

“Agricultural commercialization in northern Ghana”

Ghana is one of four countries where the IFAD-IFPRI Partnership operates. The market access component of the Ghana project is involved in supporting the recently launched Northern Rural Growth Programme (NRGP) through four activities:

1. Analysis of two existing household datasets. The 2005-06 Ghana Living Standards Survey sheds light on the patterns of agricultural marketing and high-value crops in northern Ghana, where the NRGPs are being implemented. And the 2008 Demographic and Health Survey provides useful information on child malnutrition and ownership of assets, both of which are core indicators for evaluating the impact of IFAD projects.
2. Implementation of a baseline survey for the Northern Rural Growth Programme (NRGP). A survey of roughly 2000 farm households will be carried out July-August 2011 in northern Ghana in order to better understand the constraints faced by farmers in the northern region.
3. An impact evaluation of providing agricultural market information via mobile phones. The survey will also serve as a baseline for an “experiment” in which randomly selected farmers will be given subscriptions to agricultural market information delivered by text messages to their mobile phones. A later survey will evaluate the impact of the subscriptions on their crop marketing behavior, prices, and incomes.
4. Capacity development in market analysis, geographic information systems, and other topics. A training course on agricultural markets was given in 2010, and one on the household impact of agricultural price changes is planned for 2011.

The rest of the article summarizes some of the preliminary results of the analysis of the 2005-2006 Ghana Living Standards Survey (GLSS) and the 2008 Demographic and Health Survey (DHS). The GLSS collected information on a random sample of 8,687 households, of which 5,069 were in rural areas.

A standard measure of agricultural commercialization is the marketed surplus ratio, defined as the value of crop sales as a percentage of the value of crop production. The average marketed surplus ratio in Ghana is 33%¹.

However, there is considerable variation across of households and across crops. For example, about one quarter of all

farmers grow crops only for home consumption, and another quarter are commercial farmers who sell more than half the value of their crop production.

There are also significant differences across regions. The average marketed surplus ratio is 15% in the Upper East and 18% in the Upper West. In the Northern region, the average is 34%, slightly higher than the national average. Why is the level of commercialization among farmers in the Upper East and Upper West so low?

In many countries, farm size is one of the most important factors influencing the degree of commercialization. In Ghana, larger farms tend to sell a higher proportion of their output, but the relationship is not very strong: farms of more than 10 hectares sell 46% of their crop output, but even farms with less than 1 hectare sell an average of 27% of the crop production. This helps explain the low level of commercialization in the Upper East, where the average farm size is smaller than the national average, but not in the Upper West, where it is similar to the national average.

A second contributing factor is the crop mix. The crops that are more widely grown in the Upper East and Upper West than elsewhere include rice, sorghum, millet, yams, beans, groundnuts, shea-nut, and cotton. In contrast, crops such as cassava, coco yams, plantains, cocoa, oil palm, fruits, and most vegetables are more common in the south. Overall, grains account for about half of the cultivated area in the Upper East and Upper West, compared to barely a third in the Northern region and less than a quarter in southern Ghana. Since a relatively small share of grains are sold, this contributes to the low market orientation of farmers in the Upper East and Upper West. In contrast, one third of the cultivated area in central and southern Ghana is planted with cocoa, the country’s dominant cash crop.

A third factor is that the value of crop production per hectare is lower in the Upper East and Upper West, even for the same crop. This is most clearly seen in the case of maize, which is grown by over three-quarters of farmers nationally and two-thirds of those in the Upper East and Upper West regions. According to the GLSS, the average value of maize production per hectare in these two regions is roughly half that of the national average. This is due to a combination of lower yields, due to lower and more erratic rainfall, and lower farm-gate prices, because of the lower density of roads and distance from major urban centers. For example, over 2000-08, the average price of

¹ This is calculated as the average of the household-level market surplus ratios. The ratio can also be calculated as the national value of crop sales divided by the national value of crop production, a figure that gives greater weight to larger farmer and generally gives a higher ratio.

maize in Accra was 33% higher than in Wa (Upper West region) and 25% higher than in Tamale (Northern region). The low yields reduce any surplus above home consumption requirements, while the low prices discourage farmers from producing a surplus in the first place.

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And finally, the average size of households tends to be larger in the three northern regions compared to the rest of the country. For example, the average agricultural household has 5.6 people in the Upper East and 6.9 in the Upper West, compared to 4.4 in central and southern Ghana. Although large households imply more family labor, this is more than offset by the larger consumption requirements.

Many of these same factors also contribute to the low level of per capita income and expenditure. According to the GLSS, the median per capita expenditure in the Upper East and Upper West regions is less than half the national average. The Northern region is also poorer than the south, but the difference is smaller. The lower standard of living in these regions is reflected in housing characteristics, asset ownership, and child malnutrition.

According to the 2008 Demographic and Health Survey (DHS), the proportion of rural households with electricity is

14-19% in the three northern regions, but 45% in the rest of Ghana. Similarly, less than 10% of rural households in the three northern regions have piped water or use a public standpipe, while about 25% of the rural households in the rest of Ghana do. And the share of rural households with access to a flush toilet or improved latrine is 7-20% in the northern three regions, compared to 66% in the rest of Ghana. The ownership of radios, televisions, refrigerators, and mobile phones is significantly lower in the three northern regions than in the rest of Ghana.

Some assets show the opposite pattern. The ownership of bicycles, scooters, and motorcycles is somewhat higher in the north, as is ownership of livestock such as cows, goats, pigs, and chickens. Overall, however, rural households in the three northern regions own fewer assets than those in the south: the wealth index calculated from the DHS data is between 1.7 and 2.0 for the three northern regions and 3.4 for the rest of Ghana.

The lower income and poorer access to water and sanitation in the north have implications for child nutrition. The proportion of children under 5 years of age with moderate stunting² is 26% in the three northern regions, compared to 23% in the country as a whole. Similarly, the rate of moderate wasting³ in the same age group is 13% in the northern regions, compared to the national average of 8%.

It is important to note, however, that almost all of these indicators of housing, assets, and child nutrition have improved significantly over time, both in the three northern regions and in the country as a whole.

For example, the rate of stunting in the northern regions has fallen from 37% in 1998 to 26% in 2008, while the share of households with electricity in these regions has increased from 15% to 30% over the same period. The proportion of households owning various consumer durables has also increased, both nationally and in the three northern regions. For example, only 4% of northern households owned a motorcycle in 1998, while 15% did so ten years later.

In summary, the low level of agricultural commercialization in the Upper East and Upper West regions can be partly explained by the small size of farms (in the Upper East only), a crop mix heavily tilted to grains and other low-value commodities, lower rainfall which reduces yields, poor infrastructure which reduces farm-gate crop prices, and larger households which increase consumption needs. These same factors contribute to the fact that the per capita income in the northern regions is lower than the national average. This is reflected in housing characteristics, asset ownership (other than livestock), and child nutrition. In spite of the low standard of living in the northern region, the DHS data show that housing characteristics, asset ownership, and child nutrition are improving over time, both in the northern regions and in Ghana as a whole.

² Stunting refers to children who are more than two standard deviations below the median in height-for-age among a reference population of healthy children.

³ Wasting refers to children who are more than two standard deviations below the median in weight-for-height among a reference population of healthy children.