

Agricultural production and use in Banke, Nepal

*Crop, homestead, livestock, and
fish cultivation and use*

Data Note 43

December 2023

ABOUT THIS TAFSSA DATA NOTE

The TAFSSA district food systems assessment aims to provide a reliable, accessible and integrated evidence base that links farm production, market access, dietary patterns, climate risk responses, and natural resource management in Bangladesh, India, and Nepal. It is intended to be a multi-year assessment. This data note summarizes data collected in March- April 2023 to describe what smallholder farmers are cultivating and what they do with the farm products produced. It is part of a pack of data notes that, together, provide a holistic picture of the food system in the district. The survey methodology is briefly summarized in the penultimate page of this data note.

**Figure 1. Research
location in Banke
District, Nepal**

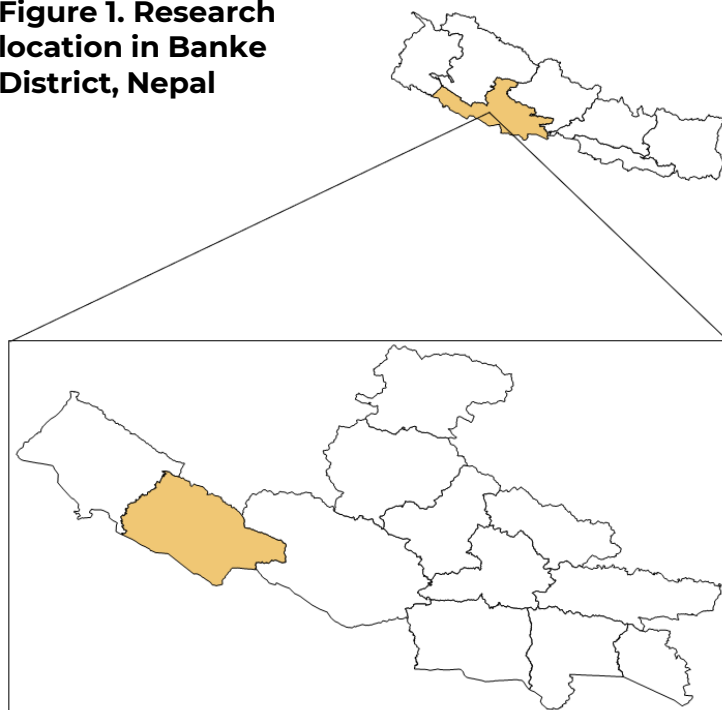
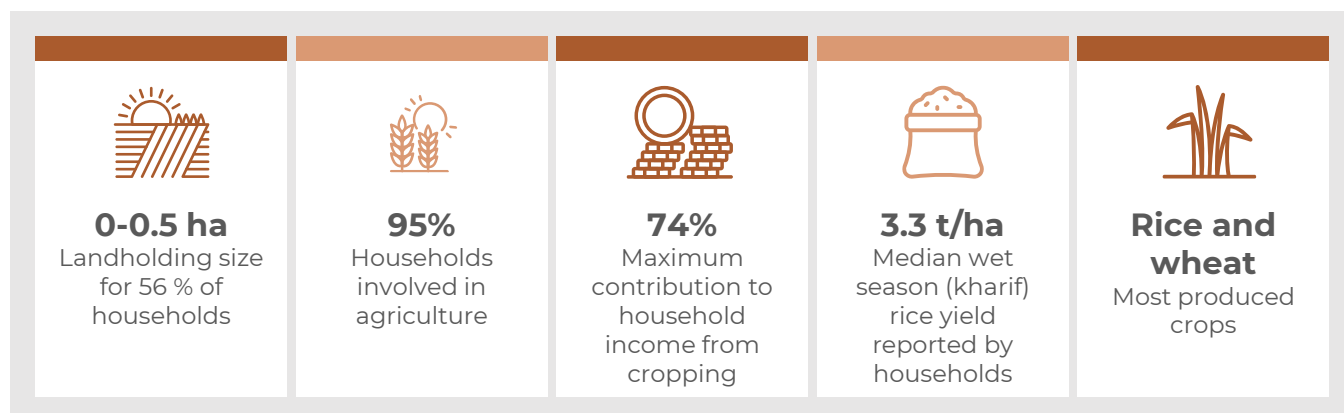


Figure 2. Highlights from this data note



AGRICULTURAL PRODUCTION DATA NOTE OVERVIEW

This data note summarizes information provided by households in Banke District in Nepal. It starts with a general overview of agricultural productivity, followed by more detailed information on crop production, the use and sale of crops, livestock and livestock-derived food production, and the use and sale of animals and animal products. Finally, information is provided on households' production of "sentinel foods," i.e. 25 commonly consumed foods or food groups whose production and consumption are being tracked across the TAFSSA Initiative's learning landscapes throughout South Asia.

