



DOES DIVERSIFICATION OF FARMING REINFORCE DIVERSITY OF DIET?



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INTRODUCTION

- In most SSA and Ethiopia, farming is an integrated system where a mixed crop production and livestock rearing are interdependent components where the efficiency of one component induces change in the input-output delivery of the other.
- There is a growing evidence that diversity of crop species at farm level enhances not only food production, but also ensures the sustainable continuation of ecological service.
- Farm level diversity can enhance soil fertility, supports adaptation of climate change, maintains sustenance of farm income and hence reduce market risk smallholder.
- Diversification of production is a de facto insurance mechanism that ensures stable food provision in such multifaceted risk prone areas such as the highlands of Ethiopia.

RESULTS

Explanatory Variables	HDD with production diversity (crop counts)	HDD with production diversity (Simpson index)
Socio-demographic variables		
Age	-0.021(0.008)***	-0.021(.009)**
Gender	.623(.013)***	.663(.045)***
Family size	.054(0.032)*	.061(.042)
Education (dummy)	.223(.144)	.234(.122)*
Production diversity variables		
Crop count	.236(.031)***	-
Simpson index of crop diversity	-	1.554(.325)***
Market access and participation variables		
Distance to nearest market in Km	.005(.002)***	.005(.002)**
Annual income from sale of crop grain	.0001(.008)	.002(.008)
Annual income from Off-farm activities	.0002(.002)	.0002(.002)
Annual income from Eucalyptus	.008(.001)***	.009(.001)***
Tropical livestock unit	.078(.018)***	.082(.013)***
Wealth	0.172(.118)	.175(.115)
agro-ecology reference		
Mid-land village	-.247(.067)***	-.241(.065)***
High-land villages	-.312(.198)	-.316(.203)
Model information		
No. of observations	303	3003
Chi-square	80.63***	82.50***
Alpa estimates of equi-distribution	-1.7911	-1.7911

Farm level production is important, crop and livestock production diversification is positively associated with diet diversity.

Market access doesn't foster dietary diversity? As an explanation, we suggest that we are observing a transition of subsistence farms around the market areas into a more specialize type of farm that focuses on a few crops.

Eucalyptus plantation and livestock wealth (TLU) contributes to dietary diversification due to the lucrative income they generated to the farm households.

OBJECTIVES AND METHODOLOGY

- TO analyze the association between household level dietary diversity and agricultural production diversity, household income and market participation.
- The study used data from 303 farm households of Meket district, North Eastern Ethiopia.
- Production diversity was captured by recording the different food crops and livestock species the household has produced and raised during the past 12 months.
- For production, Simpson diversity index and crop and livestock species count were calculated.
- Poisson regression model was used to determine effect production diversity on dietary diversity.



Figure 1. CROP DIVERSITY AT FIELD LEVEL: SOURCE: OWN

CONCLUSIONS

- In Meket, a diversified farming is considered as means of integrating livestock rearing with crop cultivation as it reduces production and marketing risks.
- crop and livestock production diversification is positively associated with diet diversity.
- income from eucalyptus plantation positively influenced the consumption of diversified diet.
- Even if eucalyptus plantation on crop farms is currently discouraged by national and regional land use policies, farmers keep on doing it
- Thus, it might be important to devise a viable land usage plan to exploit the significant contribution of tree and wood for the achievement of food security.

FURTHER READING

Ermias T. Teferi, Mario Enrico Pe, and Carlo Fadda (2021). Does farm diversity Reinforce dietary diversity, a case in Meket District in Ethiopia. (paper on progress)[Manuscript in preparation]. CIAT.