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MYANMAR

Agricultural livelihoods and food security in the context of COVID-19

Monitoring report
May 2021

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Abbreviations and acronyms

AVSI	Association of Volunteers in International Service Foundation
COVID-19	Coronavirus disease 2019
DRMKC	European Commission Disaster Risk Management Knowledge Center
FAO	Food and Agriculture Organization of the United Nations
FCS	Food Consumption Score
FIES	Food Insecurity Experience Scale
GDP	Gross domestic product
GIEWS	Global Information and Early Warning System on Food and Agriculture
IFPRI	International Food Policy Research Institute
ILO	International Labour Organization
LCSI	Livelihood Coping Strategy Index
LIFT	Livelihoods and Food Security Fund
OCHA	Office for the Coordination of Humanitarian Affairs
RFI	Recent food insecurity
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WFP	World Food Programme

Key highlights

- The agricultural households surveyed reported having faced constraints, although most of these were not directly related to coronavirus disease 2019 (COVID-19) restrictions, but were linked to unfavourable weather and outbreaks of pests. Nevertheless, other evidence suggests that cash shortages contributed to difficulties in hiring labour and accessing inputs.
- Approximately one fourth of livestock-producing households surveyed reported having experienced difficulties in the production cycle.
- The cash constraints faced by producers are a cause of concern for the outcome of the 2020/21 agricultural season. A reduction in market demand may have driven farm-gate prices below expected levels. In this respect, 36 percent of agricultural households surveyed reported lower-than-usual prices as a major constraint, with 19 percent of all agricultural households having had to destroy at least part of their production.
- Income reductions may have been the main driver behind lower consumer demand. Income losses, stringent movement restrictions and supply chain and trade disruptions pushed people further into food insecurity, with many vulnerable households resorting to coping strategies to ensure their access to food and other basic needs.
- Fluctuations in food insecurity levels among surveyed households appear to be closely linked to a reduction in income levels and the interruption of income flows resulting from COVID-19-related restrictions.
- At the time of the survey, markets were the main source of food among the surveyed households. Therefore, shocks affecting household incomes and market functionality have had an impact on households and their ability to access sufficient nutritious food.
- Surveyed households reported adopting livelihood coping strategies to maintain their access to food. Among the most frequently cited negative coping strategies are the use of savings, the reduction of non-essential expenditures and the purchase of food on credit. Surveyed households in the Chin and Rakhine states showed higher

levels of adoption of "Crisis" and "Emergency" coping strategies, with rural households more frequently resorting to such coping strategies than urban households. This in turn depletes their productive assets.

- The most frequently reported challenges faced by the surveyed households include: (i) decreased income; (ii) lack of access to markets in the last seven days; and (iii) insufficient food to consume in the last seven days. There were no significant differences between female- and male-headed households.
- When comparing urban and rural populations, a higher share of rural surveyed households reported a lack of access to markets and not enough food in the seven days prior the survey. The top three concerns reported by surveyed households were: getting sick; lack of work; and food shortages.
- Rural surveyed households were more worried about food shortages than urban households, while urban households were more worried about a lack of work. The top three concerns – getting sick, losing one's job and food shortages – prevailed at the state level, although there were differences between the rankings of severity of each concern as reported by household respondents.
- Food prices remained relatively stable during the data-collection period, with only small price differences identified with respect to the same period in the previous year. Overall, most monitored markets were functioning, apart from those in Paletwa in Chin state.

Methodology

This study represents a joint effort of the Food and Agriculture Organization of the United Nations (FAO) and the World Food Programme (WFP) to monitor the food security and livelihoods of all actors in key agricultural, livestock and fisheries value chains. FAO's contribution was made possible by financial support from the United States Agency for International Development (USAID) for the establishment of a data and analysis facility in the context of coronavirus disease 2019 (COVID-19) and other shocks. WFP's contribution to the survey was also made possible through financial support from USAID.

Within the monitoring system, data is collected regularly – mainly through computer-assisted telephone interviews. This assessment covered 75 townships of eight states or region: Mon, Chin, Kachin, Kayin, Rakhine, Sagaing, Shan and Yangon (Figure 1). The household data were collected between mid-August to mid-October 2020. The analysis benefited from: household interviews (1 476[1]), food trader interviews (193) and input retailer interviews (88). The sample size and distribution by state are provided in Table 1. The results for Chin and Shan states should be considered indicative only due to the smaller sample sizes reached for those states.

Table 1. Sample distribution and proportion of households engaged in agriculture

State	Sample size		Households engaged in agriculture	
	Percentage	Number	Percentage	Number
Chin	5	76	53	40
Kachin	17	255	36	92
Kayin	18	259	27	70
Mon	20	292	27	79
Rakhine	13	199	41	82
Shan	9	128	19	24
Yangon	18	267	22	60
Total	100	1 476	30	447

Source: FAO and WFP, 2020; FAO and WFP assessment results

The characteristics of the households surveyed were:

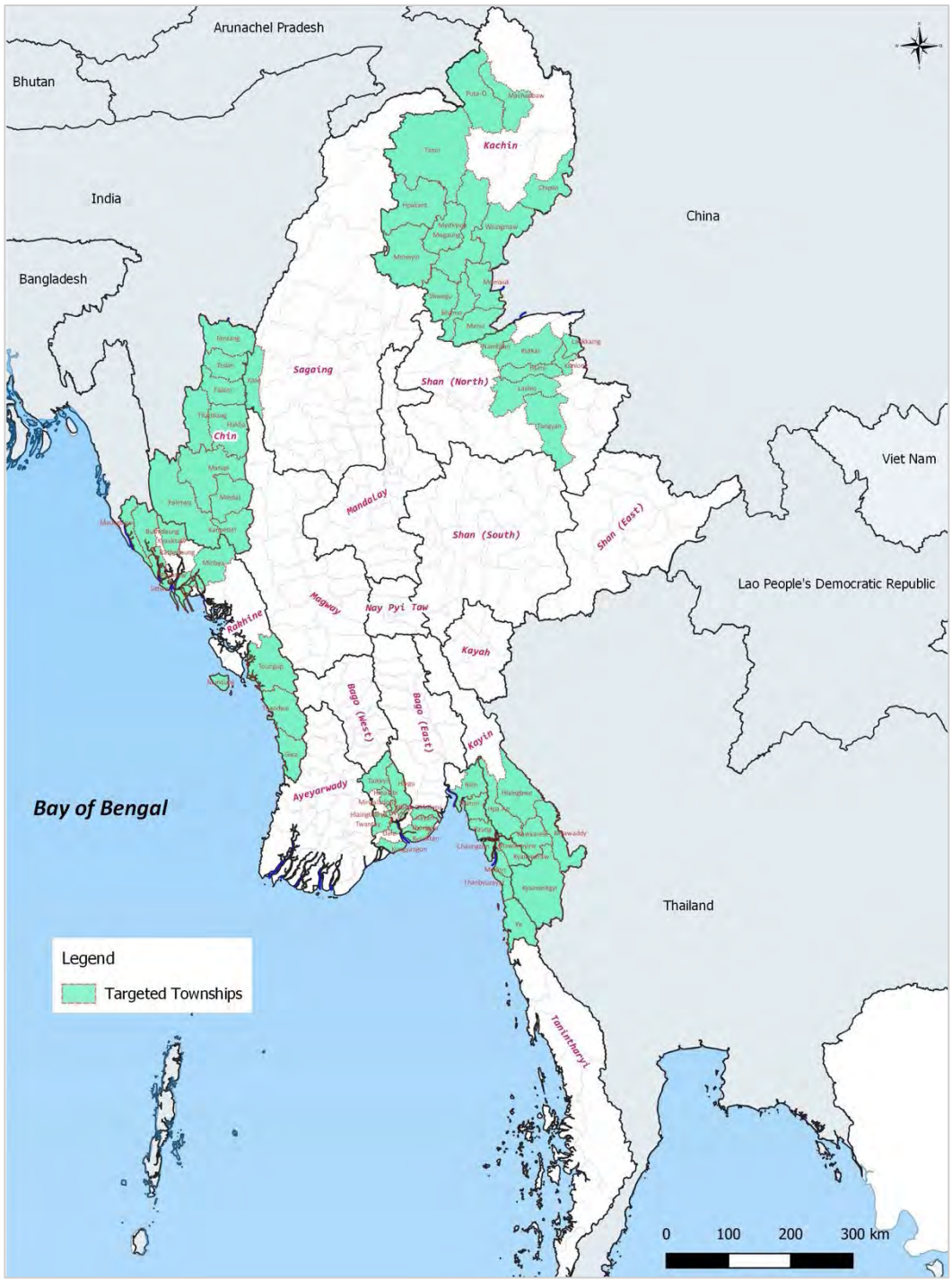
- Urban and rural: 48 percent of the households were rural and 52 percent were urban. The population in Myanmar is 70 percent rural and 30 percent urban. The sample therefore overrepresented the urban population.
- Internal migration: 2 percent of rural and 4 percent of urban households indicated that they had migrated during the three months prior of the survey, in line with national trends (O'Connor, 2020).

[1] The sample comprises 202 household interview respondents from WFP and FAO beneficiary lists, and 1 274 respondents reached by random digital dialing – mostly in urban areas. The Food Consumption Score (FCS) and Food Insecurity Experience Scale (FIES) indicators were calculated only on the random digital dialing sample.

- Respondents: of the total interviewed, 46 percent were women while the average age of respondents was 36 years. Looking at their education, 16 percent of the respondents had attained primary education, 26 percent had attained middle secondary education, 26 percent higher secondary education and 23 percent superior education. Only 3 percent indicated that they never attended school. When comparing this sample with educational attainment from the 2017 Myanmar Living Conditions Survey, a higher level of education of the respondents was observed in the FAO–WFP survey.
- Household size: Average household size was 4.9 members, in line with the national average (Central Statistical Organization of Myanmar, United Nations Development Programme [UNDP] and World Bank, 2020).

It is worth noting that the results from this survey are not nationally representative and that demographic weights have not been applied. Another potential limitation of this study stems from the bias of telephone-based surveying. It is possible that the sample excluded the poorest segments of the population, who do not typically own a telephone or live in remote areas with limited mobile network coverage.

Figure 1. Geographical coverage of the monitoring assessment



Source: United Nations Geospatial, 2016; modified using FAO and WFP assessment results

Background

Before the COVID-19 pandemic, Myanmar was one of the fastest growing economies in East Asia and Pacific, with an estimated projected growth of 6.3 and 6.4 percent for 2019 and 2020, respectively (World Bank, 2021). However, economic and social development indicators remain a concern, with 25 percent of the population living below the poverty line, although this share was halved from 48 percent in 2005 (World Bank, 2020). Myanmar ranked 148th of 189 countries on the 2017 Human Development Index (UNDP, 2018). Furthermore, the country was one of three most affected by climate change between 1999 and 2018 (German Watch, 2020).

