Graduation approach to poverty reduction in the humanitarian context: Evidence from Bangladesh

Abstract

Increasing forcibly-displaced populations worldwide are adversely affecting the poorest host communities' livelihoods. Livelihood programmes can reduce this tension by addressing host communities' skills and capital constraints. In this paper, we examine the effect of a customised version of BRAC's Ultra-Poor Graduation (UPG) programme on the livelihoods of the host communities of Rohingya refugees. We find that the programme increases labour supply in self-employment of working-age men and women, household income, food expenditure, and productive asset. Further, we find some weak evidence that the programme decreases the tension between hosts and Rohingya refugees.

1. Introduction

Forcibly-displaced people grew from 43.3 million in 2009 to 70.8 million in 2018 (United Nations High Commissioner for Refugees [UNHCR], 2018). Developing and poor countries host a large share of this population. According to UNHCR (2017), developing regions host 84%, and the least developed countries provide asylum to 28% of the world's refugees. For example, Bangladesh hosts 906,600 refugees, mostly from Myanmar (UNHCR, 2018). The host countries' policymakers thus face a conflict between refugees' needs and citizens' well-being when both groups compete for common scarce opportunities and resources (Innovations for Poverty Action [IPA], 2019).

Evidence shows that refugees affect the host communities' economic lives significantly and unequally. Verme and Schuettler (2021) reviewed empirical models used by 59 studies and conducted a meta-analysis of 972 separate results collected from these studies. Their meta-analysis shows that most results on employment and wages are not significant. However, when significant, decreases in employment and wages are more likely to occur than increases. They also find that food and rent prices increase in the short term, but other prices decrease. A quasi-experimental evaluation of Syrian refugee inflows in Turkey shows that the likelihood of having an informal job declined by 2.26 percentage points for natives, while the formal employment increased by 0.46 percentage points, indicating a net decline in employment (Tumen, 2016).

Rigorous evidence on the effect of the Rohingya refugee influx in the Cox's Bazar district of Bangladesh is not available. Several descriptive studies, however, provide evidence of a significant reduction in the earnings of host communities. United Nations Development Programme (UNDP, 2018) finds that the average daily labour

wage was BDT 417 pre-influx and came down to BDT 357 after the influx — a 14%

decline. The poverty rate also increased by about three percentage points in Teknaf and

Ukhiya — shelters of most Rohingya refugees (UNDP, 2018). Another study finds that

wage deterioration is more likely to induce short-term negative economic impacts than

price increases (World Bank, 2019). A simulation exercise by Filipski et al. (2019) shows

that without any mitigating interventions, a rise of 800,000 refugees — roughly the

number of refugees entering Cox's Bazar between 2015 and 2018 — causes a 31% drop

in local wages. However, a study by IPA (2019) contrasts the above results. It shows that

employment increased by five percentage points among the male population in host

communities during pre- and post-influx (IPA, 2019).[1] There is also evidence of price

increases of essentials due to the Rohingya influx. For example, Alam et al. (2020) show

that overall food prices increased by 9%, and protein and vegetable prices increased by

8% and 36%, respectively, in the host region relative to other areas.

A recent study, conducted on the impact of the Rohingya influx on host

communities using data from 35 villages located nearby Rohingya camps, shows that

between 2015 and 2020, the mean income of the sample households declined by 11%

(Ullah et al., 2021). The study does not consider the counterfactual. Bangladesh's

economy grew at the rate of more than 5% per year over the last decade. Assuming that

the economy of the sample villages covered by the Ullah et al. (2021) would have

experienced the same growth (or at least there was no negative growth) if there was no

---

[1] IPA (2019) also shows that while female employment increased substantially (20%), the overall low female
employment (29% prior to the refugee influx) suggests the increase in female employment has little effect on the
total household income.

refugee influx, these statistics indicate substantial negative effects of Rohingya refugee influx on the income of households in host communities. Further, as discussed in detail in Section 4 of this study, data from a nationally representative survey conducted in January 2021 by the BRAC Institute of Governance and Development (BIGD), BRAC University, show that in February 2020, 69% and 30% of working-age men and women, respectively, in the Cox's Bazar district were employed compared to 87% and 52% in nearby Chattogram district and 88% and 65%, respectively, in other regions of the country. These statistics also indicate substantial negative effects of the Rohingya refugee influx on the employment of host communities.

The theory regarding the reduction in wage and employment of host communities is as follows. If the refugees are not allowed to work formally, they may supply inexpensive labour in the informal market (Balkan & Tumen, 2016). In such a situation, informal native workers may be partly substituted by the refugees; Ceritoglu et al. (2015) document evidence on this for Syrian refugees. The native workers may then migrate to other parts of the country where the wage is likely to be higher, but market failures such as credit and informational constraints may constrain this (Byran et al. 2014). Consequently, the native informal workers may end up with lower earnings. Another channel is that due to the large refugee influx, native households may not be able to undertake activities such as fishing, foresting, etc., due to government restrictions. As a result of the Rohingya refugee influx, for example, an opportunity such as fishing declined because the government banned fishing in the nearby Naf river due to security reasons (International Organization for Migration [IOM], 2021).

4

Rigorous evaluation of livelihood programmes for host communities is limited. Most of the existing studies use qualitative approaches. For example, the International Labour Organization (ILO, 2019) evaluates a training programme for refugees and host communities in Ethiopia, focusing on improving their livestock herders' access to market information, regional trader networks, and new local slaughterhouse, and entrepreneurial and business skills. The study finds that the intervention increased linkages between these two groups' livestock herders and regional traders, thereby enhancing access to better economic opportunities. Another qualitative and descriptive assessment of a livelihood programme for host and displaced communities in Nigeria reports positive impacts (Regional Development Consultants [RDC], 2018). Using a randomised controlled trial (RCT), Valli et al. (2019) examined the effects of transfers, including cash, food, and food vouchers, to Colombian refugees and poor Ecuadorians on social cohesion. They find that the intervention contributed to integrating Colombians into the hosting community through increases in personal agency, attitudes accepting diversity, confidence in institutions, and social participation.

In this paper, we study a livelihood programme for the ultra-poor from Rohingya refugees' host communities in Cox's Bazar, Bangladesh. It is a customised version of BRAC's Ultra-Poor Graduation (UPG) programme, which was first piloted in rural Bangladesh in 2002, and has been scaled up in 45 countries.[2] Several studies evaluating this programme in Bangladesh and other countries document positive effects on the

---

[2] http://www.brac.net/program/ultra-poor-graduation/

livelihoods of ultra-poor households (Bandiera et al., 2017; Banerjee et al., 2015).[3] Although these studies find large impacts of the programme, results vary across contexts.[4]

Cox's Bazar district of Bangladesh is a good context for studying the effects of the UPG programme on the host communities because this is one of the largest host communities in the world. Further, a significant proportion of people in Cox's Bazar district were poor before the influx.[5] Hence, the findings have important implications for other contexts (external validity).