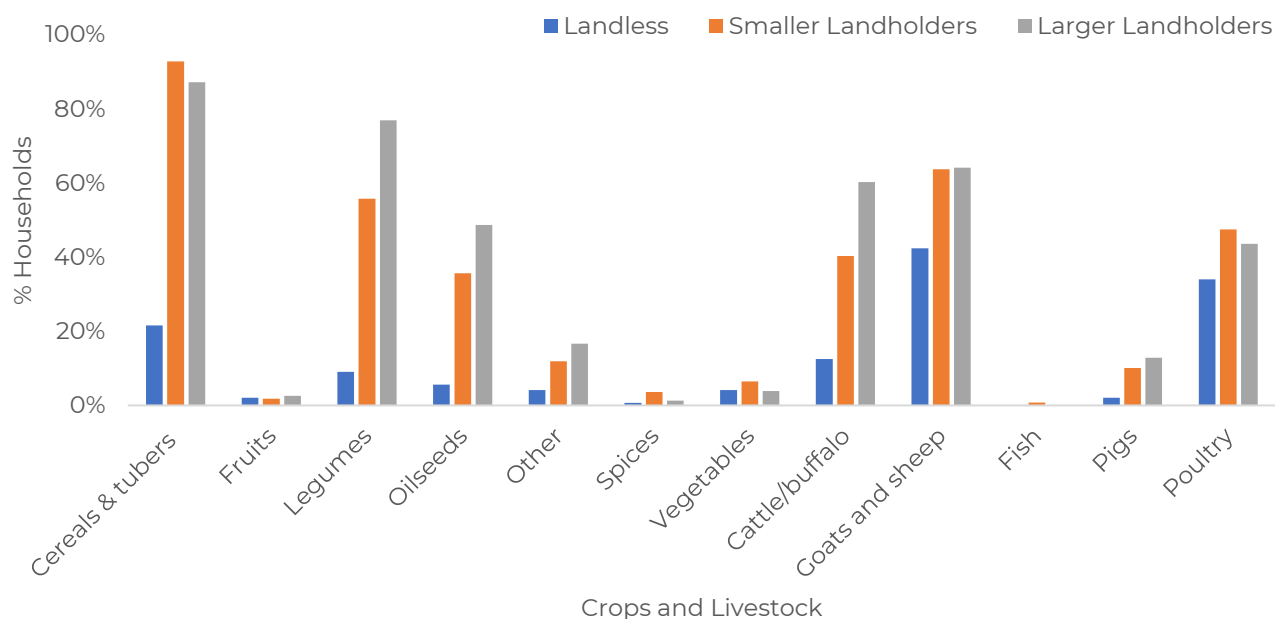
Households have been categorized into three groups based on landholding size. Of the surveyed households, 29% own no land and are referred to here as "Landless," and 56% of surveyed households own between 0 and 0.5 hectares and are considered "Smaller Landholders." The remaining 16% of survey households own more than 0.5 hectares, and are termed "Larger Landholders."

Table 1. Key characteristics of each household group

Household group	Landholding size	Proportion of total households	Proportion engaged in agriculture	Proportion owning land	Proportion where women own land
Landless	0 ha	29%	24.4%	0.0%	9%
Smaller Landholders	0-0.5 ha	56%	55.0%	100.0%	15.6%
Larger Landholders	> 0.5 ha	16%	15.6%	100.0%	6.4%
Total	n/a	100%	95.0%	80.0%	31.0%

- ✓ Households with land produce considerably more cereals & tubers, legumes, oilseeds, ruminants, pigs and poultry than Landless households.
- ✓ More Landless households produce small ruminants (42.4%) and poultry (34.0%) than produce cereals & tubers (21.5%) or any other crops or livestock.

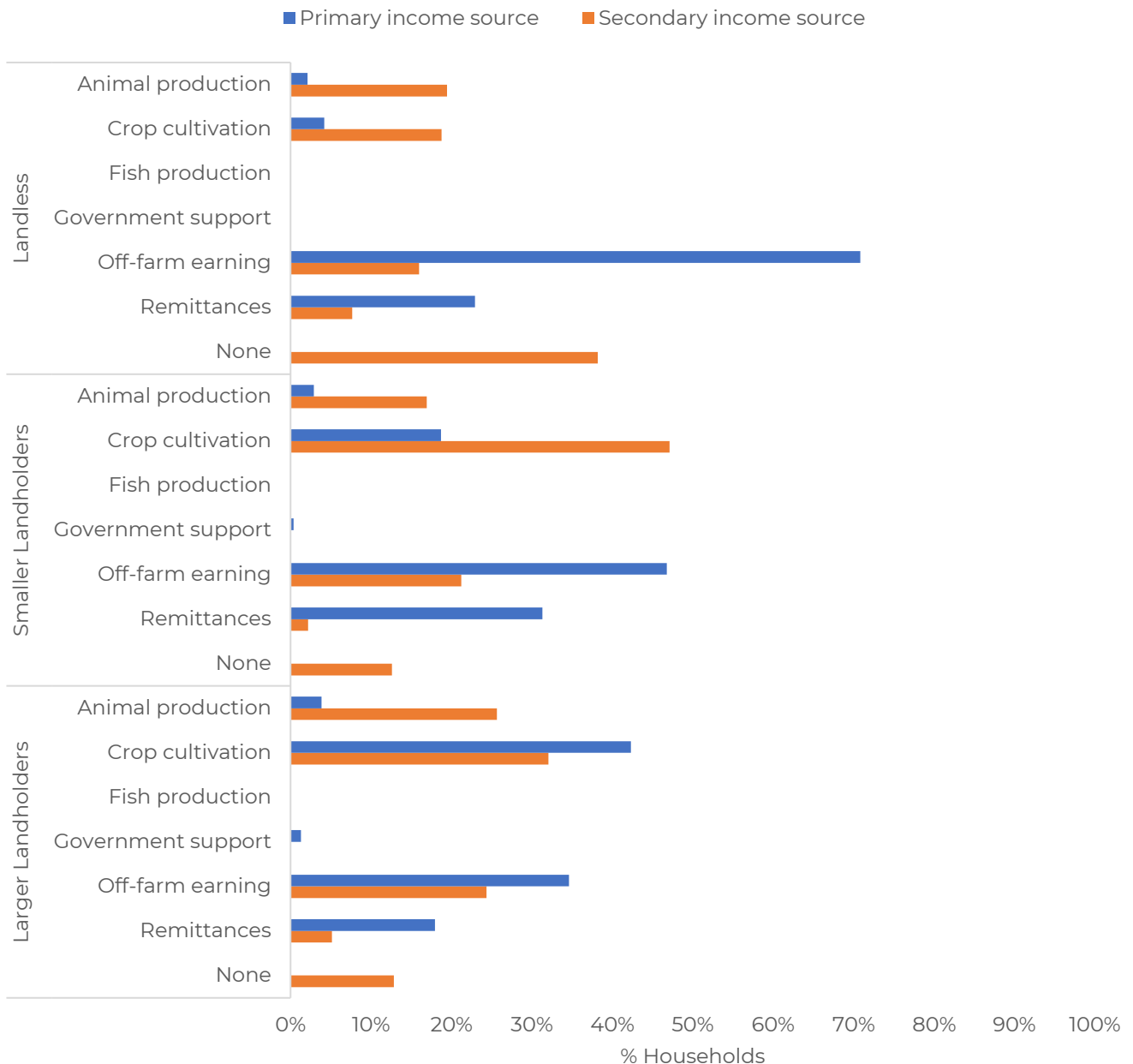
Figure 3. Crop production and livestock ownership in each household group