In addition to the COVID-19 pandemic, there are two main drivers of food insecurity in Myanmar, leading an estimated 1 million people to be in need of immediate assistance (Office for the Coordination of Humanitarian Affairs [OCHA], 2020):

- There has been persistent armed conflict and inter-communal violence in Kachin, Shan, Rakhine, Chin and Kayin states. This situation followed the violent attacks and successive mass exodus of the Rohingya community into Bangladesh in August 2017. Since then, an estimated 745 000 Rohingya,[2] including more than 400 000 children have fled to Cox's Bazar, Bangladesh (OCHA, 2020).
- Myanmar is highly exposed to a multitude of hazards, including cyclones, monsoon flooding, landslides, earthquakes, drought and forest fires. Evaluated with the Global Climate Risk Index (German Watch, 2020), Myanmar was the second most affected country by extreme weather events between 1992 and 2018, and experiences medium-to-large-scale natural disasters every few years, with more than 13 million people affected since 2002. Furthermore, Myanmar is currently ranked 19th out of 191 countries globally – and first in Southeast Asia – as most at risk of humanitarian crisis (European Commission Disaster Risk Management Knowledge Center [DRMKC] – INFORM, 2021)

As a consequence, food insecurity in Myanmar is widespread, particularly in the hill and mountain areas in Chin state, the northern parts of Kachin, Rakhine and Shan states, and in Sagaing region (WFP, 2017). Albeit with seasonal and geographic variations, food insecurity tends to be higher among rural communities (Livelihoods and Food Security Fund [LIFT], 2017). The rate of stunting among children under 5 remains at 29 percent – and as high as 40 percent in some areas. Of the poorest children, 38 percent are stunted compared to only 16 percent in the wealthiest households. Maternal malnutrition poses serious risks to both mothers and children, with 46.3 percent of women of reproductive age anaemic (Global Nutrition Report, 2020).

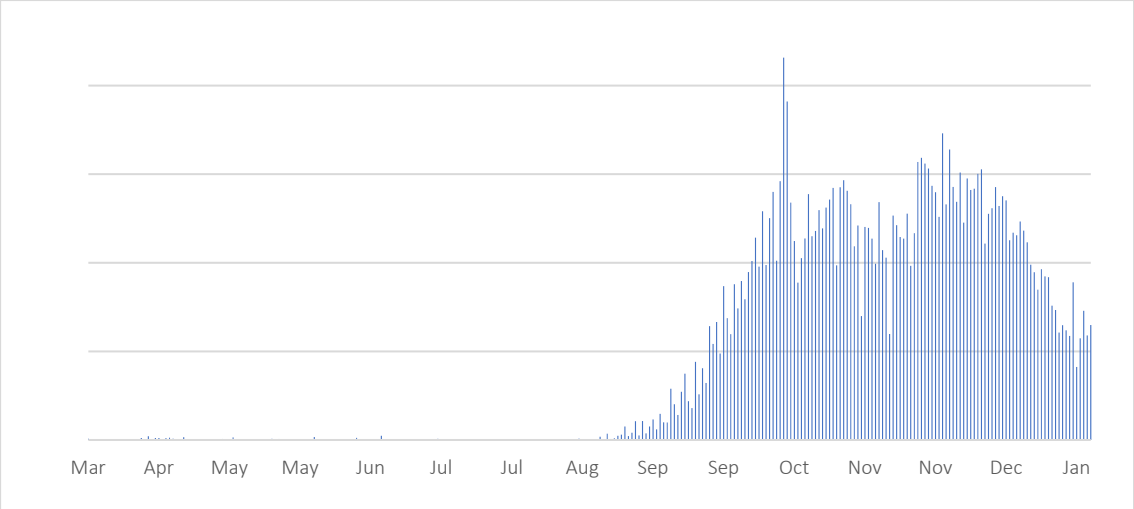
[2] The Rohingya people are a predominately Muslim minority group that has been present in Myanmar since the 15th century, when thousands of Muslims came to the former Arakan kingdom. "Rohingya" is a self-identifying term that surfaced in the 1950s with a collective political identity.

COVID-19 and other risk factors in the country

As of 7 January 2021, there were 128 178 confirmed COVID-19 cases in Myanmar, with 2 785 deaths and 111 401 people in recovery (Worldometer, 2021*)*. The surge started in August 2020 with the total new daily cases reaching 2 158 in October (Figure 2). After November, cases started to decrease, but there were still approximately 630 daily cases being reported during the first week of January 2021. COVID-19 cases are primarily concentrated in the state of Yangon (Figure 3).

Figure 2. Prevalence of new COVID-19 cases in Myanmar

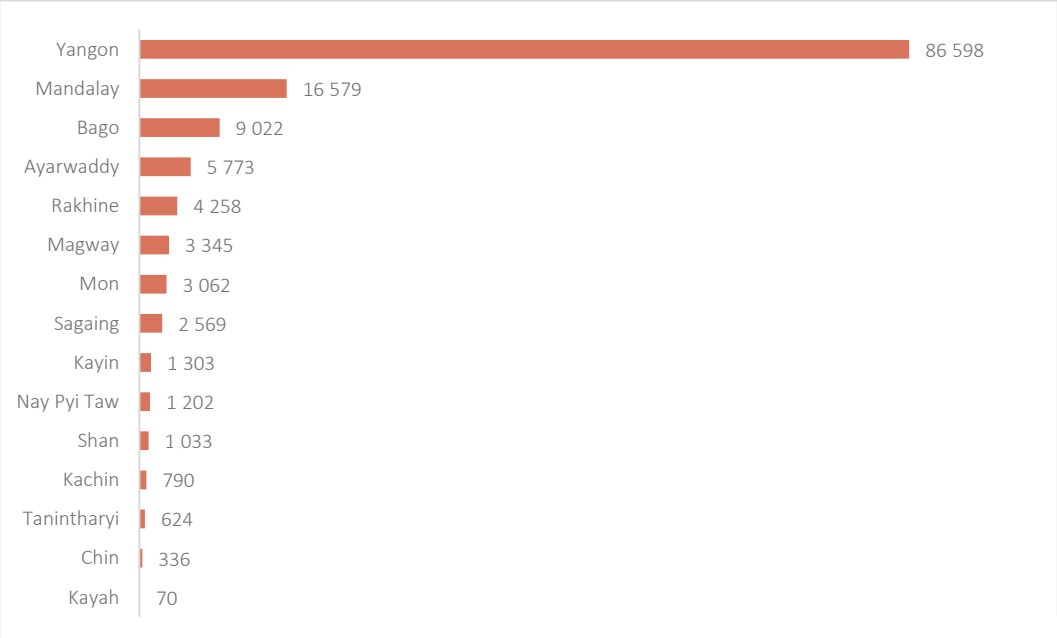
(March 2020–January 2021)



Source: Worldometer, 2021

Figure 3. Cumulative confirmed COVID-19 cases in Myanmar, by state and region

(23 March 2020–22 January 2021)



Source: Myanmar Ministry of Health and Sports, 2020

Following the onset of the pandemic in March, the Government set up surveillance at the country's entry points and implemented domestic and international travel restrictions affecting movement of people and goods. When the surge started in August, the country enforced a lockdown in Yangon and Rakhine states, and some other townships. In October, a stay-at-home order was enforced in two townships in Kachin state (Deshpande, Hnin and Traill, 2020).

Gross domestic product (GDP) growth is expected to have slowed down to 1.7 percent in 2020 from 6.8 percent in 2019 (World Bank, 2021), predominately driven by a decline in trade, tourism-related services and manufacturing, and weakened construction and consumer demand. In 2021, the World Bank forecasts a slight increase to 2 percent (World Bank, 2021).

The repeated lockdown measures to prevent the spread of COVID-19 have crippled economic activities and compounded by lockdown measures around the world that have contracted demand in Myanmar's key export destination countries. Regional and global supply chains have been severely disrupted as a result, and Myanmar's manufacturing industry has slowed. It is estimated that 6.9 million to 7.3 million jobs were disrupted in Myanmar during 2020 as a result of the pandemic and related containment measures (International Labour Organization [ILO], 2020). Of the nearly 20 million people working in sectors considered at medium to high risk of economic disruption, half are based in agriculture, which has suffered a notable decline in exports – primarily due to supply chain disruptions with China (ILO, 2020).

In October 2020, the foreign exchange rate declined by more than 10 percent compared to the end of February, before recovering slightly towards the end of year – and with it, the capacity to import (Trading Economics, 2020).

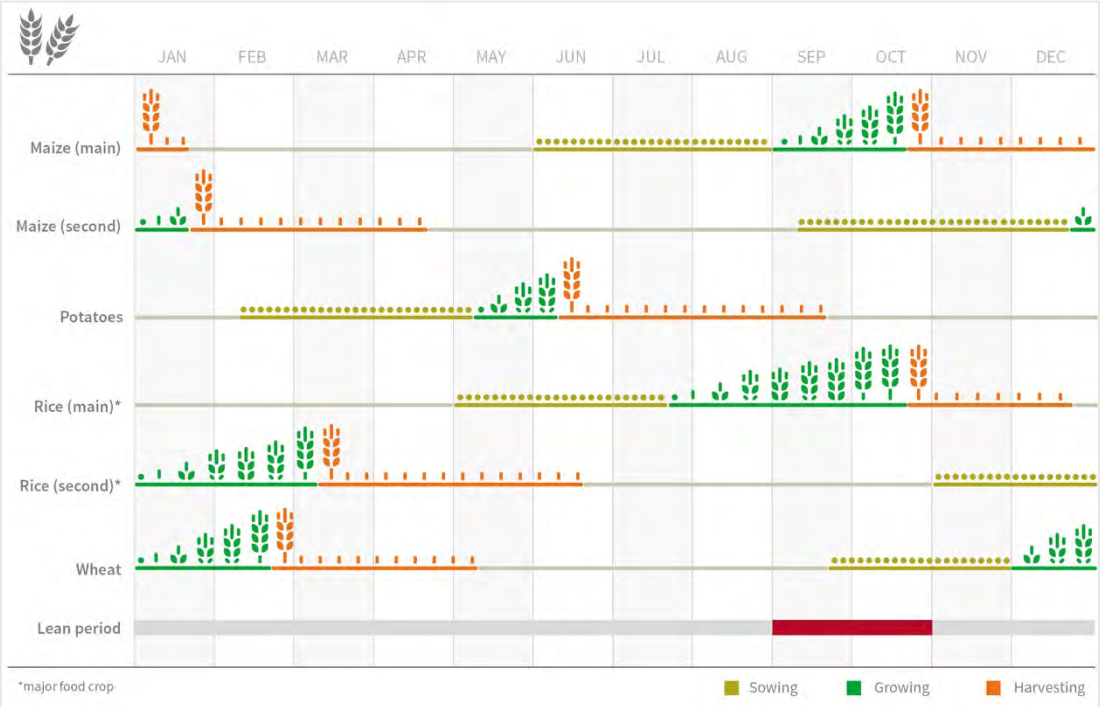
The survey included some questions about COVID-19 awareness and recent shocks experienced. At the time of the survey, the great majority of respondent households stated that they were informed about COVID-19, although 27.3 percent of the respondents indicated that they were not fully informed about COVID-19 and how they could protect themselves. Only 0.8 percent were not informed at all. Higher shares of missing information were observed in male-headed households (28.9 percent) and rural households (34.7 percent).

Agricultural production

The agriculture sector is one of the major contributors to Myanmar's economy. Its share of Myanmar's GDP is around 30 percent – while accounting for 25 percent of the country's exports – and employs 56 percent of the labour force. Over 60 different types of crops are grown in Myanmar on 12.8 million hectares (19 percent of Myanmar's total landmass).

The three main crop groups are paddy crops, beans and pulses, and oilseed crops. Paddy crops remain dominant in terms of production, accounting for 45.7 percent of the harvested area and 53.4 percent of production value among major crops. While rice is also historically the major agricultural export, beans and pulses now generate higher export earnings, contributing USD 1.046 billion in 2015/16, with Myanmar's three other major exports – rice, livestock and fisheries – providing between USD 200 million and USD 500 million each (EuroCham, 2020).

Figure 4. Myanmar crop calendar



Source: FAO Global Information and Early Warning System (GIEWS), 2020

Myanmar's land cover is 676 577 km^2. Topographically, the country can be divided into the: northern and western mountains; eastern plateau (Shan plateau); central basin; and coastal strip. The country is mountainous, rising to more than 5 800 m above sea level in the far north. Average annual rainfall in the central dry zone is less than 762 mm, but it can reach 5 080 mm on the coast.