We use a quasi-experimental approach on the 2018 cohort selected from five unions of Ukhiya and Teknaf sub-districts of Cox's Bazar, where the Rohingya refugees are living. Programme participants, selected using criteria such as income, asset, and demographic characteristics, were divided into two groups. Group 1 was poorer than Group 2 in terms of observable characteristics. Thus, Group 1 received product assets as grants, training, and other supports (hereafter grants-only intervention), while Group 2 received partial grants, training, and other supports (hereafter hybrid intervention). This paper employs two rounds of data collected in 2018 (baseline) and 2020 (follow-up) on

---

[3] Banerjee et al. (2015) cover India, Ethiopia, Pakistan, Ghana, Honduras, and Peru, while Bandiera et al. (2017) studied the programme in the context of Bangladesh. These papers study the grant-only intervention of the UPG programme. It provides the ultra-poor with productive assets (mostly livestock and poultry), consumption allowance, classroom training on enterprise management, home visits, and health and social development support.

[4] For example, Banerjee et al. (2015) find that four countries — Ethiopia, Ghana, India, and Pakistan — have statistically significant and positive impacts on most outcomes of interest. In contrast, Honduras and Peru have weaker results, with statistically significant positive impacts on three out of 10 and four out of 10 families of outcomes, respectively, before multiple hypothesis adjustments. Overall, these findings suggest that context matters for the programme's results.

[5] According to the latest Household Income and Expenditure Survey (HIES), the rate was 17% in 2016 (Bangladesh Bureau of Statistics [BBS], 2019).

6

programme participants and non-participants. The non-participant group represents near eligible households from the same community. We use a difference-in-difference (DiD) estimator to examine programme impacts. Our results show that the programme increases the working-age population's labour supply in poultry and livestock rearing. Due to the programme support, the per capita real income of participant households of the grants-only and hybrid interventions increases by 29% and 27%, respectively. The programme significantly increases the productive asset accumulation of both groups of participants. Results also show that the programme has positive effects on savings and rented land. The benefit-cost ratio (BCR) is estimated at 2.72 for the grants-only intervention, indicating that an investment of BDT 1.00 yields BDT 2.72. For the hybrid intervention, the BCR is estimated at 2.76.

We find that as a result of the intervention, participants of the grants-only intervention are more likely to report that their income has increased due to the Rohingya refugee influx. This result suggests that they may be more likely to have positive attitudes towards the refugees as a result of the intervention. This may reduce the tension between the participants of this intervention and refugees. By contrast, the participants of the hybrid intervention are more likely to report theft, insecurity and less government support along with income increases. Hence, the effects of the hybrid intervention on the tension between the two communities are ambiguous. Overall, our results suggest that there is some weak evidence that the UPG programme decreases the tension between hosts and refugees.

We have compared the results of our study with those from previous papers on the UPG programme studied in the general rural areas of Bangladesh. We find that the UPG

programme is relatively less effective (particularly in terms of cost-effectiveness) in the humanitarian context. This is mainly due to the fact that the target population in the humanitarian context are more vulnerable.

Our paper contributes to the literature on poverty alleviation programmes. First, it extends the existing literature on livelihood programmes for host communities of refugee populations (ILO, 2019; RDC, 2018; Valli et al., 2019). Unlike the previous studies, our study is based on quantitative data and examines the effects on livelihoods (employment, income, and consumption). Second, this paper extends the existing literature on the graduation programme by examining its effect in the humanitarian context (Bandiera et al., 2017; Banerjee et al., 2015). Existing literature reveals that the graduation approach is highly effective for the general rural ultra-poor with a relatively stable labour market. Whether it is effective in the humanitarian context is a question worth exploring that we attempt to answer in our study. We also compare the effectiveness of the UPG programme across the host community and the general context of Bangladesh. Further, we examine whether the UPG programme reduces the tension between hosts and refugees.

The rest of the paper is organised as follows. Section 2 discusses the context of the study, while in Section 3, the intervention details are provided. Section 4 discusses evaluation design, data collection, and descriptive statistics. In Section 5, we present estimating equations while section 6 discusses the results. Section 7 provides a cost-benefit analysis and compares the results of this study with previous studies on similar interventions. Finally, Section 8 concludes the paper.

2. The context

Bangladesh is one of the most densely populated countries in the world, with about 1,200 people living per square kilometre. The Cox's Bazar district, where the Rohingya refugees have taken shelter, is also densely populated. Further, Cox's Bazar's net cropped area (35%) is lower than the national rate (54%) (Bangladesh Bureau of Statistics [BBS], 2021). The situation of this district is also worsened by the high prevalence of natural disasters and climatic change-related shocks.

In August 2017, 641,000 Rohingya refugees entered Cox's Bazar, Bangladesh, from the neighbouring Rakhine state of Myanmar to flee from the unrest and attacks directed towards them (UNDP, 2018). This number added to some 278,000 existing Rohingya refugees left previously in 1978 and 1992 (UNDP, 2018). Within a few months, Bangladesh became one of the major nations to host refugees, with 4.7% of the total refugee population. Teknaf and Ukhiya — the two southern sub-districts of Cox's Bazar — are bearing the highest burden, with Rohingya refugees constituting more than a third of the local population (UNDP, 2018). Currently, there are two government-run refugee camps — Kutupalong in Ukhiya and Nayapara in Teknaf. Additionally, there also exist 25 smaller camps. Bangladesh Government attempted to resettle the refugees in Bhashan Char's island, and so far, only 2,000 refugees have relocated.[6]

---

[6] https://www.hrw.org/report/2021/06/07/island-jail-middle-sea/bangladeshs-relocation-rohingya-refugees-bhasan-char

According to UNDP (2018), the Government of Bangladesh (GoB) refers to Rohingya who entered Bangladesh since August 2017 as Forcibly Displaced Myanmar Nationals (FDMNs). Further, they are not recognised as "registered refugees," but the United Nations (UN) system is mobilising humanitarian aid for these displaced persons. However, in this paper, we refer to them as refugees.

