

Making agriculture nutrition-sensitive

Findings from a study of consumption, production, availability, and affordability of nutritious food

Poor dietary quality is one of the leading causes of premature death and diseases globally.¹ Typically proxied by the diversity of one's diet, dietary quality is a challenge in Ethiopia where household consumption tends to be monotonous. According to the Ethiopian Public Health Institute, adults and children throughout the country get between 60-80 percent of their energy from carbohydrates.² This is particularly worrying for Ethiopia given that a carbohydrate intake greater than 60 percent increases an individual's risk of cardiovascular disease—one of the country's most common causes of premature mortality.³ Micronutrient deficiencies and stunting are another indication of limited dietary quality. Across Ethiopia, 60 percent of children are anemic, one-third are deficient in Vitamin A, and only 14 percent of children meet the World Health Organization's (WHO) standard for diet diversity.^{4,5} In an effort to improve dietary quality, the Government of Ethiopia has set out ambitious plans through the National Nutrition Programme to increase the year-round availability, access, and consumption of nutritious foods.⁶ At the core of these efforts is the urgent need to transform food systems to support healthier diets throughout Ethiopia.⁷

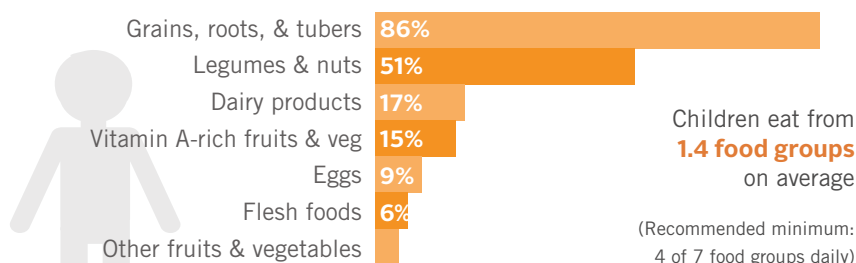
ABOUT THE STUDY

This brief summarizing Hirvonen and Wollé's 2019 report, *Consumption, Production, Market Access and Affordability of Nutritious Foods in the Amhara Region of Ethiopia*, offers insight into the gaps and opportunities where nutrition-sensitive agriculture policies and programs could have the greatest impact on diet diversity.⁸

CONSUMPTION IN AMHARA

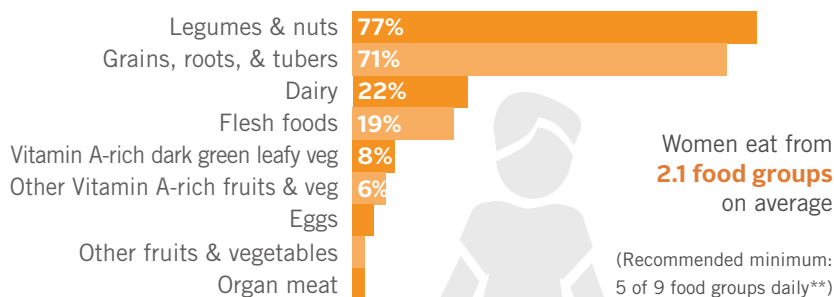
The study looks at consumption in three sample populations within Amhara: children 6-23 months, women in USAID's Feed the Future (FTF) areas, and mothers in chronically food insecure areas where the Productive Safety Net Program (PSNP) operates. Women and children in the region fall far below the recommendations for diet diversity, consuming primarily starchy staples, legumes, and nuts. Only 2.9 percent of children, 0.5 percent of mothers in the PSNP areas, and 2.8 percent of women in FTF areas consume foods from the recommended number of food groups. The graphs below show the percentage of each demographic that consume the different food groups.

CHILDREN 6-23 MONTHS (DEMOGRAPHIC & HEALTH SURVEY, 2016*)



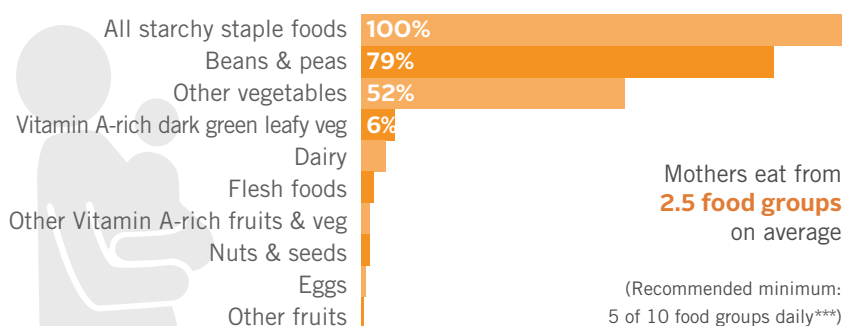
* Sample limited to children who consumed complementary foods

