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Impacts of social capital and rural households' livelihood strategies on food/nutrition security and income

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Abstract

Food demand worldwide is always rising, hence increasing smallholder farmers' productivity and production through appropriate livelihood methods in order to address the issue is essential. As the most important resources for livelihoods, social capital has effects on rural household's livelihood strategies. The food system of rural households, which are typically impacted by climatic and non-climatic shocks, is influenced by both the state of social capital and household livelihood strategies. Food security is impacted by social capital by enhancing the pillars of food security (food availability, food accessibility, food consumption, and food system stability). The household's participation in local organisations leads to the exchange of food goods and information, which makes food more readily available and accessible. The degree of social capital, like Ethiopia, has a significant impact on rural households' access to food and nutrition as well as income level. Data was collected from 400 randomly selected households in 2023 from North Showa, Ethiopia. The results of a multinomial endogenous switching model show that participation in farming and non-farming livelihood strategies increases farm households' food and nutrition security status by 25 %, while participation in farming and off-farming livelihood diversification strategies and farming with both non-farming and off-farming livelihood diversification strategies increases households' food and nutrition security by 43 and 37 %, respectively, over non-diversified households. The sample households' high and very high levels of local organisation engagement improve the food security status of farm households by 33 and 38 % in comparison to low level participant households, respectively (statistically significant at the 1 % probability level). The impact evaluation of mean comparison results demonstrates that very high level participation in the local social organisation boosts farm households' livelihood diversification techniques by 40 % compared to low participant households. Similarly, having high levels of social trust in the community increases farm households' livelihood diversification strategies by 59 % over low-trust households. Thus, the findings of this study are predicted to offer a substantial contribution as policy and strategic inputs in establishing rural livelihood improvement programmes, besides stallholder farmers' improvement of their food/nutrition security, income and quality of life and food systems improvement in rural areas.

Keywords: Endogenous switching model, Ethiopia, food/nutrition security, livelihood strategies, social capital

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Introduction

The food system of rural households are typically impacted by climatic and non-climatic shocks, and is influenced by both the state of social capital and household livelihood strategies. The level of social capital has a significant impact on rural households' access to food and nutrition as well as income level. Ethiopia is characterized by smallholder agricultural practices in which there are frequent climatic and non-climatic shocks leading to food shortage, poverty and food insecurity. About 12 million smallholder farmers in Ethiopia were mostly vulnerable to poverty, food insecurity and, recurrent famines (Ambaye *et al.*, 2021). Due to the problem of erratic weather and failed harvests within every few years, the Ethiopian smallholders are trapped in to a low productivity trap, with plots that are too small to generate livelihoods from agriculture alone (Devereux and Guenther 2005). The ability to diversify at all is often critical to the food security of the most vulnerable rural populations (Ellis, 2004). The limited opportunity for livelihood strategies, due to absence of supplementary income from other non-farm activities has made the Ethiopian rural poor in particular more vulnerable, leading to food insecurity (Geremew *et al.*, 2017). Vulnerable households with low social capital and who are not well involved in local institutions may become trapped in vicious cycles of poverty and fail (Dietz, 2020). To attain livelihood security, rural households need resources and assets which would have been obtained from such system.

During the most serious times in the history of Ethiopia, social networks and cultural ties between different community categories have helped the poorest of all to sustain their lives (Tamirat, 2017). In study area there are various local institutions like Idir, Equb, Mehiber, Senbete, Debo, local money lending, etc are used during times of challenges and successes (Fredu *et al.*, 2019). These institutions normally serve as sources of finance, labor, agricultural capital and even land. In most cases, the very resource poor farmers who do not have oxen, farm implements, and cash to buy seed and other inputs are supported through such local institutions based on their social capital level. Though, social capital is such an important economic variable for the rural society quantifying its role in influencing the food security and farmers income is important to clearly direct the focus of development practitioners and give insight for policy makers. Thus, this study contribute to the research gap with respect to household livelihood strategies and social capital and explore social capital and livelihood strategies, their effect on food security and income in the North Showa Zone of Oromia Region.