When the influx occurred during August–October 2017, the Cox's Bazar District Administration bore the brunt of the emergency operation, providing land, food, shelter, and other settlement logistics. As UNDP (2018) mentions, at the initial stage of the crisis, most initiatives were related to immediate crisis response, but the enormity and complexity of the need to provide immediate food and shelter to so many people required joint efforts. Thus, the humanitarian community worked closely with the GoB to draw up its Joint Response Plan (JRP) for 2018 (March–December). The JRP covers strengthening government institutions and systems in the area of health, nutrition, water, sanitation, hygiene, education, agriculture, forestry, and the environment.

As mentioned previously, the Rohingya influx has negative effects on the livelihoods of host communities, but evidence shows that the support for the host communities is little. An assessment conducted by Save the Children, BRAC, World Vision, World Food Programme (WFP), and UNHCR (2018) shows that the impact of the influx of refugees on the host communities has been substantial, but to date, they have received very minimum support from the international humanitarian community or local government.

3. The intervention

Since 2002, BRAC's Ultra-Poor Graduation (UPG) programme[7] has been working for the poorest to create a sustainable livelihood pathway for them. It is implemented through BRAC's local offices known as "branch offices" across Bangladesh. The programme has gained notable popularity over the years[8] and has gone through many iterations and modifications over time, following careful and continuous research on the ultra-poor and changing surroundings.[9]

To tackle the humanitarian crisis of Rohingya refugees, BRAC, in collaboration with UNHCR, implemented the UPG programme for the host communities. The main objective was to support the vulnerable host communities cope with the ongoing challenges and ensure self-sustainable livelihoods. The programme design was modified to a unique set of targeting criteria and support to address their unique vulnerabilities. The participant selection process, however, was done following the usual rigorous and multi-staged process (Bandiera et al., 2017). The process involves participatory wealth ranking (PWR), household survey, and further verification through household visits. The programme planned to cover 2,000 ultra-poor households in Teknaf and Ukhiya sub-districts in Cox's Bazar.

3.1. Selection criteria and support

As mentioned previously, the programme was implemented for two groups of participant

---

[7] Formerly the programme was known as the Targeting the Ultra Poor (TUP) programme.

[8] The UPG programme implemented in rural areas across the country is found to be very effective in improving the economic and social lives of the participant households (Ara et al., 2017; Bandiera et al., 2017; Das & Misha, 2010).

[9] For example, with the realization that not all the ultra-poor required a grant-based intervention (due to heterogeneity among them), from 2007, the programme started offering a credit-plus-grant intervention as well.

11

households in Cox's Bazar. These households must fulfil the following prerequisites:

- Per capita daily income is less than USD 1.90 at the purchasing power parity (PPP) exchange rate.

- There is at least one physically active[10] female member in the household.

- Any household member is not a current borrower of any formal financial/microfinance institution.

Besides these, a set of other criteria is also used (Table 1). To be eligible for the grants-only intervention, a household must fulfil Criterion 1.1 and either of the remaining two criteria. By contrast, to be eligible for the hybrid intervention, a household must meet any two out of the four criteria. Hence, as per the targeting criteria, the participants of the grants-only intervention are more vulnerable than those of the hybrid intervention. This distinction was made because the former group received assets as grants, while the latter group received partial loans, i.e., some credit and some grants (towards purchasing a productive asset or initiating a small business venture).

[Table 1 near here]

The complete support package offered to the programme participants includes the following components (a summary of the support components is provided in Table 2).

Table 2 here

(1) Enterprise development training

---

[10] "Active" refers to being physically capable of maintaining the enterprise offered by the UPG programme.

Selected participants (both groups) choose suitable enterprises from a set of options selected by the programme based on their surroundings, enterprise management experience, household members' physical fitness, availability of relevant services, and the scope of marketing outputs/assets. The options include cow rearing, goat rearing, poultry rearing, land cultivation and non-farm business. To help the participants select an enterprise, the programme staff also discussed several issues with them. These include potential income and expenditure, the pros and cons of managing the enterprise, loan repayment details (if selected for the hybrid intervention), and supporting services provided by the programme.

Upon selecting enterprises, participants receive enterprise development training to learn how to properly maintain assets, develop business strategies, improve enterprise management skills, build confidence, and plan for the future. During the three-day-long training, separate sessions are organised for both groups of participants, with no more than 25 participants per batch. Later, during the programme cycle, which is usually two calendar years, including, among others, the time required to select beneficiaries, the participants received another seven days of enterprise-specific training. [11]

(2) Asset transfer

After completing the training, the participants of the grants-only intervention received assets as grants from the programme (i.e., purchased by the programme staff). The assets included mostly livestock and poultry. For the participants of the hybrid

---

[11] The programme runs for about two years for each cohort, covering the selection process to graduation from the programme.

intervention, the programme disbursed cash for buying assets (mostly livestock and poultry) on which they received training. They had to repay 50% of the cash disbursed.[12]

(3) Hands-on coaching

The participants of both groups receive hands-on coaching bi-weekly throughout the programme cycle (about two years), through group meetings and one-on-one home visits.

(4) Matched savings

Each participant of both interventions opened a savings account with the programme, where they could save as per their ability. The programme offered savings matching to all to motivate them to develop the habit of saving. Under this component, the programme deposited double the amount of money the participant saved in her savings account at the end of the month. The maximum ceiling of savings eligible for this facility was BDT 100 (for which the programme deposited BDT 200 in their account). Thus, a participant received maximum matched savings worth BDT 3,000 during the programme cycle (15 months).[13]

(5) Healthcare service

The programme provided healthcare facilities to participants and their household members of both groups. For severe morbidity, BRAC provided financial assistance; for mild illness, the patients were referred to nearby health centres.

(6) Community resource mobilisation

---

[12] The asset value depends on the type of asset. The value of livestock (i.e., bulls, calves, or goats) varies from BDT 14,500 to BDT 22,000 at 2018 constant prices, while the value of micro business and land lease for cultivation is BDT 14,000 and BDT 20,000 at 2018 constant prices.

[13] In case of emergencies or for increasing assets, participants can withdraw their savings (as well as the amount provided by the programme as matched savings) as per their needs with the Regional Manager's approval.

Community resources were mobilised for both groups of participants by forming a committee called the village social solidarity committee (VSSC). The elite people (teachers, local elected members, etc.) of the community come forward to form this committee. They were supposed to communicate with the programme participants even after the programme cycle and mobilise resources to meet their emergency needs.

