



# The Role of Social Capital for Food Security: Empirical Evidence from rural Tanzania

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## Introduction

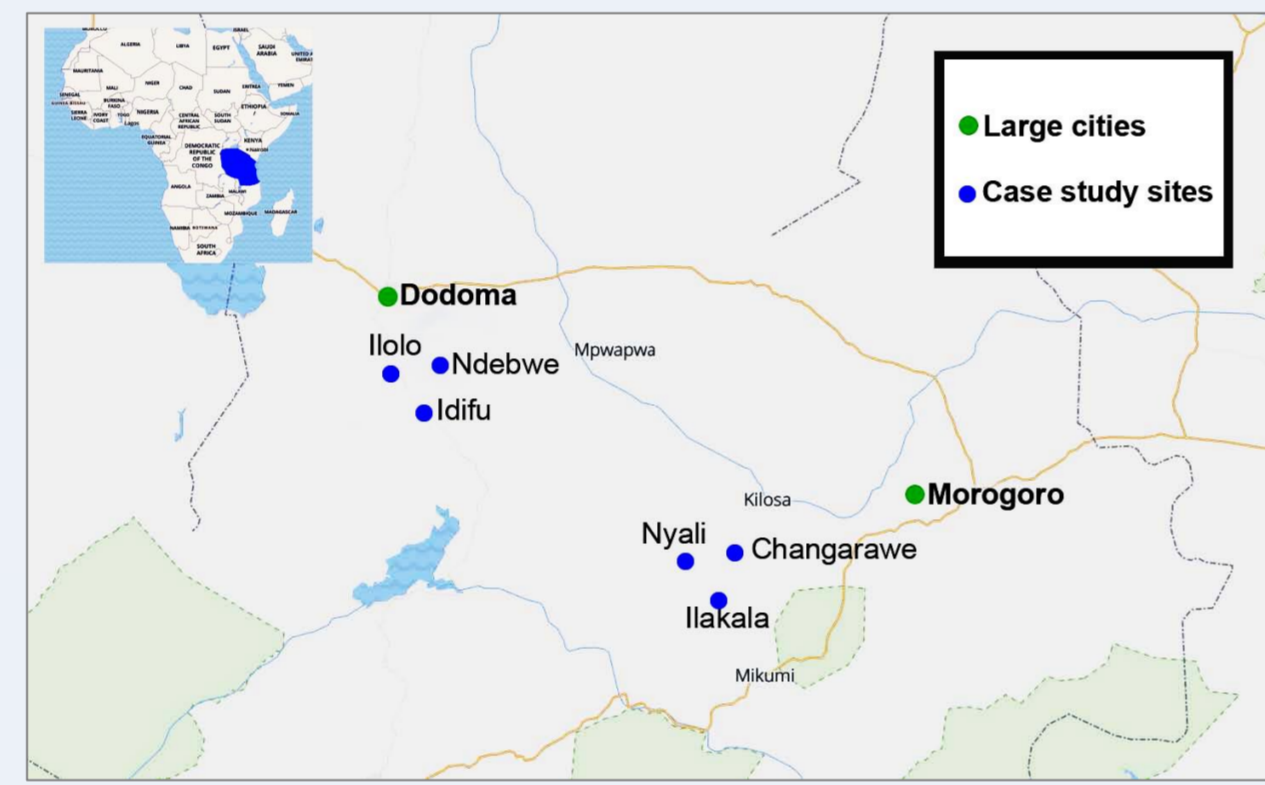
- In Tanzania, more than 50% of the population are at risk of food insecurity (Swinkels, 2021).
- The lower opportunity cost of time by the poor in rural areas makes social capital a suitable form of capital to substitute other forms of capital they lack (Collier, 1998)
- the role of social capital for food security in rural Tanzania was explored with a household level social capital index (SCI)