Methodology

Livelihood diversification is measured through livelihood strategies like on-farm, off-farm and non-farm activities to earn a living. Similarly the variables represent the level of participation in the local social organizations are ranked from low levels to very high extents of participation based on the number of organizations the household become a member. The level of trust was determined based on the household survey using the combination of different trust variables including (1) if the household or any of the family member of his/her household is being trusted by other in access to finance during bad times, and if others trust him, and number of close friends able to give him/her credit. Data on demography, socioeconomic and social capital were obtained from 400 randomly selected households in East Shoa, Ethiopia. Multinomial logit model, endogenous switching Model and Ordered logit models were employed to analyses the data using Stata software.

Results and Discussion

In this study, household food security was assessed by analyzing household food calorie consumption computed through Adult Equivalent (AE) in the household. Based on the result, households were categorized into food secure and food insecure which is by taking the minimum calories required per AE per day of 2550kcal (CSA, 2019). The study result indicated that 66.25% of the total sample households were found to be food secured and the rest 33.75% are not. In addition, household level of nutritional status was measured by using household dietary diversity score. The result indicated that level of nutrition security status of sample households is 3,440.70 Kilo-calories per household. And the mean annual income of survey households indicated that on average a household earn Birr 118,004.20 which is approximately 2000 USD.

Households who diversify their livelihoods earn more income compared to undiversified and relatively low diversified livelihood households in the study area. The result shows that households with high level

of trust in the community earn more average yearly income as compared to households with low and medium level of trust. Similarly, diversified households with farming plus on and off farming have more food secure than the undiversified and less diversified households. Households with high level of social capital in terms of trust in the community, have high food security status than households with low and medium level of trust in the community.

The survey result indicated that participation of farming with non-farming livelihood diversification strategies increases farm household total income by 44% and food security status by 25% over that of only farming dependent households respectively. Likewise, participation in farming with off farming and farming with both non-farming and off farming livelihood diversification strategies increases households' total farm income by 76 and 82%, and food security status by 43 and 37%, respectively over non-diversified households. Its evidenced that when household participate in more than one livelihood activities besides farming the household have a chance to have more opportunities to gain additional income which otherwise limited to only farming income. In addition when livelihood strategy of an household diversified they tend to use surplus labor in the family and also utilize part time works and increase time efficiency which will have positive implication on households total income.

The consumption score of more diversified livelihood strategies i.e households with farm, off farm and non-farm strategies is high indicating more food secure than other strategies. In contrast households with farming only strategies has the lowest food consumption score indicating undiversified livelihoods are less food secure than the others. When household participate in multiple livelihood activities it tends to be more gain additional source of income and become resilient than non-diversified households. Climatic and non-climatic shocks can highly affect the undiversified households who only depend on farm activities but if diversified it is means to build households resilient to shocks.

Moreover, the result indicated that medium level of participation in the local social organizations of the farm household not significantly increases farm household food security status over that of low level participant households. However, high and very high level participation in the social local organization of the sample households increases the farm households' food security status by 33 and 38%, respectively over low level participant households. Very high and high participants in local organizations have the chance to exhaustively utilize resources offered from various organizations which could help to improve their food security status. Thus, households who participate in different social local organizations have more access to financial and technological advancement besides experience sharing which could help to improve productive assets and improve food security status of the household.

The estimated result indicated that having medium and high level of social trust in the community had strong correlation with the farm households' food security status. Accordingly, having medium and high level of social trust in the community significantly increases households' food security status by 23 and 46% over low trusted farm households. During food shortage or climatic and non-climatic shocks highly trusted households tends to easily access credit from their friends or neighbors which help them mitigate the food availability of the household and easily cope up from the crises.

High level of social trust is associated with high level of food security status, this indicates that more trusted households in the community have high tendency to be more food secure than low trusted households. This indicates that as the household more trusted they tend to have access to credit facilities and high tendency of support in times of crises or shocks than low trusted households.

