



# Household Expenditure on Food of Animal Origin: A Comparison of Uganda, Vietnam and Peru

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## EXECUTIVE SUMMARY

### Introduction

Livestock contribute to the livelihoods of an estimated 80percent of the world's rural poor by providing a small but steady stream of income and food. On the income side, livestock raises farm productivity, increases assets, provides a form of insurance to withstand shocks and creates employment opportunities. On the consumption side, livestock plays an important role in improving the nutritional status of low income households by addressing micro and macro nutrient deficiencies. While poverty is a multidimensional phenomenon, a large part of being poor is linked to (not) having access to adequate food and nutrition which is intrinsically related to household work opportunities and household members' health.

Over the last few decades, the rise in population growth and incomes and the consequent shift toward larger urban areas have coincided with significant shifts in household dietary patterns and a growing demand for products of animal origin, although differences in the consumption of animal products between the developed and developing world remain large. Individuals in developed countries typically consume three to four times the meat and five to six times the milk when compared to individuals in developing countries.

In this context, this paper investigates household consumption patterns of animal food products, which include milk, eggs meat and fish, and aims to corroborate theoretical expectations with empirical findings. The focus of the paper will be to assess what proportion of the household budget is spent on livestock products and how this may vary with income both within and across the countries. Three countries were selected for the study, namely Uganda, Vietnam and Peru. The reason for this is twofold: firstly these countries belong to the group of PPLPI focus countries and secondly they have recent and comprehensive micro level data available. In the first step of the analysis the countries were analyzed individually. In the second step the findings were compared across countries and then tested econometrically.

### Expenditure Patterns by Countries

The analysis is descriptive in nature and compares food expenditure shares and breakdown across location and income quintiles within and across countries. All consumption sources are included in the food consumption expenditure aggregate, specifically purchases, home production consumption and food gifts.

#### Uganda

Rural households spend less but the distribution of expenditure across quintiles is more homogenous compared to urban households. The food expenditure share reduces as income rises and overall

rural households use a larger share of their household budget for food consumption. The livestock product share of food expenditure is lower in the urban areas but urban households nevertheless consume more livestock products. For example the poorer urban households consume approximately one-and-a-half times the amount of meat compared to rural households. As income increases the absolute expenditure on livestock products increases and the differences between urban and rural areas reduce. Households consume more fish compared to meat but spend a smaller part of the household budget on fish consumption. As income increases the share of expenditure on fish reduces.

## Vietnam

Households in rural areas have lower expenditure levels and higher food budget shares compared to urban areas. As income increase the discrepancies in expenditure levels between urban and rural households increase while the food budget shares reduce. Urban households spend more on livestock products and consume 1.5 times the amount of livestock products consumed by rural households. In the case of livestock products, both in rural and urban areas, the expenditure levels, the consumption levels per capita and the food budget share increase as income increases. The pattern is slightly different in the case of fish. In urban areas across income quintiles, expenditure levels increase, shares reduce and quantities per capita slightly reduce. In rural areas, expenditure levels, food expenditure shares and quantities consumed increase as income increases.

## Peru

Urban households are significantly wealthier than rural households, spending approximately 2.5 times as much as the rural households while the household sizes are similar across locations. As income increases, household expenditure increases as does the divide between urban and rural expenditure levels. Urban households spend more on livestock products and consume more meat per capita than rural households. Expenditure on livestock products in urban areas amounts to a smaller share of the total food budget compared to the rural areas. Generally, households spend less on fish and much smaller quantities of fish are consumed per capita per year, although, even in the case of fish, urban households consume more than rural households.

## Comparisons Across Countries and Econometric Analysis

In the cases of Uganda and Vietnam which fall in the same income level group, when comparing rural areas, the expenditure levels and shares for livestock are similar. The levels vary with increasing income, as is the case for the rural Peruvian households where per capita expenditure is higher and the food expenditure share decreases by approximately a half. Rural households in Uganda spend Int\$ 64 and 9.5 percent of the food budget on livestock products, Int\$ 55 and 11.1 percent in Vietnam and Int\$ 79 and 9.6 percent in Peru. Quantities of meat consumed in the rural areas of Peru are roughly double the amounts consumed in rural Uganda and Vietnam.

When comparing the urban households of the three different countries, the trends are similar but the livestock food share is lower for urban Peruvian households compared to the urban households of Uganda and Vietnam which instead use comparable shares of their food expenditure for livestock products. Further, the amount of meat consumed in urban areas in Peru is considerably higher, approximately treble, that in the equivalent areas in Uganda and Vietnam.

The results obtained with an econometric analysis of household expenditure on livestock products as a function of household income level, household size, urban or rural location and country dummies show that these characteristics are statistically significant and positive, confirming theoretical expectations. *Ceteris paribus*, the model predicts that a one percent increase in household income would yield a 0.5 percent increase in livestock products' expenditure; as the household size grows by one percent, livestock products expenditure will increase by 0.3 percent; as a household moves from a rural to an urban area, the livestock expenditure level would increase by 0.35 percent. Finally the country effects show that, on the margin, households in Uganda and Vietnam consume more livestock products compared to Peruvian households which may be a consequence of differences in household preferences.

## Conclusions

The empirical analysis confirms theoretical expectations and finds that:

- Wealthier households consume more livestock products and therefore have more diverse food consumption patterns. This finding is maintained by area location, within each country and across countries.
- Income disparities within urban areas are larger, nevertheless households living in urban areas consume more livestock products compared to rural area households.
- In rural areas, livestock represent both a consumption and a capital good since households consume livestock goods but also hold livestock. Nonetheless, although the rural and poorer households use a larger share of their household budget for food consumption, they consistently consume smaller amounts of livestock products. This shows that the poorer rural households do not manage to gain access to livestock nutrients, although they may be producing them or holding livestock themselves. Thus, policies need to be put in place to ensure that rural households can consume more livestock products. Policies that aid productivity increases or allow more market integration will consequently enable these poorer households to consume more livestock products without hindering their own assets and livelihoods.
- In the cases of Uganda, Vietnam and Peru, trends in fish consumption are not as clear as those for livestock products and tend to be country specific.