## Method

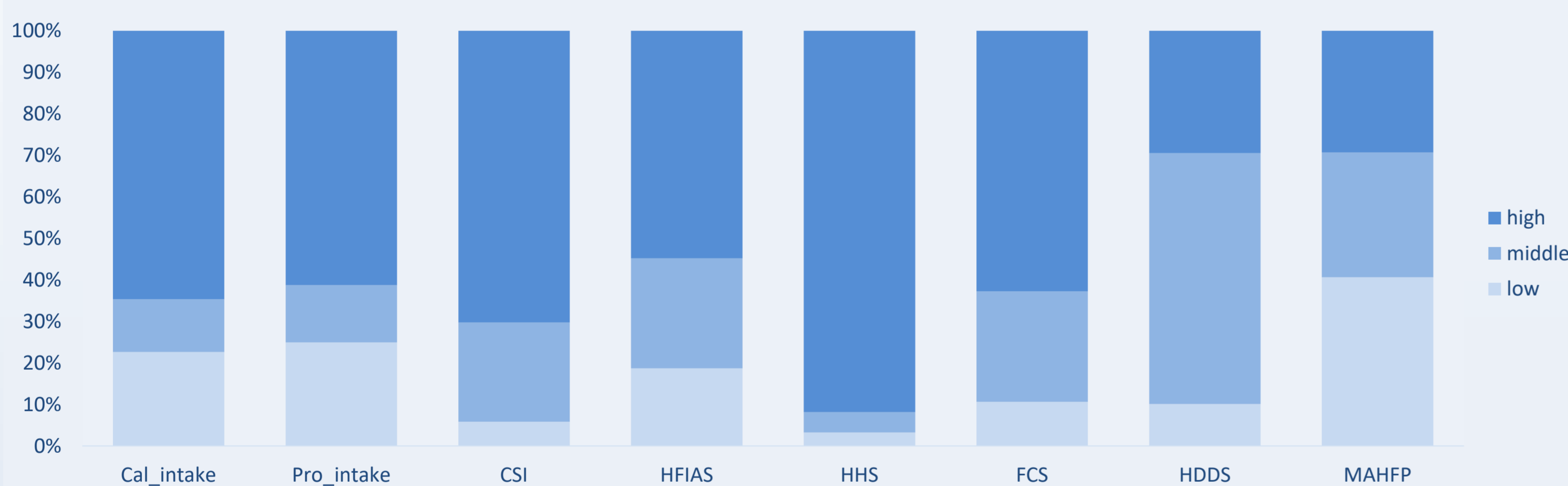
- Social capital index (SCI):** combination of polychoric correlation matrix and exploratory factor analysis.
- Food security indicators:** eight indicators with different weight on four pillars of food security.
- Path analysis:** path diagram through structural equation modeling (SEM) that include knowledge sharing and collective action as the indirect effects of social capital for food security.
- Control variables:** Age, Sex, Region, Education, and Household Size

## Data

- Sample data: Unique data of 900 households obtained from 2016 Trans-Sec Survey
- Study region: Morogoro and Dodoma, Tanzania
- Morogoro:** semi-humid, moderately food secure.
- Dodoma:** semi-arid, predominantly food insecure.



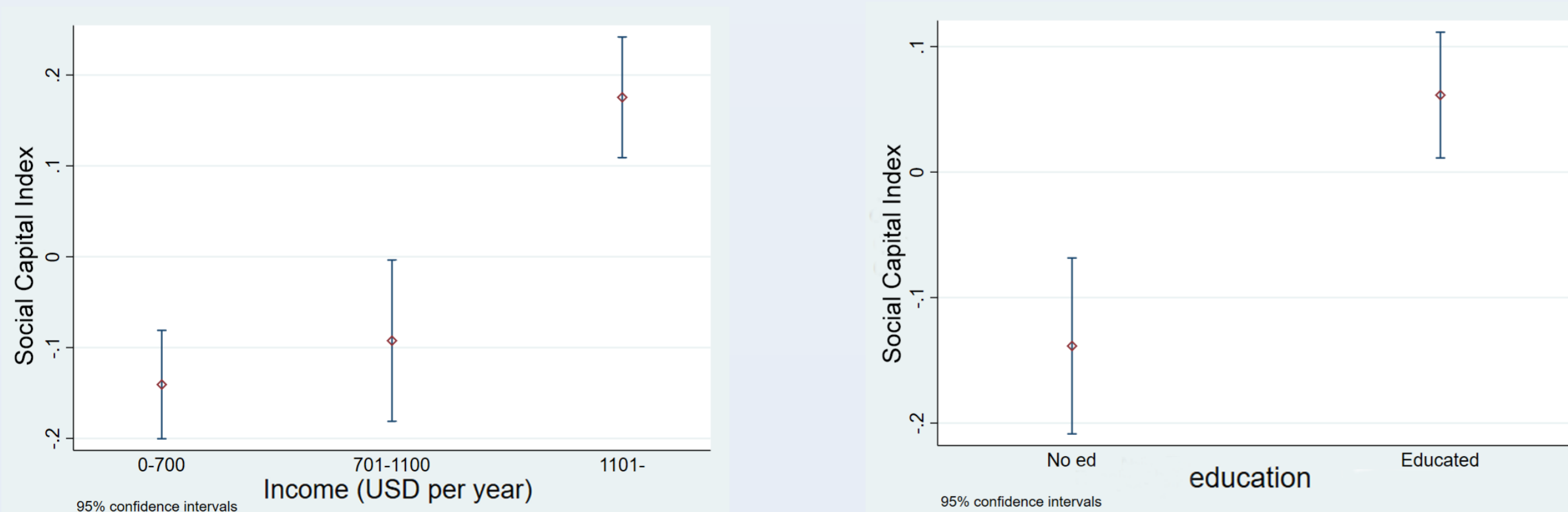
## Food Security Level of the sample population



