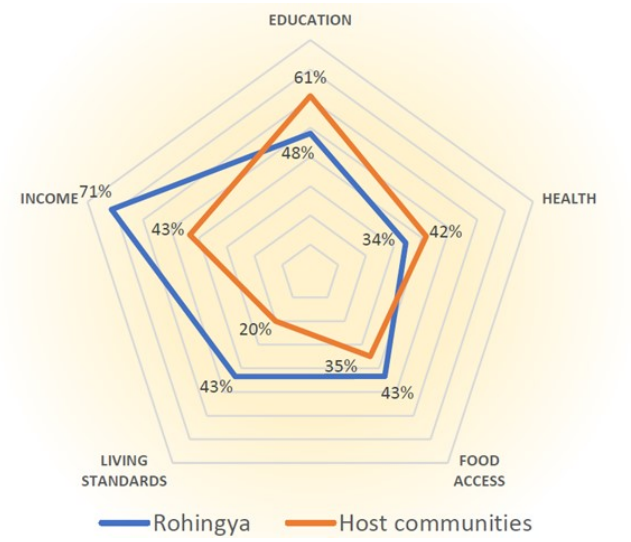
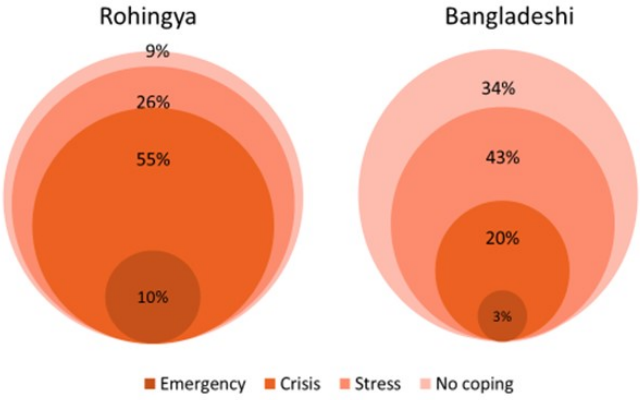


Figure 5: % of population by levels of coping strategy used (5)



2. Only half of Bangladeshi households can afford a nutritious diet, and almost none of Rohingya households.

CotD analysis finds that the least costly nutritious diet that could cover the energy and nutrient needs of the household costs on average 230Tk per day for the Rohingya and 246Tk for the Bangladeshi. This is significantly higher than the national average of 174Tk[1], reflecting the higher cost and lower availability of diverse nutritious foods in the local markets. The micronutrients that are most difficult to access in Cox's Bazar are B vitamins, iron, calcium and folic acid, which are found in fresh vegetables (e.g. amaranth leaves, spinach) and animal-sourced foods (e.g. eggs, meat, fish).

Given current household incomes (measured by food expenditure) and food assistance received, only one in two Bangladeshi households could afford a nutritious diet, while nearly none of the Rohingya could. Thus, humanitarian assistance does not meet the full food and nutrition needs of the Rohingya population, while the poorest in the Bangladeshi community also require further support to be better able to access a nutritious diet and meet their nutrient requirements.

The REVA 2 assessment found that food consumption reported by Rohingya households met 85-90% of their estimated energy needs[2] (8). This suggests that some food assistance may be used to meet other, non-food, needs, and/or that caloric value is lost when foods are exchanged for other foods (e.g. when rice is sold, at a relatively low price, to buy small quantities of relatively costly dried fish).

[1] This estimate is based on the Household Income and Expenditure Survey (HIES) 2016. Due to differences in sampling and data collection instruments the results have limited comparability.
[2] The finding was the same when expressed as kcal/cap/d and kcal/adult male equivalent/d.

3. The cost of a nutritious diet is 23% higher than the Minimum Expenditure Basket (MEB)[3] food part.

The cost of the nutritious diet for the Rohingya (6,998 Tk/hh/mo) is 23% higher than the food part of the updated MEB (5,691 Tk/hh/mo). The MEB food part equates to approx. 1200 Tk/cap/mo and the nutritious diet to approx. 1400 Tk/cap/mo. Food assistance designed to meet the MEB food part is therefore likely to be insufficient to meet the household's full nutrient needs.

Food security and nutrition programming targets Rohingya and Bangladeshi through a variety of modalities. CotD estimated the potential impact of different interventions in reducing the cost of a nutritious diet to the household, i.e. in increasing economic access to more nutritious diets, summarized below.

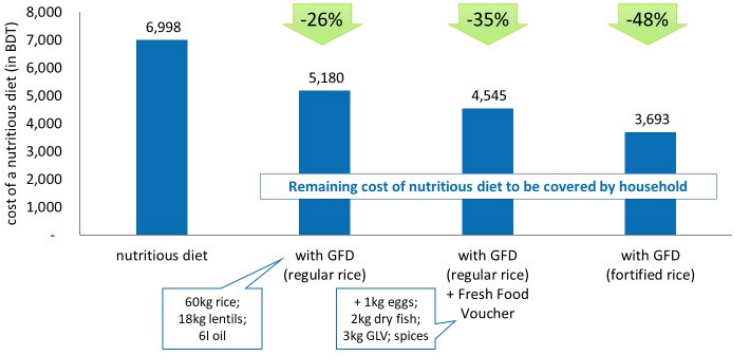
Immediately after the influx of Rohingya in 2017, food assistance was mainly provided in-kind. Recognizing that the diversity of food distributed through GFD is insufficient to provide essential nutrients, WFP transitioned to providing food through e-vouchers to create more choice, including of nutritious foods. The General Food Assistance (GFA) is complemented with additional interventions to allow access to nutrition (fresh food vouchers, Blanket Supplementary Feeding [BSFP], and Disaster Risk Reduction [DRR] activities).