4. Evaluation design, data collection, and descriptive statistics

4.1. Evaluation design

This study uses a quasi-experimental design to estimate the effects of the programme. For this purpose, we compare ultra-poor households selected for the programme with near-eligible households from the same community. The near-eligible households were primarily selected for the programme but failed to pass the final selection. Specifically, the near eligible households (hereafter non-participants) are those who were ranked in the bottom two wealth groups in the PWR and then were surveyed through household visits by the programme staff but were found to be ineligible. Since BRAC and UNHCR selected five unions (two from Ukhiya and three from Teknaf) near the Rohingya refugee camps for implementing the intervention, the research team selected the study sample from these unions. We planned to survey randomly selected 400 households from those selected for the grants-only intervention, 400 households from those selected for the hybrid intervention, and another 800 near-eligible households.

The sample households were proportionally divided across the five unions. In the case of union-wise sample distribution within the two participant groups, we followed the approximate ratio of households selected by the programme for the two types of

interventions in each union (40:60).[14] The number of non-participant households surveyed from each union is equal to the total number of participants for both interventions in the respective union.

4.2. Data collection

We conducted a baseline survey in July–August 2018. As the UPG programme delivers support to the selected households' main female members, they were our survey respondents.[15] However, she may or may not be an earning member or be involved with household decision-making.

The baseline survey successfully visited 402 and 401 households eligible for the grants-only and hybrid interventions, respectively, and 802 non-participant households. The follow-up survey conducted in March 2020 could successfully revisit 1,562 of the 1,605 households surveyed at baseline. Among them, 394 and 392 households were eligible for the grants-only and hybrid interventions, respectively, and the remaining 776 were from the non-participant group. Of the 394 households (eligible for the grants-only intervention) successfully revisited, finally 324 received the grants-only intervention, 66 households did not receive assets, and four received the hybrid intervention. Of the 392 households (eligible for the hybrid intervention) successfully revised, finally 289 received the hybrid intervention, 98 households did not receive any intervention, and five received the grants-only intervention. Finally, of the 776 non-participant households successfully revisited, 12 participated in the programme (three households received the

_____

[14] The ratio is calculated based on the number of finally selected Group 1 and Group 2 households in the BRAC branch offices of the mentioned unions till 8 July 2018.
[15] The female who is knowledgeable about the household's daily affairs is referred to as the main female member.

grants-only intervention and nine the hybrid intervention). Therefore, this study uses data on 332 households of the grants-only intervention, 302 households of the hybrid intervention, and 928 non-participant households. We use the same non-participant group as the comparison group for assessing the effects of both grants-only and hybrid interventions.

Table 3 shows the attrition rate in the follow-up survey, along with the reasons for attrition. The attrition rate is relatively low (2–3%). In Table A1, we also verify that the attrition is not correlated with treatment status and baseline covariates.

[Table 3 near here]

The surveys collected detailed information on labour market participation and earnings of all members aged six years and above, food and non-food consumption and expenditures, natural, physical, and financial asset holding, self-reported food security, and social inclusion. Additionally, the surveys collected information on self-perceived changes in the host communities' economic and social lives after the Rohingya refugees' arrival.

4.3. Descriptive statistics

In Table A2, we report the basic baseline characteristics of programme participants and non-participants. We find statistically significant differences for most of the outcomes reported between participants and non-participants. Such differences happen because the intervention was not randomly assigned. The average age of respondents from households of the grants-only intervention is higher compared to non-participants. About

17

60% and 3% of women respondents from households selected for the grants-only and hybrid interventions, respectively, were divorced/separated/widows, while this ratio is 22% among non-participants. However, both participant groups were asset-poor at baseline. For example, at baseline, households of both interventions owned only two decimals of land on average. According to Quasem (2011), per capita cultivable land in Bangladesh is 12.5 decimals. Information reported in Table A2 also shows that at baseline, the participants of the grants-only intervention were poorer than the participants of the hybrid intervention. For example, the per capita monthly income of households of the grants-only intervention was BDT 1,126 compared to BDT 1,325 of households selected for the hybrid intervention.

We also asked our survey respondents regarding the Rohingya influx's impacts on economic opportunities in their communities. Around 70% of respondents reported that food prices increased last year (Table 4), and about 50% reported a decline in income. Though small in proportion, some households reported income increases due to the influx. Most importantly, around 20% of respondents reported a decline in government support.

[Table 4 near here]

As mentioned earlier, BRAC is also implementing the UPG programme in other parts of the country. A 2017 baseline survey conducted on ultra-poor households from outside of Cox's Bazar district shows that 90% and 82% of working-age men and women

are engaged in income-generating activities (IGAs) at baseline.[16] For our baseline survey in Cox's Bazar (2018), the corresponding proportions are 85% and 60%, perhaps indicating that due to the Rohingya influx, the host communities' working-age population was less likely to be employed. To verify this, we further analyse the employment of working-age women and men in Cox's Bazar district, nearby Chattogram district, and the rest of the country. The data used in this analysis were collected by BIGD, BRAC University, for the purpose of evaluating different programmes implemented by BRAC, an international development organisation.[17] The results are reported in Table 5. We find that the employment rate among working-age women and men was significantly lower in the Cox's Bazar district compared to nearby Chattogram district and the rest of the country, indicating that the Rohingya refugee influx has a negative effect on hosts.

[Table 5 near here]

5. Estimating equation

This section presents the regression equation used to estimate the intervention effects. Although our comparison group consists of near-eligible households, we find that they were well-off than both groups of participants in terms of various observable baseline characteristics. Thus, one may question if this group can be an appropriate counterfactual

---

[16] Rahman et al. (n.d.).

[17] The survey covered both BRAC programme participants and non-participants from all districts of the country. BRAC participants were over-represented in the survey, but we have used appropriate sampling weight to make it nationally representative (rural).

19

for assessing the interventions' impacts. However, we know that if the parallel trend assumption holds, DiD estimator can identify the unbiased estimates of treatment impacts. This assumption, sometimes referred to as the "common trends" assumption (Angrist & Pischke, 2009), states that the average outcomes for treatment and comparison groups would have moved in parallel, had the treatment not occurred.