WOMEN (SURVEY OF FTF AREAS, FIRST PHASE, 2018)



** Based on the Women's Dietary Diversity Score (WDDS)

MOTHERS (SURVEY OF PSNP AREAS, 2017)

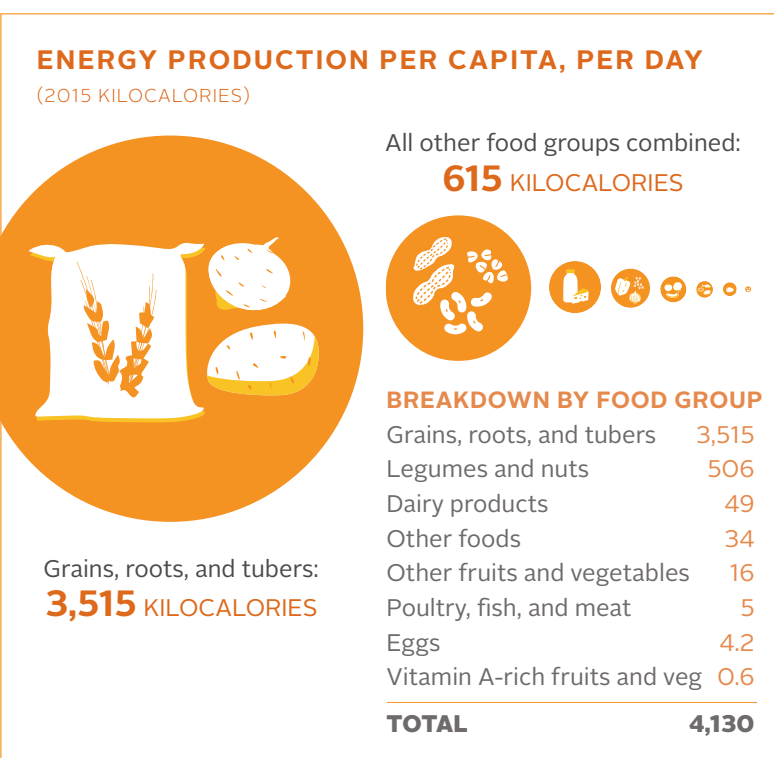


*** Based on Minimum Dietary Diversity-Women (MDD-W) tool

PRODUCTION AND AVAILABILITY IN AMHARA

Total energy production in Amhara increased by 20 percent between 2011 and 2015, driven by the production of grains, roots, and tubers. These staples accounted for 85 percent of all calories produced in 2015, followed by legumes and nuts at 12 percent. The remaining six food groups made up only 3 percent of the total calories produced in the region that year, and the production of Vitamin A-rich fruits and vegetables is particularly low. The market availability of nutritious foods found in the PSNP and FTF areas is shown at right. A variety of different food items are available in Amhara markets. Apart from starchy staples, some of the most common items are:

- Horse bean, lentil, cowpea, chickpea, fenugreek, and vetch
- Live chicken and eggs
- Ethiopian kale, carrot, onion, green pepper, and tomato
- Banana, lemon, and orange



Calculations from Central Statistical Agency (CSA) agricultural sample surveys

KEY TAKEAWAYS

- Overall, Amhara has adequate food production to feed its population.
- While the markets in Amhara are dominated by staples, legumes, and nuts, the availability of nutritious foods does not appear to be an overriding constraint to consumption of a diverse diet.
- The region has done well in increasing production of staple crops from 2011 to 2015. Now, emphasis should also be on diversification to include non-staple food production that supports health and nutrition.