General Food Distribution (GFD)

The GFD ration (60kg rice, 18kg lentils, 6L oil per household per month) provided to approx. 50% of the Rohingya households (as of October 2019), reduces by one quarter (26%) the amount of money the household would still require in order to buy sufficient nutritious foods to meet their nutritional needs (Figure 6).

The modeling confirms that GFD rations are not diverse enough to cover all nutrient needs. The GFD ration's limited diversity renders it unable to cover the totality of the nutrient needs of the individuals in the household. Essential nutrients are lacking from the GFD ration, in particular, vitamin A and C, B vitamins, iron and calcium. These nutrients are found in fresh and animal source foods, which the ration notably lacks. The addition of the fresh food voucher contributes to a greater reduction (up to 35%) in the cost of the nutritious diet, yet, the transfer is not large enough to cover the purchase of sufficient nutritious foods.

Figure 6: Monthly household cost of a nutritious diet with GFD ration



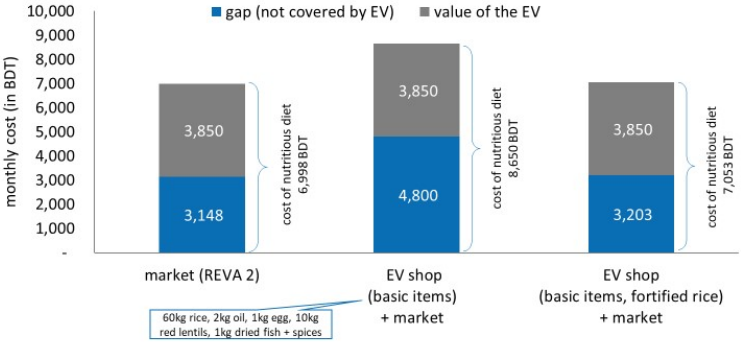
In contexts where dietary diversity through fresh foods is complicated or expensive to attain, fortification of staple foods can make an essential contribution to filling nutrient gaps. Indeed, if the rice in the GFD ration was replaced by fortified rice, the remaining costs of a nutritious diet would be reduced by nearly 50% (Figure 6).

E-voucher shops

General food assistance provided through E-vouchers (EV), redeemable at EV shops, is being rolled out to replace GFD. CotD analysis shows that EV transfers more effectively meet nutrient needs of the household than GFD, covering 45% of the household's cost of purchasing a nutritious diet compared to 26% for GFD (Figure 7). This is due to the greater variety of foods available for purchase through the shops (as of October 2019, 20 items from 8 different food groups were available).

Yet, the impact of the EVs in reducing the cost of the nutritious diet is less than what it would be if the EV transfer value could be spent on the market (55% reduction). This is due to the limited range of foods available at the EV shops compared to the market (where around 50 foods were available), especially fresh fish and vegetables.

Figure 7: Monthly household cost of a nutritious diet with e-voucher



While EV shops are increasing the numbers of vegetables and fruit on offer, at the time of the FNG analysis there was no meat or dairy, and fish offering is limited to dry fish. Rice fortification, introducing more fresh foods in the EV shops, and promoting demand for fresh foods could potentially increase nutrient intakes among EV recipients. The procurement and logistic challenges connected with procuring fortified rice were discussed with stakeholders extensively. Currently Bangladesh's capacity of domestic production of fortified rice is insufficient to provide enough fortified rice to include in all humanitarian interventions in the Cox's Bazar area.

Disaster Risk Reduction (DRR)

Transfers associated with DRR activities (assuming 350 Tk/hh/d for 16 days every 3 months) could cover 22% of a household's cost of a nutritious diet among the Rohingya and is appropriate in combination with EV transfers: the remaining cost of the nutritious diet to the household is nevertheless still substantial at nearly 3,000Tk per month (600 Tk/cap/mo).

[3] A MEB is defined as what a household requires in order to meet their essential needs to ensure survival and minimum living standards and its average cost. The MEB was calculated based on the average actual food expenditure of households (Rohingya receiving e-vouchers and Bangladeshi) with an acceptable Food Consumption Score (between 35 and 80) and in the middle three expenditure quintiles. The full MEB, including non-food needs, is 1,800 Tk/cap/mo. For comparison, the national poverty line is 2000 Tk/cap/mo.