The baseline survey collected data on the amount of land, poultry, and livestock for the two years before the baseline, using a recall method. We use these data to test if there is indeed any common trend in these outcomes across our treatment and comparison groups during the three years (2016–2018) prior to the intervention. Figure B1 shows the trends of the three asset items for three groups of households. It appears that for land and poultry, there is a parallel trend for participants of the grants-only intervention and the comparison group, and also for the participants of the hybrid intervention and the comparison group. For livestock, the trends are slightly less parallel. However, to formally test the parallel trend, we estimate the following DiD regression using pre-intervention panel data (2016–2018):

$$y_{it} = \alpha + \beta_1 Grants_i + \beta_2 YEAR2_t + \beta_3 YEAR3_t + \beta_4 YEAR2_t * Grants_i +$$

$$\beta_5 YEAR3_t * Grants_i + \epsilon_{it} \qquad\qquad (1)$$

Where y_{it} is the outcome variable of interest (land, poultry, and livestock) for household i in year t (2016, 2017, and 2018); $YEAR2_t$ is an indicator variable taking the value of *1* if t refers to 2017 and *0* if otherwise; $YEAR3_t$ is an indicator variable taking the value of *1* if t refers to 2018 and *0* if otherwise; $Grants_i$ is an indicator variable taking the value of *1* if household i was exposed to the grants-only intervention and *0* if non-participant; and

ϵ_{it} is an error term. A similar equation is estimated for examining parallel trends among households selected for the hybrid intervention and comparison group. If the estimates of β_4 and β_5 are statistically insignificant, they will indicate a parallel trend in the outcome between treatment and comparison groups. Regression results reported in Tables A3 and A4 show that the estimates of β_4 and β_5 are all statistically significant, indicating that there is a parallel trend among treatment and comparison groups in the pre-intervention period.

Finally, using 2018–2020 panel data, we estimate DiD regression to examine the impacts of the programme on the outcome variables of interest. We also control for individual/household fixed effects. These controls are likely to improve the precision of the estimate. Specifically, we estimate the following regression equation:

$$y_{it} = \alpha_i + \beta_1 YEAR_t + \beta_2 Grants_i \ast YEAR_t + \beta_3 Hybrid_i \ast YEAR_t + \epsilon_{it} (2)$$

Here, α_i are the individual/household fixed effects; y_{it} is the outcome variable of interest for individual/household i in year t; $Grants_i$ is a binary variable taking the value of 1 if the individual/household i received the grants-only intervention and 0 otherwise; $Hybrid_i$ is also a binary variable taking the value of 1 if the individual/household received the hybrid intervention and 0 otherwise; $YEAR_t$ is a dummy variable taking the value of 1 if t refers to follow-up (2020) and 0 if t refers to baseline (2018); and ϵ_{it} is an error term. If the parallel trend holds, cov (ϵ_{it}, $Grants_i \ast YEAR_t$) = 0 and cov (ϵ_{it}, $Hybrid_i \ast YEAR_t$) = 0 (Khandker et al. 2009). Since our data show that the parallel trend assumption is likely to hold, we assume that cov (ϵ_{it}, $Grants_i \ast YEAR_t$) = 0 and cov (ϵ_{it},

$Hybrid_i * YEAR_t) = 0$. Thus, β_2 and β_3 in equation (2) identify the causal effects of the grants-only and hybrid interventions, respectively.

Our estimates are likely to be biased if there are spillover effects as the comparison and treatment households are from the same communities. Existing evidence, however, shows that the UPG programme has no spillover effects on livestock assets, land, time devoted to livestock rearing, earnings, and food expenditures of ineligible households (Bandiera et al., 2017). They, however, find that the programme increases the value of other business assets (pumps, livestock sheds, trees, and rickshaws), agricultural labour, and work as housemaids of ineligible households. These results indicate that our estimates of the effects of main outcomes, such as time devoted to livestock rearing, income, food expenditure and productive assets (cow, goat, chicken, and land), are unlikely to be biased due to the spillover effect of the programme.

6. Results and discussions

In this section, we present and discuss results estimated using equation (2).

6.1. Impact on employment and income

Table 6 presents the estimated impacts on working-age males' and females' labour supply and per capita monthly income using equation (2). Panel A shows the effects on male members' labour supply, Panel B that of females, and Panel C on per capita monthly income. We collected information on income for the last year before the surveys. Per capita monthly income reported in Table 6 is at 2018 constant prices using the consumer price index (CPI). In Table A5, we report the same results as those reported in Table 6, but they are estimated without controlling for individual fixed effects.

Comparing the results reported in Tables 6 and A5, we find that stand errors decline after controlling for individual fixed effects. Hence, in the rest of the paper, we report and discuss the results estimated after controlling for individual/household fixed effects.

Results show that the programme increases working-age males' labour supply in poultry and livestock rearing (Table 6). The magnitude of the effects is large and economically meaningful. The effect of the grants-only intervention is equal to 216% of the non-participant group's mean at the follow-up, and for the hybrid intervention, the proportion is 289%. These results are quite expected since the grants-only intervention provided households with grants in the form of mainly poultry and livestock, and the hybrid intervention provided households with partial loans to purchase similar assets. The magnitude of the effect seems higher for the hybrid intervention. Time devoted to vegetable/fish cultivation also significantly increases for both groups of participants. Further, the hybrid intervention increases the time devoted to agriculture.

The programme also increases working-age females' time devoted to poultry and livestock rearing. The effect on this outcome for the grants-only intervention is about 142% of the non-participant group's mean at the follow-up, and the corresponding figure for the hybrid intervention is 132%. The intervention increases working-age females' time devoted to agricultural work and vegetable/fish cultivation as well. This rise is mainly due to increased access to cultivable land through the rental market (discussed later). But the magnitudes of the effects for both groups are low compared to the impact on the time devoted to poultry and livestock rearing. The grants-only intervention has reduced the time devoted to domestic help/begging significantly. The hybrid intervention, on the other hand, reduces the labour supply in household chores. Both interventions

23

significantly increase working-age females' total time devoted to earning activities. This finding indicates that they had idle labour capacity at baseline that they could use for a productive purpose due to the programme. The large impact of the programme on female employment is remarkable because Cox's Bazar is one of the poorest districts with low female labour market participation (Khondker & Mahzab, 2015).

Since the program increases the labour supply of working-age members of both groups of participants, though not all the effects are statistically significant, we expect that it might positively affect the household income of both groups. Results reported in Panel C of Table 6 confirm that it is indeed so. In terms of the magnitude of the effect, the grants-only and hybrid interventions increased income by 29% and 27%, respectively.

[Table 6 near here]

6.2. Impact on productive assets

Table 7 reports the interventions' impacts on selected productive assets. These results are estimated using equation (2). Results show that the programme significantly increases livestock and poultry ownership of both groups of households. This result is expected because, as discussed earlier, both groups received training mostly on these assets and received these assets in the form of grants or partial loans. Consequently, the programme significantly raises the total value of households' productive assets[18] among both groups. The magnitude of increase is more than twice the average grants/credit-plus-grants

---

[18] Household productive assets include livestock, poultry, different types of vehicles, agricultural machineries, sewing machine, tree, etc.