HOUSEHOLD INCOME SOURCES

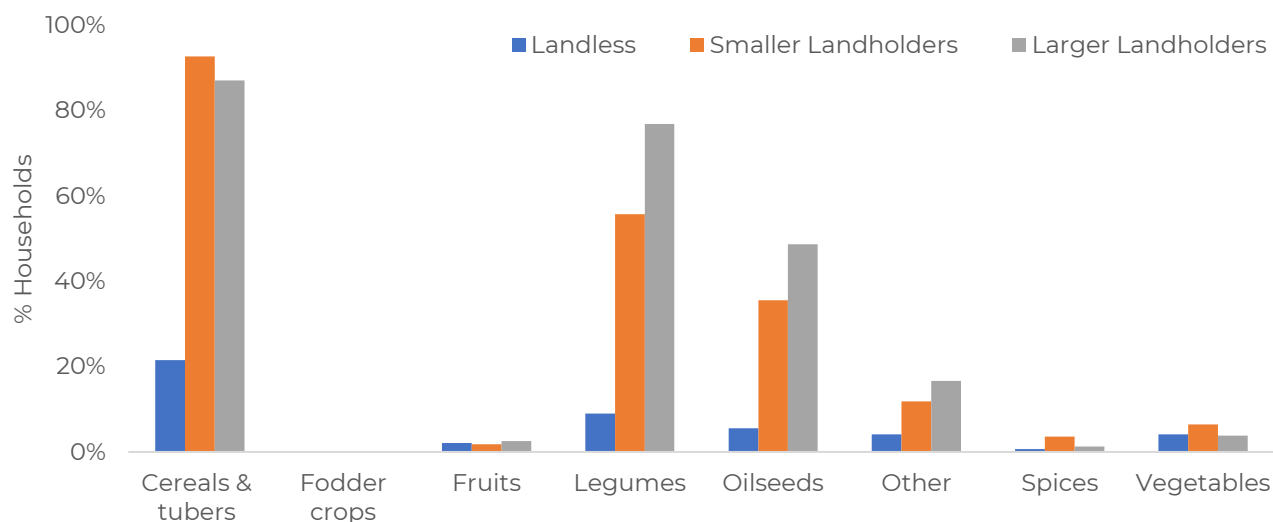
- ✓ Crop cultivation is the primary income source for 42.3% of Larger Landholder households.
- ✓ Off-farm earnings are the primary income source for 46.8% of Smaller Landholder households and 70.8% of Landless households.
- ✓ Crop cultivation is a secondary income source for 47.1% of Smaller Landholder households and 18.8% of Landless households.
- ✓ Animal production is a key secondary source of income for 25.6% of Larger Landholder households, 16.9% of Smaller Landholder households, and 19.4% of Landless households.