Targeted nutrition interventions

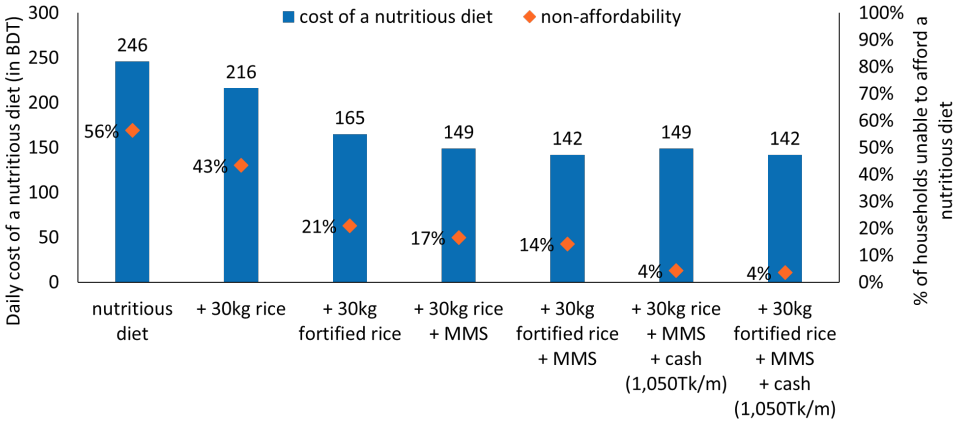
Targeted interventions can contribute to fill the gap. The Blanket Supplementary Feeding Program (BSFP), consisting of Super Cereal plus for children 6-59 months and Super Cereal for pregnant or lactating women (PLW), and high energy biscuits for children attending learning centers, could contribute important nutrients for these individuals. With that assistance provided, the household would still require 2,360Tk per month to meet all the nutrient needs. Additional strategies to increase access to nutritious foods are required, in particular for specific individuals (see below).

Social Safety Net interventions

For the poorest households in the Bangladeshi community, the Enhancing Food Security and Nutrition (EFSN) program is designed to equip the most vulnerable women with the skills, knowledge, confidence and assets to improve their lives and ultimately contribute to food security in the area. Participants of the program receive a monthly allowance to cover essential household needs; behavior change communication to improve nutrition practices, facilitate women's empowerment and improve community disaster management; income-generation support including entrepreneurship training, a business grant and intensive skills training; and women's groups that enable women to support each other, enhance women's voice and provide a platform for savings (10). The monthly allowance is 1,050Tk per household.

In combination with the government's special Vulnerable Group Development (VGD) program (30kg rice per household per month) could reduce non-affordability of a nutritious diet substantially. Fortified rice has recently been introduced as part of the VGD program to enhance the nutrient content of the rations. Fortified rice together with multiple micronutrient supplements (MMS) in the form of a capsule or tablet for the PLW could decrease the remaining cost of a nutritious diet to the household to 142Tk per day or 4,318Tk per month. Almost all households (96%) could afford spending this amount on food (Figure 8). This analysis illustrates the need for a comprehensive package of interventions to address non-affordability of a nutritious diet within Bangladeshi households in Cox's Bazar.

Figure 8: Monthly household cost of a nutritious diet and its affordability with VGD and EFSN interventions



Self-reliance and local food production

Projects such as fish ponds or kitchen gardens could reduce the cost of a nutritious diet to the household by around 10%, while increasing local availability of fresh, nutritious foods.

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4. Providing more fresh nutritious foods through humanitarian assistance is critical for nutrition, but several important barriers remain.

The humanitarian response is making efforts to increase availability of and access to fresh foods in the camps. As of October 2019, several different outlets exist that allow the Rohingya to acquire fresh foods. The EV shops offer "flexible" items, in addition to their "fixed" items, in order to facilitate the supply of fresh foods according to season, availability, and prices. Fresh, nutritious foods available through the EV shops include onions and eggs (as fixed items) and green leafy vegetables, other vegetables, fruits, and dry fish (as flexible items). Initially, fresh foods at EV shops could not be inspected by customers before purchase, which was found to be a disincentive to purchasing these foods. Consequently, fresh food corners are now being established outside of the main EV shop, where they can be visited before purchasing other items at the shop, which has been welcomed.

For those households receiving GFD instead of the EV, a complementary food voucher makes it possible to acquire fresh foods at an NGO distribution point. Other initiatives to increase availability of fresh foods in the camp include informal pop-up stalls set up by local merchants, self-reliance homestead food production of fish, poultry and vegetables linked to collection and redistribution points, and farmers markets (upcoming).

Beyond increasing transfer amounts to allow the purchases of sufficient high-quality fresh foods, other barriers on both supply and demand side need to be tackled to increase access to and consumption of these foods. On the supply side, the transport and storage of fresh foods is difficult. In addition, procurement of fresh foods is difficult for some items, e.g. milk, due to fear of food contamination and adulteration. Offering perishable foods bears a risk for the seller as demand might not be accurately predictable resulting in lost stocks if commodities are not sold in time.

Meanwhile, on the demand side, the transport on foot to the home and storage of fresh foods is challenging. Most households visit EV shops once or twice per month, and currently, the infrastructure and long commutes from shelters to EV shops would not allow more frequent visits without overcrowding the shops. This makes purchases of fresh foods difficult. Whether limited nutrition knowledge and taste preferences for different fresh foods than what is currently offered through humanitarian interventions

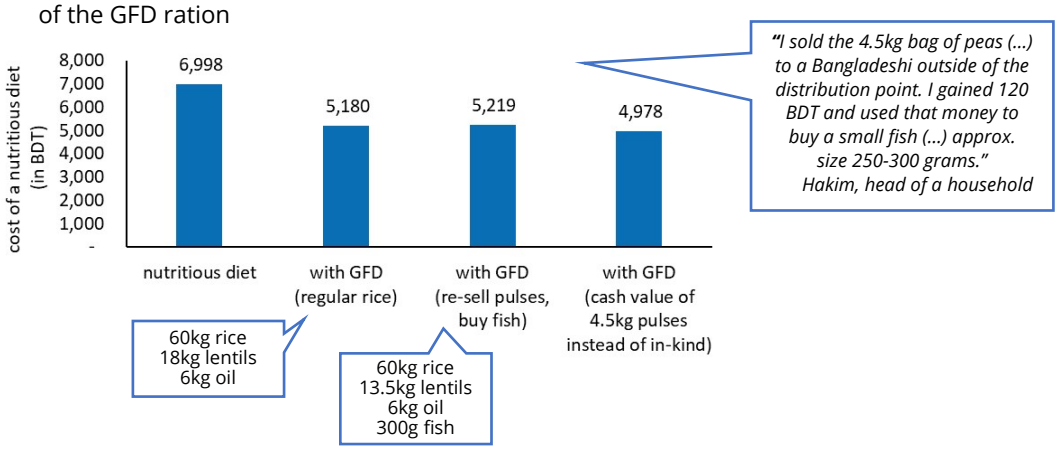
contributes to low demand of fresh foods and vegetables is not certain. Further study of consumer's food preferences would be required to identify the types of Social and Behavior Change Communications (SBCC) required to accompany transfer amounts to encourage healthy and nutritious choices.