- The food security indicators generally agree that between 30 to 40 percent of the sample population suffers from moderate to severe food insecurity.

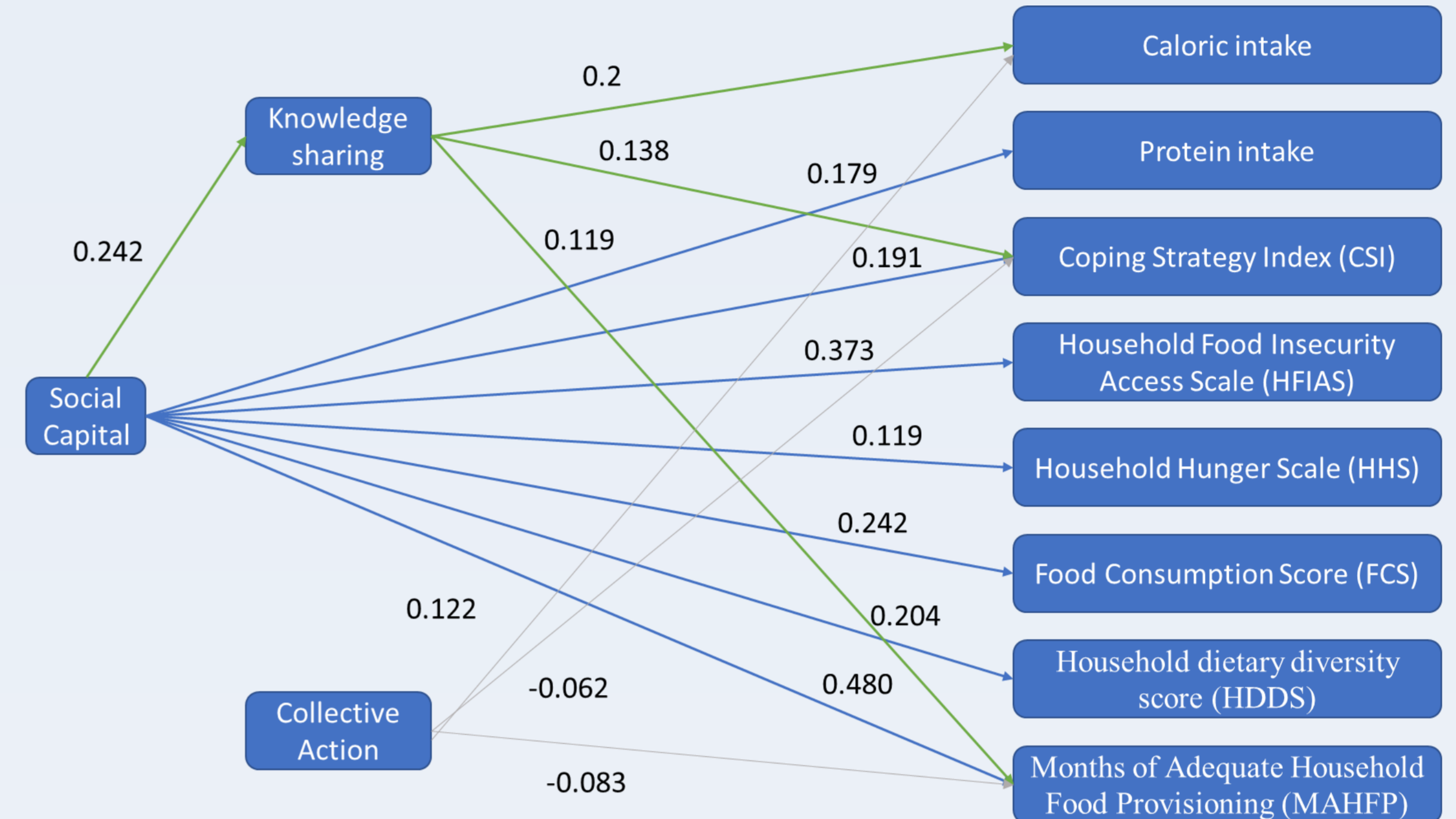
Cal\_intake = Caloric intake, Pro\_intake = Protein intake, CSI = Coping Strategy Index, HFIAS = Household Food Insecurity Access Scale, HHS = Household Hunger Scale, FCS = Food Consumption Score, HDDS = Household Dietary Diversity Score, MAHFP = Months of Adequate Household Food Provisioning