Figure 4. Primary and secondary sources of income in each household group



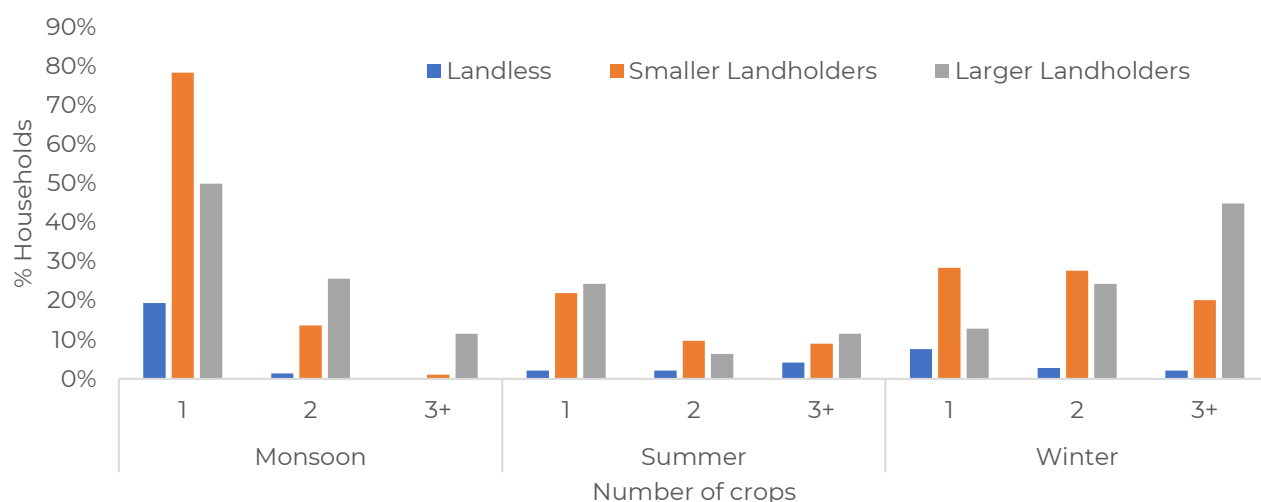
CROP PRODUCTION

Figure 5. Production of major crops by each household group



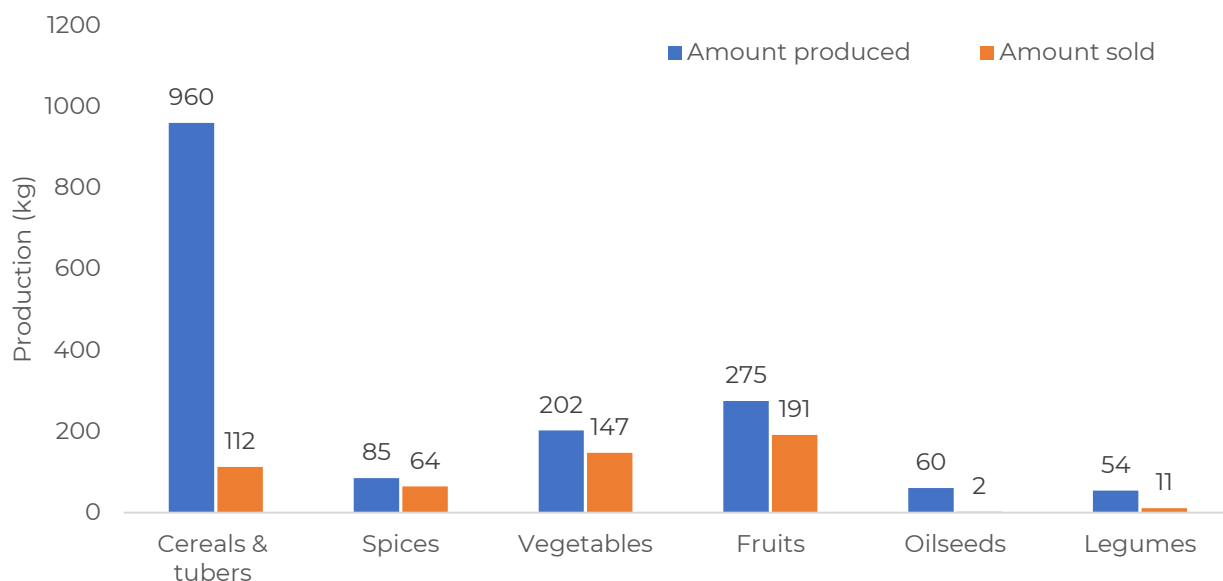
- ✓ Cereals (primarily rice, maize, wheat), tubers (potatoes) and legumes are produced by most (at least 55.8%) Smaller and Larger Landholder households.
- ✓ More Larger Landholders produce the largest proportion of crop products in the legume, oilseed, and "Other" (largely cash crops such as sugarcane and betel nut) categories.
- ✓ Crop production is lowest in the hot and dry summer season, and higher in the monsoon (kharif) and winter (rabi) seasons.
- ✓ In the monsoon season crops are likely to be rainfed, and rice, which is water-intensive, likely to be grown primarily for home consumption by half or more of households with land.
- ✓ Larger Landholder households are most likely to grow a greater number of crops in the dry winter season, which is likely a reflection of their greater ability to afford to irrigate crops.

Figure 6. Number of crops grown each season by each household group



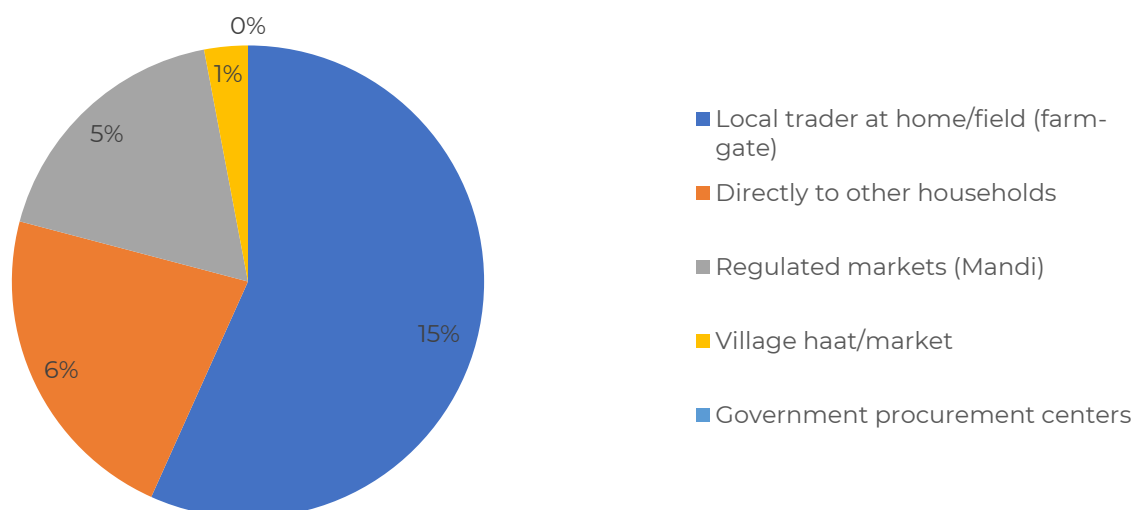
PRODUCTION AND SALE OF CROP PRODUCTS

Figure 7. Average annual per-household production and sale of major crop products, for households which sell crop products