Currently the demand generated through the refugee influx is disjoint from the local Bangladeshi food production and trade in the Cox's Bazar area. Efforts are underway to ensure local producers and traders benefit from the steep increase in demand for food in the area due to the Rohingya influx and humanitarian aid is used to stimulate the local economy as well as protecting the rights of the most vulnerable Bangladeshi and Rohingya. One example for this is the effort to set up of farmers markets where local producers sell commodities directly to Rohingya in 2020.

5. Rohingya reallocate resources provided through the humanitarian system to fulfill needs and preferences. Reselling generates supply chain inefficiency, but dietary quality does not have to worsen.

Households were found to resell a significant amount of their ration, particularly rice (5). Anecdotal evidence suggests that rice is resold to be able to buy fish, vegetables, and to meet some non-food needs (5). Reselling creates a value loss when commodities are sold below market price. However, the impact on dietary intake is unknown. Many households use the money from selling their rations to buy fresh nutritious foods (fresh fish, vegetables), which in turn contributes significantly to their micronutrient intake and makes their meals overall more nutrient-dense. In other words, reselling rations needs to be viewed as a supply chain inefficiency more than a challenge for nutrient intake. Figure 9 illustrates that if a households sells 4.5kg of peas from their GFD ration to buy 300g of fresh fish, the remaining cost of a nutritious diet to the household varies only minimally (+39Tk/ +0.8% per month). If the value of the 4.5kg of peas had instead been given in cash to the household, the remaining cost of a nutritious diet would have reduced substantially (-202Tk/ -3.9% per month)

Figure 9: Monthly cost of a nutritious diet with reselling part of the GFD ration

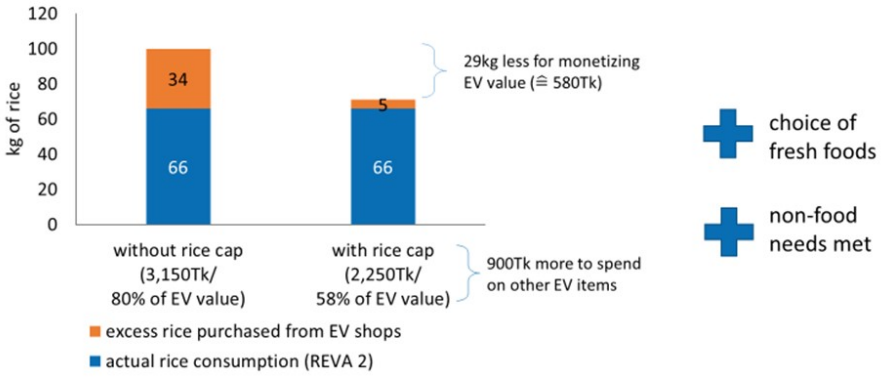


Capping share of the EV value that can be spent on rice at the EV shops (effective for 63% of EV households in October 2019) could reduce reselling and increase cost-efficiency of food assistance to provide nutrition, see Figure 10. The average household currently spends 80% of their EV on rice, equivalent to 100kg of rice for a five-person household. Actual rice consumption is much lower at 66kg per household. Hence, households purchase approximately 34kg of excess rice for monetization. The rice cap of 58% of the EV value is equivalent to 71kg of rice per month for a five-person household, i.e. 66kg for own consumption and 5kg excess, a reduction of excess rice purchases by 29kg. This rice is worth 580Tk at current reselling rates of 1,000Tk per 50kg rice. On the other hand, Rohingya have previously spent 900Tk to purchase these 29kg of rice at a price of 1,550Tk per 50kg of rice at the EV shops. In other words, the monetization of rice means a value loss of about 35% or 320Tk. If households could spend this money on the items that meet their needs and preferences at the EV shops, the value loss could be adverted.

However, to be effective the rice cap should be accompanied by increasing the offering of fresh foods at EV shops, behavior change communications, and strengthened measures to meet the non-food needs that may be part of the reason for reselling.

Figure 10: Effect of rice capping on the ability to purchase rice for home consumption and monetization

Assumptions: price per 50kg of rice being re-sold: 1,000Tk; price of 50kg of rice at the EV shop: 1,600Tk



6. Households' vulnerability varies by their composition. Nutritionally vulnerable individuals need targeted support.

CotD modelling by age and sex across the lifecycle shows that adolescent girls and adult women are the most nutritionally vulnerable (Figure 11). Their biological nutrient needs, which are higher than for men of the same ages, and the higher cost of nutritious foods (especially those containing iron) compared to staple foods means they are the individuals most at risk of not meeting their nutrient requirements.