Myanmar is situated in the tropical climate region and highly vulnerable to impacts from climate change (FAO and Association of Volunteers in International Service Foundation [AVSI], 2019). Agriculture in Myanmar is highly labour-intensive, resulting in low productivity and thus generating low agricultural wages and farm profits. Approximately 72 percent of the

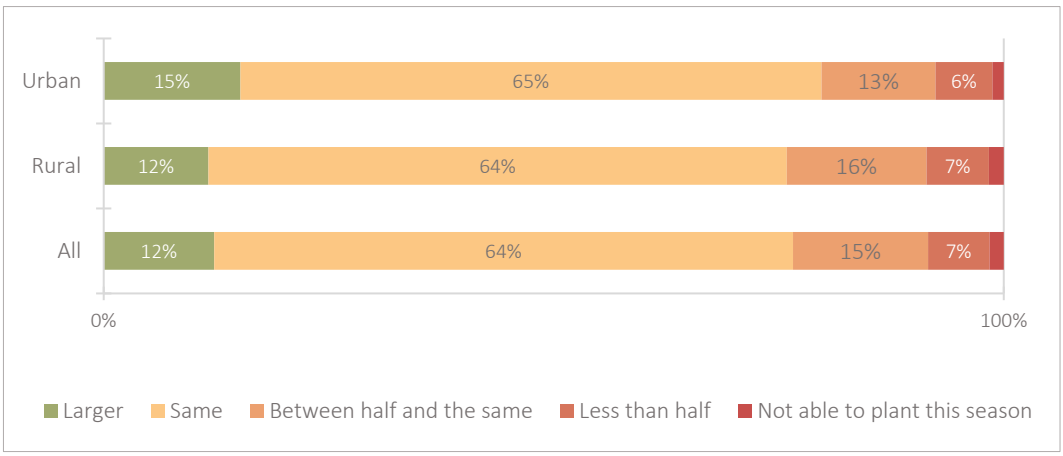
population lives in rural areas, where 85 percent of poverty is concentrated and the indigenous population represents the majority (Central Statistical Organization of Myanmar, UNDP and World Bank, 2019). The dominant farming system is characterized by smallholding (with 80 percent of farmers owning less than ten acres), a high dependency on rain-fed crops (irrigation coverage is only 16.2 percent of total agricultural land, equivalent to 2.17 million ha as of 2015), low productivity, uneven distribution of inputs and under-developed agri-business (FAO and AVSI, 2019). Inefficient use of fertilizers (partly due to a lack of knowledge and training), lack of access to irrigation systems, poor-quality seeds and under-capitalization of agricultural lands are the major problems faced by the agriculture sector (EuroCham, 2020).

Because of the diversity of production, there is considerable seasonality in agricultural cropping patterns (Figure 4). Most notably, the lowlands and central part of the country, benefitting from the monsoon, typically have two agricultural seasons per year – the main one (paddy farming) stretches from May/June to November/January. Relevant for the results of this study, the lean period may vary in length depending on the location, but it usually lasts from June to September.

Crops

A total of 60 percent of crop producers reported paddy crops as their main crop, followed by vegetables (24 percent) and pulses (21 percent). The majority of respondents (76 percent) reported farming the same or a larger area compared to last year, whereas a reduction in planting area was reported by 22 percent (Figure 5).[3] This is consistent with other sources. FAO estimates the area planted with rice and maize to be above average, supported by official programmes promoting rice production (FAO, 2020).

Figure 5. Change in area planted in 2020 with respect to the previous year



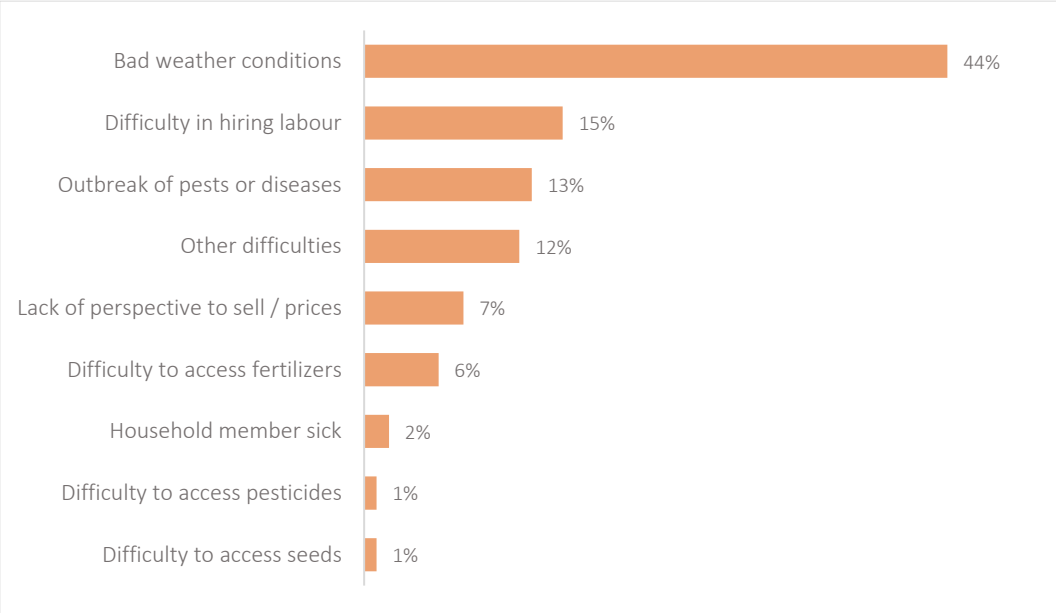
Source: FAO and WFP, 2020; FAO and WFP assessment results

Consistent with data from the International Food Policy Research Institute (IFPRI; 2020), the main difficulties reported during the month previous to the survey were: bad weather (44 percent of the sample); difficulties in hiring labour; and the outbreak of pests and diseases

[3] Two percent of respondents were not able to plant in that season. There were no significant variations in farmed area between farmers residing in urban and rural areas.

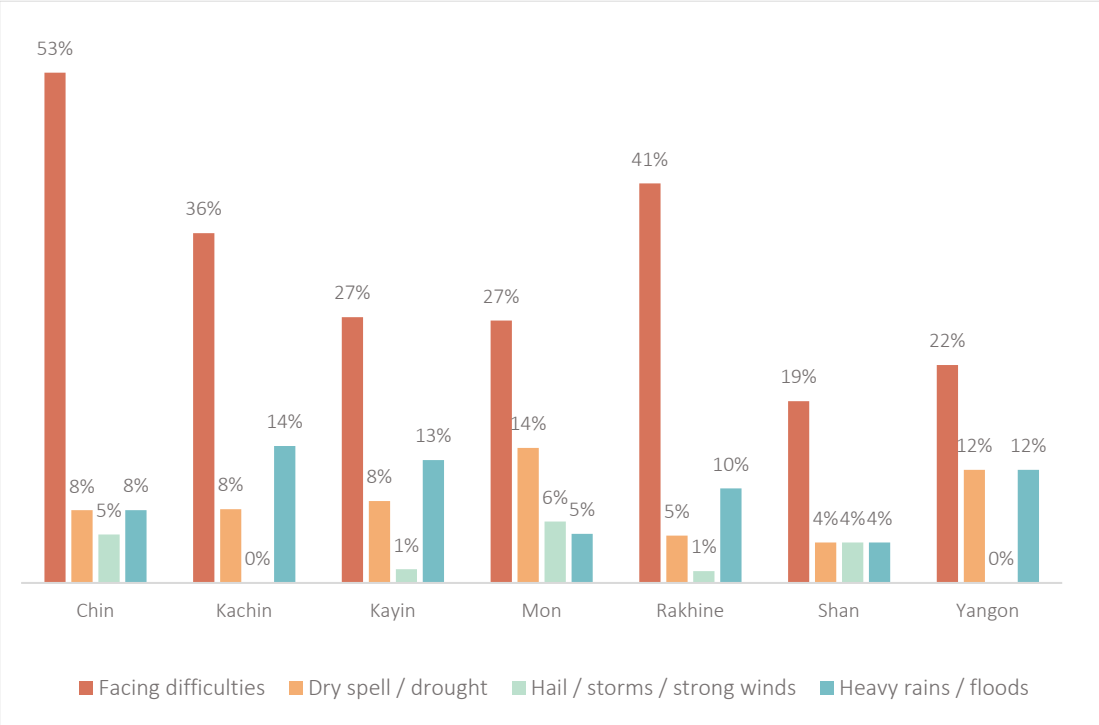
(Figure 6) (Goeb *et al.*, 2020). However, except for a dry spell in Mon state, no natural disaster was cited as major a difficulty for farming (Figure 7).

Figure 6. Difficulties faced by crop producers in the month preceding the survey



Source: FAO and WFP, 2020; FAO and WFP assessment results

Figure 7. Percentage of households facing difficulties and citing natural hazards in the month preceding the survey, by state and region

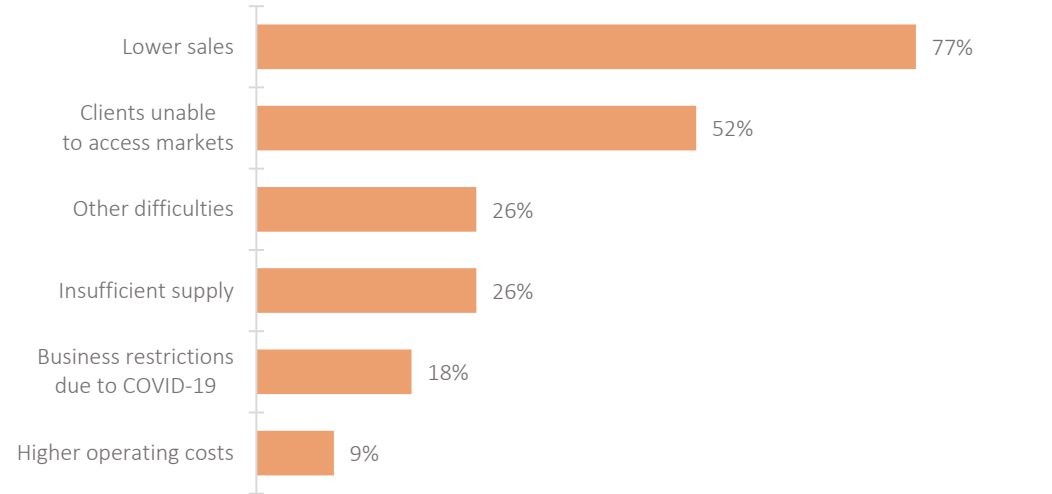


Source: FAO and WFP, 2020; FAO and WFP assessment results

Accessing inputs such as seeds and fertilizers was not mentioned as a particular challenge. This was expected since most farmers do not typically use improved seed varieties or chemicals. Only 6 percent of the sample cited problems accessing fertilizer, while 68 percent reported insufficient income, 23 percent found prices higher than usual and 14 percent noted the unavailability of products from the usual vendors.

To further explore farmers' access to seeds and other inputs, results from a survey of input vendors[4] were used to triangulate the data. Major constraints to agribusiness operations included decreases in sales (77 percent) and COVID-19-related restrictions such as reduced operating hours and difficulties accessing outlets (Figure 8). These were more pronounced in Kayin, Mon and Shan states. The sale of agricultural inputs decreased in 2020 compared to the previous year. For 48 percent of vendors, sales were lower by volume and 66 percent reported fewer customers (particularly in Kayin, Mon, and Shan states). Specifically, for seeds, 58 percent of vendors reported reduced sales.