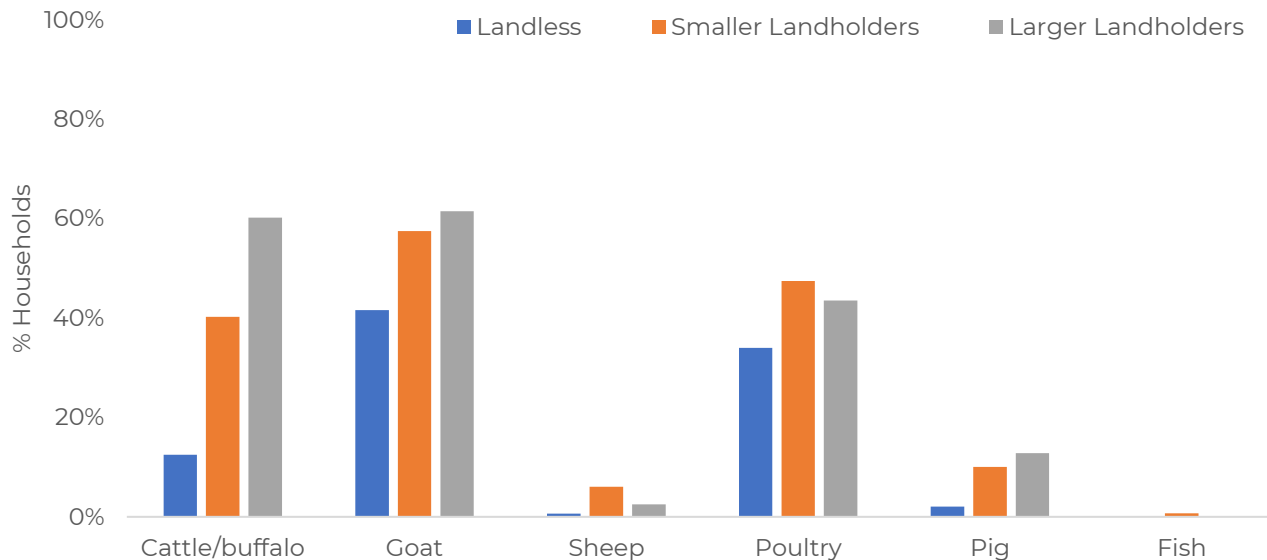
- ✓ Households sell proportionally more vegetables (72.8% of amount produced), spices (75.3%), and fruits (69.5%) than other crop types.
- ✓ Proportionally higher amounts of oilseeds (96.7%), cereals and tubers (88.3%), and legumes (79.6%) are retained for home consumption.
- ✓ Most households (73%) do not sell their farm products, regardless of farm size (data not shown).
- ✓ When farm products are sold, 15% of households surveyed reported they sell to local traders at the farm gate, with around 5% of households selling directly to other households or in regulated markets (mandis).

Figure 8. Places where households sell farm products



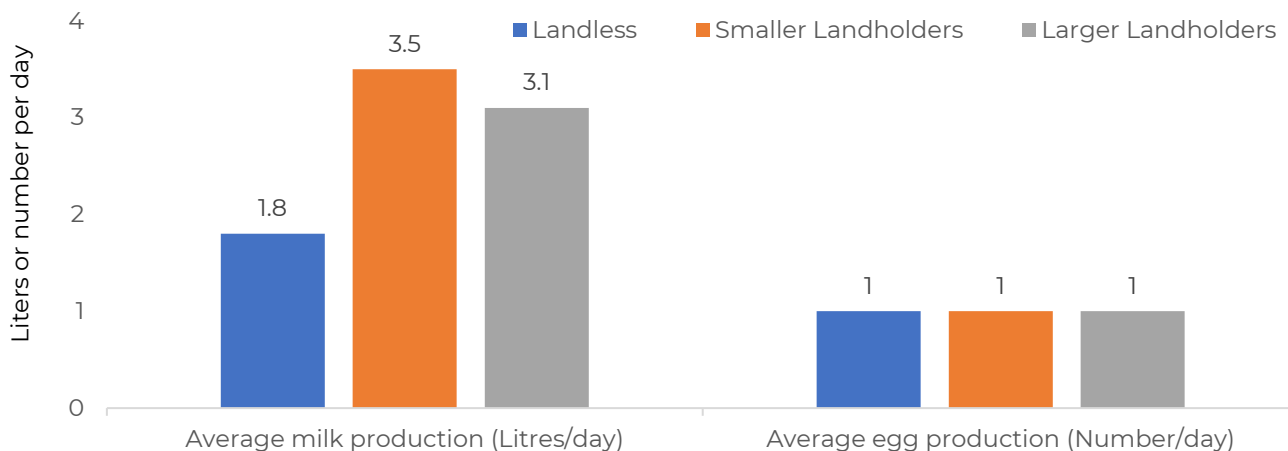
PRODUCTION OF LIVESTOCK AND LIVESTOCK-DERIVED FOODS

Figure 9. Livestock rearing in each household group



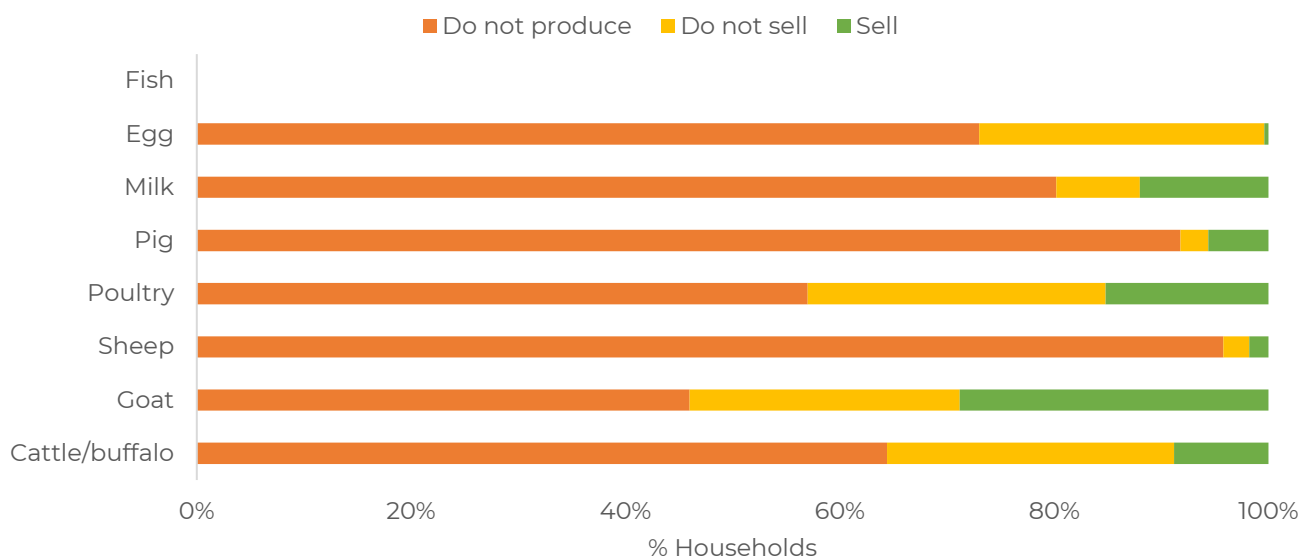
- ✓ Goats are cultivated by at least 41.7% of all household groups and poultry by at least 34.0%.
- ✓ Households with land are more likely to own livestock than Landless households. Cattle/buffalo, in particular, which require space for stalls, are owned by 40.3% of Smaller Landholder households and 60.3% of Larger Landholder households, but only 12.5% of Landless households.
- ✓ Daily average milk production is higher in households with land, possibly reflecting herd sizes and the higher quality of feed these households are able to provide their livestock.
- ✓ All households produce similar numbers of eggs each day.