Households with higher average age (that is, with more adolescents and adults compared to children) and a larger share of females among household members also have higher food and nutritional needs. CotD estimates were done for households of different compositions to The proposed MEB is not sufficient to cover the cost of a nutritious diet for households with more adolescent and female members (Figure 12) but is sufficient to cover the needs of households with only male members and households with younger children only.

Figure 12: Average monthly per capita cost of a nutritious diet (in BDT) by different household compositions compared to the MEB

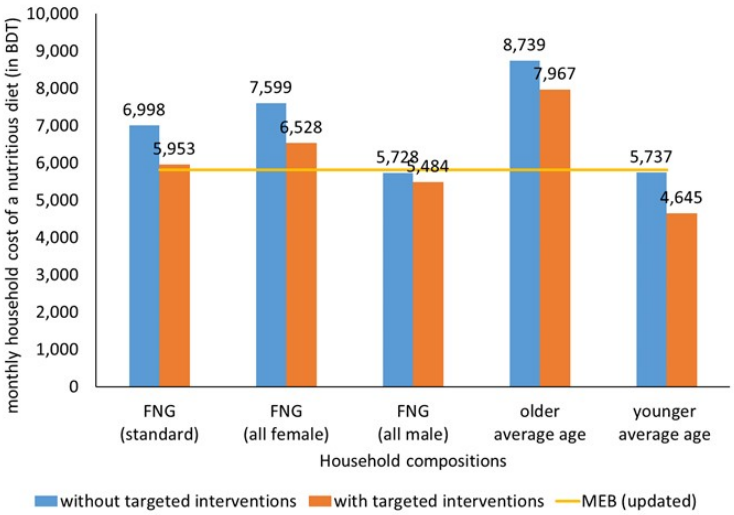
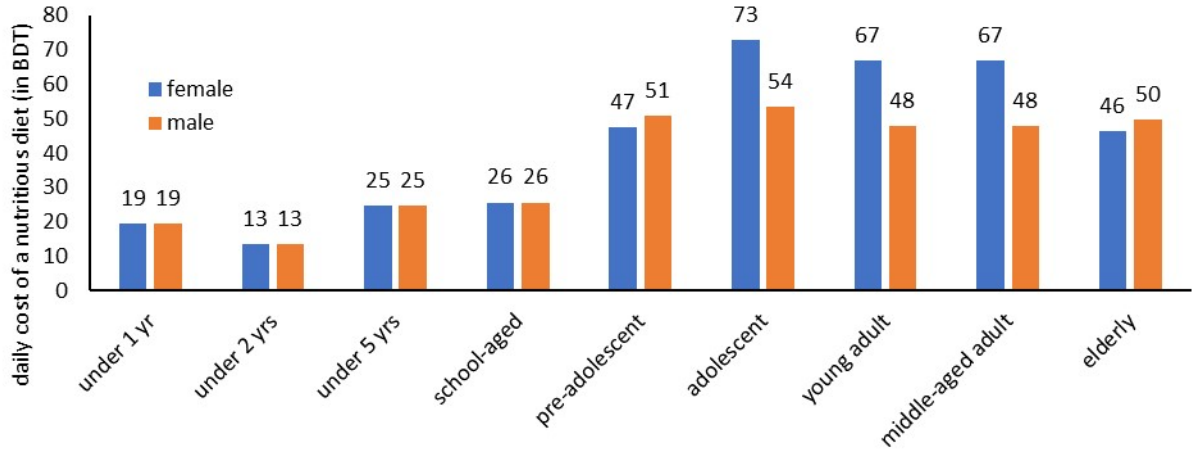


Figure 11: Daily cost of a nutritious diet by age group and sex



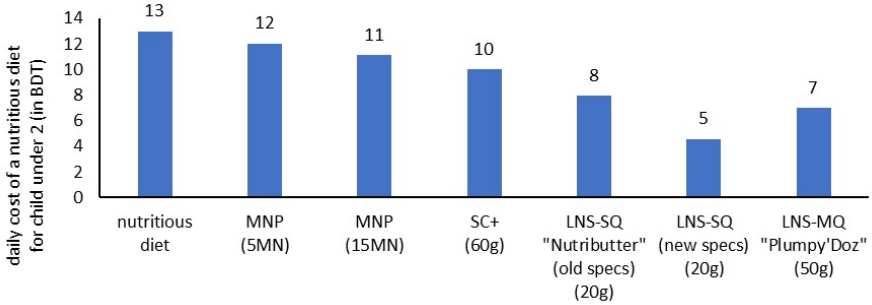
7. Supplementary Feeding Programs provide essential nutrients to children under 5

Minimum acceptable diet (MAD) is too low both for Rohingya and Bangladeshi young children, mostly due to insufficient dietary diversity (6,11), which means their micronutrient intake is too low. Barriers to optimal breastfeeding and complementary feeding that exist at individual, household, community and institutional levels (e.g. reported practice of complementing breast feeding with formula milk, lack of prioritization of mothers in intra-household food allocation, poor WASH, and insufficient child care information and support services provided to both mothers and fathers) also need to be addressed to improve nutrient intakes of young children.

BSFP adds a nutritious food to the diet to improve intake of essential nutrients. BSFP serves over 166,000 children under 5 and 35,000 PLWs per month. Concerns about utilization of Super Cereals has prompted thinking about possible alternatives.

