SAVING LIVES
CHANGING LIVES

Refugee influx emergency vulnerability assessment (REVA)

Cox's Bazar, Bangladesh

Partners who supported data collection

WFP
World Food Programme

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BRAC	Bangladesh Rural Advancement Committee
ECMEN	economic capacity to meet essential needs
FCS	food consumption score
HESPER	Humanitarian Emergency Settings Perceived Needs Scale
IOM	International Organization for Migration
LPG	liquid petroleum gas
MDDI	multi-dimensional deprivation index
MEB	minimum expenditure basket
MPCG	Multi-Purpose Cash Working Group
NGO	non-governmental organization
PPS	proportional to size
REVA	refugee influx emergency vulnerability assessment
RIC	Resource Integration Centre
SMEB	survival minimum expenditure basket
UNHCR	United Nations High Commissioner for Refugees
VAM	WFP's Vulnerability Analysis and Mapping Unit
WFP	World Food Programme

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The REVA report was prepared by Geophrey Sikei, Mahathir Sarker, and Marie Enlund (VAM Cox's Bazar), with support from Mohammad Mahabubul Alam (VAM Dhaka) and Tom Clark (VAM RBB).

1. Introduction

Since the 1970s, members of the Rohingya community have fled to Bangladesh to escape waves of violent persecution in Myanmar. The largest influx of refugees occurred in August 2017 when about 745,000 people, including more than 400,000 children, arrived in the Ukhia and Teknaf sub-districts of Cox's Bazar. According to a recently concluded reverification exercise by the Government of Bangladesh and the United Nations High Commissioner for Refugees (UNHCR), Rohingya refugees in the two sub-districts now number approximately 859,161 – almost double the Bangladeshi population.[1] All the refugees remain highly dependent on external life-saving humanitarian assistance.

The influx is perceived to have put considerable pressure on the local economy, affecting the livelihoods of the Bangladeshi population. The situation remains challenging for both the refugees and the host communities. At present, the entire refugee population and about 444,000 members of the adjacent Bangladeshi communities are in need of assistance.[2]

The Rohingya influx Emergency Vulnerability Assessment (REVA) conducted in 2017 estimated that 80 percent of the refugee population were highly or entirely reliant on life-saving assistance; this figure rose to 88 percent in the 2018 REVA. Three years since the influx, although the situation has stabilized and all refugees continue to receive humanitarian assistance, they face major challenges, particularly the lack of regular income and livelihood opportunities. Poor diets, a lack of formal education insufficient health, water, sanitation and hygiene (WASH) provisions also remain major challenges.

In December 2019, the World Food Programme (WFP) joined with partner organizations to conduct a data collection exercise for the third round of REVA to understand the current food security, nutrition and socio-economic vulnerabilities of refugee and host community households from an essential needs' standpoint. The exercise was led by WFP's Vulnerability Analysis and Mapping (VAM) unit and coordinated through the Food Security Sector in Cox's Bazar. This report examines the main findings of the assessment and presents recommendations for improving the humanitarian response to the crisis.

2. Assessment objectives

The main objectives of the assessment were as follows:

- Assess the severity of food insecurity and other essential needs of Rohingya refugees and communities adjacent to the camps, including trends since the influx;
- Profile the food insecure and the most vulnerable groups and examine trends since the influx; and
- Provide recommendations for addressing priority needs and targeting.

Many partners, including UNHCR, Action contre la Faim (ACF), World Vision, Save the Children, Resource Integration Centre (RIC) and Bangladesh Rural Advancement Committee (BRAC) supported the implementation of this assessment.

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[1] UNHCR fact sheet: https://data2.unhcr.org/en/situations/myanmar_refugees

[2] Inter Sector Coordination Group, IOM, UNHCR and the United Nations Resident Coordinator for Bangladesh. 2020. *2020 Joint Response Plan: Rohingya Humanitarian Crisis*. https://reliefweb.int/report/bangladesh/2020-joint-response-plan-rohingya-humanitarian-crisis-january-december-2020.

3. Methodology

3.1 Sampling strategy

The sampling methodology was designed based on when refugees arrived in the camps (time dimension) and their placement in the sub-districts of Ukhia and Teknaf sub-districts, using the UNHCR database on refugee registration by year of arrival and the International Organization for Migration (IOM) database, which tracks the movement of people within the camps. The assessment covered new arrivals since 25 August 2017, unregistered refugees who arrived prior to August 2017, officially registered refugees residing in Kutupalong and Nayapara camps, and host community households in Ukhia and Teknaf (see table 1). Fuelled by recent repatriation fears and news regarding the potential relocation of some refugees to Bhasan Char, there had been some population movement driven by panic before the survey and as such, it was deemed inappropriate to use geographic location alone as a stratum.

As an exhaustive and up-to-date sampling frame was not available, especially for newly arrived refugees and old unregistered refugees, a cluster sampling approach was adopted. This entailed, at the first stage, the random selection of clusters using sampling with probability proportional to size (PPS), with clusters being the sub-blocks. In the second stage, simple random sampling was used to select households for interviews. Updated household lists were generated with the help of WFP field implementing partners, a few days before the actual data collection day. For the registered camps, the updated UNHCR list of households was used for simple random sampling of households.

Table 1: Sample size determination

Stratum	Sample	Two-stage cluster (95%, +-5) + design effect 1.5	Ratio	Achieved
New influx since 25 August 2017 in settlements	1300	(Inflated sampling)	0.48	1259
Old refugees – unregistered before Oct 2016	250		0.09	276
Old refugees – registered	680		0.25	672
Host communities in Ukhia (rounded up to 250)	250		0.09	280
Host communities in Teknaf (rounded up to 250)	250		0.09	215
Total	2730		1	2701

3.2 Method of data collection

This study was conducted using a blend of quantitative and qualitative approaches. Thirty-five enumerators were recruited and trained by the WFP VAM team. The enumerators were divided into six groups to cover different geographic catchments (see Annex 1 for the catchment map). Each team comprised five enumerators and one supervisor. UNHCR, together with WFP cooperating partners World Vision, Action contre la Faim, RIC, BRAC and Save the Children, supported data collection by providing field volunteers to guide the enumerators and support them in identifying households in the camps.

Besides quantitative data collection, key informants were identified and interviewed on the different dimensions of the study. The interviews were based on broad questions to allow for pertinent issues to emerge through discussion. In addition, 19 focus group discussions were held with Rohingya refugees and the Bangladeshi community to help assess opinions on various aspects of the study. Useful insights were generated to complement some of the findings from the quantitative analysis.
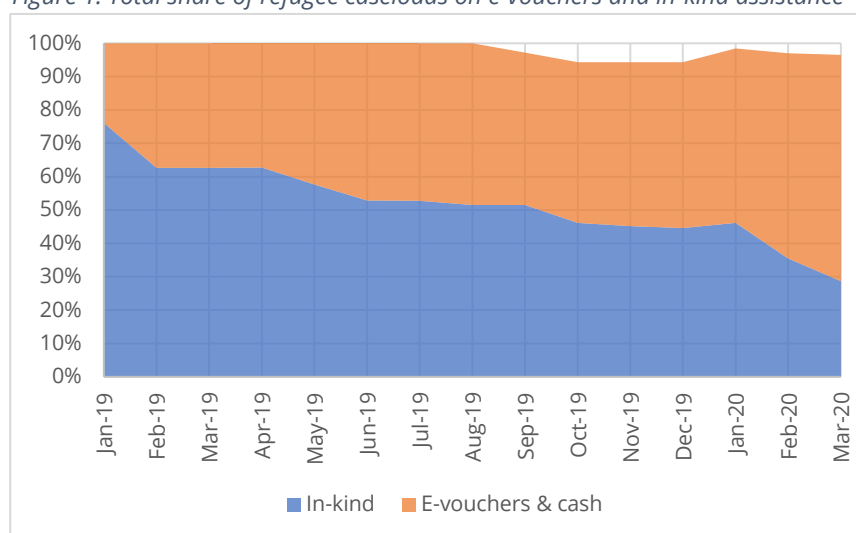
4. Findings

4.1 Transformational humanitarian landscape moving towards a market-based response

The Rohingya refugee crisis is increasingly taking a protracted angle. At the same time, as highlighted in the 2018 REVA report, the socio-economic environment in and outside the camps continues to evolve, with refugees developing more diverse food and non-food needs and the supply side stream becoming better organized. It is estimated that the camp economy generates annual turnover that runs into millions of US dollars,[3] with businesses run by the locals driving a huge portion of the revenue.

As the camp economy becomes more vibrant, refugees and the host community play a critical role in shaping the economic context around the camps. Earlier studies[4] have found significant economic interaction between the enterprises and individuals inside and outside the Rohingya refugee camps, including through the various types of business relationships the enterprises have with their suppliers, clients and employees. These interactions suggest that some level of trust and (at least semi-) permanence exists in the relationships between the two communities.

Figure 1: Total share of refugee caseloads on e-vouchers and in-kind assistance

In this context, the humanitarian landscape is shifting towards a market-based approach to support the access of crisis-affected populations to affordable, quality goods and services that are critical for their survival. At the forefront of this shift is WFP's decision to **transition all refugees from in-kind assistance to electronic value vouchers (e-vouchers)**, a move meant to increase refugees' choice and welfare while strengthening market linkages between the camp and host economies. At present, more than 70 percent of the refugees receive assistance through e-vouchers (figure 1). The modality is delivered through WFP-contracted retail outlets akin to supermarkets and provides beneficiaries with access to over 20 food items including fresh produce, thereby enhancing choice and dignity in assistance.

Building on monitoring reports of refugee households' shopping experiences and preferences, and based on recommendations from the 2018 REVA assessment, WFP introduced **fresh food corners** (a separate section within the retail outlets) and **farmers' markets[5]** (a separate market ecosystem), both designed to offer an array of fresh food items for refugees. Monitoring reports indicated that some customers unfamiliar with supermarket type-of set-up preferred to access fresh foods from the open-air markets in the camps, despite

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[3] WFP retail outlets alone have a turnover of USD 5 million a month.
[4] Rosenbach, G., E. Tiburcio., M. Filipski, P. Dorosh and B. Sen. 2018. Economic Activities of the Forcibly Displaced Rohingya Population: An Analysis of Business Enterprises in Southeastern Bangladesh. IFPRI-BIDS Working Paper (funded by WFP Bangladesh). https://www.ifpri.org/publication/economic-activities-forcibly-displaced-populations-analysis-enterprises-southern.
[5] Local retailers, small-holder farmers and traders provide fresh foods directly to refugees considered extremely vulnerable.

the low purchasing power they had. In the process, this was found to compromise their ability to access fresh foods available inside the retail outlets. The introduction of fresh food corners, which are more conspicuous, have proved effective in attracting customers and is increasing their routine purchase of fresh foods.

Moreover, the **farmers' markets** have been designed to mirror the conventional fresh food markets that many rural dwellers are typically accustomed to, such as the traditional markets found in many parts of southern Asia. The farmers' markets give refugees a near real-life shopping experience in a natural environment. This initiative is also meant to link smallholder farmers and micro and medium-sized retailers from the host communities with the refugees. The model seeks to demonstrate the economic opportunity generated when the transfer values provided to the refugees flow directly into the income streams of the local economy, thereby directly contributing to the income of the host community. The model also supports the redistribution of some spending away from the WFP retail outlets, which are managed by relatively large retail chains, towards the purchase of locally produced food, which also generates income for local communities.

While these initiatives are having some positive impact, more general improvement in the welfare of refugees is hindered by the limited economic and livelihood opportunities within the camps. This, coupled with depleted savings and assets, means that refugees' purchasing power is gravely constrained. As a result, rather than optimizing the use of humanitarian assistance, which meets their immediate basic needs, refugees are resorting to increasingly high levels of negative coping strategies and cycles of indebtedness, continuing a trend reported in 2018.

As the Rohingya crisis continues, WFP and other humanitarian actors are refocusing their attention and emphasising the need to re-examine the humanitarian–development nexus to better address the critical needs of the crisis affected populations.
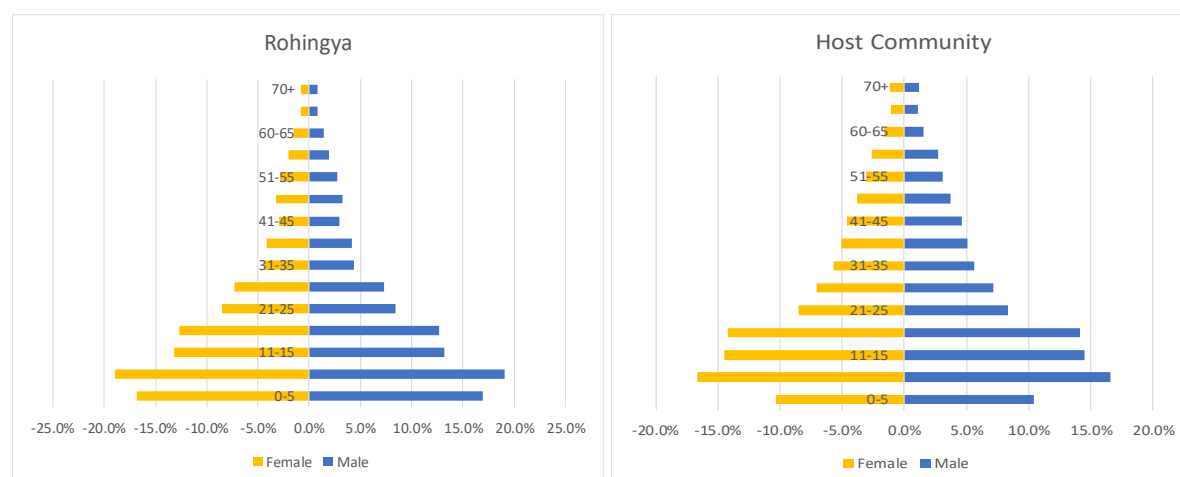
4.2 Demographics

Most of the refugee and Bangladeshi households interviewed were headed by men. The proportion of households led by women was slightly higher among the Rohingya than the Bangladeshi population.

For both groups, the majority of households were composed of between four and seven members. There was a slightly higher proportion of small families (with one to three members) among the refugee population.

The presence of vulnerable members within the household was comparable for both groups, with marginal differences in the numbers of disabled persons, unaccompanied minors, chronically ill members and single mothers. The proportion of disabled persons within the populations is relatively high, which is partly due to a recent change in the way disability is classified by WFP. Rather than referring to people as disabled, enumerators now ask respondents whether they have difficulty in

	Refugees	Host
Female household head	31%	20%
Male household head	69%	80%
Average household size	4.9	5.6
1–3 members	27%	9%
4–7 members	60%	78%
8+ members	13%	13%
Difficulties (disability)	27%	30%
Unaccompanied minors	2%	1%
Chronically Ill	15%	17%
Single mother	11%	8%
Children (under 5)	61%	53%
Elderly (60+)	9%	15%

performing the following key functions or activities: walking, seeing, hearing, cognition, self-care and communication. There are relatively few elderly household members among the Rohingya population but a high proportion of children under 5.

Figure 2: Population pyramid of Rohingya refugees and the Bangladeshi host community

The ratio of males to females in the refugee community was found to be 123:100 compared with 130:100 for the host community. However, a comparison of the population pyramid of the Rohingya community (figure 2) with that of the host community shows a substantially equal number of males, especially young adult males of working age. The concentration of the population (irrespective of gender) in the 0–15 age group is relatively higher for the Rohingya refugees (36 percent) than the host community (27 percent). The percentage of children under 5 is much higher for the Rohingya (16 percent) than the host community (10 percent). The large child population in the displaced communities potentially reflects a pattern of high birth rates and short life expectancy frequently found in developing nations.

4.3 Overall Vulnerability

Three composite indicators have been used to gauge vulnerability levels in the camps and within the host community: food consumption score, the adoption of high-risk coping strategies, and the economic capacity to meet essential needs (ECMEN). Each of these indicators is examined in subsequent sections of this report.