Figure 10. Milk and egg production in each household group



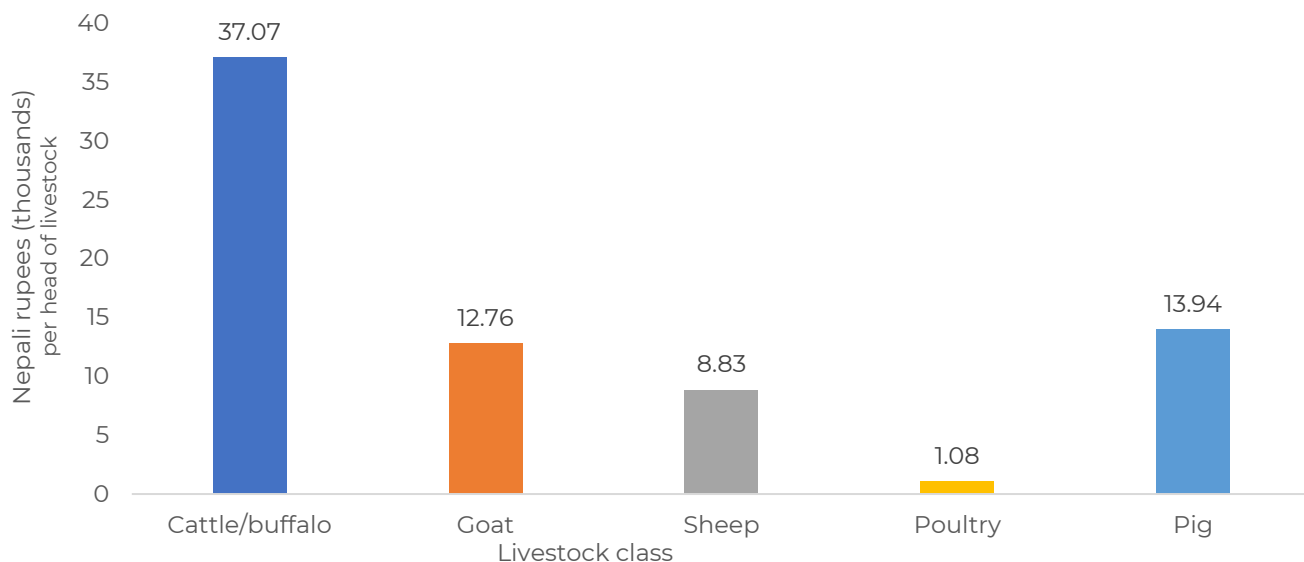
USE AND SALE OF LIVESTOCK PRODUCTS

Figure 11. Households producing, selling or retaining livestock products



- ✓ Goats and poultry are the most commonly produced animal products, produced by 54% and 43% of households, respectively.
- ✓ 28.8% of households sell goats, while 25.2% of households use or consume goats and goat products at home.
- ✓ Most households that produce poultry, sheep, and cattle/buffalo products consume more than they sell of these products.
- ✓ Farm gate prices are at least threefold higher per head for cattle/buffalo than for other livestock classes.
- ✓ Poultry prices are low, and many flocks may be self-replicating.

Figure 12. Average farmgate livestock prices



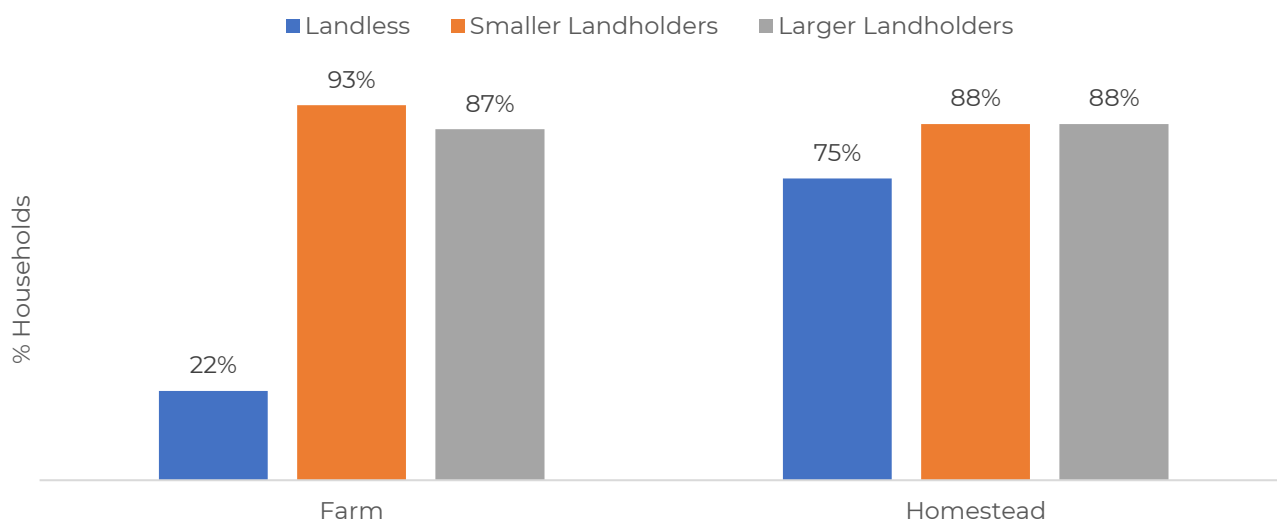
PRODUCTION AND SOURCES OF SENTINEL¹ FOODS