Assuming the Super Cereal plus ration of 200g per day is shared among household members resulting in 60g per day consumed by the child, for the child aged 6-23 months, 20g per day of LNS-SQ (if not shared) would most effectively reduce the cost of his or her nutritious diet (by 65%, compared to 23% for Super Cereal plus). For the child aged 24-59 the Super Cereal plus or the LNS-SQ would have similar impacts (about 40% reduction) while LNS-MQ would be the most effective (50% reduction).

Figure 13: Daily cost of a nutritious diet for a 12-23 months old child with different supplementary feeding options



8. Targeted interventions for women and girls can reduce the cost of a nutritious diet for the household.

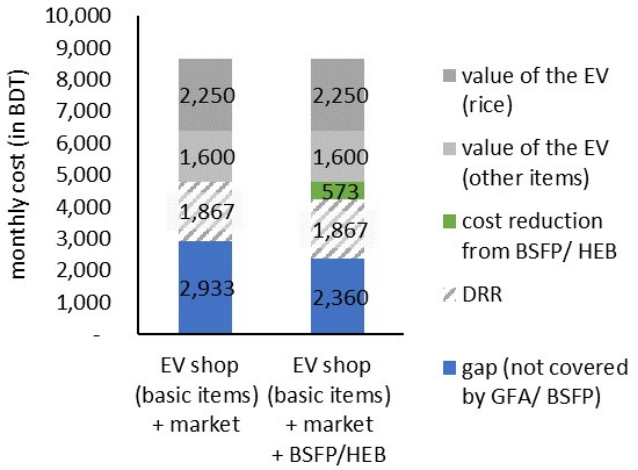
Insufficient data and information on the nutrition and protection risks faced by younger (10-14 years) and older (15-19 years) adolescent girls and boys makes programming for these groups difficult. The evidence suggests that negative coping strategies such as early marriage (for girls) and child labour (for boys), limited education and life opportunities, and low agency, particularly of girls, render these groups socio-economically vulnerable (3,12–14). This is compounded by their nutritional vulnerability, which is the highest in the household according to CotD analyses (Figure 11 above).

BSFP and micronutrient supplementation provide essential nutrients and can substantially reduce cost of a nutritious diet for PLW and adolescent girls. From the program modelled (BSFP with Super Cereal, calcium supplementation, iron and folic acid supplementation, Multiple Micronutrient Supplementation [MMS]), a daily dose of MMS was found to have the greatest impact on the cost of the nutritious diet, reducing it by 38% for the adolescent girl and by 45% for PLW. A combination of targeted interventions (e.g. BSFP for children under 5 and PLW, IFA for adolescent girls, and HEB for school-aged children) reduce the cost of a nutritious diet of the household to around the level of the proposed MEB, except if the household is composed of more female members or has more adolescents (see Figure 12).

As illustrated for Bangladeshi households in Section 3, combining household and individually targeted interventions substantially reduces the remaining cost of a nutritious diet to those households dependent on humanitarian assistance for their survival (Figure 14).

9. A daily meal provided at a learning center or school supplies essential nutrients to the school-aged child. Fresh school meals could create demand for foods produced by local smallholder farmers, kitchen gardens, or community fish ponds.

Figure 14: The remaining cost of a nutritious diet for the household after a range of household and targeted interventions



Learning facilities and schools contribute to reducing the significant nutritional and protection-related risks affecting children. Daily meals consisting of high energy biscuits (currently distributed in learning centres and Ukhia schools) or of fresh foods (currently being rolled out in Teknaf schools) could reduce the cost to the household of providing a nutritious diet to the school-aged child, and hence reduce their risk of nutrient deficiencies. Fresh school meals promote healthy food habits and could include a combination of locally available, varied ingredients such as fortified rice, lentils, eggs, dried fish powder and green leafy vegetables to provide high micronutrient content at a low cost.

The newly approved national school meal policy sets a target of meeting 50% of the children's daily micronutrient requirements through school meals, assuming the school meal will be the most nutritious meal of the day for the child. Possibilities to link with local food producers could be explored, e.g. through purchasing fish from fish ponds or vegetables from kitchen gardens, which could contribute to stimulate the local economy, raise incomes, and generate employment and livelihoods opportunities.

Recommendations

During the dissemination workshop in October 2019, participants developed recommendations based on the FNG findings.