24

provided by the programme to the participants.[19]

[Table 7 near here]

Land is a critical productive asset in rural Bangladesh, as the agriculture sector provides employment opportunities for about 40% of the employed population aged 15 or above (BBS, 2018). But ultra-poor households have minimal access to cultivable land compared to other wealth groups (Bandiera et al., 2017). We do not find any statistically significant effect on cultivable land ownership (Table 8). This finding is perhaps not surprising, as it is too early to enable the ultra-poor to purchase land. Evaluating the UPG programme in rural Bangladesh, Bandiera et al. (2017) find no significant impact on owned land two years after the programme. However, they find a significant impact on it four years after the programme, indicating that the programme enables the participants to purchase land in the long run, rather than in the short run because it involves a significant amount of investment.

The programme, however, increases cultivable land taken on lease/mortgaged/share-cropped for both groups of participants. This finding resonates with the reported increases in working-age members' time devoted to agricultural work and vegetable/fish cultivation for both groups. Moreover, both the interventions increase homestead land.

[Table 8 near here]

---

[19] As mentioned in Footnote 10, the asset value varies according to the asset. The average asset value for the participants has been set at BDT 18,000.

25

6.3. Impact on expenditures

Table 9 presents the programme impacts on food, non-food, and total consumption expenditures, reported at 2018 constant prices using CPI. We find a significant positive impact on per capita food expenditures of both groups of participants. The magnitude of the effect of the grants-only intervention is about 21% of the non-participant group's mean at follow-up, compared to 11% for the hybrid intervention. This difference in the effects between the two groups is perhaps because the participants of the hybrid intervention had to use some of their income for repaying the loans provided by the programme. The effect on the total consumption expenditures is positive for both groups but statistically significant only for the grants-only intervention. However, we do not find any statistically significant effect on non-food expenditure.

[Table 9 near here]

6.4. Impact on savings and credit

One of the components of the hybrid intervention is credit. After repaying the credit, participants were eligible for further loans from BRAC's Microfinance programme. Hence, we expect that the hybrid intervention may increase loans. It may also increase savings, as there is a positive effect on income. Thus, we examine the impact on the outstanding amount of loans (i.e., currently due loans) and savings at the time of the follow-up (i.e., two years after the intervention). We find statistically significant impacts on savings (Table 10). The participants of the grants-only and hybrid interventions were 43 and 46 percentage points, respectively, more likely to have savings than non-participants. Consequently, the amount of savings is also higher for both participant

26

groups compared to their respective non-participant counterparts. The intervention increases institutional savings, i.e., savings at banks/post office/insurance, BRAC, and other non-governmental organisations (NGOs) for both groups.

[Table 10 near here]

We see an increase in total outstanding loans for both groups of participants (Table 11). There is also a positive and statistically significant effect on the outstanding amount of loans taken from BRAC by the participants of the hybrid intervention. These results suggest that the programme is likely to craft a sustainable graduation pathway for ultra-poor households through increasing financial assets.

[Table 11 near here]

6.5. **The impact of the programme on the attitude towards Rohingya refugees**

Evidence shows that the host community's attitude towards refugees is mainly determined by the effects of the refugee influx on the opportunities available to hosts. For example, Aukot (2003) describes that host communitys' grievances result from perceived inequalities of treatment in resource-constrained settings where refugees receive free shelter, firewood, food, and healthcare while the hosts do not. Similarly, Nielsen (2016) finds that the Turkish population increasingly became more impatient and annoyed with the various rights the Syrian refugees were receiving in terms of education and healthcare. Hence, it is expected that due to the intervention implemented for Rohingya hosts by BRAC, treatment households are likely to report more opportunities available to them after the influx. As such, we have attempted to examine the effects of the interventions on the participants' attitude towards Rohingya refugees using indicators related to opportunities and constraints faced by them. For this purpose, in the survey, we

asked respondents several questions related to increases/decreases in income, food prices, food expenses, transport costs, and government aid opportunities after the Rohingya refugee influx. If the effects of the programme on these outcomes are statistically significant, they are likely to indicate that the programme has changed the perception about the impacts of the refugee settlement.

Table 12 here

Table 12 reports the estimated effects on these outcomes. We find that the participants of the grants-only intervention are more likely to report that their income has increased due to the Rohingya refugee influx compared to non-participants. For other indicators, we do not find significant effects for this intervention. This suggests that the participants of the grants-only intervention may be more likely to have positive attitudes towards the refugees as a result of the intervention, suggesting that the tension between the participants of the grants-only intervention and refugees may decrease. On the other hand, we find that participants of the hybrid intervention are more likely to report theft, insecurity and less government support. Due to this intervention, however, participants are more likely to report income increases and a decrease in transport costs. Hence, the effects of the hybrid intervention on the tension between the two communities are ambiguous. Overall, our results suggest that there is some weak evidence that the programme has decreased the tension between hosts and refugees.

7. Cost-benefit analysis and comparison of results of this study with previous studies on the similar interventions

Cost-benefit analysis

This section analyses the UPG programme's cost-effectiveness. Following Banerjee et al. (2015) and Bandiera et al. (2017), we use household consumption expenditure change[20] as a key measure of the programme's benefits. We also include a one-time change in household assets[21] as measured in year two.

Panel A of Table 13 reports the cost per household; the programme spent USD 604.4/per household and USD 486.1/per household for the grants-only and hybrid interventions, respectively. We convert the cost using the exchange rate[22] of 2018 published by Bangladesh Bank at the year zero. Then we impute the cost of BDT 56,119 and BDT 45,134 for the grants-only and hybrid interventions, respectively, at year two, using a 6% annual inflation rate, since we calculate the benefits based on DiD estimates at year two. The first two rows under Panel B of Table 13 report the DiD estimates for household consumption expenditure at years one and two. We estimate the programme impact at year two[23] using our baseline and follow-up surveys. We compute the impact at year 1, assuming that it is slightly higher than half of that in year two[24]. We report the net

---

[20] Household consumption expenditure includes total expenditure on food and non-food items.

[21] Household assets include televisions, radios, mobile phones, jewellery, clothing, furniture, etc.

[22] On average, USD 1 was equal to BDT 82.9 during February 2018.

[23] In Table 11, we report DiD with fixed effects estimate on per capita monthly consumption expenditure. Based on this estimate, we calculate the annual impact (416.13*12*4 = 19,974) for Group 1; for Group 2, it is (145.27*12*5 = 8,716).

[24] We only have impact at year two. So, we cannot estimate the impact at year one using interpolation as Bandiera et al. (2017) did. However, we find that the impact at year one is 58% of the impact at year two in Bandiera et al. (2017)'s paper; we use this rate to compute the year one change in our paper.

present value of future consumption changes from year three onward in the third row of Table 13. For choosing social discount rates and time horizons, we follow Bandiera et al. (2017). Here, we assume that year two changes are repeated for 20 years from the transfer date (so 18 more years after year two). We report the change in household assets at year two.