Figure 3: Overall vulnerability to food insecurity
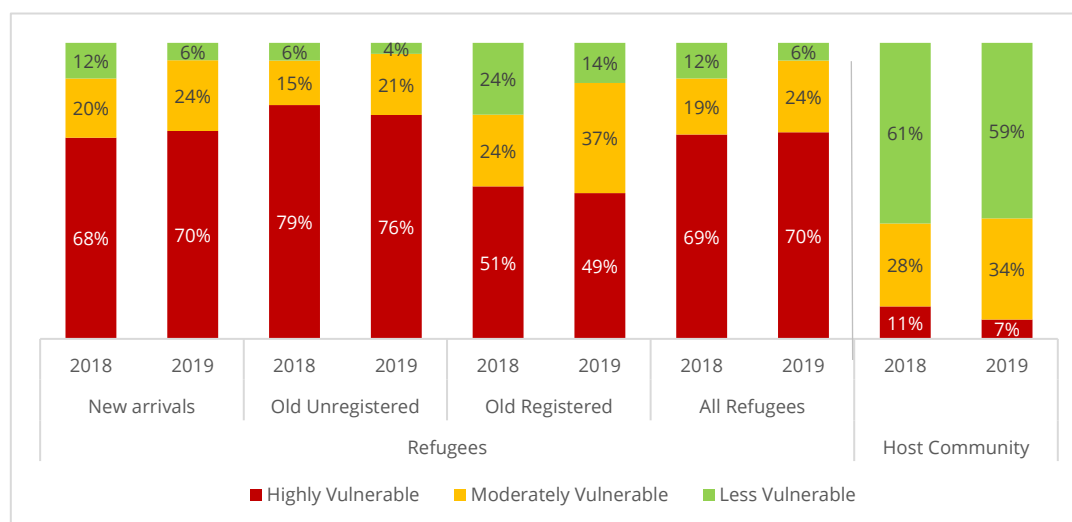
Levels of vulnerability remain high: **94 percent** of all Rohingya refugees are highly and moderately vulnerable and in continued need of humanitarian assistance to meet their basic needs. Multiple factors continue to drive high vulnerability including limited livelihood opportunities, restrictions on movement to search for income opportunities, depleted savings and asset stripping. Increasingly, Rohingya refugees are adopting unsustainable coping mechanisms, which exacerbate vulnerability. High vulnerability levels continue to be seen among unregistered refugees who arrived before August 2017 and new arrivals. Registered refugees are comparatively better off as they have better access to economic and livelihood opportunities and fewer restrictions on mobility. As assistance coverage is universal, no significant differences were observed between households headed by men and those headed by women.

Host community households are better off than refugee households across all dimensions of well-being. The vulnerability levels of the Bangladeshi households remain comparable to 2017 and 2018, at 41 percent. A higher share of households headed by women are vulnerable (52 percent) than those led by men (38 percent). Empirical studies in rural Bangladesh offer strong evidence of the link between women's vulnerability and socio-cultural factors.

As noted in the 2018 REVA, economic vulnerability is the major driver of food insecurity: almost half of the refugee population have consumption below the minimum expenditure basket (MEB), even with current levels of humanitarian assistance. Limited economic and livelihood opportunities, geographical isolation and limited access to alternative markets are some of the factors underpinning this outcome.

Who are the most vulnerable?

The REVA examines vulnerability along the socio-economic and demographic characteristics of the populations (table 2).

Table 2: Characteristics of the most vulnerable households

Profiles of the vulnerable and highly vulnerable	Rohingya	Host community
Demographics		
Female-head households		x
Presence of adolescent boys	x	
Presence of adolescent girls	x	
Large households (+ 5 members)	x	x
Presence of chronic ill	x	x
Household head separated		x
Presence of disabled		x
Presence of under 5 children (+ 3 under 5)	x	
Many children (+ 5 children)	x	x
Economic capacity/coping		
Absence of working age male	x	
Presence of female of working age		
Household with no income source past 30 days	x	
High dependency ration (>2)	x	x
No remittance	x	
Incurred debts/borrowing	x	
Assets		
Basic assets	x	x

x- correlations that were statistically significant at 5% level of significance.

Among the Rohingya refugees, the following household characteristics are associated with high levels of vulnerability: large household size (>5 members), presence of many children, presence of adolescent boys and girls, absence of working-age males, and presence of chronically ill and disabled members.

Having adolescent boys or girls in the household increases vulnerability. It is likely that adolescents are more likely to be exposed to risky economic and social behaviours. The absence of working-age males in the family implies lower household networking and earning capacities in the typically challenging conditions of the camp economy. Households with chronically ill members incur significant healthcare costs and are likely to forgo earnings if work days are lost by the sick individual or informal caregivers. Discussions with community members supported these assertions.

Access to at least one income source through engagement in a livelihood activity or via remittances is a sure pathway towards reducing vulnerability. In the absence of income sources, refugee households increasingly engage in unsustainable coping mechanisms (food and asset-based). While there are no stark differences in vulnerability between refugees receiving in-kind assistance and those receiving e-vouchers, the latter have relatively better and more diverse access to food items and are less likely to be involved in negative coping mechanisms such as selling assistance. The receipt of e-vouchers also appears to reduce the likelihood of a household perceiving themselves as poor: when asked to self-assess their level of well- being, 15 percent of refugee households on e-vouchers rated themselves as well off, compared with 10 percent of those receiving in-kind assistance. WFP is currently transitioning the entire refugee caseload to e-vouchers. The transition is reportedly boosting local markets and generating positive income spill-overs, especially for the Bangladeshi community. In a similar regard, the introduction of fresh food corners at retail outlets and farmers' markets has the twin objectives of boosting dietary diversity among refugee households and connecting local producers to the market in the refugee camps.

Among the Bangladeshi community, vulnerable households have similar demographic and socio-economic characteristics, although they make up a significantly smaller share of the population than among the Rohingya refugees. To mitigate the potential negative impacts of the influx, humanitarian actors and the

Government of Bangladesh have responded with increasing investments in economic and livelihood opportunities for the host community. Though still at a small scale, commendable efforts are being made to move beyond the humanitarian response to the crisis to development approaches that promote self-reliance and livelihood opportunities. In the evolving scenario, WFP recognizes the need for integrated programming that caters for the most vulnerable populations in the Bangladeshi and refugee communities alike.

4.4 Expenditures and Economic Vulnerability

Expenditure patterns

Figure 4: Expenditure patterns for Rohingya and Host community households
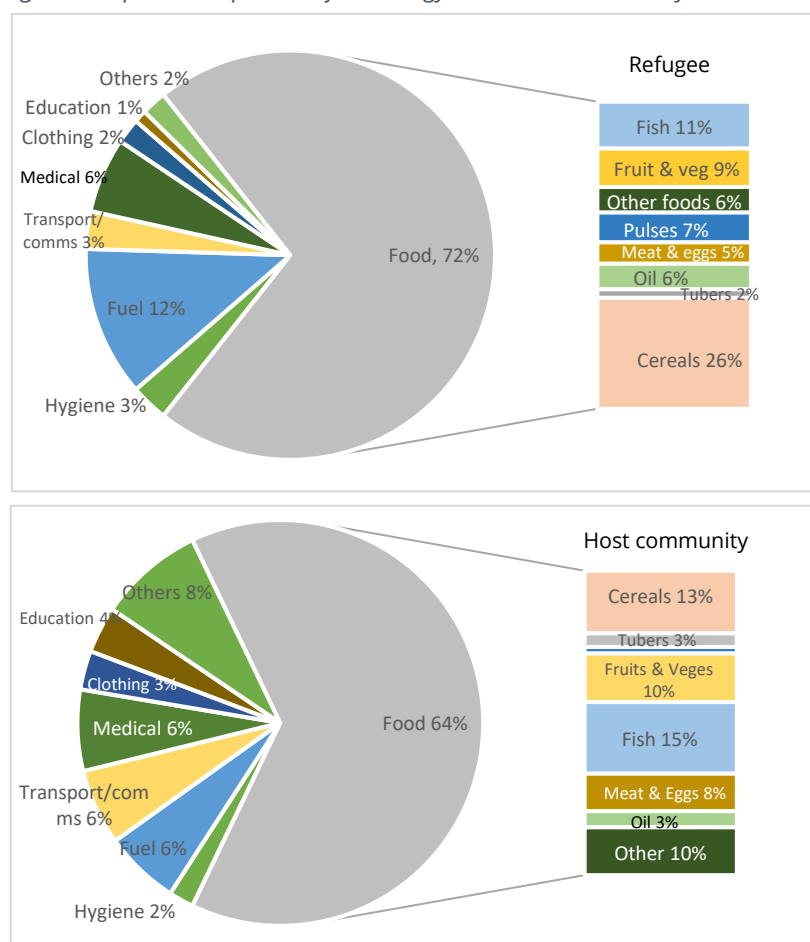
Similar expenditure patterns are observed for both Rohingya and Bangladeshi households, with a disproportionately high share of monthly expenditure on food – over 60 percent (figure 4). The major food expenses for the refugee households are cereals (26 percent of total food budget), fish (11 percent), fruits and vegetables (9 percent) and pulses (7 percent). These expenditures include imputed value of food assistance, to give an idea of the proportions in their monthly budget. The share of expenditure on food is 72 percent, which further underscores the high levels of vulnerability among the refugees, as this share is approaching the severe economic vulnerability threshold of 75 percent.

If we exclude the value of assistance for refugees and consider only actual purchase with the cash they have, the share of their expenditure dedicated to food drops from 72 percent to 62 percent (figure 5). With actual cash, they mainly expend on fish (21 percent of total food budget), fruit and vegetables (16 percent), and meat and eggs (8 percent). Actual expenditure on fuel has significantly dropped from 14 percent in 2018 to a mere 2 percent, mainly attributed to the scale-up of liquid petroleum gas (LPG) distribution as part of the assistance provided. Of concern is the relatively high expenditure by refugees on healthcare.

Figure 5: Expenditure patterns for Rohingya households (excluding estimated value of assistance)
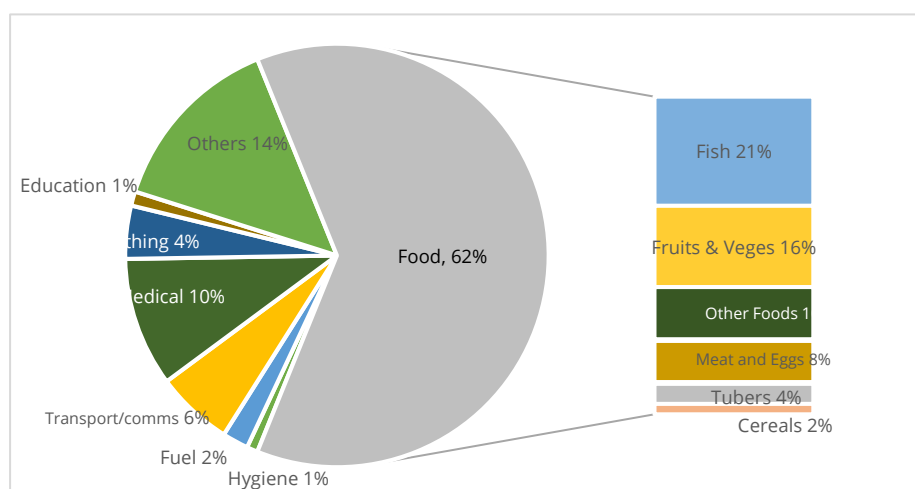
The aggregate consumption levels of the refugees are much lower than those of the Bangladeshi households (figure 6). Without the imputed value of assistance, Rohingya households spend an average 720 BDT (USD 9) per capita per month, similar to 2018 levels. Registered refugees have a higher monthly per capita expenditure of 958 BDT (USD 11). Bangladeshi households spend almost three times more per capita, illustrating a clear difference between the two groups in terms of consumption outcomes. These findings further highlight the important role assistance plays, and the fact that without it, most of the refugee population would not have sufficient resources to cover their basic needs.

Figure 6: Monthly household expenditures (per capita)

	New arrivals		Old unregistered		Old registered		All refugees		Host community
	WA	WO	WA	WO	WA	WO	WA	WO	
Total expenditure	1731	716	1592	635	1931	958	1731	720	2417
Food expenditure	1137	449	1104	425	1278	594	1139	453	1549
Non-food expenditure	594	265	488	208	653	362	592	267	868

WA = with assistance; WO = without assistance

Monthly per capita expenditure on food varies by assistance modality. In-kind beneficiaries have significantly higher expenditures on food than those who receive e-vouchers. In-kind assistance provides households with just three food items (rice, lentils and vegetable oil) while e-vouchers give beneficiaries access to as many as 20 food items. As discussed in more detail later in this report, beneficiary households who receive in-kind assistance are more susceptible to selling portions of their assistance for cash to buy other food and non-food items.[6] They are therefore more exposed to the higher food prices in the open camp markets, and as a result, spend more to buy food items, that are available at WFP retail outlets at a relatively lower price.

For both the refugees and the Bangladeshi community, households headed by women had significantly lower total expenditures, up to 20 percent less than households led by men. Households with chronically ill members were also found to have relatively higher non-food expenditures, plausibly due to high healthcare costs.

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[6] They are more exposed to unfavourable terms of trade by selling at low prices and facing high prices while buying other food items.

An examination of monthly per capita food expenditure by food group reveals that rice continues to dominate the diets of the refugee households (figure 7), accounting for 35 percent of the food budget, followed by fish (16 percent) and vegetables (12 percent). Marked differences are seen in the food expenditure patterns of newly arrived and older registered refugees: the latter have better access to fish, fruit and vegetables, and meat and eggs. Bangladeshi households allocate similar shares of expenditure to rice and fish and in general, they have better consumption outcomes: they also have much higher incomes than refugee households.

Figure 7: Monthly per capita expenditure by food group (share of food budget)
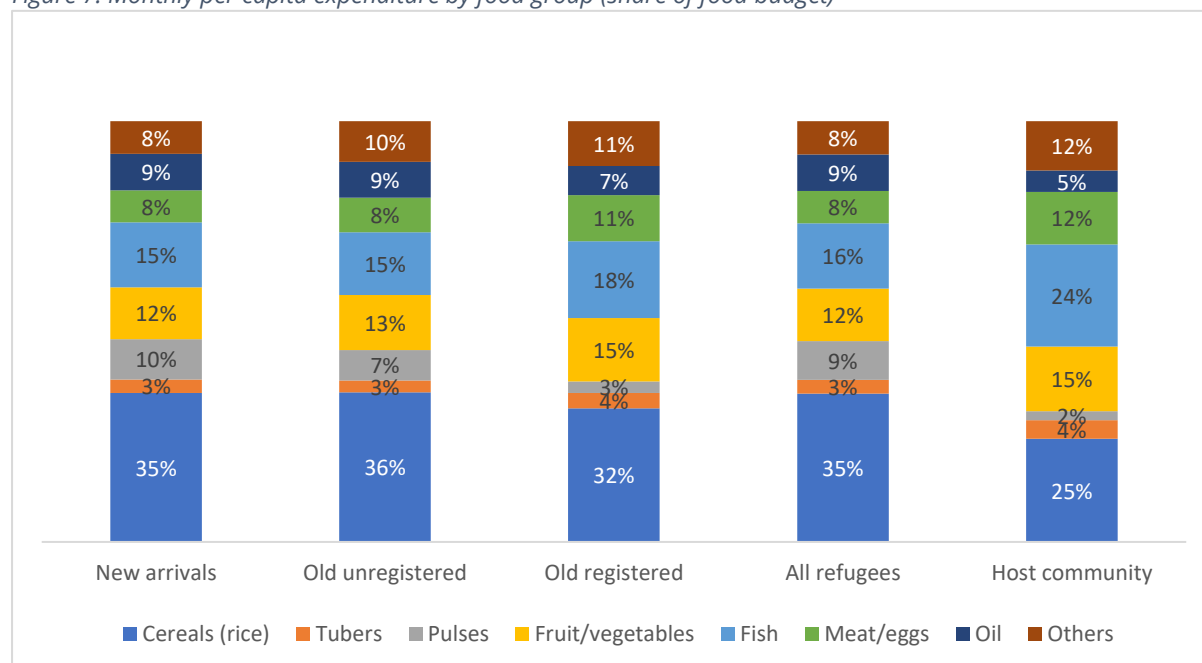
Economic vulnerability

As in previous rounds of the REVA, economic vulnerability has been estimated based on the ability of households to meet their essential needs using per capita Minimum Expenditure Basket (MEB) as a proxy indicator. The study adopted the MEB established by the Multipurpose Cash Working Group (MPCG) for Cox's Bazar in early 2018, adjusting it for inflation using December 2019 prices[7]. The current analysis, however, uses a lower threshold MEB than the one recommended in the 2018 REVA[8], in order to aid comparison with previous rounds of REVA**:** it therefore potentially underestimates economic vulnerability. A survival MEB (SMEB) or food MEB has also been established based on the monetary value of the WFP e-vouchers basket, which provides 2,100 kcal per capita.[9] Households have therefore been divided into three groups:

- Households with per capita expenditure below the SMEB/food MEB;
- Households with per capita expenditure between the SMEB/food MEB and the MEB; and
- Households with per capita expenditure above the MEB.