Reducing need at household level		
Reselling must be understood as a negative coping mechanism that many are indirectly forced to use to meet their food and non-food needs. The majority of households among both Rohingya and Bangladeshi communities have a need for and would like to increase consumption of fresh foods, including leafy vegetables, orange/red fruits and vegetables, and animal source foods including fish, eggs, chicken, meat. However, they lack the resources to be able to afford them.		
Recommendation	**Programmatic changes**	**Coordination**
1. Freedom of choice should be protected and promoted through General Food Assistance (GFA). GFA should enable access to nutritious foods.	Increase diversity and quantity of fresh foods in EV shops in 2020.	Food security Nutrition WASH Livelihoods Self-reliance
	Explore how to reduce food loss at the household level in the camps (e.g. due to rodents/floods), including how to improve food storage.	
	Explore how to enable the Rohingya to access local markets in 2021.	
	Continue to set DRR rates in line with local labour market wages.	
	Increase the livelihood and income-earning opportunities for the most vulnerable Bangladeshi households.	
	Ensure access to fresh food for those Rohingya who will continue to rely on GFD for the foreseeable future through Complementary Food Vouchers & Farmers market initiatives.	
2. Refine GFA to better meet the needs of all households, enable the choice of nutritious foods and reduce negative coping strategies.	Explore whether the GFA could be adjusted (communications, logistics) to better meet needs of households with varying composition (e.g. more adults, more female).	Food security Nutrition Gender Protection Communications All sectors
	Better integrate gender and protection considerations in 2020's planning and activities.	
	Ensure that basic food and non-food needs that drive reselling are understood and better met.	
	Improve knowledge and information to promote demand for nutritious foods.	
3. Ensure quality messaging about healthy food choices and preparation methods, raise awareness about nutrition amongst households and encourage the use of income towards nutrition.	Understand drivers of the Rohingyas' food choices and use this understanding to inform a social and behavioral change approach, including cooking demonstrations.	Food security Nutrition WASH Education Livelihoods Self-reliance Communications
	In 2020, enhance messaging on nutrition, for example through vegetable gardening in schools and learning centres.	
	In 2021 and beyond, engage with the way disposable income generated by beneficiaries is used, and steer it towards purchases for a nutritious diet respecting freedom of choice.	
4. Improve the nutrient content of diets through rice fortification (continue in Bangladeshi communities, explore in cam settings)	Determine how best to introduce fortified rice in the camps, both through GFD and EV-shops (communication, logistics)	Private sector Agriculture Nutrition Self-reliance
	Roll out rice fortification gradually while carefully monitoring the response.	
	Assess whether there are opportunities to improve the rice supply chain locally and upgrade practices at the farm level for general rice supply and fortified rice specifically.	
	Increase fortified rice production in Bangladesh for sufficient quantities to be available.	
5. Develop a self-reliance, livelihoods, and skills development strategy to increase production and access (increased purchasing power) to nutritious foods	Starting in 2020, optimize fresh food production through innovative farming techniques suitable for small spaces and seasonal changes as well as food preservation.	Food security Nutrition WASH Livelihoods Self-reliance Communications Private sector
	Increase multisectoral coordination to harmonize the support provided to households engaged in self-reliance and livelihoods.	
	Ensure livelihoods and skill development activities for women and men are well planned to link and respond to market needs and opportunities.	
6. Improve awareness of nutrition amongst sectors and strengthen coordination	Place nutrition in focus for humanitarian planning for 2020-2021.	All sectors Communications
	Seek out opportunities to strengthen coordination among sectors, including nutrition, food security, education, gender, and others.	
7. Promote understanding between Bangladeshi and Rohingya communities	Advocate against and correct misinformation regarding the assistance provided to the Rohingya, and its utilization, vis-à-vis national stakeholders and the general public.	

Addressing individual vulnerabilities by complementing the GFA		
Children under-2 and children aged 2-<5 years— Low dietary diversity and undernutrition (wasting, stunting, micronutrient deficiencies) is widespread among young Rohingya and Bangladeshi children. They currently receive nutrition support in the form of SuperCereal plus (SC+), but programmatic changes are required to maximize nutritional impact.		
Recommendation	**Programmatic changes**	**Coordination**
8. Adjust program design to maximize nutritional impact among children under 5.	Assess whether ○ SC+ is liked by Rohingya children and their caretakers, and whether it is fed to the children as per recommendations. ○ Reducing the amount of SC+ and replacing it with another SNF could have a better impact, given preferences and utilization.	Nutrition Food security
	Offer cash or different options for special foods for young children in the EV shops and give household with young children a special allocation to choose from those	
	Learn from the experience on IYCF and IEC in the registered camp, to understand which had the most effect and design the best activities.	
School-aged children—Learning centers (Rohingya) and government schools (Bangladeshi) with school meal programs can help retain children in school and guarantee that a certain level of their daily nutrient requirements are met.		
Recommendation	**Programmatic changes**	**Coordination**
9. Fresh school meals should be supported, promoted, and enabled.	Support the rolling out of context-appropriate fresh school meals in Teknaf schools, in line with the national school meals policy	Education Livelihoods Self-reliance Food security Nutrition
	Advocate for and analyze feasibility of replacing or supplementing high energy biscuits with fresh meals in other areas (camps, Ukhia).	
	Establish links with local food producers, e.g. Bangladeshi EFSN and Rohingya self-reliance groups	
10. Looking ahead to 2021, school meals could serve as a platform for further nutrition-sensitive interventions.	Increase the nutritional value of school meals through using fortified rice and/or adding fish powder or MNPs	Education Private sector Agriculture Livelihoods Self-reliance Food security WASH
	Explore possibility of producing fish locally and benefit from linking local producers and schools (directly or through markets).	
	Advocate for further funding for school meals to expand to early child development centres and secondary schools.	
	Collect data on the nutritional status of school-age children.	
Adolescents—Adolescents are among the most nutritionally vulnerable in the population, especially girls. In addition, adolescent boys and girls face protection risks, both in and outside of the camps.		
Recommendation	**Programmatic changes**	**Coordination**
11. Adolescent girls and boys aged 10-19 need to be prioritized by the humanitarian response.	Strengthen collection and analysis of age and sex disaggregated data for 10-19 years old girls and boys.	All sectors
	Increase understanding among stakeholders of adolescent boys' and girls' nutritional and socio-economic vulnerabilities.	
12. Services to adolescents and humanitarian coordination to meet their needs should be improved.	Scale up adolescents' clubs and adolescent friendly spaces (now 100) and use them as platforms for nutrition interventions and micronutrient supplementation.	Nutrition WASH Gender Protection Health Self-reliance Livelihoods
	Include life skills building, SRHR, WASH, education, nutrition counseling and promotion of gender equality and girls' empowerment as part of the services to adolescent boys and girls building on Concern's needs assessment.	
	Provide multiple micronutrient supplements to girls	
	Identify platforms to reach married, pregnant, or lactating adolescent girls who may not participate in adolescents' clubs.	
	Involve the parents when working with adolescent girls and boys.	
	Assess needs and map actors who are working with adolescents (on any topic), so as to improve coordination and identify entry points for collaboration with other sectors.	
	Consider an adolescents sub group in PLAN International and UNFPA's new Youth Working Group	
13. Awareness about adolescents' rights and needs should be promoted at community level.	Sensitize the community about the need for adolescents (especially girls) to attend proposed activities.	Communications Education Protection Gender
	Promote understanding among adolescent girls and boys themselves about their nutritional needs and human rights.	
	Undertake community-based gender equality and child protection activities.	
	Understand who key influencers are on adolescent's decision-making and health.	
	Develop IEC/SBCC tools for and with adolescents and key influencers on salient topics.	