The fifth row of the table adds up all benefits from rows one through four to compute the total benefits. Finally, the sixth row shows the BCR, calculated by dividing total benefit (fifth row of Panel B of Table 13) by cost at year two (Panel A of Table 13). The BCR shows how much return an investment of BDT 1.00 can yield. For example, for the grants-only intervention studied here, the average BCR is 2.72. That means that an investment of BDT 1.00 yields BDT 2.72 for participants of this intervention. The average BCR is 2.76 for the hybrid intervention. The difference between the grants-only and hybrid interventions in terms of average BCR is trivial. Thus, this finding indicates that the former intervention for comparatively better-off ultra-poor in host communities is as efficient as the latter for worse-off ultra-poor.

The seventh row of Panel B of Table 13 reports the BCR at different social discount rates and time horizons. Using the social discount rate of 10%, we start with the lowest time horizon of five years and end with 25 years with a ten-year interval. We again start with the highest time horizon of 30 years and end with 15 years with a five-year interval, and use the social discount rate of 12%, lining up with the World Bank[25]. Bandiera et al. (2017) also used the same discount rates to analyse sensitivity in BCRs.

---

[25] More information available at
http://documents.worldbank.org/curated/en/175851529346335395/pdf/ICR00004433-06132018.pdf

[Table 13 near here]

The limitation of computing the BCR for this study is that we have only one round of follow-up survey data. Thus, we cannot say with certainty the extent to which the benefits will change in the near future. Bandiera et al. (2017) show that such graduation intervention's impacts are even higher in the long run than in the short run. Based on only one follow-up, there remains the possibility of reporting lower than actual benefits that the programme produces.

Comparison of results of this study with previous studies on the similar intervention

Columns 1 and 2 of Table 14 show the estimated effects of the grants-only and hybrid interventions studied in this paper on selected outcomes. Column 3 reports the effects of the grants-only intervention studied by Bandiera et al. (2017). Note that Bandiera et al. (2017) cover households from 13 poorest districts. In column 4, on the other hand, we report results from a hybrid intervention studied by Rahman et al. (2021). This study uses RCT and covers 22 districts of Bangladesh. Results show that the grants-only intervention studied in this paper is more effective compared to the similar intervention studied for the general context of Bangladesh (columns 1 and 3).

The former is, however, less effective in terms of cost-effectiveness. This is mainly because the grants-only intervention studied by Bandiera et al. (2017) is found to generate larger impacts in the long run (after four years). For example, while there is no statistically significant effect on consumption expenditure in the short run, the long-run effect is large and statistically significant. However, the hybrid intervention studied in

this paper is less effective compared to a similar intervention studied in the general context of Bangladesh (colums 2 and 4). In terms of cost-effectiveness, however, this intervention is also less effective. These results suggest that the UPG programme implemented in the humanitarian context is less effective. The reason for less effectiveness of the programme implemented for the host communities in Cox's Bazar is perhaps because of the contextual issues. The households covered by the hybrid intervention in our study are poorer than those covered by the hybrid intervention studied by Rahman et al. (2021). For example, at baseline per capita income of the participant households of the hybrid intervention studied in this paper was BDT 1,188 compared to BDT 1,510 of the participants of the hybrid intervention studied by Rahman et al. (2021).[26] Further, Rahman et al. (2021) show that the intervention is less effective for poorer households. This perhaps explains why the hybrid intervention studied in the context of Cox's Bazar, where Rohingya refugees took shelter, is less effective.

Table 14 here

8. Conclusion

Developing and poor countries host a large share of the growing displaced people. Within a country, refugees tend to be located in relatively poorer and marginalised areas, making the tension between the host and refugee communities much more acute. Livelihood programmes are thus essential to eliminate the tension among host communities. Global evidence on the livelihood programmes' evaluation for the host communities is, however,

---

[26] The baseline survey of our study was conducted in 2016, while that of Rahman et al. (2021) was conducted in 2018. We have reported income at 2016 constant prices.

limited. Thus, we evaluate BRAC's graduation programme for host communities in Cox's Bazar, Bangladesh — the current residence of about one million Rohingya refugees.

In assessing our findings from the perspective of graduation from extreme poverty, it is worth noting that participants are expected to have access to better livelihood options through self-employment upon graduation from the UPG programme (and hence out of extreme poverty). They are also likely to experience improved financial inclusion through access to formal/semi-formal financial products, enhanced social integration with the knowledge of various social and health issues, and access to mainstream social and financial services. Considering all these aspects, overall, our results imply that the UPG programme targeted towards the ultra-poor from the host communities in Cox's Bazar is highly effective.

At a broader level, our findings indicate that this programme is effective for ultra-poor households in the context where the opportunity for wage employment is scarce and prices of essentials are higher due to shocks such as a large influx of migrants or refugees. Such adverse effects on the local labour market, especially for the poorest who rely on casual wage labour, due to a sudden and large-scale refugee influx is the reality in many refugee humanitarian contexts. These adverse impacts generate economic turmoil and add to the host-refugee high tension dynamics, which adversely affect the broader humanitarian action.

Therefore, the graduation approach's success in such a context is promising and should be considered a part of humanitarian-development nexus programming (Zetter, 2019). As our evidence indicates, such an approach can also provide an effective and

practical basis for improving the host-refugee tension and pave the way for better humanitarian action.

References

Alam, A., Dutta, I., & Haque, M. E. (2020). Economic impact of the Rohingya refugees: A natural experiment. Economics Discussion Paper Series EDP-2007, Manchester University.

Angrist, J. D., & Pischke, J. S. (2009). *Mostly harmless econometrics: An empiricist's companion.* Princeton University Press. https://press.princeton.edu/books/paperback/9780691120355/mostly-harmless-econometrics

Ara, J., Das, N. C., Kamruzzaman, M., & Quayyum, T. (2017). Walking on two legs: Credit plus grant approach to poverty reduction. CFPR-TUP Working Paper No.25. https://bigd.bracu.ac.bd/publications/walking-on-two-legs-credit-plus-grant-approach-to-

poverty-reduction/

Aukot, E. (2003). It is better to be a refugee than a Turkana in Kakuma: Revisiting the relationship between hosts and refugees in Kenya. *Refuge: Canada's Journal on Refugees*, *21*(3), 73–83.