As in previous rounds of the REVA, two scenarios are used to assess economic vulnerability:
(i) the current economic vulnerability, which includes the monetary value of assistance; and
(ii) a hypothetical scenario which, by excluding the monetary value of assistance, aims to assess economic vulnerability if assistance were to be removed.

As discussed earlier, economic vulnerability is prevalent among the Rohingya refugees. Even with current level of humanitarian assistance, 46 percent of refugee households remain economically vulnerable, with consumption below the MEB (figure 8). Registered refugees are relatively better off, as 7 out of 10 households have consumption above the MEB. Having been around for much longer time, they have better access to resources and economic opportunities and are possibly more resilient to the camp environment.

The share of refugee households with consumption below the SMEB/food MEB has fallen dramatically, from 18 percent in 2018 to just 1 percent; this improvement is partly attributed to the transitioning of refugees from in-kind assistance to e-vouchers. However, overall vulnerability levels remain high, exacerbated by the increasing adoption of negative coping mechanisms. While e-vouchers give refugees access to multiple food items from WFP retail outlets, findings reveal their desire to access other essential food and non-food items that are not part of the assistance package. This drives refugees into adopting negative coping mechanisms, which affects their overall welfare.

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[7] The 2019 REVA, just like previous rounds, uses the MPCG MEB, adjusted for inflation at December 2019 prices to 7,508 BDT per family of five, to determine economic vulnerability.

[8] The 2018 REVA determined a new MEB of 8,681 BDT for a five-member household, endorsed by the Transfers Working Group in mid-2019. This remains the MEB value recommended for use by humanitarian agencies and will be reviewed at the end of 2020, with the threshold only adjusted for price changes. WFP's transfer value was revised from February 2020, based on the MEB recalculated in the 2018 REVA.
9 The MEB and SMEB thresholds are used as proxies for economic vulnerability to identify households that are unable to meet their basic needs.

Figure 8: Socio-economic vulnerability (including value of assistance)
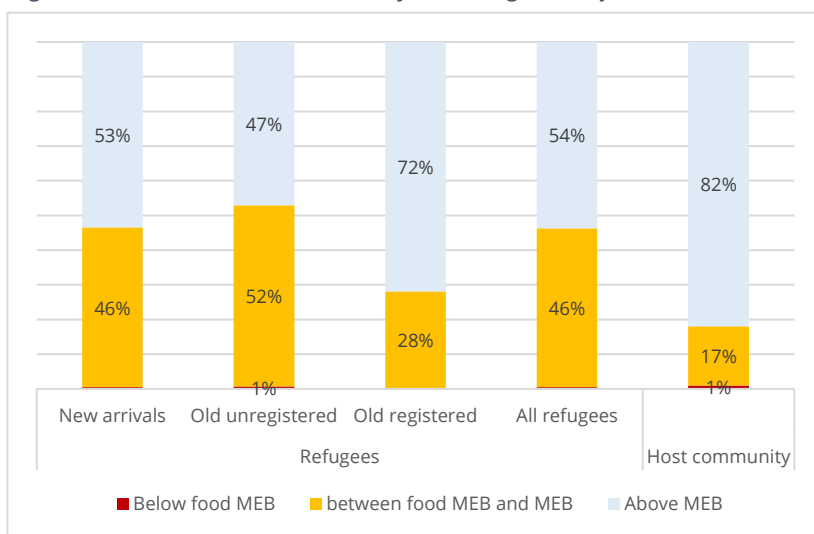
The simulated scenario (figure 9) underscores the importance of humanitarian assistance. If it was withdrawn, the share of refugee households with consumption below the SMEB and MEB would rise to 92 percent (7 percentage points more than in 2018). With depleted savings and no alternative income sources in sight, refugees would be much worse off without assistance. Economic vulnerability is comparatively low among Bangladeshi households.

Figure 9: Socio-economic vulnerability (excluding value of assistance)
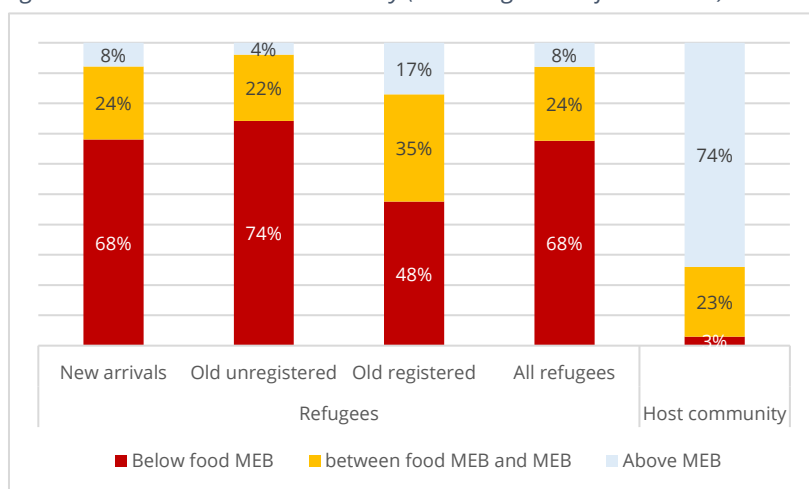

The potential negative impacts of the influx on the host population have been mitigated by the scale-up of development assistance to the affected regions by the Government and humanitarian actors. Currently over 400,000 members of the host community are receiving a range of services including economic and livelihood interventions, disaster risk reduction initiatives, and infrastructure development support. Cumulatively, these interventions are playing a critical role in cushioning the host community from the would-be negative impacts of the influx.

Subjective poverty: Respondents provided a general assessment of their current and past economic well-being (figure 10). Close to 9 out of 10 Rohingya refugee households considered themselves poor both in 2019 and a year earlier. Notably though, only 2 out of 10 households considered themselves poor five years ago, before the forced migration. In 2018 and 2019, the perception of poverty was higher among newer refugees than among those who had spent longer time at the camps. However, among the latter, there was little variation in their

Figure 10: Perception of monetary well-being over time
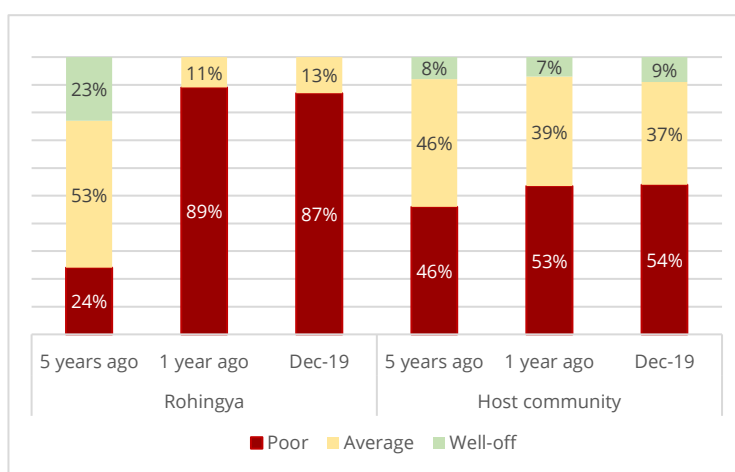
perception of poverty over the three comparator periods. Perceptions of poverty were found to be strongly correlated with expenditure-based economic vulnerability for the refugee households.

Around 50 percent of the Bangladeshi households considered themselves poor in December 2019 and a year earlier (an 8-percentage point increase from five years ago). However, self-declared poverty does not seem to match expenditure-based poverty. Data collected through household income and expenditure surveys (HIES) in 2010 and 2016 do not show increases in consumption poverty in the Cox's Bazar district, and there is no indication that real wages have declined in the past five years in the district[10]. These findings capture the fears of the host community about a potential decline in livelihood opportunities as a result of the influx.

An examination of perception-based poverty by income source reveals interesting dynamics. More members of the host community involved in casual labour (agricultural and non-agricultural) and unskilled wage labour declared themselves poorer now than before, compared to those in skilled wage labour and business/petty trade. This suggests that while those in casual labour worry about perceived competition in the labour market induced by the oversupply of refugee labour, skilled workers and those in business/petty trade see increased business and employment opportunities. Chambers (1986)[11] asserts that in rural areas affected by refugee crisis, members of the host community who are better off and more visible usually gain from the presence of refugees and from refugee programmes, while poorer members turn out to be hidden losers; this could potentially hold true in Cox's Bazar as well. To counteract this tendency, a clear targeting approach is needed when implementing livelihood programmes to ensure that the deserving poorer households are included.

Community perspective on vulnerable persons: Respondents were asked who they considered most vulnerable within their community (considering food security, economic status and protection dimensions). Their responses strongly correlate with measures of socio-economic vulnerability discussed earlier (figure 11). Single women, persons with disabilities, the chronically ill and the elderly were some of the groups considered most vulnerable.

Figure 11: Community perceptions of those most vulnerable
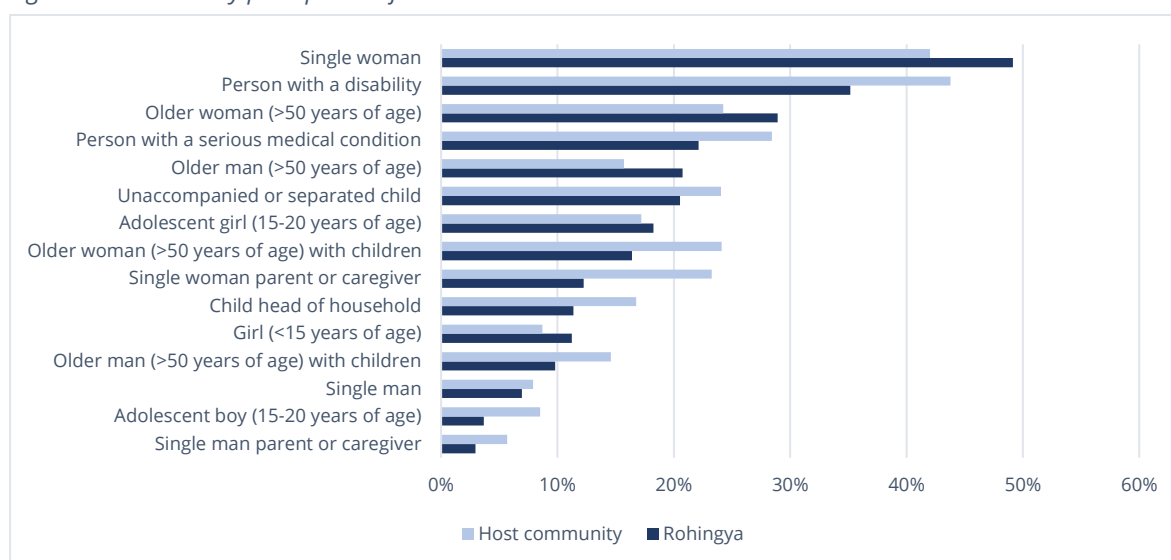
[10] IFPRI-BIDS (2019). The Forcibly Displaced Myanmar Nationals in Bangladesh: Evidence from Household Survey. *Technical Report submitted to World Food Programme, Bangladesh (unpublished work)*
[11] Chambers, R. 1986. *Hidden Losers? The Impact of Rural Refugees and Refugee Programs on Poorer Hosts*.
https://journals.sagepub.com/doi/10.1177/019791838602000207

4.5 Income sources

Access to income opportunities is a key driver of improved well-being at the household level. Over 90 percent of Bangladeshi households reported earning some income in the 30 days prior to the survey compared with 66 percent of Rohingya refugees. If the sale of assistance is excluded as an income source, the share of refugee households reporting income falls to 49 percent. Presence of an income source is significantly correlated with non-adoption of negative coping mechanisms and lower levels of vulnerability. Casual labour and unskilled wage labour within the camps are the most common sources of income for Rohingya households, thanks to activities related to the increased presence of humanitarian agencies and through cash-for-work programmes run by these agencies. Across all income streams, Rohingya refugees work fewer days (12 per month) than Bangladeshi households (23 per month). Very few newly arrived refugee households participate in farm-related labour activities or business/petty trading. No significant differences were observed in the number of days worked per month between men and women headed households for either population group.

Figure 12: % of households participating in different livelihood activities and number of days worked/month

	Rohingya		Host community	
	% of households	Average days worked/month	% of households	Average days worked/month
Small business/petty trade	10%	23	23%	25
Casual labour (farm/fishing)	4%	12	19%	22
Skilled wage labour	5%	16	8%	21
Casual labour (non-farm)	36%	9	22%	20
Unskilled wage	26%	9	8%	20
Fisherfolks	1%	14	10%	19
Assistance	17%		2%	
Remittances	1%		1%	
Others			8%	

Across the different income streams, the refugees' total earnings were 30 to 40 percent lower than those for the host community. Wage rates also differ by sector, with fisherfolks and skilled wage labour attracting significantly higher rates (figure 13). Male led households reported significantly higher daily wage rates than female led households for both refugee and Bangladeshi households. In the camps, male led households earned an average daily wage of 321 BDT compared with 296 BDT for female led households. Among the host community, households headed by men reported daily wages of 471 BDT compared with 397 BDT for households headed by women. These differences could potentially indicate a level of discrimination in the labour market in favour of male workers.

Average monthly household income was significantly higher in for the host community (13,228 BDT), almost four times that of Rohingya households (3,535 BDT). Refugees households earn less because they work fewer days, receive lower daily rates and face restricted work opportunities. Older refugees have higher monthly earnings (6,357 BDT) compared with new arrivals (3,440 BDT). The former are more accustomed to the economic environment both in the camps and in the host community. They are mainly involved in petty trade/small businesses, fishing activities and skilled wage labour, which all have better returns. The monthly earnings of refugee households headed by men (3,643 BDT) are significantly higher than those of households headed by women (3,186 BDT). No significant differences were noted for the Bangladeshi households.

However, the glaring differences in earnings between the two population groups underscores the need for investments in self-reliance opportunities to boost the ability of refugee households to supplement the universal assistance being provided, especially for the most vulnerable households.