Figure 8. Main constraints in agribusiness operations as reported by input vendors
(March–June 2020)



Source: FAO and WFP, 2020; FAO and WFP assessment results

COVID-19-related restrictions directly impacted cash flow in supply chains. This conclusion is supported by the World Bank, which reported that agricultural firms were the most likely to face cash flow shortages and diminished access to credit – reflecting greater vulnerability to economic crises (World Bank, 2021). A further indication of an impact of COVID-19 on cash flow is the higher number of customers asked to purchase on credit (as was reported by 44 percent of input vendors – particularly in Shan and Rakhine states and Yangon region). Sixty-nine percent of vendors reported facing a moderate to strong reduction in sales.

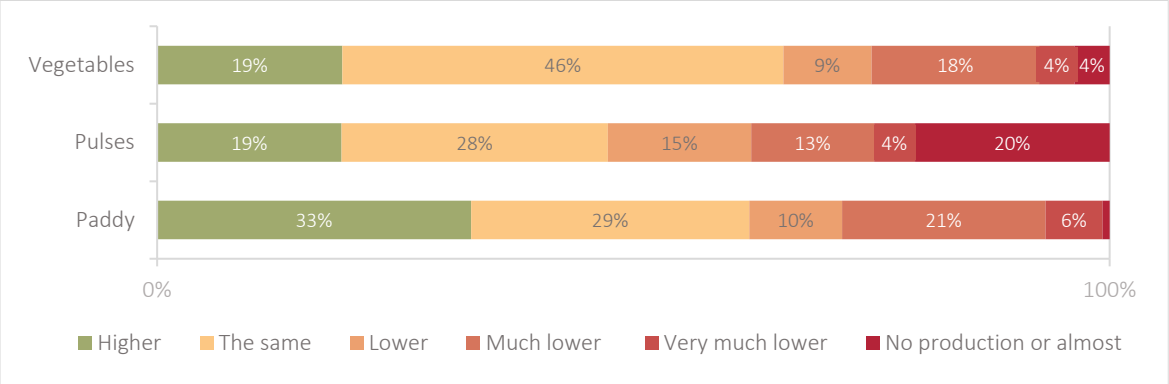
[4] This assessment was undertaken in May–June 2020 and covered eight states/regions (Mon, Chin, Kachin, Kayin, Rakhine, Sagaing, Shan and Yangon). Almost all retailers interviewed traded in seeds, fertilizers and chemicals, but some offered farm equipment and tools, livestock feed, veterinary products and seedlings.

There are also indications of difficulties accessing credit to purchase agricultural inputs for the next cropping season.

In addition, changes in supply channels were reported, particularly in Shan state. The cost of agricultural inputs increased in all surveyed areas during the period of COVID-19 containment measures, particularly in Shan and Chin states. It is important to consider the timing of the survey in the context of the country's crop calendar: most crops had already been harvested in July–August, a time usually dedicated to the preparation of the next agricultural season (de Boef *et al.*, 2021). These findings raise concerns about future disruptions in food systems. Approximately one third of interviewed retailers faced difficulties in accessing financial services and credit.[5] Sixteen percent of agricultural input retailers mentioned that they were likely to increase their selling prices in the upcoming months.

Compared to the previous year, 33 percent of paddy crop farmers reported their production to be higher, while 29 percent reported it to be the same and 38 percent mentioned a reduction (Figure 9). For pulses, 20 percent reported no production while 53 percent mentioned some reduction. The shares by crop do not appear to vary when cross-tabulated by state. Greatly reduced production (of 25 percent or more compared to last year) appeared to be concentrated among households that cited heavy rains and issues in hiring labour as major difficulties for both paddy and pulse production (such as in Chin state). However, the size of the sample does not permit confirmation of this association.[6]

Figure 9. Production levels in 2020 compared to the previous year, by type of crop



Source: FAO and WFP, 2020; FAO and WFP assessment results

[5] Other constraints were also reported: 18 percent of the interviewed retailers mentioned financial issues (delayed repayment by customers/lack of money to operate), conflict, transportation, difficulty in licensing and shortage of labour.

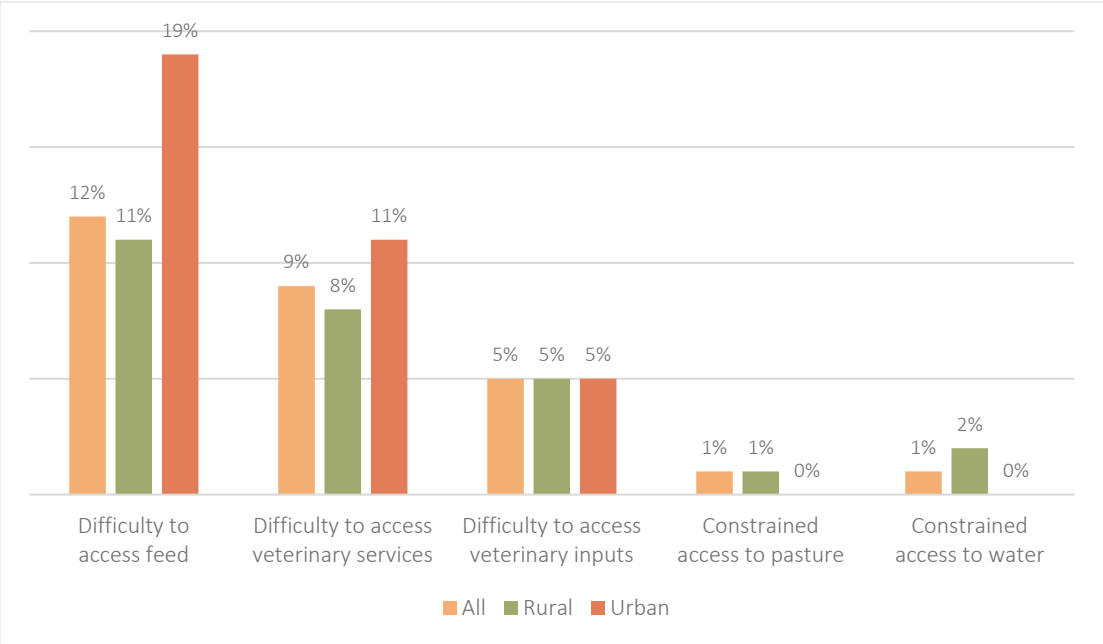
[6] Pearson's Chi-squared test was negative for $p<0.05$.

Livestock

Because the rural population was underrepresented (52 percent of the sample), only 15 percent of the sample owned animals. Most owned poultry (53 percent), small ruminants (37 percent) and cattle (37 percent).

Approximately one fourth of livestock producers faced unusual difficulties in raising animals over the month preceding the survey, reflecting the prevalence of backyard animals with limited commercial value among the sample. The major challenges faced by livestock producers were difficulties in accessing feed (12 percent), veterinary services (9 percent) and veterinary inputs (5 percent) (Figure 10).

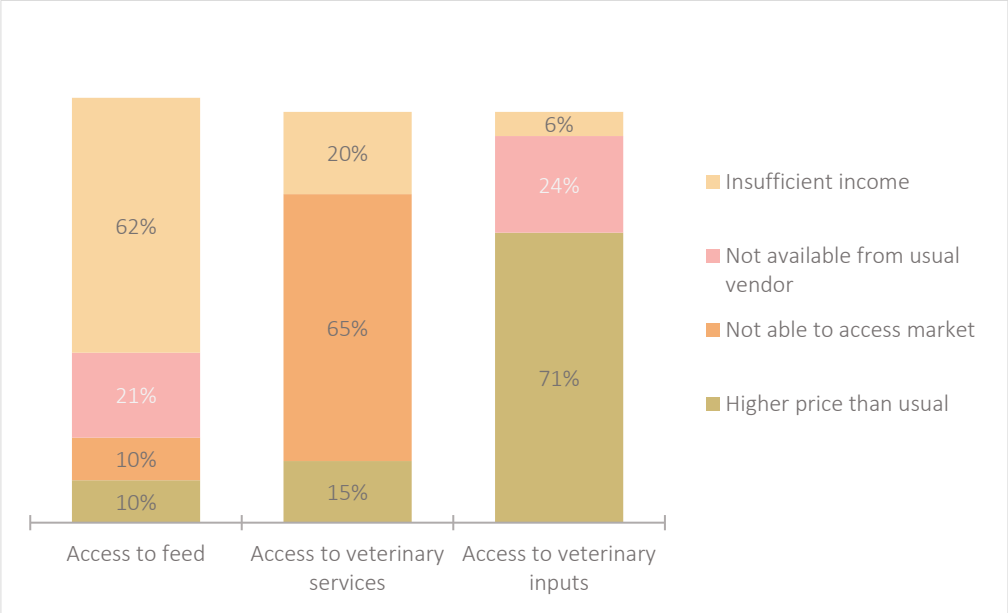
Figure 10. Percentage of surveyed housheolds reporting difficulties in livestock production over the last 30 days prior to the survey



Source: FAO and WFP, 2020; FAO and WFP assessment results

Whereas insufficient income was the main challenge reported for accessing feed, livestock producers also faced difficulties in accessing veterinary services and inputs (Figure 11). Results suggest the indirect impacts of travel restrictions and the closure of local markets on the livestock cycle.

Figure 11. Percentage of surveyed livestock-producing households reporting difficulties with production, by type of difficulty and limiting factor



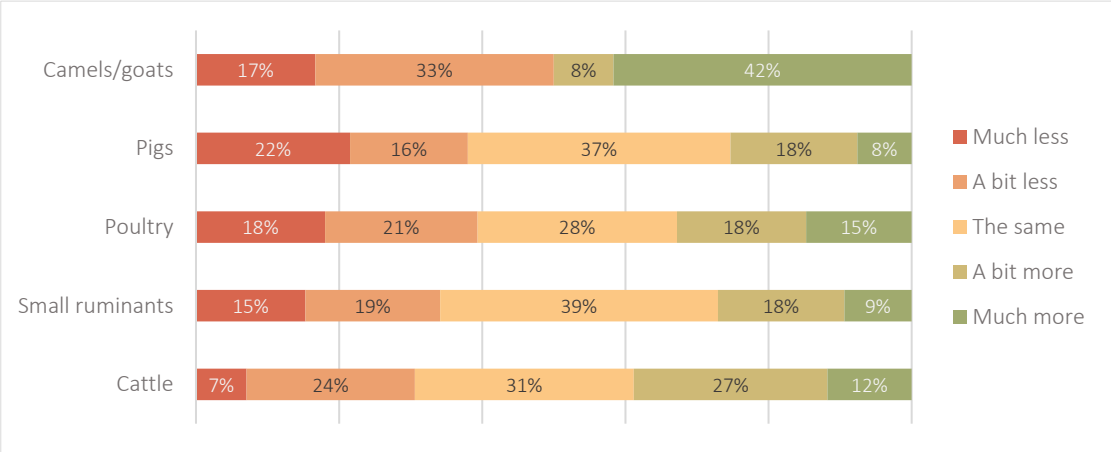
Source: FAO and WFP, 2020; FAO and WFP assessment results

Approximately one third (34 percent) of livestock producers mentioned a reduction in the quantity of livestock compared to the same month in the previous year (Figure 12). This response was more frequent among urban producers (41 percent) than rural producers (33 percent).[7] Despite some variation depending on the livestock species (Figure 12), there was no statistically significant association between a decrease in livestock quantity and species.

[7] The association between a decrease in herd size and dwelling in urban areas was determined with the Pearson's Chi-squared test and is significant with $p<0.05$.