Balkan, B & Tumen, S (2016). Immigration and prices: quasi-experimental evidence from Syrian refugees in Turkey, *J Popul Econ,* 29:657–686

Bandiera, O., Burgess, R., Das, N., Gulesci, S., Rasul, I., & Sulaiman, M. (2017). Labor markets and poverty in village economies. *The Quarterly Journal of Economics, 132*(2), 811–870.

Banerjee, A., Esther, D., Goldberg, N., Karlan, D., Osei, R., Parienté, W., Shapiro, J., Thuysbaert, B., & Udry, C. (2015). A multifaceted program causes lasting progress for the very poor: Evidence from six countries. *Science*, *348*(6236). DOI: 10.1126/science.1260799

Bangladesh Bureau of Statistics. (2018). Labour Force Survey 2016-17 (p. 49). http://203.112.218.65:8008/WebTestApplication/userfiles/Image/LatestReports/LFS_2016-17.pdf

Bangladesh Bureau of Statistics. (2019). Household Income and Expenditure Survey 2016.

Bangladesh Bureau of Statistics. (2021). Yearbook of agricultural statistics-2020.

Byran, G., Chowdhury, S. & Mobarak, A. M. (2014). Underinvestment in a Profitable Technology: The Case of Seasonal Migration in Bangladesh, *Econometrica*,82(5), 1671-1748. https://doi.org/10.3982/ECTA10489

Ceritoglu, E., Yunculer, H. B. G., Torun, H. & Tumen, S. (2015). The Impact of Syrian Refugees on Natives' Labor Market Outcomes in Turkey: Evidence from a Quasi-Experimental Design, IZA DP No. 9348, https://ftp.iza.org/dp9348.pdf

Das, N., & Misha, F. (2010). Addressing extreme poverty in a sustainable manner: Evidence from CFPR programme. CFPR-TUP Working Paper No. 19. https://bigd.bracu.ac.bd/wp-content/uploads/2020/03/Addressing-Extreme-Poverty-in-a-Sustainable-Manner-Evidence-from-CFPR-Program.pdf

Filipski, M. J., Tiburcio, E., Dorosh, P., Hoddinott, J., & Rosenbach, G. (2019). Modelling the economic impact of the Rohingya influx in Southern Bangladesh. IFPRI Discussion Paper 1862. https://ssrn.com/abstract=3456751

International Labour Organization. (2019). Evaluation of market systems development interventions for refugee and host communities in Jijiga, Ethiopia. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_713611.pdf

International Organization for Migration. (2021). Rohingya humanitarian crisis response: Monthly situation report.

Innovations for Poverty Action. (2019). The impact of large-scale forced displacement on Rohingya refugees and host communities in Cox's Bazar, Bangladesh.

https://www.poverty-action.org/printpdf/39281

Khondker, B. H., & Mahzab, M. M. (2015). Lagging districts development. Background Paper for the Seventh Five Year Plan. Dhaka: Bangladesh Planning Commission. https://www.researchgate.net/publication/332567169_Lagging_Districts_Development_Background_Study_Paper_for_Preparation_of_the_Seventh_Five-Year_Plan

Khandker, S. R., Koolwal, G. B. and Samad, G. B. (2009). Handbook on Impact Evaluation: Quantitative Methods and Practices, Washington D. C.: The World Bank.

Quasem, M. A. (2011). Conversion of agricultural land to non-agricultural uses in Bangladesh: Extent and determinants. Bangladesh Development Studies, Vol. XXXIV, March 2011, No. 1.

Rahman A., Bhattacharjee, A., Arman, R., Mumtahena, F., & Das, N. (n.d.). Impact evaluation of UPG programme's new model [Unpublished manuscript]. Dhaka: BRAC Institute of Governance and Development, BRAC University.

Rahman A., Bhattacharjee A., & Das, N. (2021). A good mix against ultra-poverty? Evidence from a randomized controlled trial in Bangladesh. *Review of Development Economics*, *1–32*.

Regional Development Consultant. (2018). Targeted protection and livelihoods support to most vulnerable IDP and host communities project in Borno State of Nigeria. Final evaluation report. https://www.nrc.no/globalassets/pdf/reports/targeted-protection-and-livelihoods-support/sdc-evaluation---targeted-protection-and-livelihoods-support-to-most-vulnerable-idp-and-host-communities.pdf

37

Save the Children, BRAC, World Vision, World Food Programme, & United

Nations High Commissioner for Refugees. (2018). Self-reliance situation of host

communities in Cox's Bazar.

https://fscluster.org/sites/default/files/documents/self_reliance_assessment_report-

final.pdf

Nielsen, S. Y. (2016). Perceptions between Syrian refugees and their host

community. Turkish Policy Quarterly.

Tumen, (2016). The Economic Impact of Syrian Refugees on Host Countries:

Quasi-Experimental Evidence from Turkey, *American Economic Review*, 106 (5), 456-

60. https:// doi: 10.1257/aer.p20161065

Ullah, S. M. A., Asahiro, K., Moriyama, M., Tani, M. (2021). Socioeconomic

status changes of the host communities after the Rohingya refugee influx in the southern

coastal area of Bangladesh. *Sustainability*, *13*(8), 4240.

https://doi.org/10.3390/su13084240

United Nations Development Programme. (2018). Impacts of the Rohingya refugee

influx on host communities.

United Nations High Commissioner for Refugees. (2017). Global trends: Forced

displacement in 2016. https://www.unhcr.org/5943e8a34

United Nations High Commissioner for Refugees. (2018). Global trends: Forced

displacement in 2018. https://www.unhcr.org/5d08d7ee7.pdf

Valli, E., Peterman, A., & Hidrobo, M. (2019). Economic transfers and social cohesion in

a refugee-hosting setting. *The Journal of Development Studies*, *55*(sup1), 128–146. DOI:

10.1080/00220388.2019.1687879

Verme, P., & Schuettler, K. (2021) "The impact of forced displacement on host communities: A review of the empirical literature in economics" *Journal of Development Economics*, 150 (2021) 102606

World Food Programme. (2017). Livelihoods in the Teknaf – Ukhiya Peninsula: Baseline Study, 2017. https://fscluster.org/sites/default/files/documents/cxb_report_final_draft_compressed.pdf

World Bank. (2019). Bangladesh poverty assessment: Facing old and new frontiers in poverty reduction, Volume 2 Background Papers. World Bank, https://openknowledge.worldbank.org/handle/10986/32755

Zetter, R. (2019). Theorizing the refugee humanitarian-development nexus: A political-economy analysis. *Journal of Refugee Studies*, 34(2), 1766–1786. https://doi.org/10.1093/jrs/fez070

Appendix A

[Table A1 near here]

[Table A2 near here]

 [Table A3 near here]

Appendix B

[Figure B1 near here]