Figure 13. Annual production of sentinel food crops by each household group



- ✓ Across all household groups few non-cereal sentinel crops are produced.
- ✓ More sentinel cereal crops are produced, in absolute terms, by the group of Smaller Landholder households than by the surveyed groups of Larger Landholder or Landless households
- ✓ In Smaller and Larger Landholder groups most households (at least 87%) use both the farm and the homestead to produce sentinel foods.
- ✓ For the Landless group, 75% of households produce sentinel foods in the homestead and one quarter in farm fields.

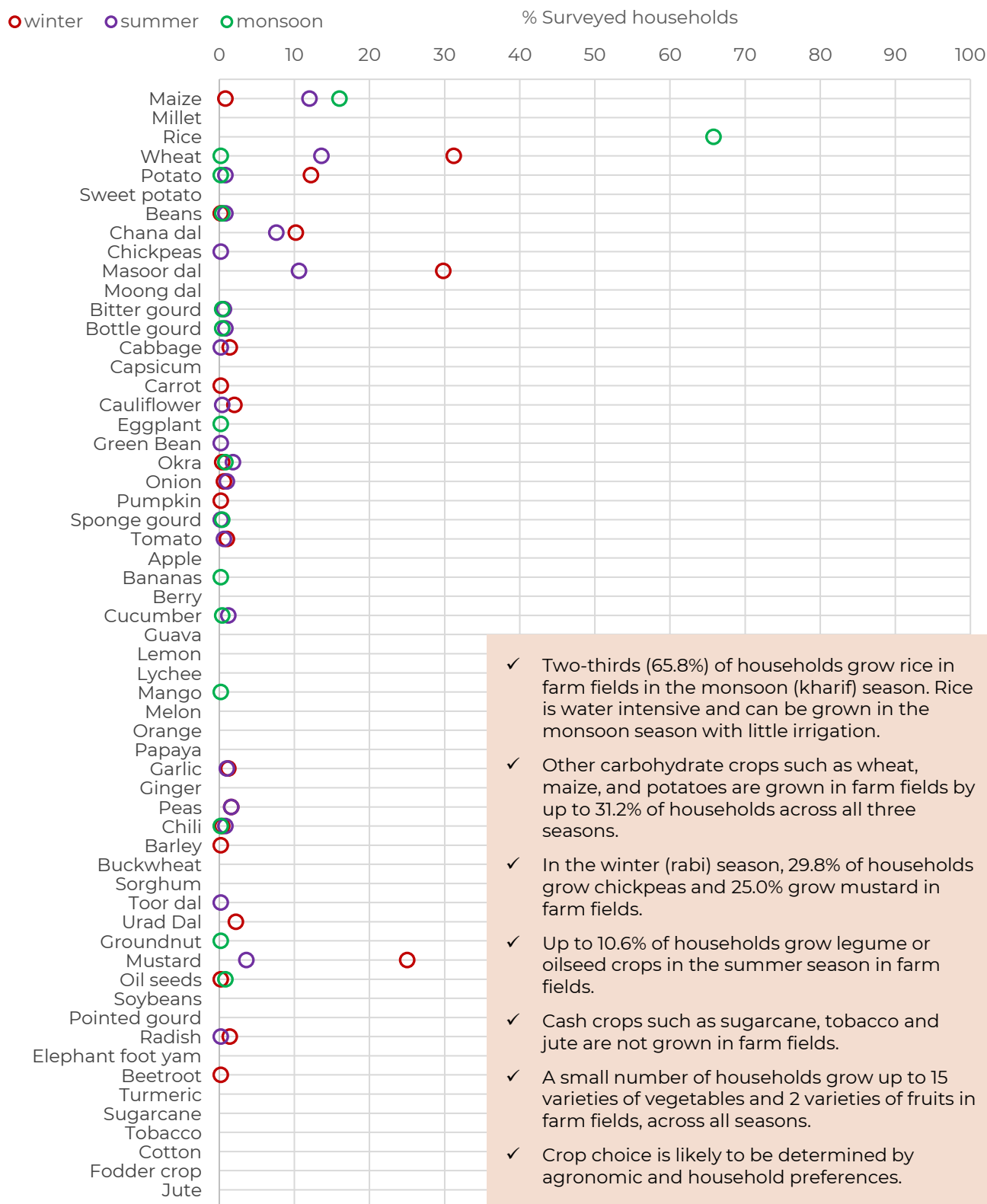
Figure 14. Where household groups produce sentinel foods



¹ The 25 sentinel foods/food groups monitored in TAFSSA's learning landscapes are: rice; wheat; maize; millets; moong dal; masoor dal; chana dal; chickpeas and beans; potato; poultry; fish; other meat; eggs; milk; orange vegetables; green leafy vegetables; onions; tomatoes; fruits; instant noodles; chips, biscuits and baked sweets; deep fried food; soda, soft drinks and packaged juices; and tea or coffee with sugar.