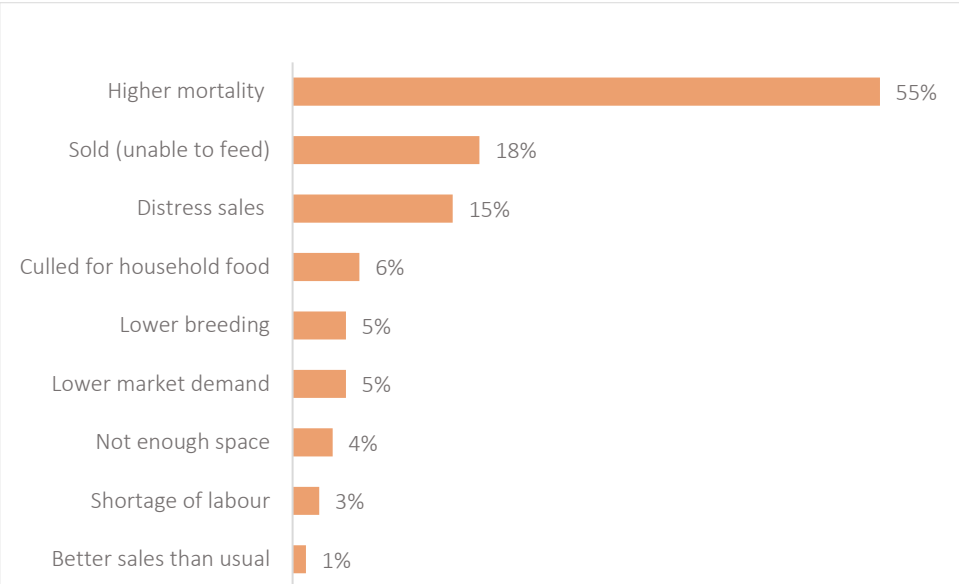
Figure 12. Percentage of surveyed livestock-producing households reporting changes in livestock ownership compared to the same month in the previous year, by species

Source: FAO and WFP, 2020; FAO and WFP assessment results



Among the livestock producers who faced a decline in their herd, 55 percent reported higher mortality as the main issue (Figure 13).[8]

Figure 13. Percentage of livestock-producing households reporting decreases in livestock ownership, by type of limiting factor



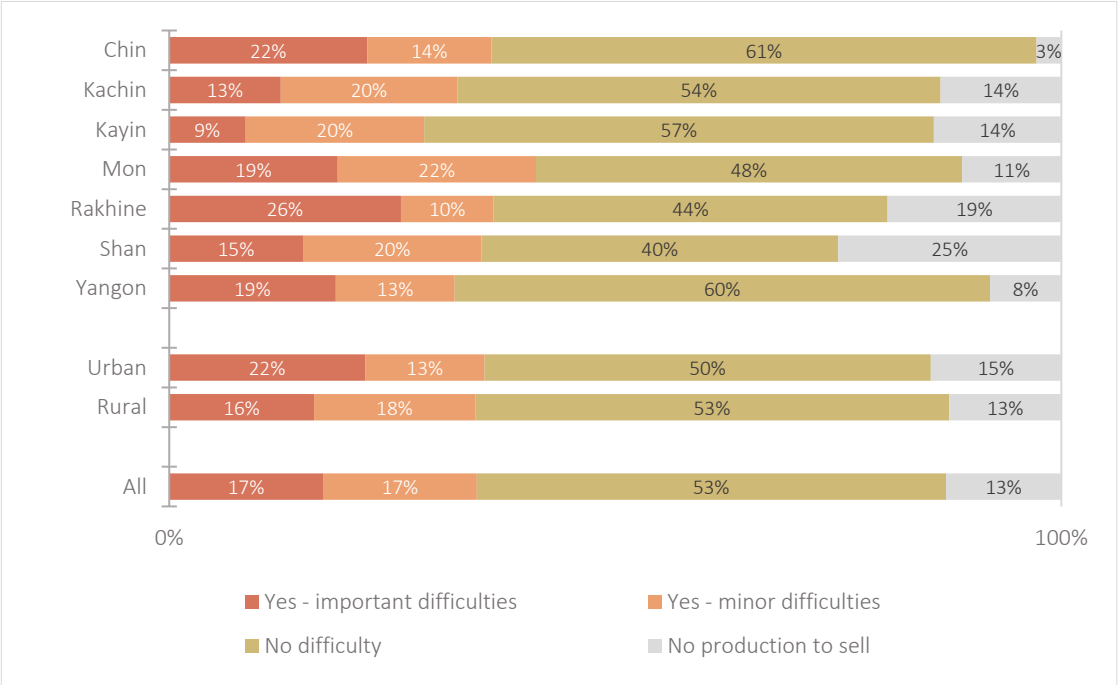
Source: FAO and WFP, 2020; FAO and WFP assessment results

[8] Probably resulting from poor veterinary services rather than epidemics.

Food supply and markets

One third of agricultural producers faced difficulties in selling their products during the month preceding the survey. Producers in Mon and Rakhine states were particularly affected, as well as those in urban areas (Figure 14).

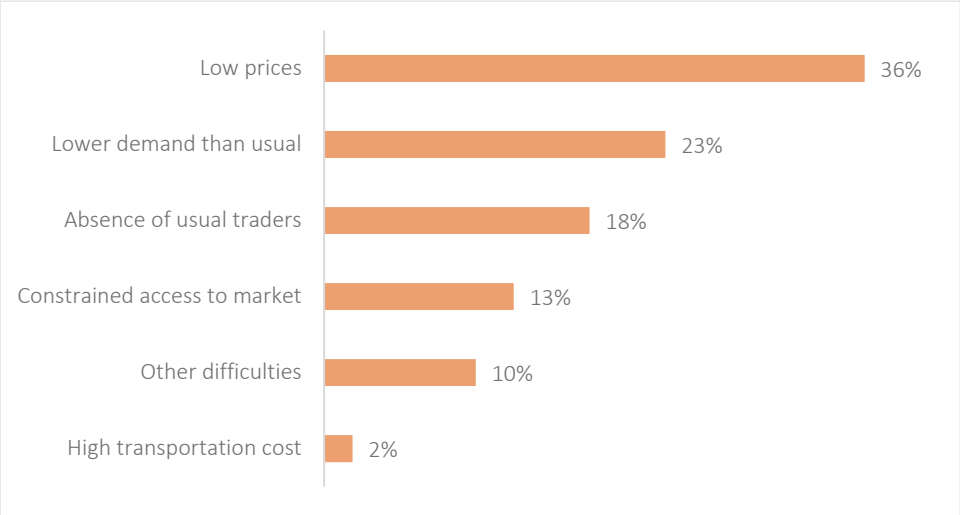
Figure 14. Percentage of agricultural households reporting difficulties selling their products during the month preceding the survey



Source: FAO and WFP, 2020; FAO and WFP assessment results

While 89 percent of the respondents used their standard channels to sell their products, 36 percent reported that farm-gate prices were lower than usual (Figure 15). In addition, 34 percent reported lower demand from traders who could not visit farms to buy produce.

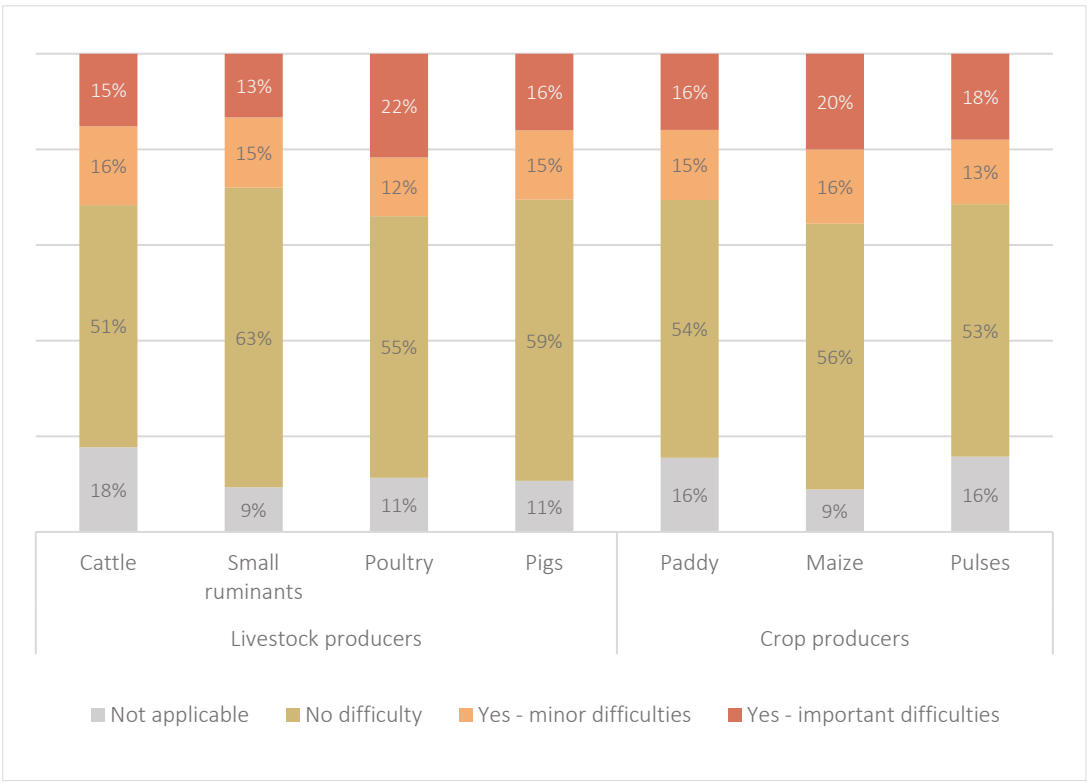
Figure 15. Marketing difficulties experienced by households in the month preceding the survey



Source: FAO and WFP, 2020; FAO and WFP assessment results

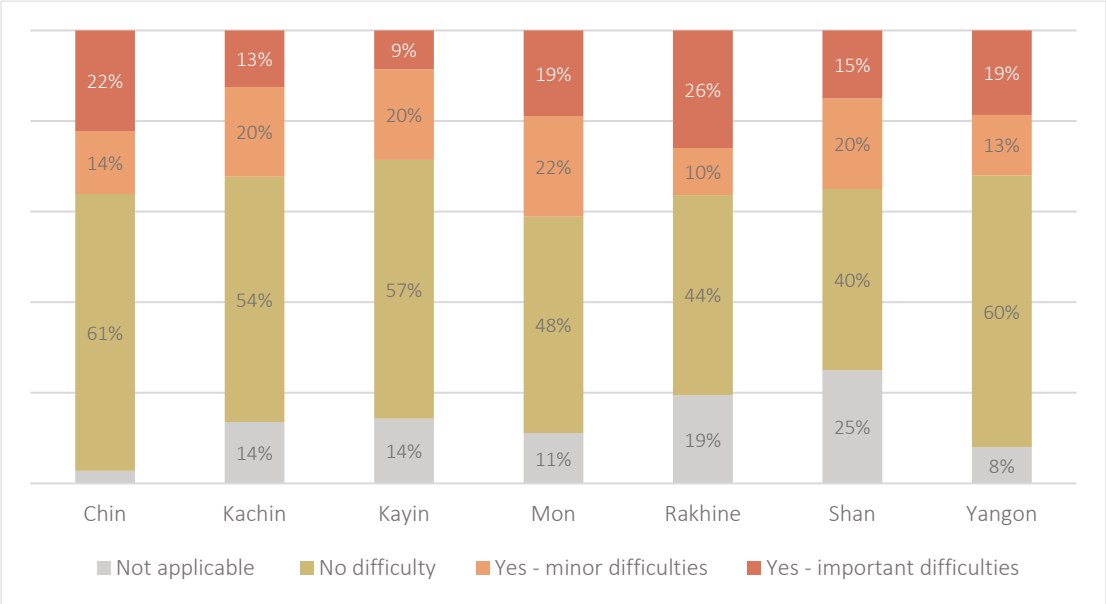
Marketing constraints were more frequently encountered with maize production (Figure 16) and in Chin, Mon and Kachin states (Figure 17).