Figure 13: Daily wage rate and average monthly earnings by income source (in BDT)

	Rohingya		Host community	
	Daily wage rate	**Average monthly earnings**	**Daily wage rate**	**Average monthly earnings**
Casual labour (non-farm)	323	2,898	429	8,578
Unskilled wage	311	2,924	391	8,984
Skilled wage labour	376	5,099	497	13,930
Casual labour (farm/fishing)	297	2,849	454	12,647
Small business/petty trade	246	4,873	509	16,484
Fisherfolks	358	6,942	586	14,061

Figure 14: Proportion of respondents by number of income sources
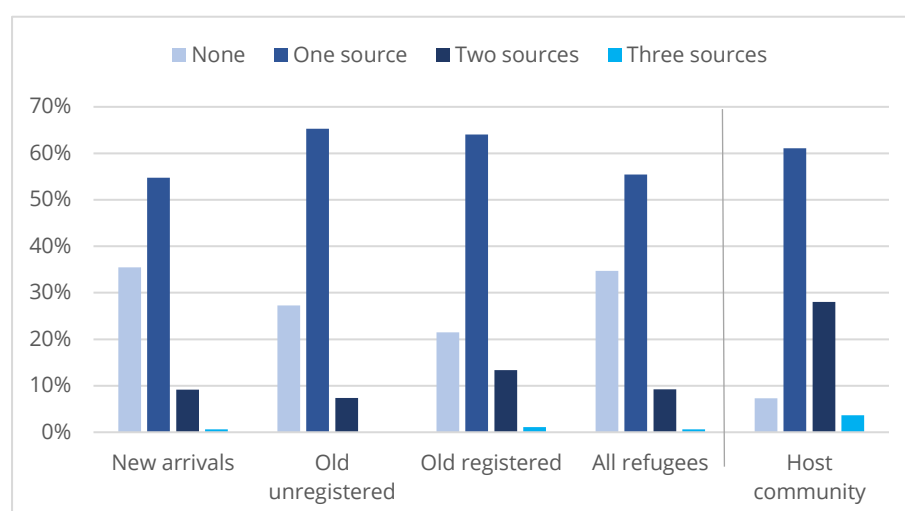
Approximately 28 percent of the surveyed Bangladeshi households reported having two sources of income compared with just 9 percent of refugee households (figure 14). Access to multiple sources of income is positively associated with better food consumption outcomes and household ability to meet essential needs. The odds of having more than one income source were significantly higher for male-headed households for both refugees and the host community. Socio-demographic characteristics such as the presence of a female head of household or disabled or chronically ill persons and high dependency ratios, especially in households led by women, were negatively associated with participation in income-earning opportunities. It is likely that the constant care and attention required by dependants impedes the participation of women in income-generating activities.

While access to at least one income source is important for reducing economic vulnerability, the type of income source is even more important. Seventy percent of Rohingya households who reported having an income source said it was temporary or irregular in nature. Refugees with access to regular or reliable sources of income such as small business/petty trade and skilled wage labourers were found to have relatively lower levels of vulnerability and better consumption outcomes (figure 15). Significant correlations were also observed between reliance on temporary income sources (sale of assistance, casual labour, unskilled wage labour) and high levels of indebtedness. Although uncommon, households who received remittances were likely to exhibit low vulnerability. Among the host community, households relying on temporary income sources were also found to have relatively higher vulnerability. In the absence of universal assistance such

as that provided for the refugees, the role of public works investments in the host community is even more important.

*Figure 15: Income source by refugee vulnerability status*
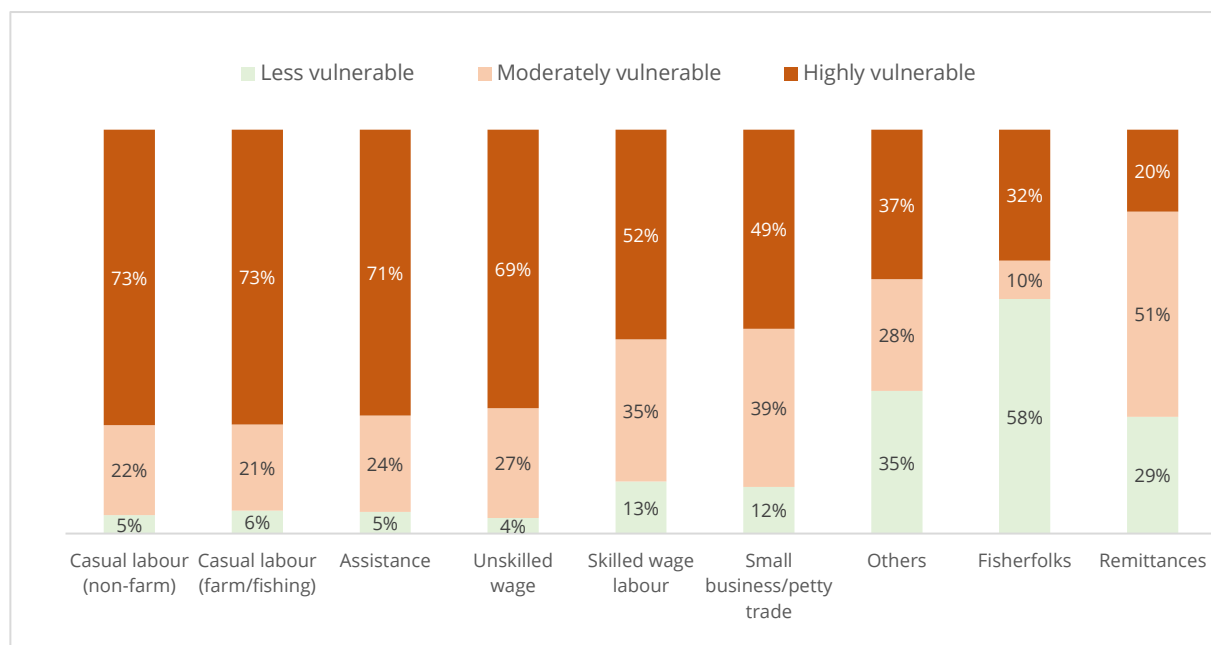
4.6 Coping mechanisms

The use of different coping mechanisms reflects the ways in which households adjust their food consumption and livelihoods during times of hardship. The coping indicators are proxy measures of access to food and economic vulnerability. *Consumption-based* coping strategies reflect the ways in which households deal with a lack of food or money to buy food and *livelihood-based* coping strategies indicate behaviours that erode productive capacities over time and impact future ability to meet essential needs.

Consumption-based coping strategies

Figure 16: Most common food related coping strategies
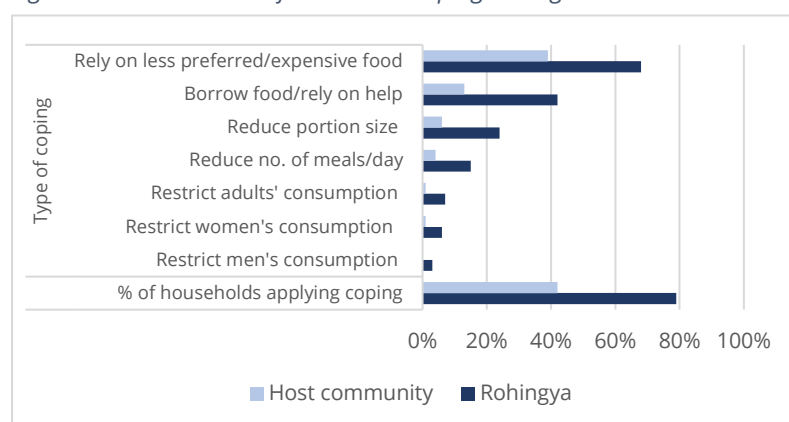
In December 2019, 8 out of 10 refugee households and 4 out 10 host community households used consumption-based coping strategies to deal with food shortages, seven days before the survey. Proportions of household applying different coping strategies was similar to 2018. Of those applying coping, 68 percent of refugee households resorted to relying on less preferred and less expensive foods, an increase of 6 percent from December 2018. This was also the most commonly used

strategy by the host population, although the share of Bangladeshi households pursuing it declined from 46 percent in December 2018 to 39 percent in December 2019 (figure 16).

Borrowing food or relying on help from friends or family was also very common practice among refugee households, with 42 percent of households engaging in this strategy. Refugee and host community households headed by women resorted to borrowing food more often than households headed by men. Furthermore, households headed by women who had at least one disabled member were more prone to borrowing food (61 percent) compared with households headed by men with a disabled family member (38 percent). Borrowing food is problematic as it keeps households in a vicious cycle of debt.

Livelihoods-based coping

Livelihoods coping strategies are divided into three categories: *stress strategies*, which are reversible coping, preserving productive assets, reduced food intake or increase in debts that reduces a household's ability to deal with future shocks; *crisis strategies*, which are irreversible coping often associated with a direct reduction of future productivity; and *emergency strategies*, which are distress coping, are more difficult to reverse or more dramatic in nature than crisis strategies.[12] Since their arrival in Bangladesh, refugee households continue to use high levels of negative coping strategies to meet their consumption and other essential needs.
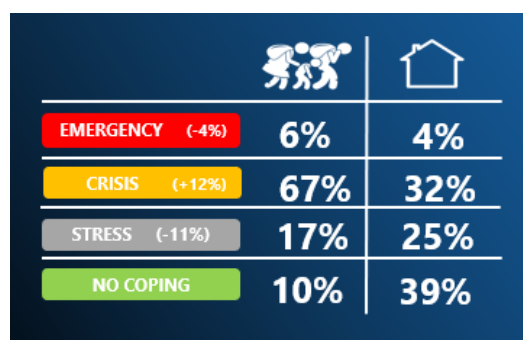
Similar to 2018, 91 percent of all refugee households resorted to livelihood-based copings to access food and other non-food needs. The share was comparatively low for host community households, at 61 percent. The share of refugee households adopting crisis coping strategies rose from 54 percent in 2018 to 67 percent in 2019. For refugees, the most frequently used livelihood coping strategies in 2019 were borrowing money to buy food, selling assistance, relying on support from friends and family, and buying food on credit. Half of the refugee households had resorted to these coping mechanisms during the 30 days before the survey (figure 17). Other strategies included reducing non-food expenditures and selling non-food assistance. More refugee households headed by men resorted to crisis coping strategies (69 percent) than those led by women (63 percent). By contrast, the use of emergency coping mechanisms was higher among refugee households led by women (9 percent) than those led by men (4 percent). While both types of household face the harsh economic environment in the camps, those led by women seem to be feeling the effects more, potentially driving them to use more emergency coping strategies.

Analysis of other demographic profiles provides useful insights into the rising adoption of negative coping mechanisms. Households with no male of working age, single mothers, households with no income source, those with at least one member disabled or chronically ill and high dependency ratios were positively associated with a higher use of negative coping strategies. Significant association was also found between households on e-vouchers and less frequent adoption of negative coping strategies, in part due to the lower levels of sale/exchange of assistance seen among beneficiaries of e-vouchers.

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[12] *WFP 2017–2021 Corporate Results Framework Programme Indicator Compendium*, April 2019 (revised edition).

Figure 17: Most commonly used livelihood-based coping strategies
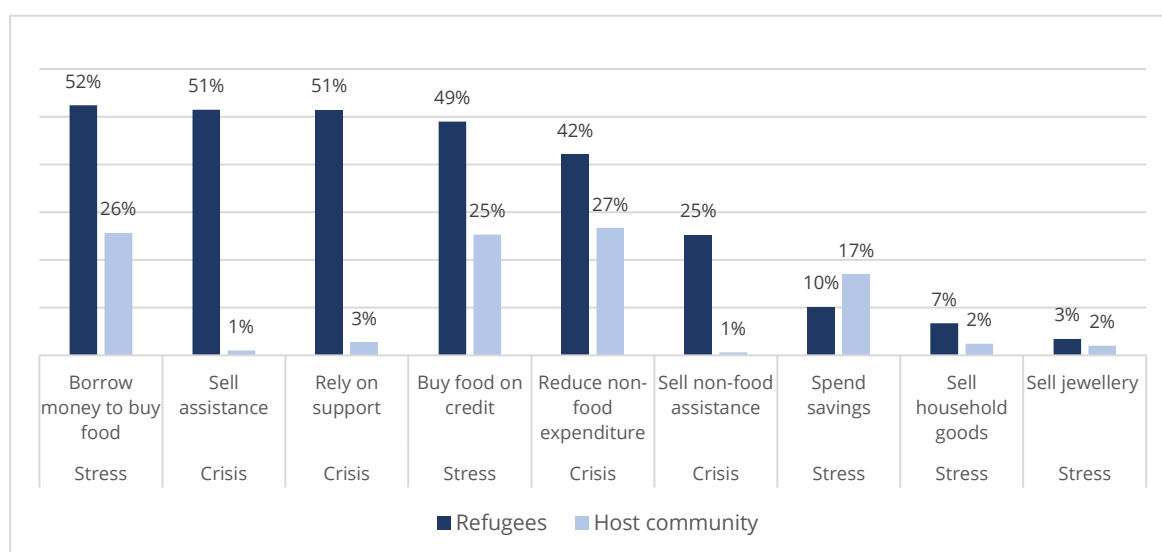
Looking at the trends in adoption of livelihood-based coping strategies reveal interesting findings among Rohingya refugees (figure 18). The proportion of households buying food on credit and borrowing money to buy food has somewhat declined. By contrast, the share of the refugee population who cope by selling or exchanging part of their food and non-food assistance has increased. Potentially, the vicious cycle of indebtedness is slowly rendering some refugee households uncreditworthy. At the time of the survey, 9 out of 10 households who had taken credit were yet to repay. The increase in the proportion of households selling non-food and food assistance is indicative of refugee households needing cash to meet their other essential needs. The 2018 REVA highlighted that refugees had already depleted their assets (jewellery, savings), so this course of action was no longer available to them. This is further seen in the decreased sale of jewellery and reduced spending of savings over the past year.

Compared to refugee households, Bangladeshi households' resort to negative livelihood coping strategies less frequently. Spending savings was the only strategy they used more frequently than the refugees, clear evidence of their recourse to saving.
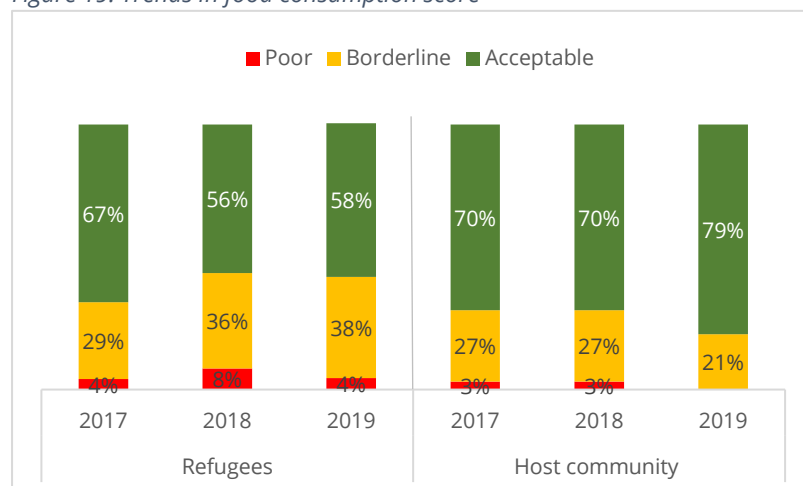
Figure 18: Trends in the use of livelihoods coping strategies
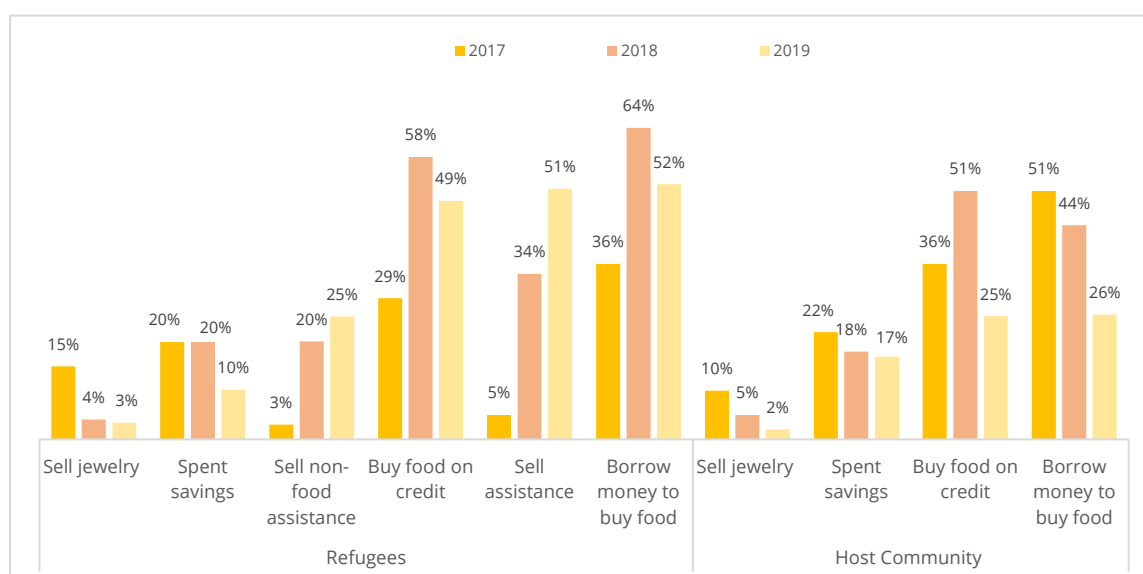
4.7 Food consumption

Food consumption score (FCS)

Figure 19: Trends in food consumption score

Food consumption outcomes for the Rohingya refugees remained comparable to 2018: around 42 percent of households have unacceptable food consumption. A marginal improvement was observed for those with poor consumption outcomes (a reduction from 8 percent to 4 percent). Universal food assistance (e-vouchers and in-kind) is playing a critical role in sustaining current consumption outcomes. However, assistance alone seems insufficient to achieve acceptable consumption levels. Concerns remain about the quantities of food consumed and quality of diets, as refugees continue to compromise both. Access to nutrient-rich foods such as dairy products and meat is extremely low for both refugee and host community households. Other factors such as food utilization behaviours, intra-household dynamics and cultural practices also contribute to sub-optimal food consumption outcomes. No major difference was observed in the prevalence of unacceptable food consumption between refugee households led by men and those led by women, as assistance covers both groups equally. Among the host community, the proportion of households with acceptable consumption outcomes improved slightly from 70 percent in December 2018 to 79 percent in December 2019.

