



# Graduation's Impact on Food Security

## 1 Introduction

Approximately 50 percent of Malawians are classified as poor and 25 percent live in extreme poverty, lacking the ability to satisfy basic food needs (International Monetary Fund, 2017). This issue of addressing food security in Malawi is important as rural households often face food shortages between November to February, termed the lean season.<sup>1</sup> Between 1997 and 2010, poverty, and the extreme poverty rate for rural areas have shown an increasing trend rising from 56% and 24% to 57% and 28% respectively (International Monetary Fund, 2017). Moreover, rural poverty is predicted to increase further with the more recent climatic shocks (International Monetary Fund, 2017).

The Graduation programme is a 'big push' intervention designed to move people out of poverty by addressing the many challenges of extreme poverty by simultaneously boosting livelihoods and income, and providing access to financial services. A six-country study showed that recipients had more assets and savings, spent more time working, went hungry fewer days, experienced lower levels of stress and enjoyed improved physical health as a result of the program (Banerjee et al., 2015). These gains persist several years after the intervention (Banerjee et al., 2016). Bandiera et al., 2017 find gains in asset accumulation and poverty reduction persist and accelerate 4 and 7 years after the intervention.

The Malawi Graduation Program was a five-year intervention (2017-2021) that was designed and implemented by Concern Worldwide, with support from the Irish Aid Programme Fund II (IAPF II). The intervention was implemented in Southern Malawi, targeted districts included Nsanje and Mangochi, classified by Concern's Malawi Poverty Index as the poorest and second poorest districts in Malawi respectively (Concern Worldwide, 2018). Concern's Graduation model consisted of five core sub-components: comprehensive targeting,

12 months consumption support of MWK 15,000, skills training and coaching, savings and financial access, and capital transfer (Concern Worldwide, 2018). In addition, Concern's Graduation in Malawi added a gender transformative component for a third of all treatment households.

In this policy brief we focus on the Graduation program's impact on household food security; during program implementation, 5 months post program implementation and 17 months post program implementation. Examining these different time periods enables us to get a sharper picture on how households' food security is impacted while they are receiving consumption support and once they no longer receive the monthly financial support. Given many poor households in Malawi face difficulties in meeting their basic food needs, understanding the Graduation's impact on food security has important policy implications.

While we await the final data collection, we report short and medium term results only for Cohort 1, half our sample. Where we find insignificant results, it remains possible, but uncertain, that with the inclusion of outstanding data these results may become significant. It is perhaps unlikely that the ranking of the performance of treatments arms will change to any significant degree.

Overall, we find that during program implementation and while households were still receiving consumption support, all treated households had between 36-38% higher annual food security scores over control households. This positive effect remains for all treated households 5 months after the program ended and 11 months after consumption support had finished. Though these scores now had fallen somewhat and were between 17-20 % higher than control households. All female targeted households, regardless of whether they received the gender training or not, were able to maintain a score that was around 16-17% higher than the control group 23 months post consumption support and 17 months post program implementation. These results clearly demonstrate medium term results from

<sup>1</sup>The lean reason on average runs from November - February and is linked with the harvesting cycle.

the program. On the other hand, we find no statistically significant impact on the annual food security index for male targeted households 17 months post program implementation, though we still find a significant impact on food security in the prior week. Importantly, we also find within treatment arm effects on food security for both the annual and recent food security index between female targeted households who participated in gender training, compared to male targeted households, 17 months post program implementation. These initial results seem to suggest who you target matters in regards to food security outcomes.

## 2 Research Design

We conduct a clustered Randomised Control Trial (RCT) of Concern Worldwide’s Graduation and Gender Program in Malawi.<sup>2</sup> The aim of the research is to estimate the role that gender plays in the graduation model by estimating the impact of three distinct versions of the intervention on gender empowerment and household welfare outcomes:

1. The graduation program targeted at women as the main recipient in the household (T1: female targeted)
2. The graduation program targeted at men as the main recipient in the household (T2: male targeted)
3. The graduation program targeted at women but with an additional couples’ empowerment training called "Umodzi" (T3: female targeted plus training (Umodzi))