AVAILABILITY OF NUTRITIOUS FOOD IN LOCAL MARKETS

FOOD GROUP AND ITEM		PSNP (%)	FTF (%)
Beans and peas	Horse bean	81.5	100
	Lentil	95.4	90.5
	Cowpea	96.9	57.1
	Chickpea	87.7	95.2
	Bean, white	26.2	31.0
	Bean, brown	20.0	23.8
Nuts and seeds	Green bean	3.1	0
	Fenugreek	81.5	92.9
	Vetch	63.1	71.4
	Groundnut	24.6	50.0
	Sesame	29.2	35.7
Dairy	Groundnut flour	1.5	4.8
	Fresh milk	18.5	31.0
	Fermented milk (ergo)	9.2	19.0
	Powdered milk	6.2	28.6
	Yoghurt	6.2	23.8
Flesh foods	Cheese	4.6	0
	Live chicken	95.4	100
	Beef meat	26.2	76.2
	Goat meat	1.5	14.3
	Mutton meat	1.5	14.3
	Camel meat	1.5	4.8
	Dried fish	0	2.4
	Fresh fish	0	0
	Chicken meat	0	0
Eggs	Eggs	92.4	100
	Vitamin A-rich dark green leafy vegetables	Ethiopian Kale	49.2
Spinach		26.2	47.6
Other Vitamin A-rich fruits and vegetables	Carrot	58.5	61.9
	Mango	41.5	38.1
	Papaya	40.0	23.8
	Pumpkin	15.4	45.2
Other vegetables	Onion	100	97.6
	Green pepper	100	97.6
	Tomato	90.8	73.8
	Lettuce	30.8	40.5
	Cauliflower	0	4.8
	Mushroom	0	2.4
Other fruits	Banana	84.6	88.1
	Lemon	76.9	92.9
	Orange	56.9	71.4
	Avocado	16.9	42.9
	Melon	1.5	0
	Cactus fruit	0	0

From 2019 survey of PSNP areas and 2018 survey of FTF areas

AFFORDABILITY IN AMHARA

In this analysis, affordability is defined as the share of total income needed to consume the recommended daily amount of the food group. Since Ethiopia is still developing its own nutritional guidelines, the analysis below is based on the EAT-Lancet Commission on Food, Planet, and Health guidelines* that recommend diets rich in plant-based foods based on the needs of a healthy individual.⁹ The analysis below calculates the minimum cost to meet the dietary recommendation using the cheapest food item available for each food group to provide a sense of the price of foods relative to household incomes in the region. The seven food groups used in the child dietary diversity measure were used, with the omission of grains, roots, and tubers.

*Children under 2 years and pregnant and lactating women have different dietary requirements

PERCENT OF HOUSEHOLD INCOME NEEDED TO MEET THE RECOMMENDED INTAKE

(FOR HEALTHY INDIVIDUALS 2 YEARS OR OLDER)

FOOD GROUP	ANNUAL HOUSEHOLD INCOME			
	Average (Birr 8,094)	Poorest (Birr 3,983)	Median (Birr 8,751)	Richest (Birr 25,481)
Legumes and nuts	5%	10%	5%	2%
Dairy products	15%	30%	14%	5%
Poultry, fish, and meat	38%	78%	35%	12%
Eggs	4%	9%	4%	1%
Vitamin A-rich fruits & vegetables	2%	4%	2%	1%
Other fruits and vegetables	7%	15%	7%	2%
TOTAL	71%	146%	67%	23%

Income is proxied by consumption-expenditures from the 2015/16 Ethiopian Household Consumption-Expenditure (HCE) Survey from CSA

KEY TAKEAWAYS

- The poorest households in Amhara cannot afford the recommended intakes for the six food groups because it would require 146% of their household income, and this excludes income needed to purchase food in the grains, roots, and tubers food group. Even the richest would need to spend 23% of their income on the six food groups.
- Increasing consumption of dairy and flesh foods would be difficult due to affordability and the widespread religious practice of fasting.
- Among the animal source foods, eggs are relatively affordable across all income groups.
- One way to diversify diets is to promote the consumption of eggs, fruits and vegetables, and other food groups that are currently lacking in diets and affordable to most income groups.

SUMMARY

Consumption

The diets of mothers and children in Amhara currently lack adequate diversity to meet nutritional needs.

Production

Food production in the region is adequate to meet caloric needs, but primarily through the production of starchy staples. Production needs to focus on a variety of nutritious foods that would support a diverse diet.

Availability

Different nutritious foods are available in markets, suggesting there may be opportunities to promote diet diversity by boosting production and consumption of the most acceptable and affordable items.

Affordability

Plant-based foods and eggs are relatively affordable, while flesh foods are likely to be unaffordable for many households to consume regularly.

CONCLUSION

The most readily available and affordable food groups in Amhara that are lacking in diets include: Vitamin A-rich fruits and vegetables; eggs; and other fruits and vegetables. Making these sub-sectors or value chains a priority—by increasing availability and improving affordability, price stability, and safety in all local food markets—offers promise for moving toward a more diverse diet, when combined with increasing demand for these foods.

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