Pregnant and lactating women and girls (PLWG) - Pregnant and lactating women and girls have specific nutritional needs that require targeted programme responses.		
Recommendation	**Programmatic changes**	**Coordination**
14. Increase the effectiveness of BSFP for PLWGs by addressing the low acceptability of Supercereal.	Continue SC for the first quarter to half of 2020 while GFA e-vouchers are expanded to all Rohingya in the camps.	Nutrition Health Food security
	Add MMS supplementation starting in 2nd quarter of 2020 to complement fresh food options	
	Switch from SC to supplementary PLWG food voucher to increase access to fresh nutrient-dense foods once the e-voucher system is working well for all.	
	Test acceptability of LNS as well as other ready-to-eat nutritious foods for malnourished PLWGs during 2020	
	Continue to use IFA, not MMS, for the host community in accordance with national-level policy.	
	Advocacy at national level for the use of MMS for better nutrition and birth outcome	
	Roll out of a targeted communication in the host community to address healthy eating practices.	
15. Better data and information on adolescent girls who are pregnant or lactating is necessary to better serve this population.	Disaggregate data on reproductive history, which are collected among women aged 15-49 years, by age, to assess trends among adolescents.	Nutrition Health Gender
	Assess to what extent pregnant and lactating girls have access to, and utilize, health care services	
	Explore how to better deliver health care services to pregnant and lactating girls building on BRAC's community-based, outpatient health services.	
Older persons and other vulnerable groups—Older persons (60 years+) constitute 3-4% of the camp population. They have pressing nutrition, health and protection needs that need to be addressed. Older people are often responsible for grandchildren and face more challenges than adults in accessing assistance. They are currently underserved by the humanitarian response.		
Recommendation	**Programmatic changes**	**Coordination**
16. The humanitarian system must make efforts to better serve older persons and address their needs.	Improve data on different vulnerabilities of older men and women.	Nutrition Health Gender Protection Livelihoods Self-reliance
	Ensure health and other services are responsive to the specific needs of older men and women.	
	Ensure effective communication of information to older persons.	
	Promote understanding of the dietary needs of older people.	
	Use elderly-friendly spaces as entry-point for nutrition and health referrals and interventions building on the work done by HelpAge International on tackling service access barriers for older persons.	
	Address malnutrition among older men and women.	
17. Fill information gaps regarding the size and needs of other vulnerable groups, e.g. women-headed households, people with mental and physical disabilities and chronically ill persons.	Explore the needs and collect data on other vulnerable groups in 2020, regarding: o The adequacy of nutrition services and referrals for people living with HIV and TB patients (BRAC) and other disabilities. o People, including older persons, with severe denture problems that inhibit adequate chewing and swallowing of food o Specific needs for households, including female headed and those with people with disabilities) with limited or no able-bodied member that can: a) participate in earth work and other DRR work for additional cash, or b) participate to the area-based night watches (and therefore have to make cash contributions)	
	Review the porter services in relation to catchment areas for specific distribution centers and e-voucher shops to ensure home delivery for all vulnerable households.	

List of Acronyms

BSFP	Blanket Supplementary Feeding Programme
CotD	Cost of the Diet
DRR	Disaster Risk Reduction
EFSN	Enhancing Food Security and Nutrition
EV	E-voucher
FNG	Fill the Nutrient Gap
GFA	General Food Assistance
GFD	General Food Distribution
HEB	High Energy Biscuits
HIES	Household Income and Expenditure Survey
IEC	Information, Education and Communication
IFA	Iron and Folic Acid Tablet
IFPRI	International Food Policy Research Institute
IYCF	Infant and Young Children Feeding
IYCF-E	Infant and Young Children Feeding in Emergencies
LNS	Lipid-based Nutrient Supplement
LNS-MQ	Lipid-based Nutrient Supplement, medium quantity (50 g/d)
LNS-SQ	Lipid-based Nutrient Supplement, small quantity (20 g/d)
MAD	Minimum Acceptable Diet
MEB	Minimum Expenditure Basket
MMS	Multiple Micronutrient Supplement
MNP	Multiple Micronutrient Powder
PLW	Pregnant and Lactating Women
PLWG	Pregnant and Lactating Women and Girls
REVA	Rohingya Crisis Emergency Vulnerability Assessment
RRRC	Refugee Relief and Repatriation Commissioner
SBCC	Social and Behavior Change Communication
SC	SuperCereal
SC+	SuperCereal Plus
UNICEF	United Nations Children's Fund
VGD	Vulnerable Group Development
WASH	Water, sanitation and hygiene
WFP	World Food Programme

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