Figure 16. Percentage of surveyed households experiencing marketing difficulties, by type of production



Source: FAO and WFP, 2020; FAO and WFP assessment results

Figure 17. Percentage of surveyed households experiencing marketing difficulties, by state or region

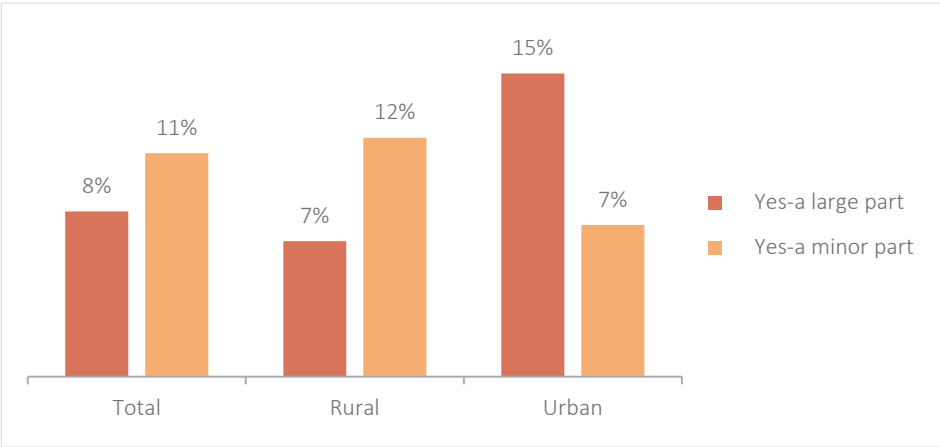


Source: FAO and WFP, 2020; FAO and WFP assessment results

Lower-than-usual prices were reported by 36 percent of respondents, particularly in Kachin state (55 percent of respondents in Kachin) and for maize.

Constraints to agricultural marketing were also highlighted by an IFPRI project (Goeb *et al.*, 2020), which reported that half of rural communities faced more challenges than usual in selling their produce – including mobility restrictions due to COVID-19, low output prices, and fewer traders or brokers (Goeb *et al.*, 2020). The impact of COVID-19 containment measures is also suggested by other findings of this study: more urban households had to destroy a minor part or most of their production than rural households (Figure 18).

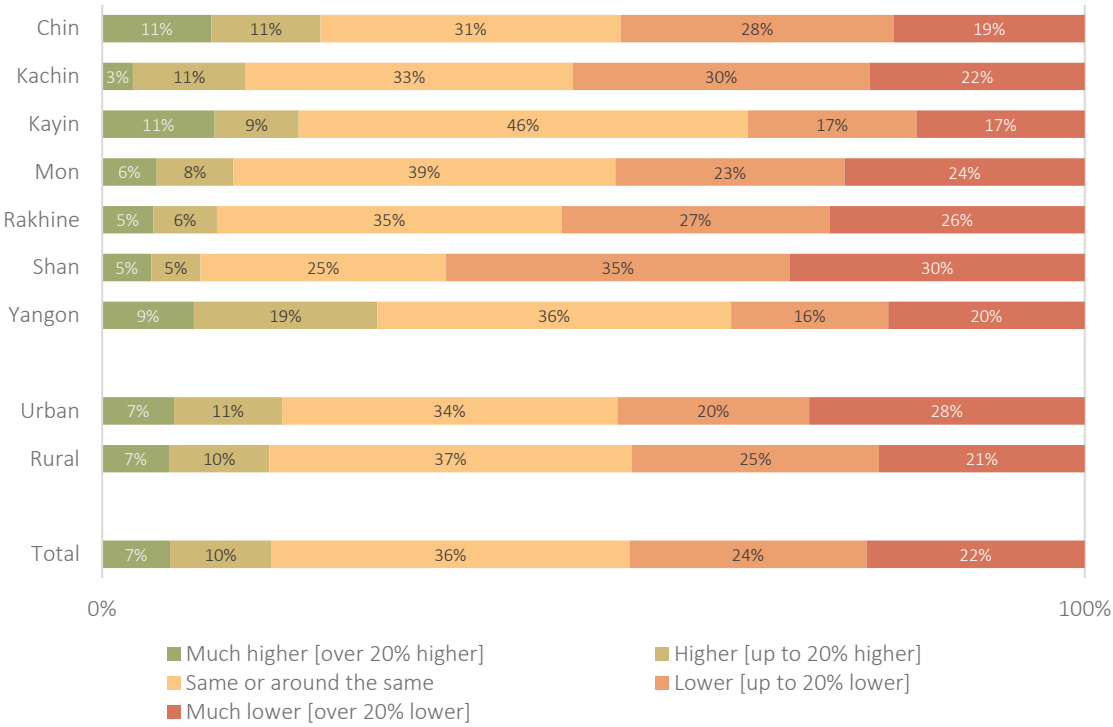
Figure 18. Percentage of households having destroyed part of their production in rural and urban areas



Source: FAO and WFP, 2020; FAO and WFP assessment results

Marketing difficulties seem to have been an indirect effect of restrictive measures, mostly transmitted through price. Of all sampled producers, 46 percent had to sell their products at a lower or much lower price than the previous year. There was no significant difference in selling prices between urban and rural areas. Nevertheless, results by state suggest that farm-gate prices were particularly lower in Shan, Rakhine and Kachin states (Figure 19).

Figure 19. Percentage of surveyed household reporting changes in selling price, by state, region, and urban or rural area

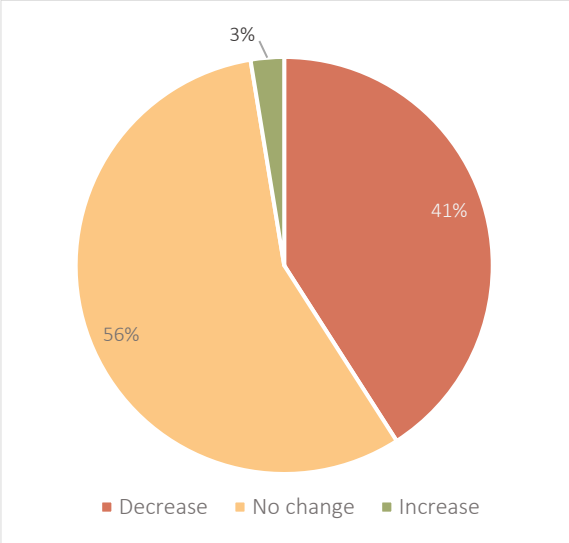


Source: FAO and WFP, 2020; FAO and WFP assessment results

These findings indicate a reduction in consumers' demand for food. To validate this hypothesis, results were triangulated with findings from the food traders' survey undertaken in the framework of this study (in October 2020 in Shan, Rakhine, Mon, Kayin, Kachin, and Chin states). Of the traders interviewed, 41 percent faced a reduction in the number of customers in the month preceding the survey (Figure 20), and nearly 40 percent mentioned a reduction in the volumes purchased, supporting this hypothesis (Figure 21).[9] This is consistent with results at the household level, showing constraints in accessing markets for 13 percent of respondents (18 percent in rural areas, 11 percent in urban areas).

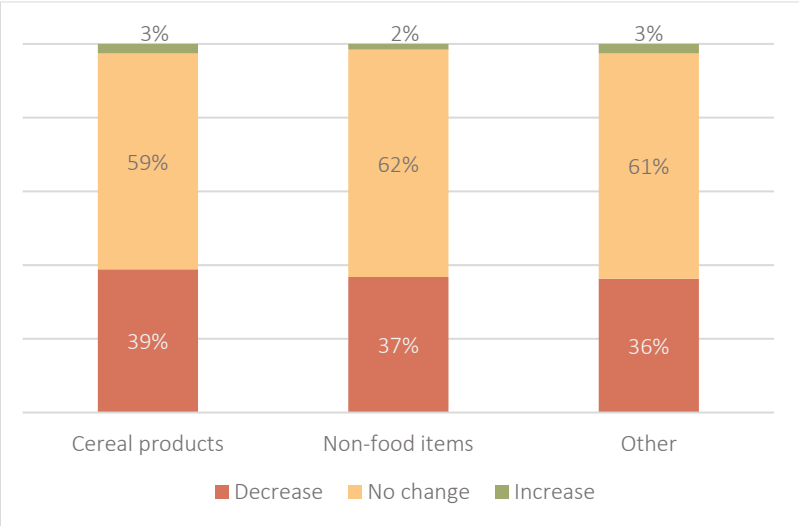
[9] By contrast, food traders did not face significant difficulties in supplying their products.

Figure 20. Percentage of food traders reporting changes in the number of customers in the month preceding the survey



Source: FAO and WFP, 2020; FAO and WFP assessment results

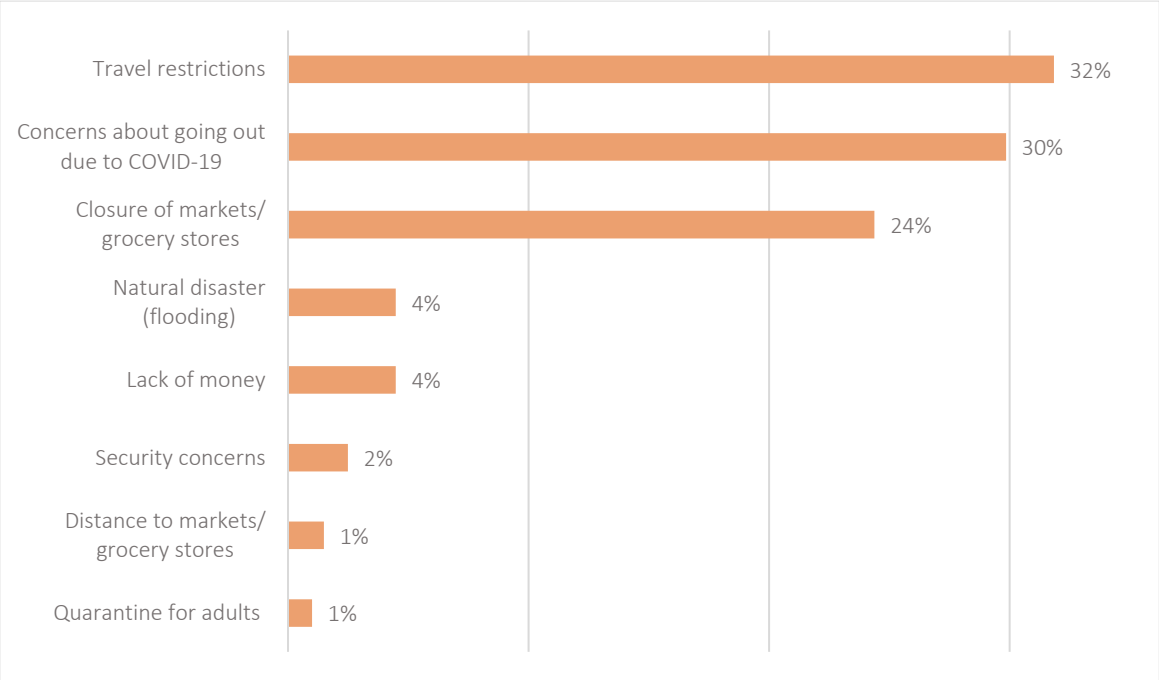
Figure 21. Percentage of food traders reporting changes in volumes traded in the month preceding the survey



Source: FAO and WFP, 2020; FAO and WFP assessment results

Travel restrictions, concerns about the disease outbreak and closure of markets/grocery stores were reported as the main reasons for not accessing markets/grocery stores (Figure 22).