## 3 Sample

This data used for this policy brief comes from the 100 villages in cohort 1, stratified across Mangochi and Nsanje districts in Malawi. Our sample is focused on households classified as very poor or poor by a community wealth ranking or a proxy means test. As we work with couples, it is reasonable to say that the data in this brief is representative of poor households with couples. We have a sample of 1,185 households from cohort 1. This sample is composed of 315 control households, 290 in T1, 291 in T2, and 289 in T3. We have up to four data points on food security questions for each households. We collected baseline data

<sup>2</sup>Our sample is clustered at the village level. We have a sample of 200 villages, randomised into four groups, control and the three treatment arms. Our 200 villages are randomised into two cohorts, with 100 in cohort 1 and the remaining 100 in cohort 2.

in June-August 2018, pre-program implementation. In 2019, we fielded a short survey which included the full food security module to these households between June-August. This data collection round occurred while this cohort was still participating in the Graduation program, where treated households had received around 10 months of consumption support and would have just received their capital support for starting a business. At this point these households still had two more months of consumption support and up to 7 months more on the program. We collected end-line one (EL1) data in August-October 2020, which was on average 11 months after consumption support ended and 5 months post program implementation. End-line two (EL2) was collected between August-November 2021, which was on average 23 months post consumption support and 17 months post program implementation.<sup>3</sup>

## 4 Graduation Impact on Food Security

### 4.1 Annual Food Security Index

For our annual measure on food security, we create an index composed of 9 items. The index is calculated as the (one year) mean of the standardised weighted average score of 9 questions, with the total score ranging from 0 (severely food insecure) to 9 (food secure).<sup>4</sup> This annual food security index is important because it also covers Malawi’s lean season, where food insecurity is high during this time period in rural areas. Given that is a measure for the year, if any shocks occurred that affected food security, such as a cyclone, the measure should reflect its impact. We find at baseline no statistically significant difference between the control arm and each of the treatment arms on their annual food security index.

At 10 months into program implementation, the graduation has a positive and significant impact on treated households, where we find an increase of 1.22-1.29 points in treated households’ annual Food Security Index score, compared to control. This increase for treated households is worth between 36-

<sup>3</sup>Compared to our 2018 and 2019 data collection rounds, our endline data collections were delayed by a few months due to COVID

<sup>4</sup>The Food Security Index questions include whether the household ever experienced any difficulty in fulfilling the food needs of the family in the prior year, the number of meals eaten yesterday, the number of days that the household ate meat over the past week, whether any household member skipped any meal or reduced consumption due to the shortage of food in the prior week, whether the household borrowed food or received any help from friends or relatives, if the adults and the children in the household skipped meals and if the adults and the children in the household skipped days without eating.

38 % of the value of the Food Security Index score for control households at follow up, which has a mean score of 3.46. Yet, given that treated households (regardless of arm) had an average score between 4.72-4.78 out of a possible score of 9, this would suggest that there is scope for further improvements in their households food security.

Five months post program implementation and 11 months after consumption support ended, we find that all treated households still have a higher food security index score than control households. Though compared to when they were receiving consumption support, the difference between treated and control is smaller. At this point, the program impact is only between 17-20% of the control groups score (this translates into a score increase of around .6-.7).

When we look at the Graduation’s impact on food security 17 months program implementation and 23 months post consumption support, we find that all female treated households (regardless of whether they received the gender training or not), still had significantly higher annual food security scores. These households were able to maintain a 16-17% increase in their food security score, compared to control households. Male targeted households no longer have a statistically significant difference in their annual food security score compared to control households. We also find a within treatment effect 17 months program implementation, where female targeted households who participated in the gender training had a higher annual food security score than male targeted households and we can reject that this difference is equal to 0.<sup>5</sup>

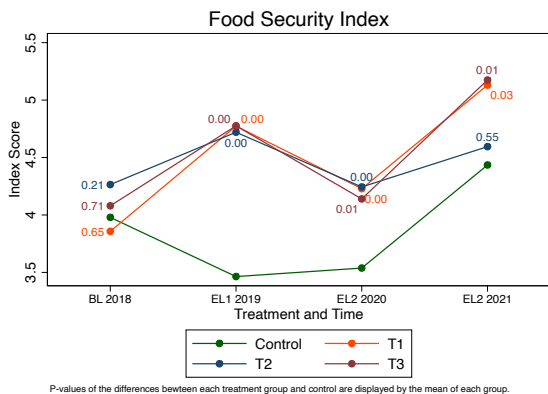


Figure 1: Impact on Annual Food Security Index

## 4.2 Annual Food Security Index

We analyse a second measure of food security, a narrower index that captures the households’ food security situation in the prior week (Food Security

<sup>5</sup>This difference has a p-value of 0.036.