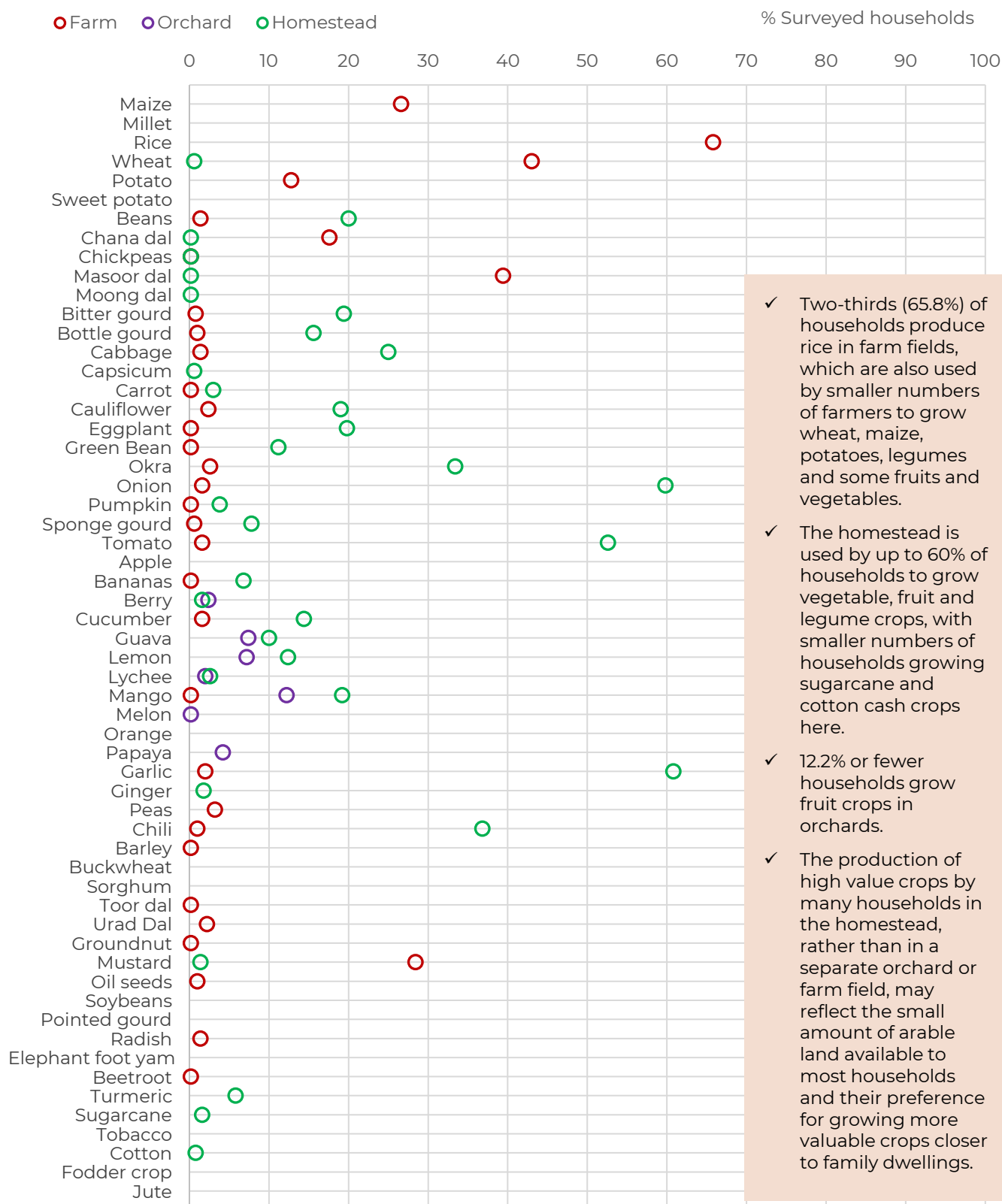
SEASONALITY OF FOOD AND OTHER CROPS

Figure 15. Food and other crops produced each season in farm fields



WHERE FOOD AND OTHER CROPS ARE GROWN

Figure 16. Where food and other crops are produced



KEY TAKEAWAYS

1. Most households (95%) identify as engaging in agriculture, with the majority (56%) owning between 0 and 0.5 ha land.
2. Households consume most of what they grow on their farms.
3. More households produce rice and wheat than produce other sentinel food crops.
4. Households with land (both Smaller and Larger Landholders) are more likely to grow more than one crop per season, while Landless households are more likely to grow just one crop each season. Crop diversity is highest in the winter (rabi) season.
5. Poultry and ruminants are the most commonly produced livestock products. Most livestock is raised for domestic use and consumption although some households sell goats and poultry.
6. Most households do not sell their farm products. For those which do, the most common pathway for sales is for households to sell to middlemen at the farmgate.

KEY QUESTIONS FOR ACTION

1. What are the key barriers to improving farming system productivity in the district?
2. What are potential solutions to overcoming these barriers? What is needed from decision-makers and from program teams to implement these solutions?
3. How can women and men farmers be supported and enabled by decision-makers and program teams?
4. How can more marginal farmers be supported to increase their productivity?

SURVEY METHODOLOGY

Village and household sampling

We selected 25 wards in the district with a probability proportional to the number of households living in each village. Within each village we conducted a household listing to identify eligible households, i.e. those with adolescents (10-19 years old). From the households with adolescents we randomly invited 20 households to participate in the survey. If a household refused we replaced that household with another randomly selected eligible household to retain a total of 500 households in the district. Thus the findings reported in this data note are representative of rural households from this district which include an adolescent.

Respondent selection

Within households one adult female aged 20+ years, one adult male aged 20+ years, and one adolescent aged 10-19 years were selected as the respondents for the survey. When multiple adolescents were living in a household the oldest adolescent was selected. In some households an adult male was not available (often due to migration for work). In such households the female was the only adult respondent. At the beginning of the interview the adult in the household primarily involved in agriculture (either male or female) and the adult primarily responsible for food purchasing (either male or female) were identified as the primary respondents.

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ABOUT TAFSSA

TAFSSA (Transforming Agrifood Systems in South Asia) is a CGIAR Regional Integrated Initiative that supports actions improving equitable access to sustainable healthy diets, that boosts farmers' livelihoods and resilience, and that conserves land, air, and water resources in a climate crisis.

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