Figure 22. Reasons reported by respondents
for not accessing markets/grocery stores in the previous seven days



Source: FAO and WFP, 2020; FAO and WFP assessment results

According to WFP's market monitoring, during the August–October period, average retail prices for major food commodities remained broadly stable, although fluctuations were observed for some of them. At the end of August, significant price increases were observed in Rakhine state for rice, cooking oil and onions. Concerns about possible supply issues and restrictions on the movement of people and goods resulted in some panic buying that increased prices; however the prices normalized over a few weeks. In September and October, average retail prices for rice, pulses, palm oil and salt remained stable, but some price increases and supply-chain delays were observed in the southeast and in Kachin state due to COVID-19-related restrictions. In Paletwa and in Chin and Rakhine states, price increases and supply chain delays due to COVID-19 restrictions as well as conflict were also observed.

In November 2020, retail prices of rice, pulses, palm oil and salt were relatively stable. The price of rice decreased in some areas with the arrival of the new harvest. Compared with one year ago, average prices of rice, pulses, salt and palm oil remained stable. However, average prices of onions were about 45 percent lower than in 2019 due to newly harvested crops and low demand for exports.

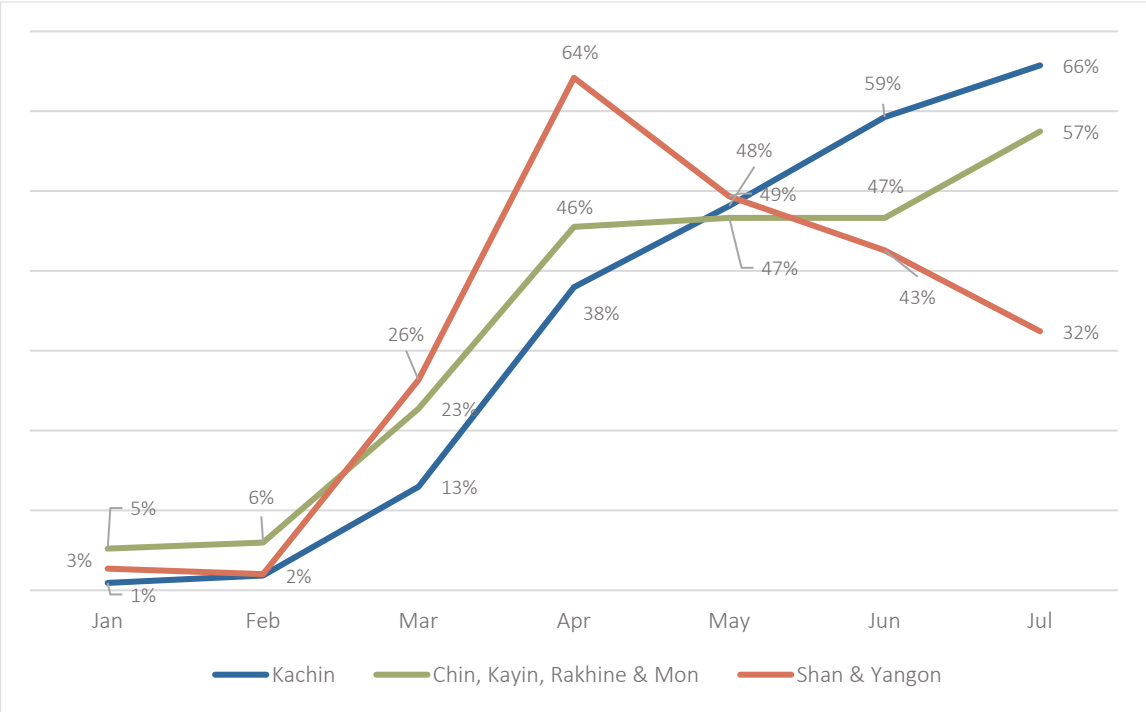
In November 2020, the availability of commodities on the market remained stable or lower than in the previous month. Some commodity prices increased in the southeast due to an increase in transportation charges at the Thailand–Myanmar border and a slightly increased exchange rate. Overall, monitored markets continued to function normally, with the exception of Paletwa.

Livelihoods, incomes and coping strategies

The sample surveyed included households with a variety of main income sources. Various business activities (such as skilled labour, self-employment and trading) were the most frequently reported (34 percent), followed by salaried work (27 percent) and the sale of agriculture products (crops, orchids and cash crops) (14 percent).

Disruptions in income flows were nevertheless observed, with steep increases in March and April 2020. While peaking earlier in the year in Yangon region and Shan state, income flows began decreasing starting April 2020. Elsewhere in the country, cash flows kept deteriorating, particularly in Kachin state (Figure 23). Maize farmers were relatively less affected given the April harvest (Figure 24).

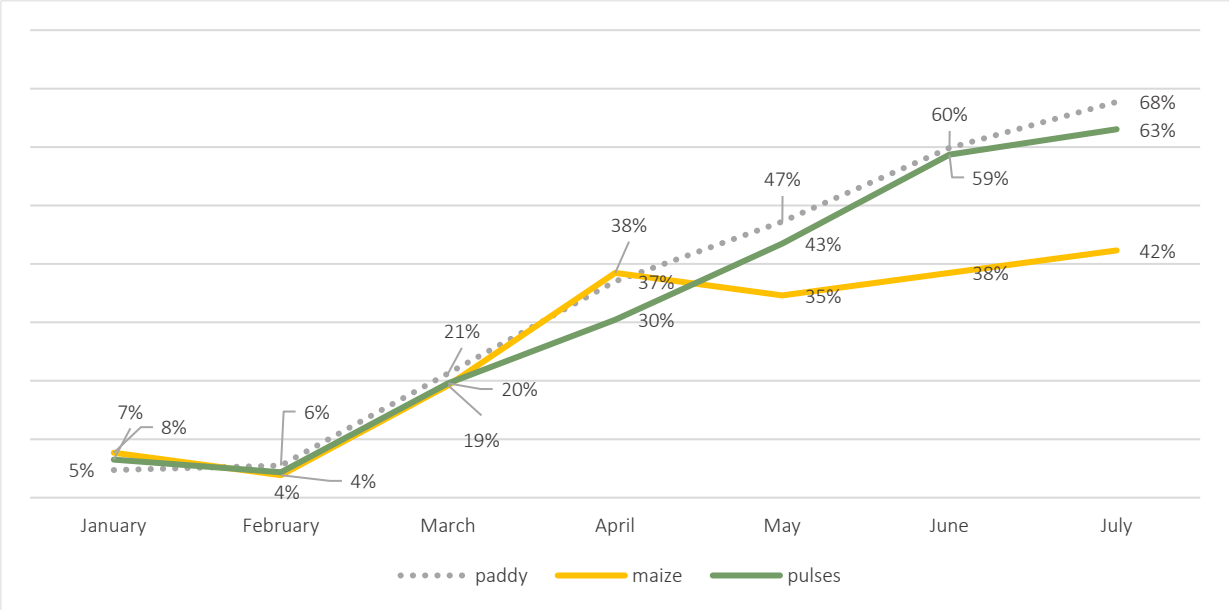
Figure 23. Percentage of households reporting interruptions of income, by state and region (January–July 2020)



Source: FAO and WFP, 2020; FAO and WFP assessment results

Figure 24. Percentage of households reporting interruptions of income, by main crop

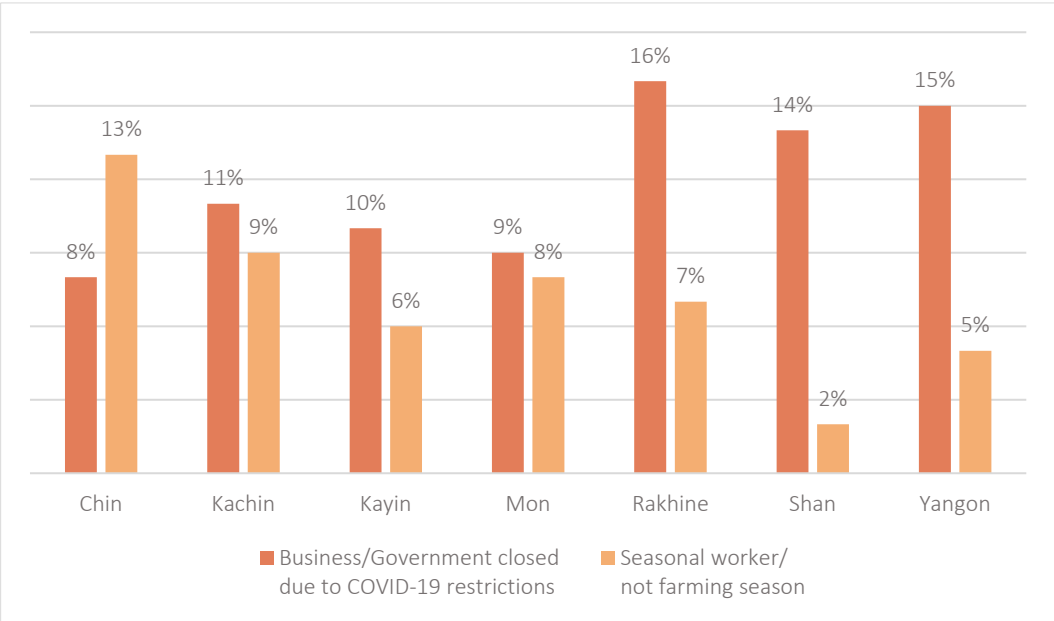
(January–July 2020)



Source: FAO and WFP, 2020; FAO and WFP assessment results

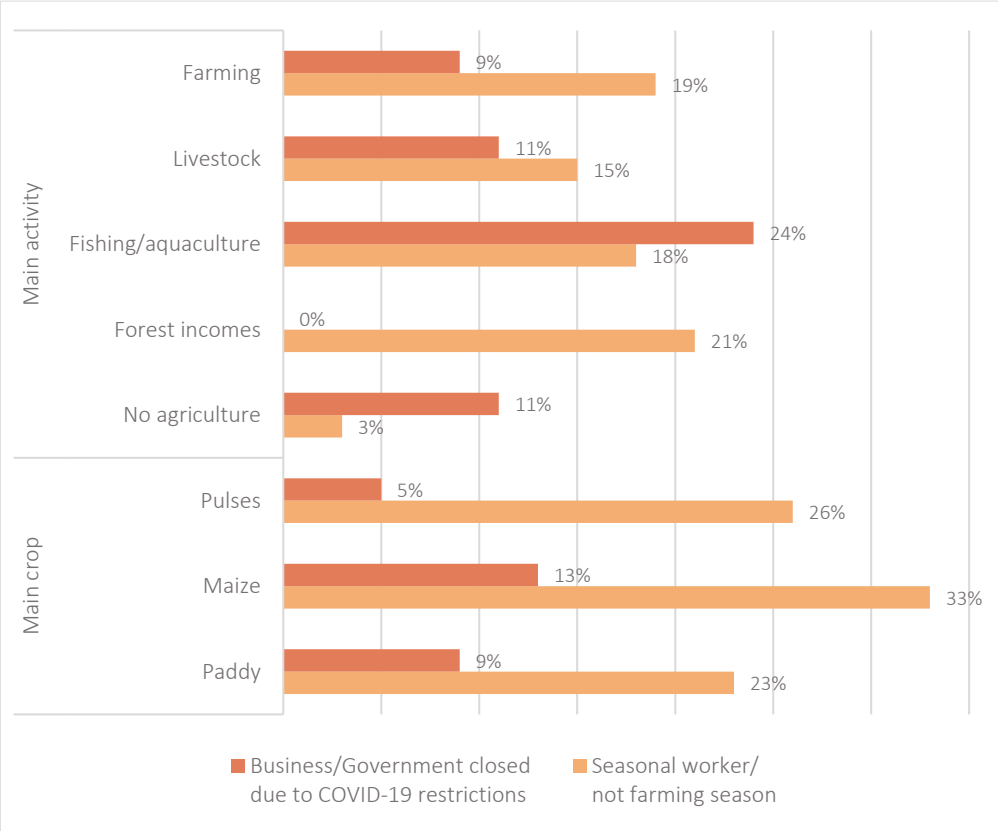
COVID-19 restrictions appear to have been a major cause of disruptions to income flows. However, seasonal work often explains interruptions of income. The impact of COVID-19 on business closures was most reported in Rakhine and Shan states, and Yangon region (Figure 25). More income interruptions in Chin state resulted from seasonal pauses in flows than from COVID-19-related restrictions (Figure 25). COVID-19 restrictions were more important than seasonal cycles for non-agricultural households and those engaged in fishing/aquaculture (Figure 26).