Index Recent).<sup>6</sup> The score for this index ranges from 0 (food insecure) to 3 (food secure). Unlike the annual food security index, this recent index on food security does not cover the lean season in these rural areas, where food insecurity is higher.<sup>7</sup> In addition, if the households faced a shock that it recovered from, this measure will not necessarily reflect the effect of that shock on food security. Finally, an important difference between our two measures is the timeframe covered, a year versus a week, which may result in households over or under estimating the questions that covered the prior year versus the prior week.<sup>8</sup>

We find that regardless of time period all treated households see an increase in their recent food security score. Interestingly, the absolute size of impact remains relatively stable across all time periods, where the score increase, as a result of treatment, ranges between 1.21 to 1.49.

On the other hand when we calculate it as a percent of the control households score, similar to the annual food security index results, the largest impact occurs while households are still participating in the program. Mid program, households see an increase that is higher than the control households recent food security score by between 66-74%. Eleven months post consumption support and 5 months post program, treated households still had a score that was between 31-34% higher than the control households. Finally, 23 months post consumption support and 17 months post program, the female plus Umodzi households managed to maintain a score that was 34% higher, while female targeted households still had a score that was 24% higher, while male targeted households only had a score that was 16% higher.

Similar to our within treatment arm effect for annual food security, we also find a within treatment arm effect for recent food security, where female plus Umodzi households had a higher impact of 0.2 compared to male targeted households, and we can reject that this difference is equal to zero.<sup>9</sup>

<sup>6</sup>This recent food security includes the number of days that the household ate meat over the past week, how meals were consumed yesterday, and whether any household member skipped any meal or reduced consumption due to the shortage of food in the prior week.

<sup>7</sup>As mentioned the lean season starts in November, the height of food insecurity occurs in January/February. Our data collection at most ran into a week in November, where the lean season would have been starting but would not have been at its height.

<sup>8</sup>Greater recall period lengths can result in higher recall error citealtbeegle12. Though we expect this to effect all households, regardless of treatment similarly.

<sup>9</sup>This difference has a p-value of 0.029

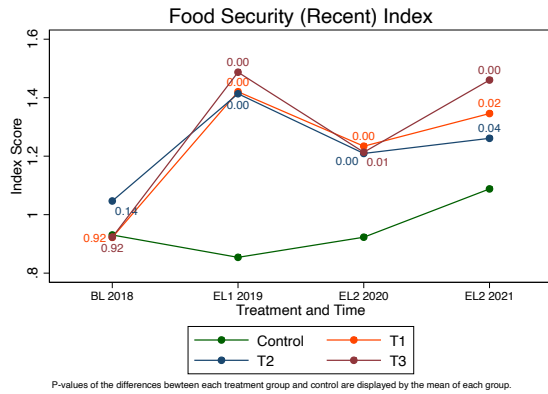


Figure 2: Impact on Recent Food Security Index

## 5 Conclusion

Based on our initial analysis, with half the sample, we find that who you target matters for food security. Female targeted households were able to maintain gains on food security measures both annually and in the prior week, regardless of whether they received gender training or not. These gains are important to note in a context where households face regular shocks, including Cyclone Idai in 2019 and Cyclone Anna in 2022. Seventeen months post program completion, we no longer find a statistically significant difference between male targeted and control households, in regards to their annual food security index. While male targeted households still had a higher score in their recent food security index compared to control, this difference was the smallest of all treatment arms. Finally, we provide evidence that over 17 months post program implementation female plus Umodzi households outperform on our food security measures compared to male targeted households.<sup>10</sup>

## References

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<sup>10</sup>It is important to note that as the analysis in this brief is based only on cohort 1, the results may change once cohort 2 is added to the analysis. This will happen once end line data for cohort 2 is completed this year.

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