Differences continue to be seen among the refugee households depending on when they arrived in the camps. Registered refugees fared much better than new arrivals on consumption outcomes thanks to better coping mechanisms and involvement in income-generating activities. No major differences were observed between households headed by men and those led by women across all waves of displacement.

*Figure 20: Food consumption trend by refugee arrival status*
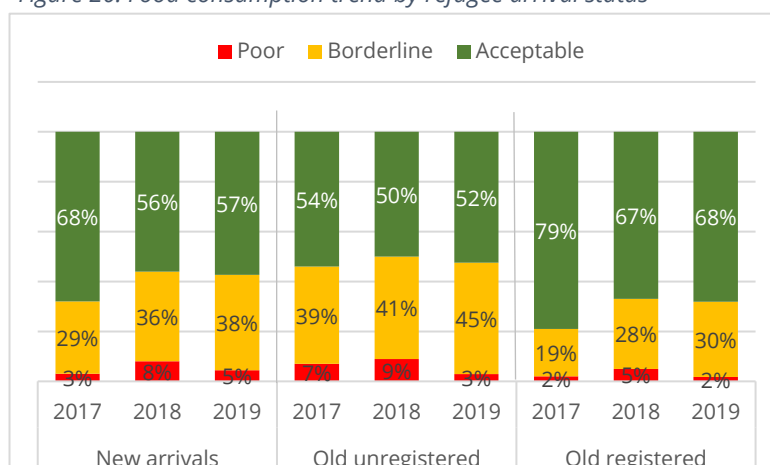
Dietary diversity

Initiatives taken to boost intake of more nutritious foods and to increase choice

- Fresh food corners have been introduced in five WFP retail outlets since mid-2019; the initiative is currently being scaled up.

- Vulnerable households receive a targeted unconditional top-up of USD 3 per person to support access to fresh produce (vegetables, live fish and chicken) at farmers' markets or the fresh food corners.

- A farmers' market initiative has been established in the camps to improve access to good quality fresh foods, and to link smallholder farmers with micro and medium retailers, who provide fresh produce from the host communities.

Rohingya and Bangladeshi households exhibit similar dietary patterns, with staples (mainly rice) dominating the diet and consumed daily, the same as oil. Pulses are consumed more by refugees, as they constitute part of the assistance package. Bangladeshi households have better access (both physical and economic) to fish, meat and vegetables. On average, refugee households consume 5 food groups every day compared to 5.4 groups recorded for the host community. While dietary diversity (number of food groups consumed) may seem satisfactory, it masks realities of low access to nutritious foods especially among the refugee households: fish and eggs are consumed in very small quantities, while the consumption of meat, fruits and dairy is negligible.

Registered refugees have slightly higher consumption of meat, fish and eggs than new arrivals and unregistered refugees. Dietary diversity is also significantly higher for refugees on e-vouchers than for those who receive in-kind assistance; e-vouchers beneficiaries consume slightly more meat, fish, eggs and sugar. Dietary diversity is negatively correlated with the sale of assistance: households engaging in this practice have lower dietary diversity than those who do not. Similarly, households who adopt other negative coping strategies also record lower dietary diversity than those who do not adopt any negative coping strategies. Households with fewer than three members also record lower diet diversity.

Figure 21: Dietary diversity (average number of days food groups consumed in a week)
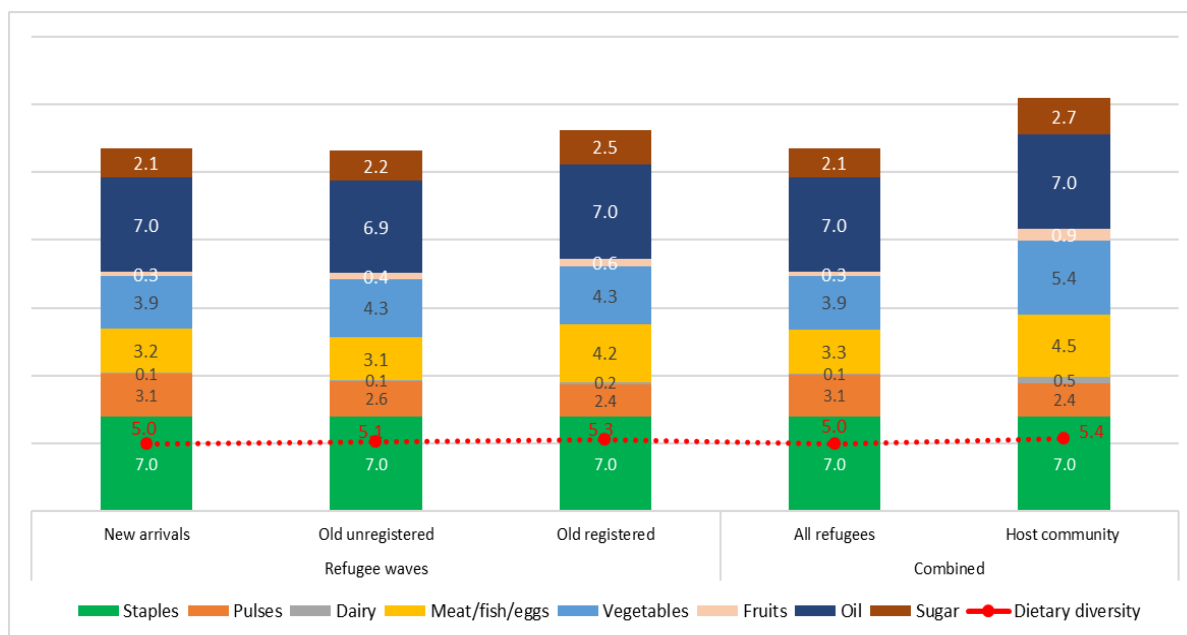
Refugees' intake of micronutrients is low. Analysis of variance showed low consumption of iron-rich foods: the share of households who did not consume any iron-rich foods during the seven days before the survey

was higher among new arrivals (19 percent) and unregistered refugees (15 percent) than among registered refugees (6 percent). E-vouchers beneficiaries are more likely to consume micronutrients more frequently than in-kind beneficiaries (figure 22). The WFP retail outlets provide better access to fresh vegetables, fish and eggs, which is translating into improved consumption of vitamin A and protein-rich foods. E-voucher beneficiaries were found to have significantly better access to foods rich in vitamin A. Even so, the quantities consumed of these foods are small, which means better food consumption outcomes are not achieved. Access to any type of income was also found to enhance the likelihood of consuming micronutrient-rich foods.

Figure 22: Frequency of access to micronutrient-rich foods by assistance modality
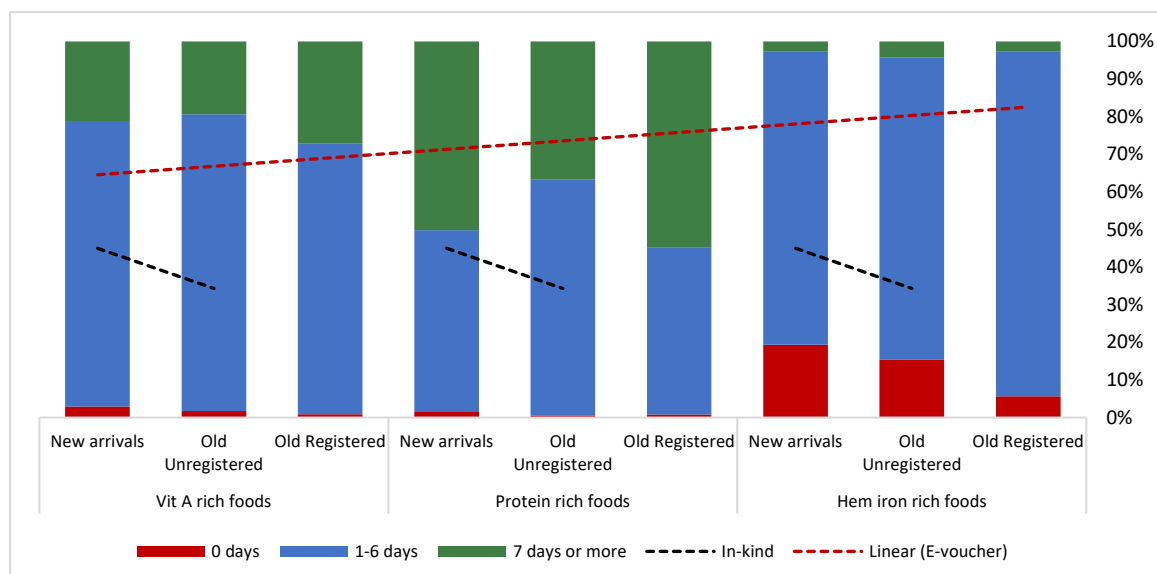
4.8 Other essential needs

Multi-dimensional deprivations

The multi-dimensional deprivation index (MDDI) is a composite score of poverty or deprivation. In this study, the five dimensions deemed critical for Rohingya refugees and the Bangladeshi host community are considered: food access, education, health, living standards and income. Unless household needs are met in all five dimensions, it is likely that beneficiaries will reallocate resources to areas where they are most deficient. The MDDI therefore elucidates the relationships between various types of deprivation, facilitating the effective deployment of limited resources.

The MDDI in this REVA is calculated using 14 indicators; its methodology is detailed in annex 2. It is important to note that the exact indicators used in an MDDI can differ from one survey to the next, depending on the structure of the questions posed and the feasibility of using particular metrics during the data collection phase. Consequently, the MDDIs in the 2018 REVA and the 2019 REVA cannot be directly compared[13].

Households classified as 'multi-dimensionally poor' (MDpoor) suffer deprivations in at least two of the five dimensions measured by the index. Among the Rohingya refugees, 47 percent were found to be multi-dimensionally poor (MDpoor) compared with 23 percent of the host community. The levels of deprivation in each dimension are detailed below (figure 23).

Figure 23: Proportion of households facing deprivation by dimension
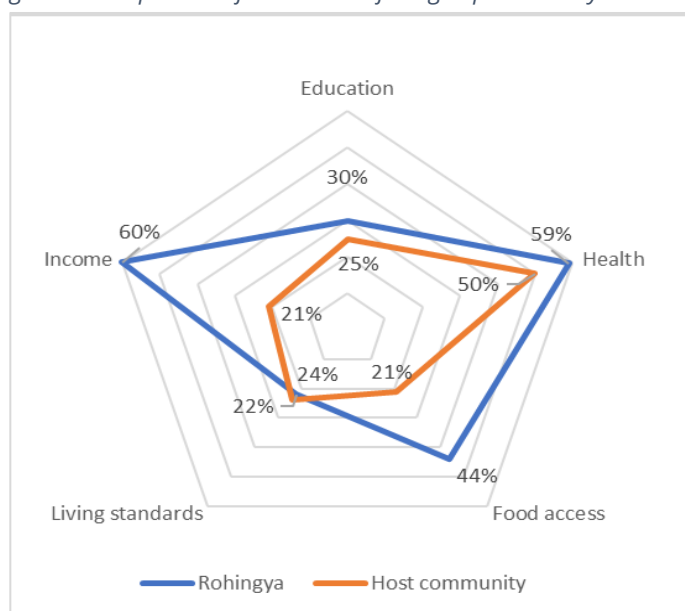
Income: The major dimension of deprivation among the Rohingya is income, largely explained by legal restrictions which prevent families from accessing secure and regular employment. In this dimension the gap between the two communities is largest (almost 40 percentage points), mostly because the employment restrictions do not apply to Bangladeshi households. Nevertheless, 21 percent of host communities and refugee households alike have to contend with erratic labour opportunities, indicating that income deprivation is also significant for host communities.

Health: While there has been a scale-up of health-related assistance, health remains the dimension of relatively high deprivation for the Bangladeshi community, faced by 50 percent of households. Among the Rohingya, the health-related poverty affects 59 percent, the second largest proportion across all the dimensions. The relatively high expenditure shares on healthcare, second only to food, provide a glimpse into the deprivation in this sector. Also discussed later in this report, a higher proportion of Bangladeshi households reported dissatisfied with how their healthcare needs were being met. Households are sceptical about the quality of healthcare services and the type of medicines provided at the healthcare facilities. Focus group discussions with refugees and host community members gives credence to these results. The perception of most participants is that the facilities available are not equipped to deal with chronic illness, and that in most cases patients only receive paracetamol, regardless of their symptoms.

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[13] The MDDI computed in REVA 2019 differs slightly from that used in REVA 2018 with respect to specific indicators applied.

Food access: Within the Rohingya population, 44 percent face food access deprivation, partly driven by constraints on access to food items not included in the assistance package. This in turn may be linked to other patterns such as the sale or exchange of part of the food assistance and increased reliance on less expensive/less preferred foods at the expense of diet quality. This could suggest that households feel the need to allocate more spending to other foods such as fish, vegetables and fruits. Despite the blanket coverage of WFP food assistance, about 58 percent of interviewed refugees indicated that rations did not last until the next distribution cycle. This means that many refugees live precariously close to food poverty every day.

Living standards: Among Rohingya households, the level of deprivation in living standards is 22 percent, which is much lower than other deprivation scores. A key reason for this result is the scale-up of LPG distribution in 2019, which has made cooking fuel far more accessible and allowed families to reallocate the savings to other essential needs. Other initiatives, including the construction of new, more spacious shelters and improved infrastructure in the camp, have also contributed to the improvement in this dimension.

Education: Deprivation in education is 30 percent in refugee communities, the second lowest across all dimensions. This is mainly explained by improvements made to educational infrastructure over the past 12 months. Inside the camps, there has been an increase in the number of learning centres enrolling more children. In mid-2019, a curriculum was approved for use in the learning centres inside the camps. For the host community, there was little disturbance to children's learning at the time of data collection in 2019. In 2018, most schools were temporarily closed for refugee registration and relief distribution, which created anxiety among parents. Now, most of the humanitarian actors that have been supporting children's learning initiatives in the camps have spread their support to schools within the host community. Nevertheless, deprivation in other dimensions, particularly income, still puts pressure on families to take their children out of school for financial reasons. The continued provision of nutritious food (micronutrient-fortified biscuits) to children in schools in the host community and learning centres in the camps, has also been reported to be a key pull-factor for school attendance.

