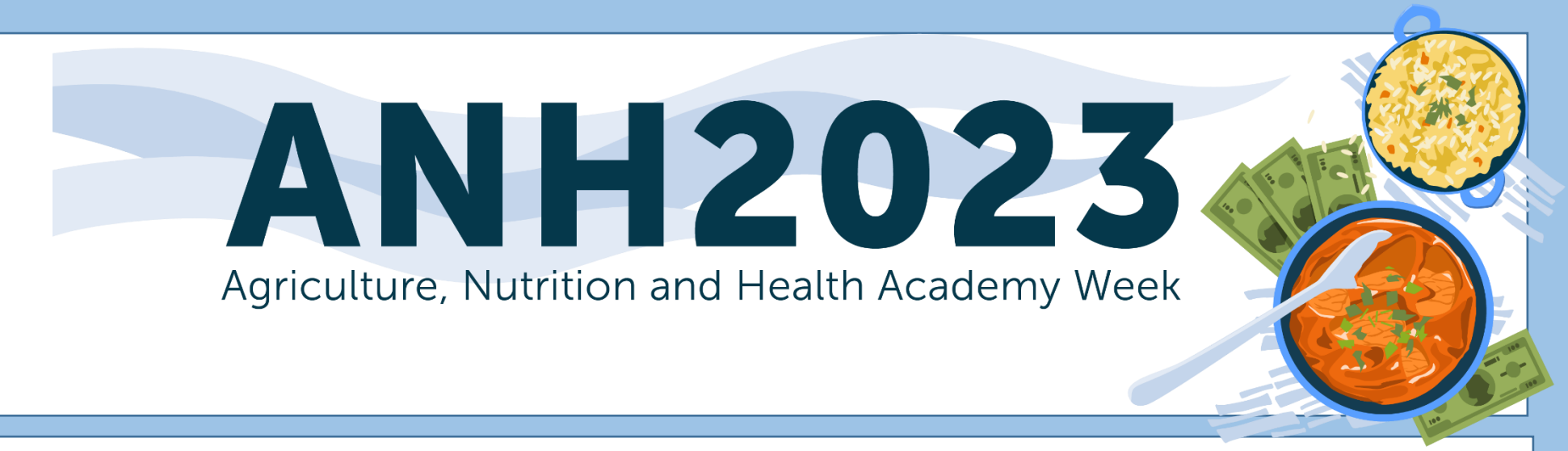# Impact of microcredit with inputs on diets, nutrition and health: an evidence from panel data of unprivileged households in Bangladesh