Conclusions and Outlook

This study has found the evidences of diversification of livelihood strategies and extents of farm household participation on the rural farm income generation and food security status. Livelihood diversification strategy in the form of farming combined with both non-farming and off-farming enhance food security status of the household in North Shewa Zone. On the other hand, social capital becomes one of the important factors that determine the well-being of the community. Higher levels of participation in the local social organizations and having high level of community trust helps in enhancing farm households' food security and income generation status. This has an encouraging message for program

designers, implementers, and funding agents to take proper action to achieve the intended goals of improving livelihoods and hence food and nutritional security status among the rural households. Thus, understanding the determinant factors which influence the livelihood diversification strategies, level of social trust and participation in social organizations will help to understand where and how to intervene in the community to enhance food security and income of smallholder farmers in the study area.

Policy interventions to improve food, nutrition or income security in rural households should consider alleviating farmers' difficulties in adopting livelihood diversification strategies in addition to their cultivation of crops and livestock enterprises. Enhancing smallholder farmer's awareness on livelihood diversification challenges and enhancement of rural social capital like farmers' cooperative, farmer groups and participation in the local social organizations is crucial for policy makers and development practitioners. Moreover, improving farmers' education, training on livelihood diversification strategies, farmer training and accessing credit services should be some of the policy measures that will facilitate diversification strategies. Expansion of rural social capitals like farmers' cooperative, farmer groups and social status enhances farmers' adoption of diversified livelihood strategies. On the other hand, providing appropriate market and weather information can help smallholders to make informed decisions regarding, selection of livelihood strategies and using their limited resources in the optimal manner in implementation of their selected livelihood strategies.

Enhancing livelihood diversification requires active involvements extension activities including providing short and long term training on the benefit of diversification strategies in which role of social capital which is the stock of social trust and relationships might address the desired goal within short period of time. In addition, strengthening the existing institutional support system to banks and microfinance institutions by paying special attention to the poor farm household needs of credit support and management practices.

The study findings revealed that livestock holding determines level of social trust positively and significantly while access to credit also one of the variables positively determine the participation of households in local social organization. Thus, it is good to boost credit availability, expansion of rural microfinance and livestock productivity enhancement which are necessary to enhance households' participation levels in the local social organizations. Moreover, training and access to media had a positive and significant effect on household levels of community trust mainly because of the awareness that occurs with higher educational levels and media information disseminations. Thus, efforts have to be made by government, private institutions and the public to increase the number of schools including adult schools and information availability from different local Medias. . Distance from the all-weather road affected both extent and status of the farm households' participation in social organization. Thus, mechanisms need to be found to expand rural infrastructures so as to make the farm household accessible at short possible distance.

References

- Ambaye, T. K., Tsehay, A. S., & Hailu, A. G. 2021. Analysis of the status and determinants of rural households' access to agricultural extension services: The case of Jimma Geneti Woreda, Oromia Regional State, Ethiopia. *International Journal of Agricultural Extension and Rural Development Studies*, 8(1), 52–99. <https://ssrn.com/abstract=3820302>
- Devereux, S., Amdissa Teshome and Sabates-Wheeler, R., 2005. Too much inequality or too little? inequality and stagnation in Ethiopian agriculture', *IDS Bulletin*, 36(2): 121-126
- CSA (Central Statistical Agency). 2019. Agricultural Sample Survey, Volume I: Report on Area and Production of Major Crops (Private peasant holdings, *Meher* season). *Statistical Bulletin* 589, Addis Ababa, 54 p. 2019.
- Geremew Worku Kassie, Sangho Kim and Francisco P. Fellizar. 2017. Determinant factors of livelihood diversification: Evidence from Ethiopia. <https://doi.org/10.1080/23311886.2017.1369490>
- Ellis, F. 2004. Rural livelihoods and diversity in developing countries. Oxford and New York: Oxford University Press.
- Fredu N., Erik M., Josef D. and Eric T. 2019. Gender, social capital and empowerment in northern Ethiopia, MPRA Paper No. 24629. Mekelle University.