4.9 Assistance

Since the influx in August 2017, life-saving humanitarian assistance has been provided to all refugees. In line with the global shift towards cash-based transfers that allow refugees choice and a more dignified shopping experience, WFP plans to transition all the refugee caseloads in Cox's Bazar to the e-vouchers modality by mid-2020. At the time of conducting the survey in December 2019, the value of the e-vouchers was 770 BDT per person per month, covering the SMEB or food MEB. In February 2020, the transfer value was adjusted to 840 BDT per person in order to bring it closer to the food component of the revised MEB, established at 1,138 BDT in the 2018 REVA report. To supplement the food assistance received, refugee households also benefit from different types of complementary assistance such as food/cash for work activities, fresh food vouchers and the farmers' market programme.

Three years on, having depleted their assets (savings, sold jewellery) and in the absence of regular income sources, some refugee households are having to resort to selling or exchanging part of their assistance to access cash and other essential items.

Figure 24: Sale/exchange of assistance by displacement wave and assistance modality
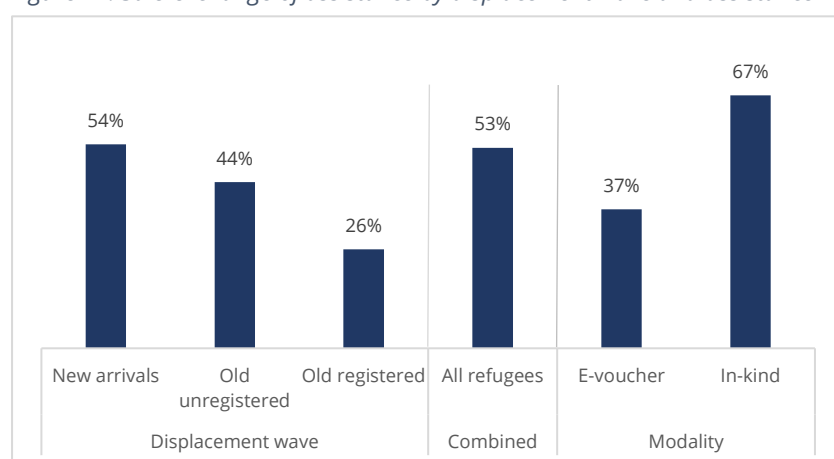
Five out of ten refugee households sold or exchanged part of their food assistance within the past 30 days prior to the survey (figure 24). The major reasons given by respondents for selling or exchanging assistance included to purchase other foods such as dry or fresh fish, meat, eggs and leafy vegetables; and to meet other non-food expenses such as health costs or debt payments. Newly arrived refugees were more prone to selling assistance than longer term camp residents, indicating the stark difference in their access to income streams. The non-adoption of negative coping strategies and access to an income were found to have a strong correlation with lower levels of sale and exchange of assistance.

A clear difference was seen in terms of transfer modalities: 37 percent of households receiving e-vouchers had sold/exchanged a portion of their assistance compared with 67 percent of those receiving in-kind assistance. The programmatic decision taken by WFP to transition all refugee caseloads to e-vouchers is expected to further reduce the use of this negative coping strategy. Coupled with the introduction of farmers' markets and fresh food corners in the retail outlets, refugee households will be able to access diversified food items not previously available. However, the limited availability of other non-food items in WFP retail outlets is likely to continue driving the sale of assistance to facilitate access to other needs.

Characteristics of households who sell/exchange assistance

- Households with a chronic illness
- Absence of income or dependence on temporary income sources
- Households with disabled persons
- Inability to meet essential needs
- Head of household who is divorced/widowed
- Presence of single mother/parent
- Absence of working-age males

The provision of other essential non-food items through the WFP retail outlets is an option that could be piloted, as it could potentially drive down the sale of assistance further.

Figure 25: Share of ration sold or exchanged
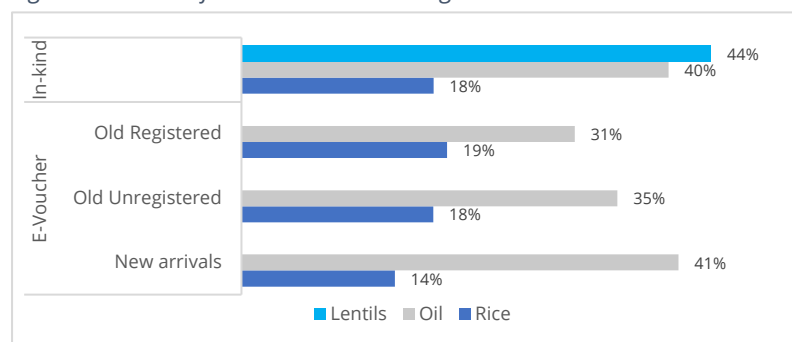
There are clear differences in the patterns of resale/exchange of food items by assistance modality. In-kind beneficiaries sell/exchange between 20 and 40 percent of their rations, mainly lentils (less preferred food), oil and rice. Those on e-vouchers mainly sell/exchange rice, oil and, to some degree, eggs. New arrivals sell a smaller proportion of rice (14 percent of the entitlement received) compared with registered refugees (19 percent). This could be attributed to WFP's decision to introduce rice-capping[14], after the 2018 REVA identified high sales of rice. At the time of the 2019 survey, the rice cap had only been introduced in camps where the new arrivals lived. The sale of oil has now somehow increased (especially after the rice cap was introduced) among those on e-vouchers, denoting a potential switching effect, from rice to oil sale- this needs to be carefully monitored.

Households receiving complementary food vouchers were found to be less likely to sell/exchange a portion of their assistance. Similarly, participating in cash or food for work/training activities significantly reduced the probability of a household selling assistance and was positively correlated with lower vulnerability. The scale-up of community services and cash-for-work initiatives and the provision of complementary food assistance services has great potential for reducing the use of negative coping strategies.

Six out of ten refugee households indicated that rations do not last until the next distribution cycle. E-vouchers beneficiaries said that rations lasted for an average 27 days while those receiving in-kind assistance reported an average 20 days. Sixty percent of households cited ration size as the major reason for rations not lasting until the next distribution cycle; 23 percent indicated sale/exchange as the reason.

Refugee households continue to prefer one-off bulk redemption of their monthly entitlements, despite being encouraged to make multiple visits. Seven out of ten refugee households receiving e-vouchers visited the WFP retail outlets only once per month. Distance to the shops was the major reason, cited by about 40 percent of households who made one-off visits. Other reasons were: not being aware that they can make multiple visits (20 percent), high transport costs (14 percent), and retailers advice (12 percent). The scale-up of retail outlets is expected to ease challenges related to distance and transport costs.

In terms of assistance preferences, nearly nine out of ten refugee households prefer e-vouchers or cash compared with one in ten households who prefer a mix of in-kind assistance and cash/voucher. Table 3 shows the reasons given for preferring one modality over another.

Table 3: Reasons for modality preference (refugees)

|	In-kind	Cash/e-vouchers	Hybrid
Food ration supports my family needs well	46%	29%	14%
Would not be able to buy same quantity	18%	8%	6%
Food ration is tasty	13%	19%	9%
I can decide the use of food	7%	33%	11%
Can use cash as I wish	0%	53%	18%
Can be saved and used later (e.g. buying assets)	5%	44%	14%

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[14] The amount of rice redeemable per person was capped at a monetary value of 450 BDT (14.5 kgs of rice), equivalent to 53 percent of the current transfer value. This amount is still 4 kg more rice per person than the ration received by households on in-kind food assistance.

4.10 Credit dependency

Credit dependency remains high among the Rohingya and host communities. Six out of ten Rohingya households and four out of ten host community households had contracted debts during the three months before the survey (figure 26). A higher proportion of newly arrived refugees (64 percent) contracted debt than registered refugees (46 percent). The debts incurred were mainly for non-productive purposes such as to access food or cover healthcare costs, which could indicate that current food and non-food assistance levels are not entirely meeting households' basic consumption needs.

Furthermore, the vicious cycles of debt remain high; at the time of the survey, nine out of ten Rohingya households who had contracted debts were yet to repay. Rohingya households who incur debts were found to have less acceptable food consumption and higher levels of negative coping. They were also

Figure 26: Contracting debts and reasons for incurring debt
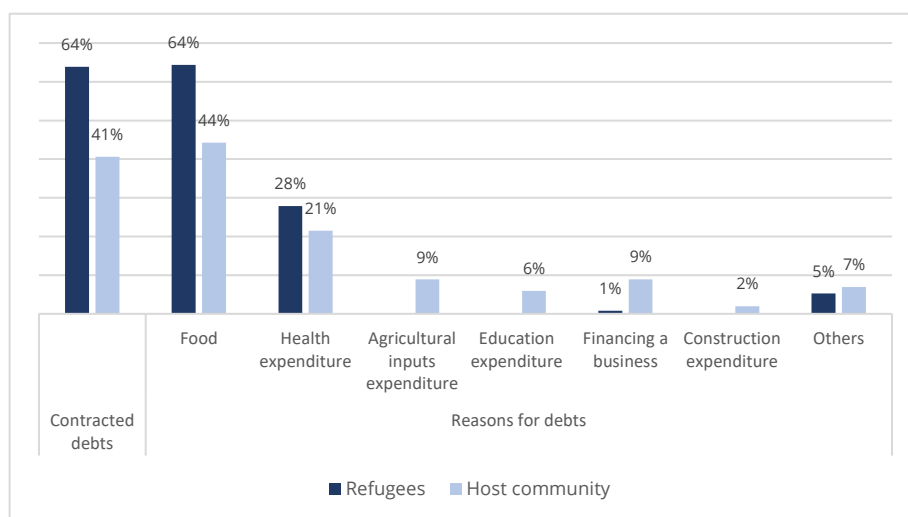
more likely to sell assistance to repay debts. The same correlations were not seen for indebted host community households but of those who reported contracting debts, more than 50 percent were vulnerable. The nature of the income source (whether regular, temporary or seasonal) influences borrowing for both Rohingya and Bangladeshi households. Rates of borrowing were found to be higher among households engaged in irregular income sources (casual labour or unskilled wage labour) compared to those with more regular and predictable income sources (such as salaried work, skilled wage labour and petty trade/business).

Figure 27: Main credit sources
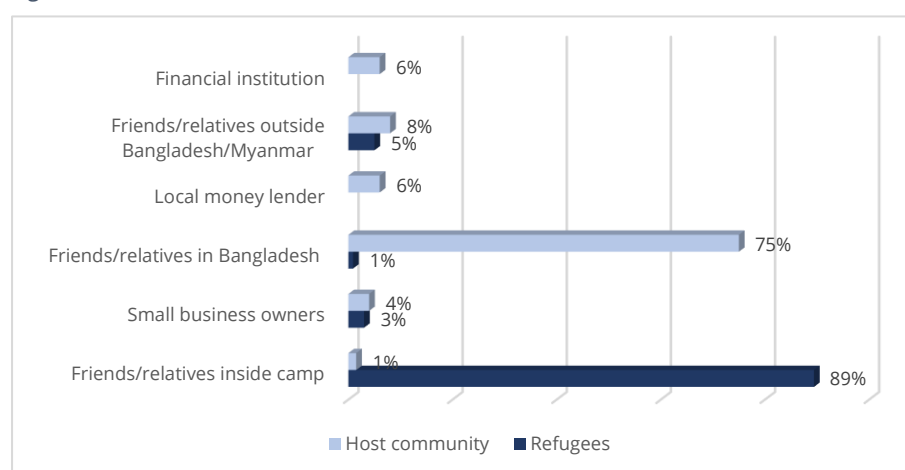
Major credit sources were friends/relatives, which could indicate the existence of strong social capital in the camp and host community economies (figure 27). Host community households had low access to credit from formal institutions. Households receiving remittances were found to be less likely to incur debt.

4.11 Assets

The REVAs conducted in 2017 and 2018 found that refugee households were depleting their assets in the absence of income-earning opportunities. Three years on, any savings or household assets such as jewellery that refugees would have brought with them have largely been spent or sold, putting further strain on households. In December 2019, the ownership of productive assets that contribute to households' income-generating opportunities was very low and overall asset ownership has significantly decreased over time. Household assets have been classified into three broad categories: basic assets, medium assets and extended assets, in order to shed light on levels of asset ownership among refugees and the host community.

Table 4: Asset classification

Basic asset	Blanket, floor mat, mosquito net, buckets and plastic pots, metal cooking pots, water storage container, *daa*
Medium asset	Tables and chairs, bed, almirah/cabinet, elevated shelves, trunk/suitcase, kerosene/LPG stove, mud stove, electric fan, wall clock, torch/flashlight, radio, saw, hammer, spade, axe, shovel, pickaxe, machete, reaper sickle
Extended asset	Bicycle, other electronic devices (DVD player, television etc.), jewellery, van/rickshaw, car/truck, boat, fishing net, fishpond, shallow tube well, solar energy panel, electricity generator, mobile phone, sewing machine

Ownership of basic assets, non-productive in nature, is high for the two groups (figure 28). Particularly for refugees, these comprise the basic non-food items provided as part of humanitarian assistance. Ownership of medium and extended assets, some of which comprise productive assets, is significantly higher among Bangladeshi households.

Figure 28: Asset ownership
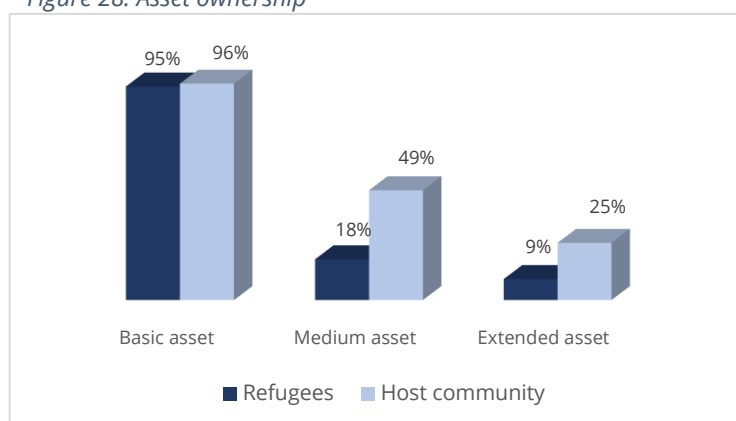
The nature of income source (regular, seasonal or temporary) was significantly correlated with the number of assets owned by both Rohingya and host community households. Regular income sources (skilled wage labour, small business/petty trade or remittances) had a positive or incremental effect with all types of assets. In the context of the camp economy, with limited mobility and access to income, it is difficult for refugee households to accumulate productive assets.

The number of assets owned by a household was found to be positively associated with acceptable food consumption and the non-adoption of negative coping strategies. Among the Rohingya and host community, households led by men are more likely to have more basic and medium assets compared with those led by women. There has been a drop in the proportion of host community households who own boats. Focus group discussions with the host community in Teknaf corroborated this finding: restrictions imposed by the Government of Bangladesh on fishing, especially in the Naf river, have led households to switch from fishing to other activities. The hidden high costs of fishing, related to the payment of bribes before being allowed to fish, has also driven households away from this activity.

4.12 Healthcare

High rates of morbidity persist among the Rohingya and Bangladeshi households. Seven out of ten households reported that at least one household member had suffered illness in the 30 days before the survey. The most common ailments were fever (over 60 percent of cases), gastritis or abdominal pains, diarrhoea and pneumonia. The prevalence of pneumonia and upper respiratory infection is slightly higher in host communities than among the Rohingya. Households with a greater number of members reporting sickness were found to have higher chances of borrowing, with debts mainly used to meet health related costs.

Nine out of ten households with sick members sought treatment. While this finding may appear encouraging, it masks the daily struggle of many households to access good quality healthcare. During focus group discussions, most participants said that health facilities mostly stock and dispense paracetamol for managing pain but lack other essential medicines. As a result, households incur huge costs procuring the medicines they need from pharmacies.