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Introduction

It is particularly difficult for underdeveloped economies to eradicate poverty, malnutrition and health crisis. Bangladeshi people have a limited variety of diets, which causes nutritional imbalance. National governments and their development partners have considered microcredit as a strategic tool for vulnerable populations. Consumption of nutritious, diverse foods produced by agriculture can help improve nutrition security, and produced foods can also be sold to generate income, thereby improving rural people's economic standing. Therefore, the impact of microcredit with inputs on diets, nutrition and health of underprivileged households is major concern.
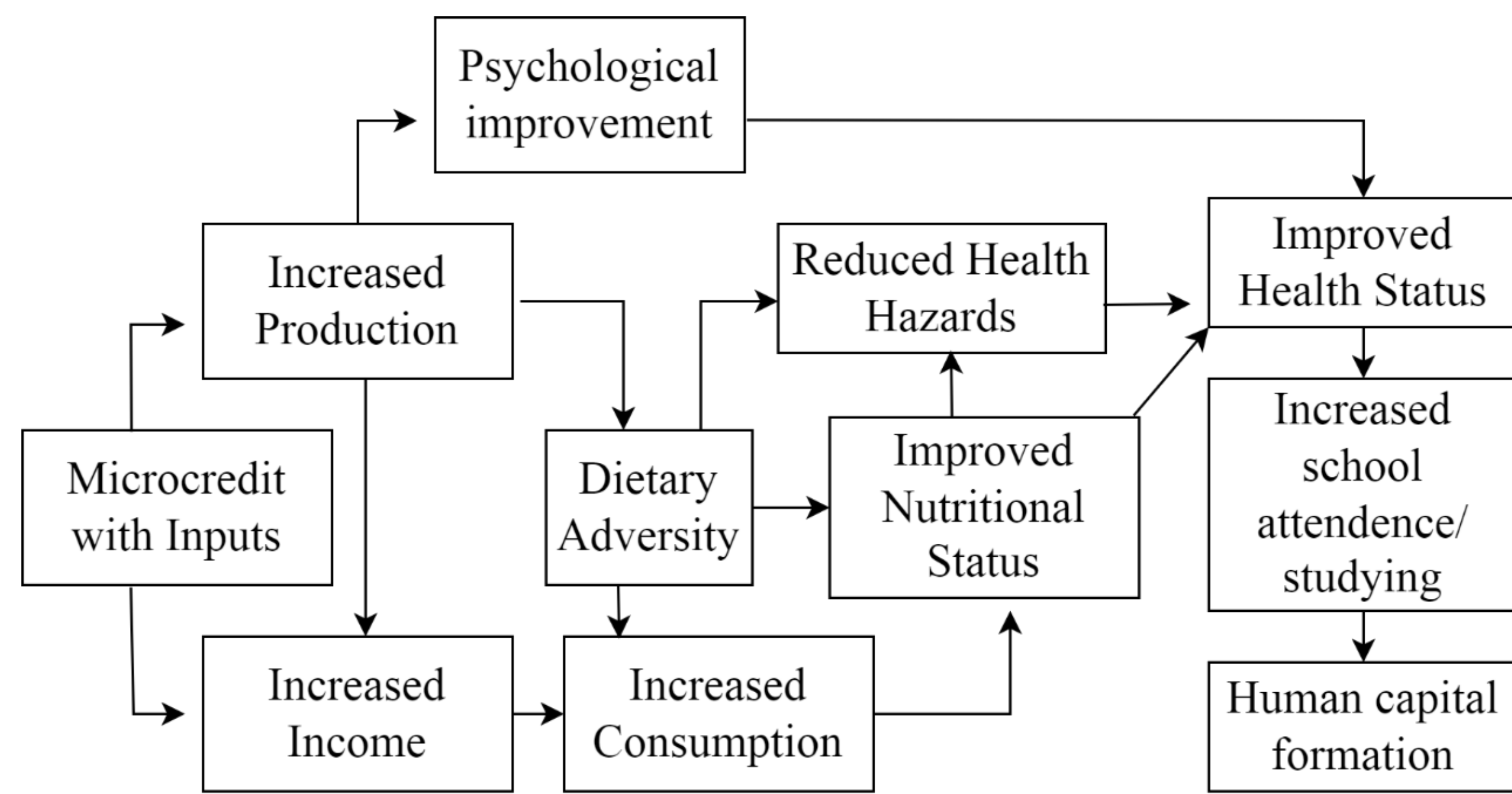

Figure 1: Pathway of microcredit with inputs to human capital formation

Methodology

In total sample size was seven hundred forty
- Intervention Group: 500
- Control Group: 240

Three years panel data was used in this study.

To measure the effect of the intervention program on outcome controlling for other covariates, we run the following regression models:

$$Y_{it} = \alpha + \beta_1 T_{it} + \beta_2 ID_{it} + \beta_3 (T_{it} * ID_{it}) + \beta_4 X_{it} + \varepsilon_{it} \text{ (DiD-OLS)}$$

