

# How does access to agricultural markets relate to yield, food security, and poverty in northern Ghana?

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## Farmers in northern Ghana make limited use of...

### AGRONOMIC PRACTICES

**48%** practice row planting with optimum spacing  
**28%** practice cereal-legume intercropping

### FERTILIZER

**25%** apply fertilizer optimization practices  
**101 kg/ha** Average inorganic fertilizer applied to maize

### IMPROVED CROP VARIETIES

**11%** of farmers use improved crop varieties  
**85%** of seeds are recycled

### AGRICULTURAL SERVICES

**9%** of farm households receive agricultural credit  
**61%** receive advice from agricultural extension agents



## As a result...

Maize yields, on-farm income and surplus production are all low. Average maize yield: 0.76 t/ha

Average net on-farm income is just US\$240/yr at the household level.<sup>1</sup>

Food insecurity and poverty are high. 36% are poor (living on US\$1.90 or less a day)... and 43% are food insecure (calorie intake is less than the minimum dietary energy requirement)

78% of farm households have NO surplus harvest to sell

Only 49% are both non-poor and food secure

## This raised the following key questions...

- Does improved access to complementary agricultural inputs enhance yields, food security, and income?
- Do productive farm households sell more at the market and consume more diverse diets?
- Does market access affect the relationship between on-farm diversity and dietary diversity?

## ...and here is what our research found...

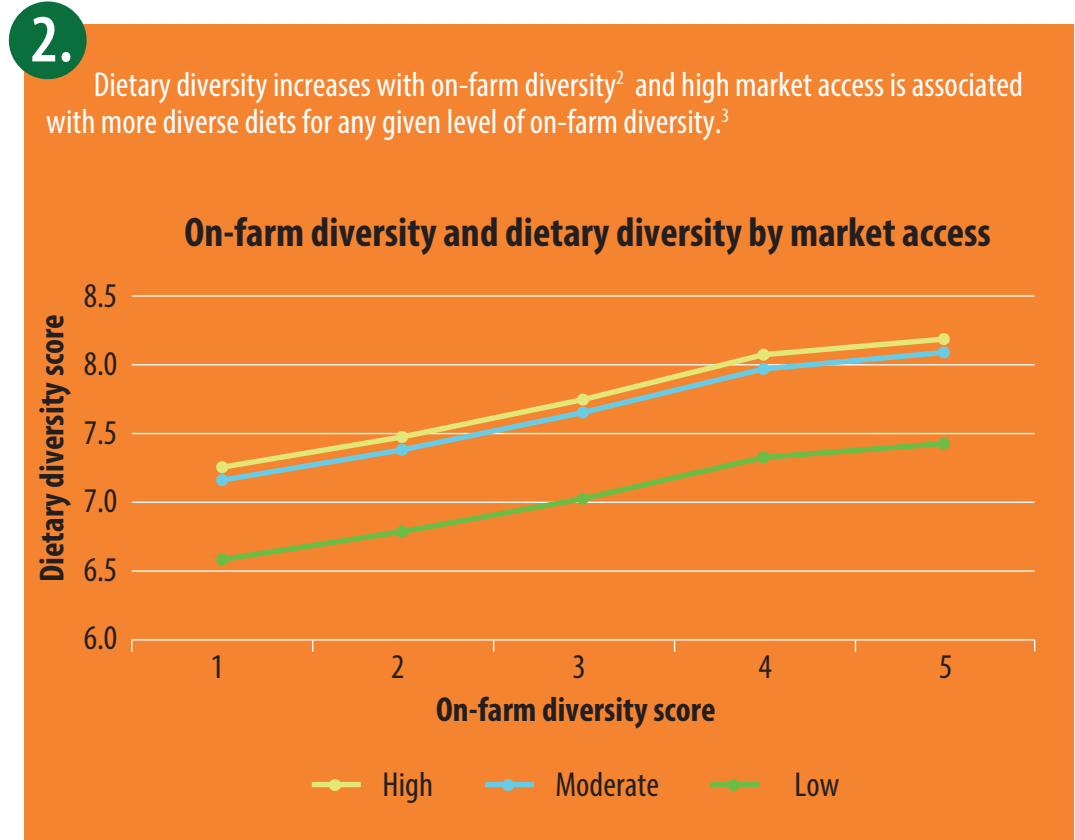
**1.** Greater use of inputs\* and greater marketed surplus is associated with:

- Higher maize yield and higher on-farm income
- Increased food security and dietary diversity, lower poverty, and higher chance of being food secure and non-poor

**Indicators by market integration for agricultural specialists and diversifiers**

Indicators	Access to agricultural inputs			Marketed surplus		
	Low	Moderate	High	Low	Moderate	High
Maize yield (t/ha)	0.73	0.76	0.81	0.73	0.76	0.82
Net on-farm income (Ghanaian cedi)	1327	1535	1946	1318	1569	1923
Food secure (%)	54.1	55.7	60.3	56.4	57.1	56.7
Household dietary diversity score	7.26	7.65	8.06	7.28	7.58	8.11
Non-poor based on US \$1.90 a day (%)	62.0	63.4	67.3	62.1	63.1	67.5
Non-poor and food secure households (%)	46.6	47.6	51.7	48.0	48.6	49.4
Number of households	368	375	375	368	378	372

\*improved seeds, inorganic fertilizers, hired labor, pesticides, herbicides, agricultural credit, and animal feed



## These findings suggest that...

- A stepwise approach from promotion of basic, low-cost farming approaches (such as row planting with optimal spacing, intercropping, compost manure) to more advanced and agricultural innovations (such as irrigation and mechanization) should be supported.
- Good agronomic practices, judicious use of inputs, and market access are key to increasing productivity, income, food security, and dietary diversity.
- Boosting on-farm diversity is especially important to enhance dietary diversity when access to markets is limited.

## More Information

International Food Policy Research Institute (IFPRI), 2015, Ghana Africa Research in Sustainable Intensification for the Next Generation (Africa RISING) Baseline Evaluation Survey, <https://doi.org/10.7910/DVN/QUB9UT>