Rohingya households mainly sought treatment from doctors from non-governmental organizations (NGOs) (68 percent), NGO health workers (11 percent), private doctors and pharmacy sales representatives. Bangladeshi households sought treatment mainly from private doctors (35 percent), pharmacies (24 percent) and government facilities (19 percent).

4.13 Protection

There were relatively fewer episodes of insecurity in the host community in 2019 compared to 2018: around 29 percent of Bangladeshi households reported having indirectly experienced episodes of insecurity, compared with 36 percent the previous year. By contrast, episodes of insecurity appear to have increased within the Rohingya community; they were reported by 15 percent of households, up from 6 percent in 2018.

For Rohingya households, limitations on movement, generally feeling unsafe and theft/robbery are the most prevalent insecurity concerns. Theft/robbery, killings/murder and generally feeling unsafe are the major security concerns in host communities. Newly arrived refugees and households led by women reported facing more harassment, which restricts movement in the camps especially for the latter. Tension was reported to be more between newly arrived refugees and the host community, due to a perceived increase in competition for resources by the host community.

Figure 29: Main security concerns of interviewed households
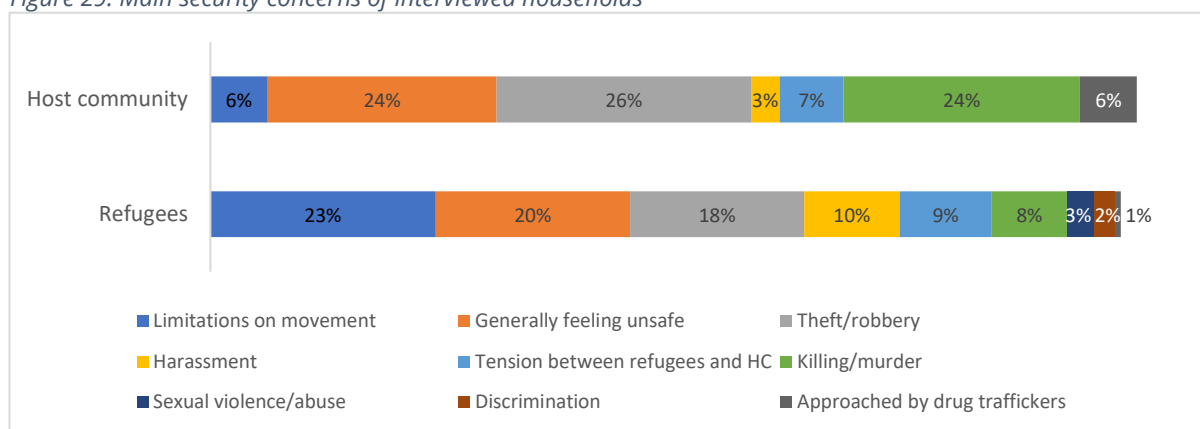
Assistance delivery mechanisms: The main challenges reported in receiving humanitarian assistance were connected to carrying the assistance, mainly due to the weight of the items and the distance from the distribution point to the home. Three out of ten refugee housholds reported having difficulty with carrying assistance home (figure 30). Households led by women appeared to be facing this difficulty the more. Although WFP has a porter system that helps extremely vulnerable refugees, including those with disabilities, households led by children and those led by women, there could be gaps in how those most in need of this service are profiled. In addition, a few potential cases of rent-seeking behaviour were found, though at very low scale: 3 percent of refugees reported having paid some form of bribe in order to receive assistance. Most of these cases were among old unregistered refugees, 11 percent of whom reported having exchanged assistance for something else.

Figure 30: Assistance-related challenges (refugees)
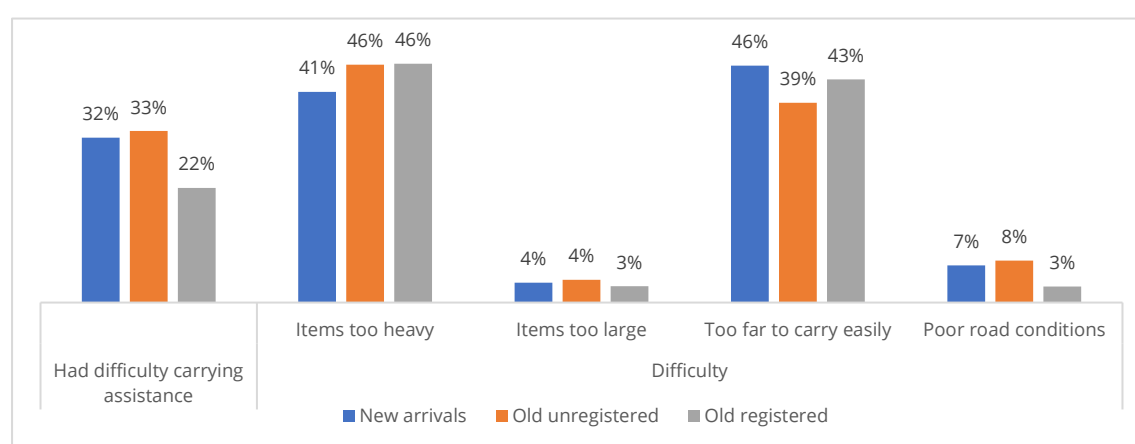
4.14 Water and sanitation facilities

The most common source of drinking water is tube-wells or underground water followed by storage tank taps and piped water taps. Only 5 percent of host community households use surface water. Interestingly, the use of storage tanks was found to be high among old registered refugees (44 percent of households).

The number of households sharing toilets is quite high among Rohingya refugees: on average 14 families share a toilet compared with two families for Bangladeshi households. With regard to hand washing, 71 percent of Rohingya and 66 percent of Bangladeshi households reported washing both hands using soap. Washing hands with water alone was reported by 13 percent of refugee households and 24 percent of host community households. Hand hygiene is one of the most important practices to avoid getting sick and spreading germs to others. While washing hands with water alone removes pathogens, it is not as effective as using soap.[15] Indeed, households that reported washing both hands with soap were found to be least affected by waterborne diseases and gastritis/abdominal pains.

Water and sanitation problems: water access remains an issue both in the refugee camps and within the host community, affecting 6 out of 10 refugee households and 5 out of 10 Bangladeshi households. For the Rohingya, the major water access problems are insufficient number of water points followed by distance to water points, waiting times and malfunctioning water points. Host communities face similar challenges, but most frequently cite the distance to water points as their biggest issue.

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[15] Phillips, R. M. et al. 2015. "Soap is not enough: handwashing practices and knowledge in refugee camps, Maban County, South Sudan". *Conflict and Health* 9 (1), 1–8. https://conflictandhealth.biomedcentral.com/articles/10.1186/s13031-015-0065-2

Sanitation problems are most often faced by old registered refugees and least by the host community; 7 of out 10 refugee households and 3 out of 10 bangladeshi households reported having sanitation problems.

Figure 31: Water and sanitation problems
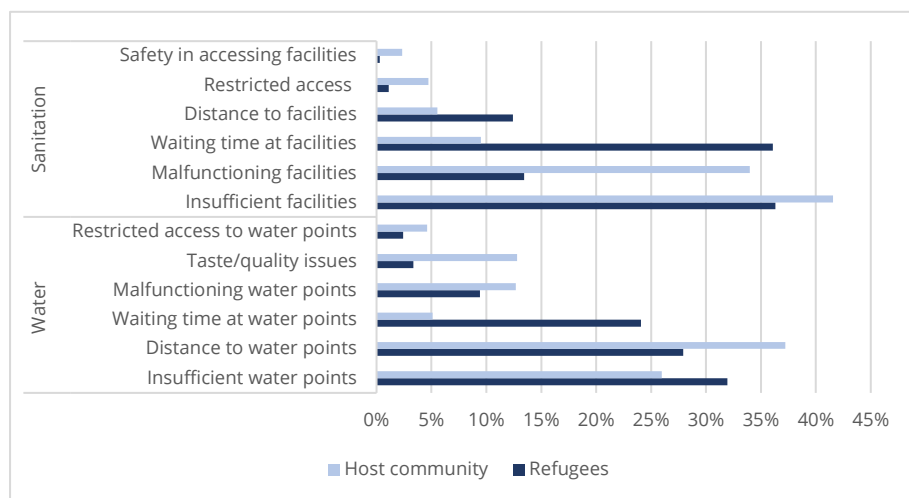
Insufficient facilities and long waiting times were the sanitation issues most frequently reported by Rohingya and host community households. Among the refugee community, households who reported malfunctioning facilities or long waiting times were found to be more likely to suffer from waterborne diseases such as diarrhoea. A similar result was found for host community households who reported malfunctioning facilities.

4.15 Humanitarian Emergency Settings Perceived Needs Scale (HESPER)

The Humanitarian Emergency Settings Perceived Needs Scale (HESPER) was developed by the World Health Organization and King's College London. It provides a quick way of assessing the perceived serious needs of populations affected by a humanitarian crisis. Perceived needs are needs that are felt or expressed by people themselves and are problem areas with which they would like help[16].

Figure 32: Share of households reporting issues as 'serious problems' or needs

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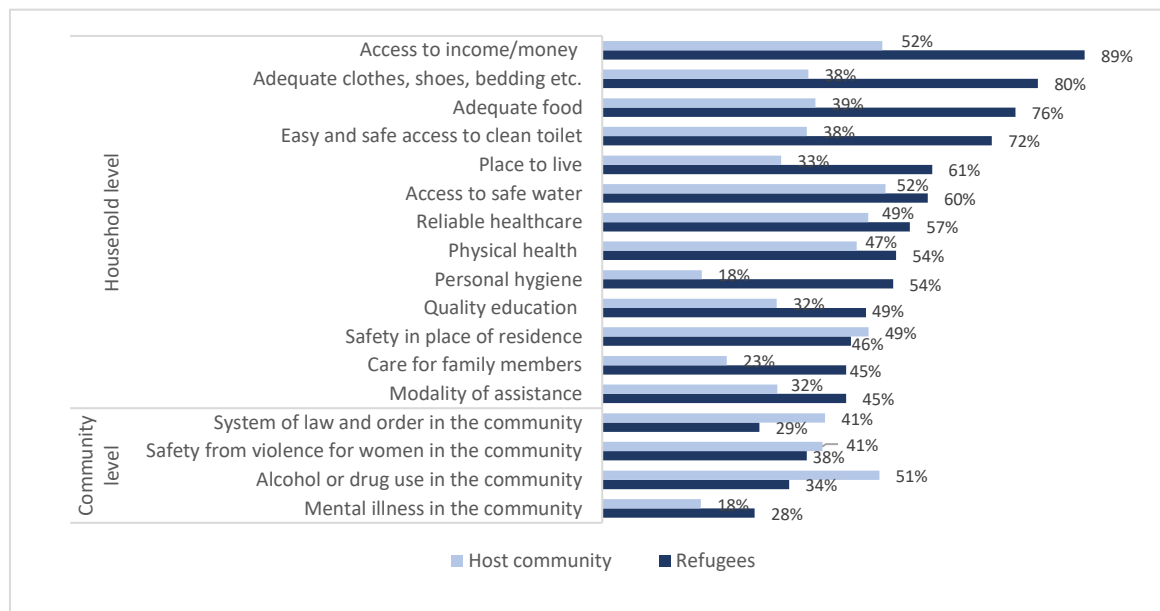
[16] World Health Organization and King's College London. 2011. *The Humanitarian Emergency Settings Perceived Needs Scale (HESPER)*. https://apps.who.int/iris/bitstream/handle/10665/44643/9789241548236_eng.pdf;jsessionid=1C3E8508DF99A896FCEFCFE6936C4DF3?sequence=1

For the REVA, respondents were asked a set of questions covering 19 different areas to identify which ones they considered to be serious problems. Among the Rohingya refugees, access to income opportunities, adequate clothing/bedding, adequate food and easy-and-safe access to clean toilets were the most problematic areas, reported by over 70 percent of the respondents (figure 32). The central role of income access in influencing subjective and monetary poverty continues to feature prominently in this study.

The Bangladeshi households cited access to income, safe water, health and concerns about alcohol or drug abuse within the community as the most serious problems. While both groups appear to be faced with similar problems, the prevalence of these problems varies. Some issues are also more pressing for one group than the other, such as drug abuse issues in the host community.

Figure 33 shows the prioritization of the most serious problems. Seven out of ten refugee households considered food access and adequecy as the most serious problem. Income or livelihood opportunities were ranked in second place, reported by 65 percent of refugee housholds, followed by easy-and-safe access to clean toilets. The latter is hindered by the insufficient number of facilities and malfunctioning facilities as reported in the previous section. While concerted efforts have been made to address these problems, gaps still exist in the current response frameworks. A more coordinated approach is vital in tackling these problems.

Figure 33: Household perceptions of the most serious problems (refugees and host community)
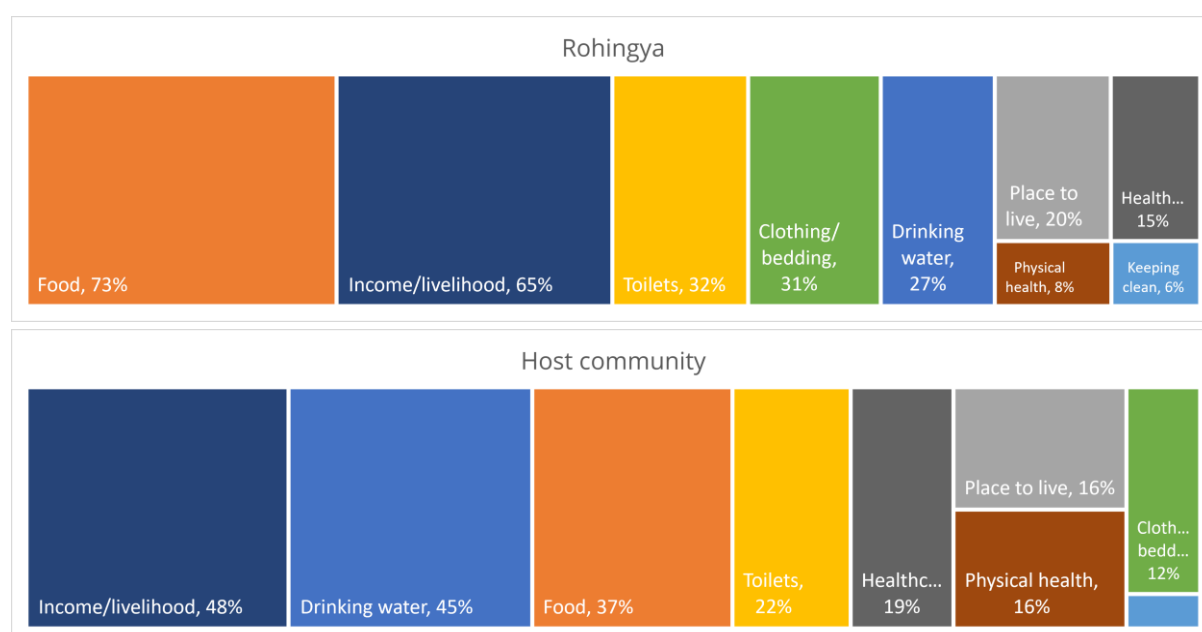
For the host community, 5 out of 10 households said income or livelihoods was their most serious problem area, followed by drinking water and food (figure 33). The host community perceive income sources to have changed dramatically after the influx: surplus labour supply by the Rohingya refugees is perceived to have constricted the labour market and reduced wage rates. Drinking water issues are driven by the considerable distance to water points, insufficient water points, the poor quality of water from the points and malfunctioning water points. Anecdotal evidence also indicates that during late November to April, underground water level depletes. This affects the water availability in tube wells, the source of water for domestic use for 87 percent of host community households.

Satisfaction with how needs are being met (happiness)

Three years into the refugee response crisis, it was important to understand how well respondents felt the various services provided by humanitarian actors and the Government were meeting their needs. This study did not follow the typical beneficiary satisfaction analytical framework but instead used a ranking approach to gauge how satisfied households were with different services. This information is meant to support improvements in services and accountability through two-way communication with those receiving assistance.