$$Y_{it} = \alpha_i + \beta_1 T_{it} + \beta_2 ID_{it} + \beta_3 (T_{it} * ID_{it}) + \beta_4 X_{it} + \varepsilon_{it} \text{ (DiD-FE)}$$
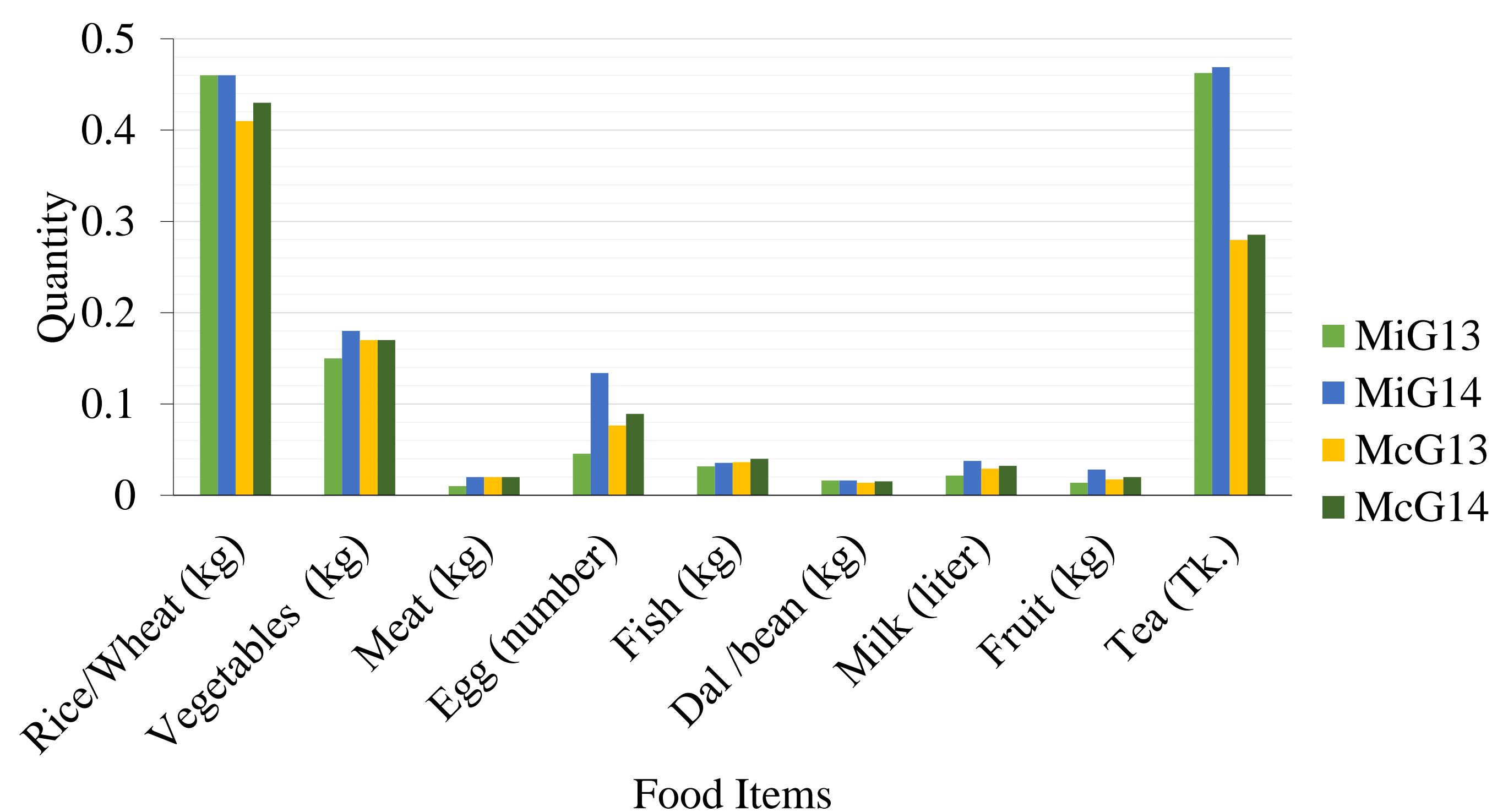
Findings and Interpretations

Figure 2. Quantity of average food consumption per person per day

Findings and Interpretations

Table 1. Comparison of household well-being for intervention and control group, 2016

Well-being indicator of household	2016		
	Intervention Group	t- test	Control Group
Household income (TK.)	9182	***	6461
Consumption expenditure (TK.)	7395	***	6040
Health consumption (TK.)	1319	**	879
Value of assets (TK.)	16319	*	14432
Cereal food availability from own production (Month)	4.74	*	3.86

***p<1%, **p<5% and *p<10%; 1US$ = 84Tk.

Table 2. Effect of microcredit with inputs on nutritional status improvement

Control Variables	DiD –OLS		DiD –FE	
	Coefficients	Standard error	Coefficients	Standard error
Time (TD)	0.120***	0.024	0.0697*	0.036
Treatment (ID)	0.109***	0.039	dropped	
Interaction/DiD (ID*TD)	0.442***	0.138	0.539***	0.156
Household Characteristics:				
Household (hh) size	-0.014**	0.007	-0.074**	0.036
Age of hh head	0.0007	0.0049	0.033	0.031
Age squared of hh head	-0.00002	0.00005	-0.0005*	0.0003
Education of hh	0.0015	0.0019	dropped	
Highest education of hh	0.005**	0.002	dropped	
Dependency ratio	-0.172*	0.121	-0.232	0.238
Ln(income)	0.218***	0.057	0.135***	0.032
Ln (cultivable land)	0.008	0.007	0.014	0.016
Social Capital:				
Membership of organization	0.017***	0.007	0.024**	0.012
Awareness of govt. safety net program	0.057	0.065	0.028	0.034
Environmental variables:				
Access to improve sanitation	0.062***	0.0220	0.048***	0.018
No of tree plantation	0.008	0.006	0.003	0.012
Observations	2070		2070	
R square	0.522		0.554	
Rho			0.904	

Conclusion

Enhancing production systems with an emphasis on community engagement and group-based training would increase food security, nutrition, health, and empowerment. Vulnerable households' food intake and basic medical requirements significantly improved after receiving microcredit with income-generating items. These results highlight the significance of reducing poverty through income-generating activities for advancing dietary variety, enhancing nutritional status, and accomplishing sustainable development objectives, such as the Bangladesh Delta Plan 2100.