## Social capital and individual characteristics



- Income increases exponentially with the increase of social capital.
- Education is positively correlated with social capital.

## Path Diagram



Note. Control variables are removed from the path diagram to improve the readability.

- Knowledge sharing is significant social capital's indirect effect on food security.
- Collective action is not social capital's indirect effect on food security.
- Social capital affects food security primarily through direct effect (sharing of resources or finance).
- The most significantly affected food security indicator by social capital is MAHFP. Standard deviation of 1 unit in social capital is equivalent to change in 2 months of stable food supply.
- Collective action is negatively correlated with CSI and MAHFP.

## Path analysis result

VARIABLES	Cal_intake	Pro_intake	CSI	HFIAS	HHS	FCS	HDDS	MAHFP
<b>Dodoma</b>	<b>-0.208***</b>	<b>-0.403***</b>	<b>0.083*</b>	-0.028	-0.044	<b>-0.294***</b>	<b>-0.319***</b>	<b>-0.138**</b>
	(0.061)	(0.061)	(0.046)	(0.059)	(0.032)	(0.050)	(0.042)	(0.062)
<b>Female</b>	-0.067	-0.090	0.022	0.078	-0.065	<b>-0.171***</b>	-0.009	-0.019
	(0.074)	(0.074)	(0.056)	(0.072)	(0.039)	(0.061)	(0.052)	(0.075)
<b>Age (year)</b>	0.032	0.013	-0.006	-0.011	0.004	<b>-0.044*</b>	<b>-0.041**</b>	-0.023
	(0.028)	(0.028)	(0.021)	(0.027)	(0.015)	(0.023)	(0.020)	(0.028)
<b>Education (year)</b>	0.011	0.008	0.011	<b>0.016*</b>	0.003	<b>0.013*</b>	<b>0.027***</b>	<b>0.029***</b>
	(0.009)	(0.009)	(0.007)	(0.009)	(0.005)	(0.008)	(0.006)	(0.009)
<b>HH Size (n)</b>	<b>-0.108***</b>	<b>-0.111***</b>	<b>-0.017*</b>	<b>-0.025*</b>	-0.010	0.008	0.001	<b>-0.029**</b>
	(0.013)	(0.013)	(0.010)	(0.013)	(0.007)	(0.011)	(0.009)	(0.013)

Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1, HH = household, KS = Knowledge sharing, CA = Collective action, SCI = Social Capital Index  
Cal\_intake = Caloric intake, Pro\_intake = Protein intake, CSI = Coping Strategy Index, FCS = Food Consumption Score, HDDS = Household Dietary Diversity Score, HFIAS = Household Food Insecurity Access Scale, HHS = Household Hunger Scale, MAHFP = Months of Adequate Household Food Provisioning

- Among the control variables, Dodoma and HH Size are the most significant contributors to food security.
- Contrary to expectation, Female was not correlated to food security except FCS, which measures the diversity of food consumption.
- Age and Education also affect food security, but the magnitude of their influence is limited.

## Conclusions

- Social capital is an important factor for increasing food security in rural Tanzania.
- Social capital impacts food security through direct social support and knowledge sharing.
- Collective action is not one of the effects of social capital for food security in rural Tanzania.
- Construction of social infrastructures (e.g. cooperatives and associations) should be encouraged in order to increase the effects of social capital on food security.

## References:

Swinkels, R. (2021). Poverty and Equity Brief. World Bank.  
Collier, P. (1998). Social Capital and Poverty (Social Capital Initiative Working Paper No. 4). World Bank.