Figure 34: Level of satisfaction with how household needs are being met
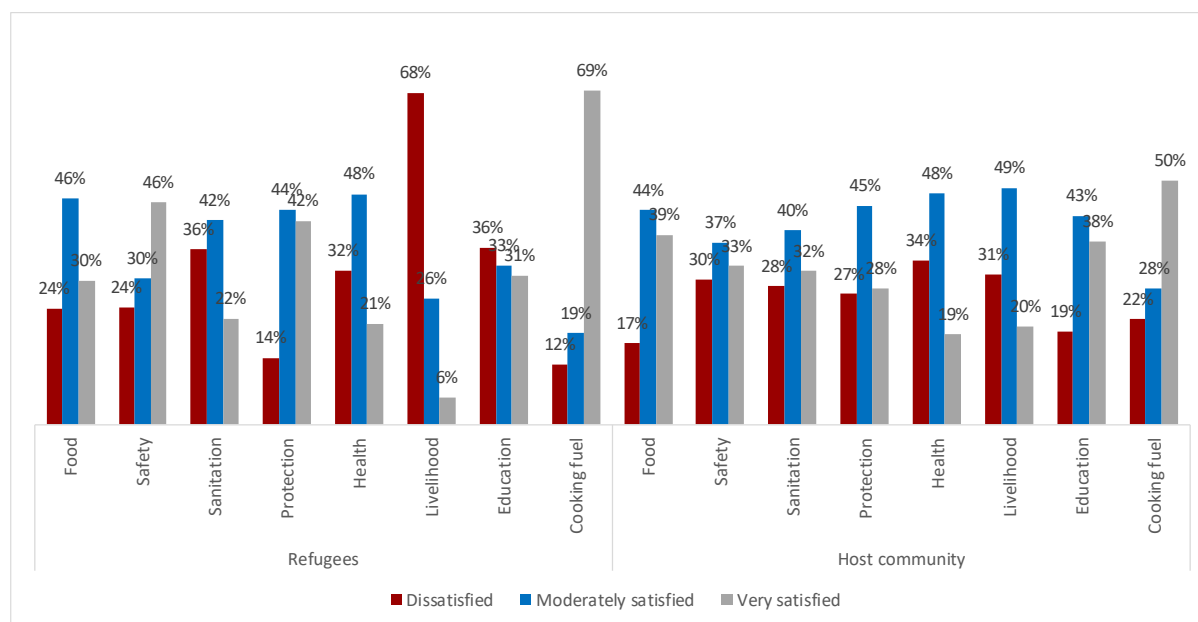
Seven out of ten Rohingya households were very satisfied with how their cooking fuel needs were being met (figure 34), as were 5 out of 10 host community households. The host community may use a variety of cooking fuel sources but for refugees, it is evident that the scale-up of LPG distribution has brought about satisfaction in the absence of alternative sources of energy. The scale-up has boosted reforestation programmes by reducing demand for firewood and has saved households time and the risk involved with searching for firewood from the forests. By contrast, almost 7 out of 10 Rohingya households expressed dissatisfaction with how livelihood activities were being addressed, either in terms of the scope of these activities or the selection process of participants. Education, health and sanitation were some of the other areas with relatively high levels of dissatisfaction among Rohingya households. For the Bangladeshi community, more households expressed concern over health, livelihood and safety issues. Of those who reported incurring debts, 29 percent said they were borrowing to cover healthcare costs. Negative perceptions of healthcare continue to drive many households away from health facilities; households reported incurring high costs for medication that was not available in the humanitarian facilities.

4.16 Conclusions

As the Rohingya crisis evolves and becomes more protracted, it calls for a review of the response modalities. Needs are increasingly becoming diverse and complex, necessitating a rethink of the response strategies, placing greater emphasis on strengthening linkages between sectors, with a drive towards an integrated approach to provision of essential needs of the affected populations.

Food assistance

Vulnerability levels remain persistently high which calls for the need to **continue blanket food assistance** for the Rohingya refugees. Due to differences in levels of vulnerability, complementary assistance (e.g. unconditional top-ups) remain critical for the most vulnerable households to help them bridge the food MEB gap. However, the new adjusted transfer value of the e-vouchers entitlement remains up to 25 percent short of the food MEB. To bridge this gap, **targeted** enrolment of refugee households into other **complementary assistance programmes** such as cash-for-work and self-reliance activities, giving priority to households with multi-layered vulnerabilities, remains key.

Efforts are continuing to increase access to fresh foods through fresh food corners in e-vouchers outlets and the farmers' market initiative, though the number of these facilities remains low. Considerations are also in place to increase **product varieties** (meeting consumer tastes and preferences). As the transition to e-vouchers continues, options that could be piloted to encourage multiple visits and allow refugee households flexibility in their purchasing behaviours include:

  o Enabling e-vouchers balances at the end of the month to be carried over to the next month (increase the voucher validity period); and

  o Exploring the possibility of allowing beneficiaries to redeem entitlements from any retail outlet or from those closest to their home in order to address the distance problem reported by beneficiaries.

As findings show that some of households receiving e-vouchers (2 out of 10 refugee households) are still not aware that they can visit the retail outlets multiple times in a month, more efforts are needed to **raise awareness of the shopping options** available to refugee households.

As the sale and exchange of assistance is driven by the desire for other food and non-food items, considerations on piloting an **expansion of the multi-wallet system** (which currently covers LPG and soap only) to cover other essential goods and services provided by the humanitarian agencies remains an option.

Reviewing the porter system to ensure that it functions properly and that services reach those most vulnerable in greatest need of this support is necessary, including checking for and mitigating any potential abuse of the system. A coordinated mechanism by humanitarian actors for identifying the most vulnerable people who require additional support can also help address some of the challenges.

Nutrition

As micronutrient intake remains low, and diets continue to be monotonous, it calls for more efforts in **nutrition-sensitive programming**. Scaling up existing programmes (e.g. homestead vegetable gardening and small livestock production) that promote the production and consumption of nutrient-dense foods is an option. Increasing the **availability of food items** rich in vitamin A, proteins and most importantly haem iron in the e-vouchers outlets and through the farmers' market initiative would help boost micronutrient intake. Continuing the efforts in **nutrition messaging** and social behavioural change communication (SBCC) in camps and host communities with partner organizations is also necessary.

Monitoring and further studies

Close monitoring of households' purchasing behaviours and food utilization is important to generate evidence for programme redesign. Monitoring the new initiatives such as the rice capping and farmers' markets and exploring the possibility of conducting **a rigorous evaluation exercise** to ascertain actual impact can provide sound evidence for programme re-design.

Continuous market **monitoring,** for price and commodity availability, across the camps and in key markets around the camps that influence supply and pricing is necessary to inform changes in the food baskets and price setting in the WFP retail outlets.

Close monitoring of the **effects of the LPG scale-up,** and possibly undertaking a study on its impact in reducing vulnerability and improving household food security is necessary. There is also a need to undertake a further study to understand **food utilization practices** at the household level and intra-household decision-making attributes, all of which play a role in shaping tastes and preferences, which might be hindering improvements in food consumption outcomes.

School feeding (refugees and host community)

Provision of nutritious food (micronutrient-fortified biscuits) to children in schools and learning centres, has been shown to have a positive impact on children's attendance and health outcomes and ought to be continued.

Skills development

Scaling up of **vocational and skills training, socio-economic empowerment initiatives and self-reliance activities** mainly targeting the youth and women both in the camps and host community is critical, to enable access to economic opportunities.

Protection and Social cohesion

As protection related challenges like theft/robbery, harassment, and tension between refugees and host communities are still prevalent, strengthening of protection measures and mechanisms that have been put in place to address these challenges are needed. Furthermore, the need for programme interventions that aim to create **social cohesion and peace** within the camps and between the camp and host communities should continue to be explored.

Self-reliance (refugees) and livelihood opportunities (host community)

As demonstrated throughout the report, access to alternative income beside assistance is vital to reducing vulnerability. As such, **self-reliance programmes for refugees should be scaled up** to help reduce their economic vulnerability.

For the host community, **continuing to scale up economic and livelihood support initiatives** will assist in mitigating the potential impacts of the influx. This scale-up requires a well-coordinated effort to avoid duplication and ensure wider geographic coverage, and to the extent possible, should be aligned with the Government's development blueprints and strategic priorities. To this end, a landscaping exercise to map all social safety net programmes in the host community will be fundamental. There is also the need for further **research into and mapping of enterprises that respond to market demand** and have viable value chains.

Other sectors

Health

In order to change perceptions **on available health service provision** and available medicines in the clinics in the camps, increasing sensitisation will be paramount. Increasing the availability of **essential medicines** in the camp health facilities to cover the treatment of the most prevalent diseases could also boost the camp population's confidence in the facilities. There is a need to undertake a qualitative survey or **sector analysis to better understand current gaps**, households' health seeking behaviour and reasons for high expenditures on healthcare.
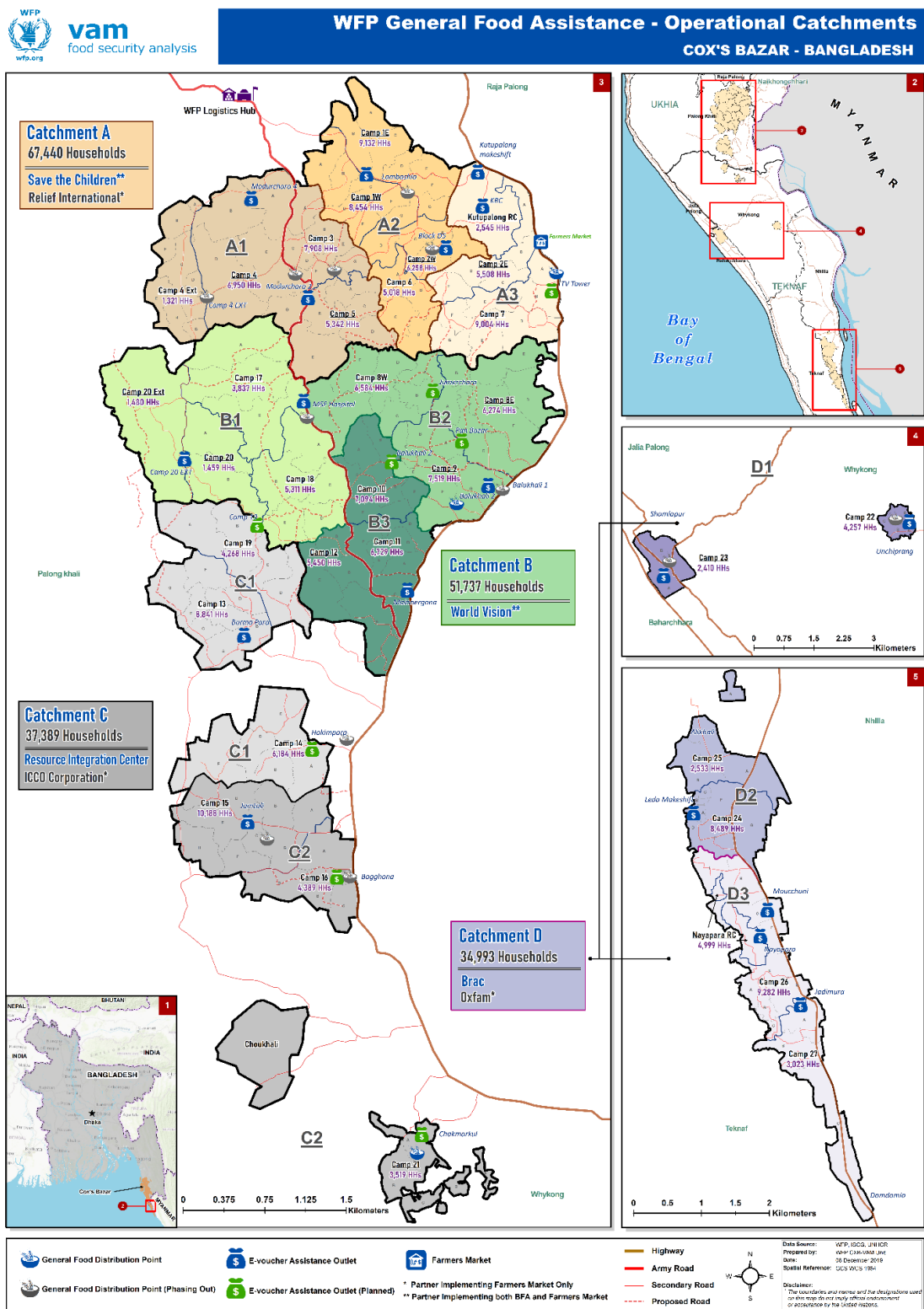
Sanitation

To address the refugees concerns over sanitation, **increasing latrine facilities** and ensuring regular checking and maintenance of non-functioning facilities to respond to the needs prioritized as most serious by refugees is needed. Furthermore, expanding sensitization and **awareness campaigns on handwashing** and increasing the number of handwashing stations in accordance with the number of refugees using the facilities will be key. Access to latrines and health centres could be increased as part of **cash for work / food for assets activities.**

Annexes

Annex I: WFP operational map

Annex II: MDDI methodological process

Dimension	Dimension weight	Indicator	Note	Indicator weight
Education	20%	Not all school age children (6-17) attending school (absence > 1 year)	Conditions for a school-aged child to be considered out of school for at least 1 year: -Child is between the ages of 6 and 18 -Child's occupation *is not* listed as 'student' -Child stopped attending school before 01/01/2019	10%
		At least one child in the household not attending school for lack of necessary financial resources		10%
Health	20%	More than half of household reported sick in past month		10%
		Does the household have a 'serious problem' because it is unable to access adequate healthcare?	2018 REVA used acute and chronic illness to measure health. These metrics were measured differently in 2019 REVA- it was decided not to use them for the MDDI. Instead, households were asked to subjectively measure whether they had a 'serious problem' because they were unable to access healthcare.	10%
Food security	20%	Households with 'poor' or 'borderline' Food Consumption Scores (FCS)		10%
		Reduced Coping Strategy Index (RCSI) of the household is higher than 18		10%
Living conditions	20%	Households with a Crowding Index above 2.5	Crowding index is the number of household members divided by the number of rooms in the household (threshold for 2018 REVA was 2).	5%
		Unimproved toilet facilities	The household's latrine type is either a kutcha (unsealed) or none (open field).	5%
		Poor living standards (unimproved water source and unimproved cooking fuel source)	Water source: measured via households' subjective perception of water access (whether household reported any 'problems' accessing water). Fuel source: 'Unimproved' is defined as any fuel source that is *not*: electricity, kerosene, firewood or LPG	5%
		Damaged dwelling	'Damaged dwelling' defined as a house which the survey respondent classifies as 'very damaged' or 'in a very poor state'	5%
Income	20%	At least 1 household member engaged in high-risk/illegal activities	High-risk/illegal activities are defined as any of the following: -A child under 15 years working to contribute income to the household -Anyone over the age of 15 working over 43 hours a week or in hazardous conditions -Begging -Anyone accepting 'high risk' or 'illegal' jobs	5%
		No household member worked in the past 30 days		5%
		No sources of income over last 30 days		5%
		Does the household have a 'serious problem' because it does not have enough money/resources/income to live?	Respondents were asked whether they feel the household has a 'serious problem' in this regard. *Note that this question was not included in the 2018 REVA MDDI.	5%

- All the indicators above were checked for significant correlations in order to ensure there was no double counting.
- For each indicator, a positive answer was coded as 1 and a negative answer as 0. Each answer was then multiplied by the indicator weight. Summed together, each household gets a score out of 1, where any value greater than or equal to 0.3 equates to 'multidimensional poverty', i.e. deprivation across multiple sectors ('MD Poor'). Please note that this threshold is different to the one used in 2018 REVA, which used 0.4 because of variations between the surveys' questionnaires.
- A household is considered deprived in any one dimension for which at least 50% of the indicators are coded as positive answers.

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