Figure 25. Percentage of households citing COVID-19 restrictions as the most frequent reason for income losses vs regular/seasonal interruptions, by state and region



Source: FAO and WFP, 2020; FAO and WFP assessment results

Figure 26. Percentage of households citing COVID-19 restrictions as the most frequent reason for income losses vs cases of regular/seasonal interruption, by main crop and activity

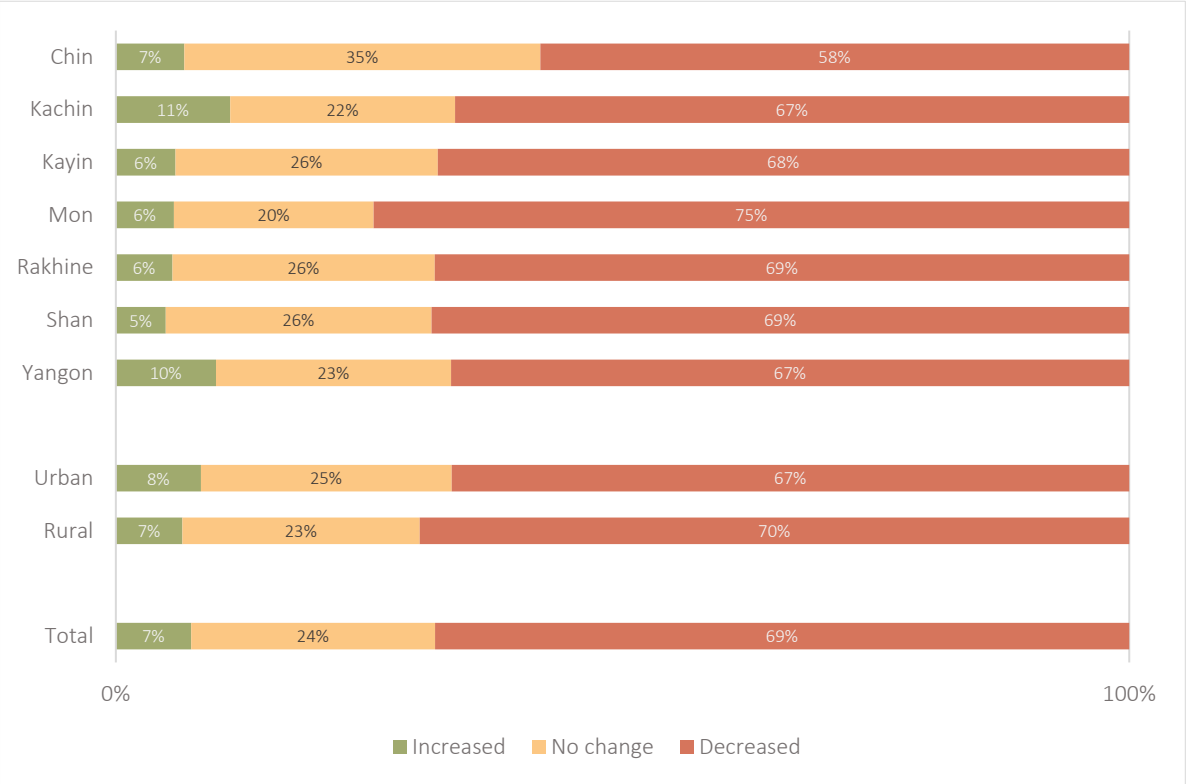


Source: FAO and WFP, 2020; FAO and WFP assessment results

Income decreased for 69 percent of surveyed households, particularly those in Mon state (Figure 27) and those whose incomes are derived from forest products and fishing/aquaculture[10] (Figure 28). These results are consistent with those presented by IFPRI (Goeb *et al*., 2020), which reported that in June 2020, over 80 percent of skilled and unskilled labourers, salaried employees and traders reported lower levels of income compared to June 2019.

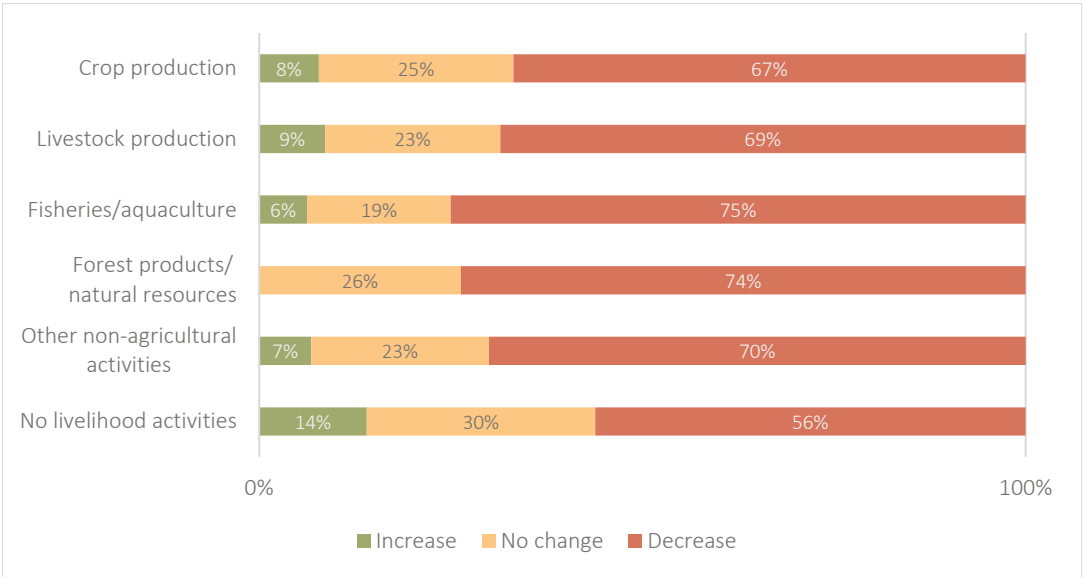
[10] The sample size for fishing/aquaculture was small and these results should be interpreted as indicative only.

Figure 27. Percentage of households reporting changes of income during the three months prior to the survey compared to one year ago, by state and region



Source: FAO and WFP, 2020; FAO and WFP assessment results

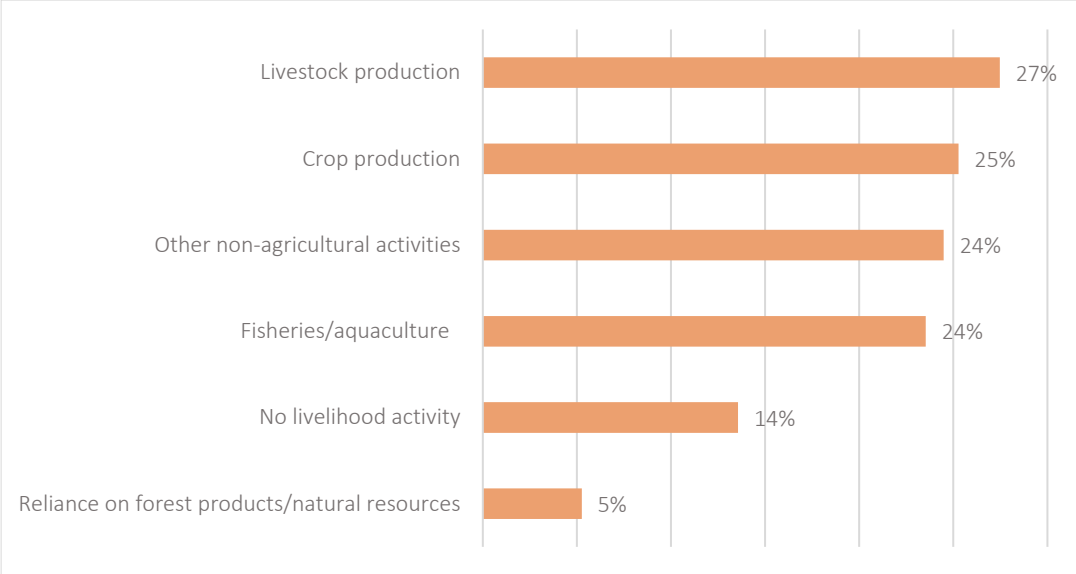
Figure 28. Percentage of households reporting changes of income during the three months prior to the survey compared to one year ago, by livelihood activity



Source: FAO and WFP, 2020; FAO and WFP assessment results

The survey revealed that nearly one third of surveyed households had faced a shock during the preceding month. For 32 percent of these households, this shock was a natural hazard or insecurity/conflict – particularly in Rakhine state (47 percent). Among households engaged in livestock production, 27 percent faced shocks in the month preceding the survey (Figure 29).

Figure 29. Percentage of surveyed households having faced shocks, by livelihood activity

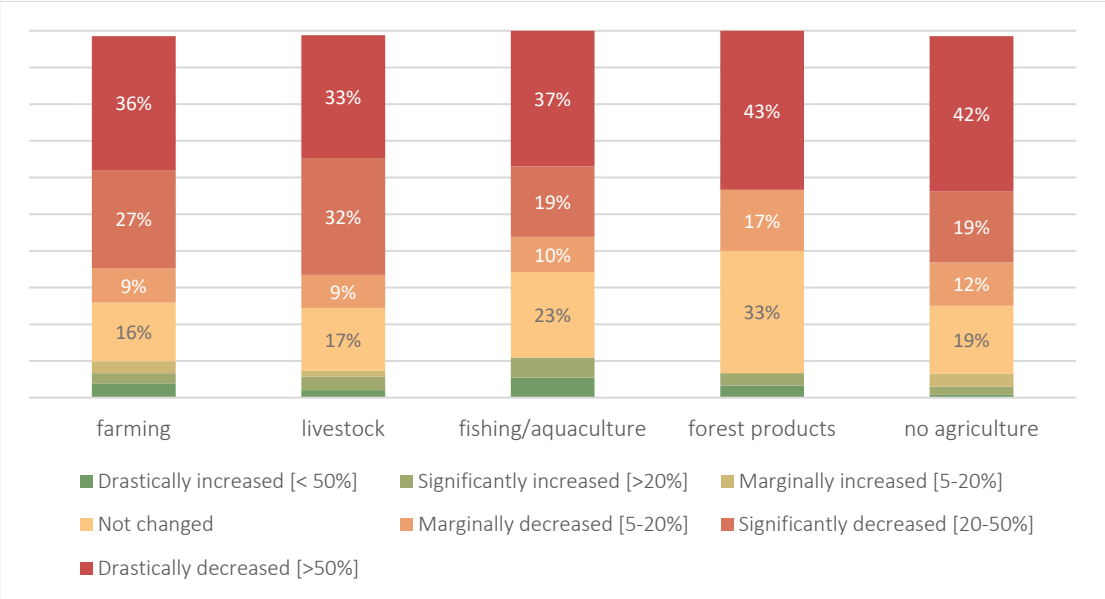


Source: FAO and WFP, 2020; FAO and WFP assessment results

Across all areas surveyed, economic shocks such as the loss of job/income and lack of access to credit were more common in urban households (25 percent) than in rural ones (21 percent). However, the survey data showed that Chin state had the highest proportion of households citing mobility restrictions as the shock they had experienced (28 percent). Experiencing a shock does not seem to be highly associated with a particular livelihood activity (Figure 30).

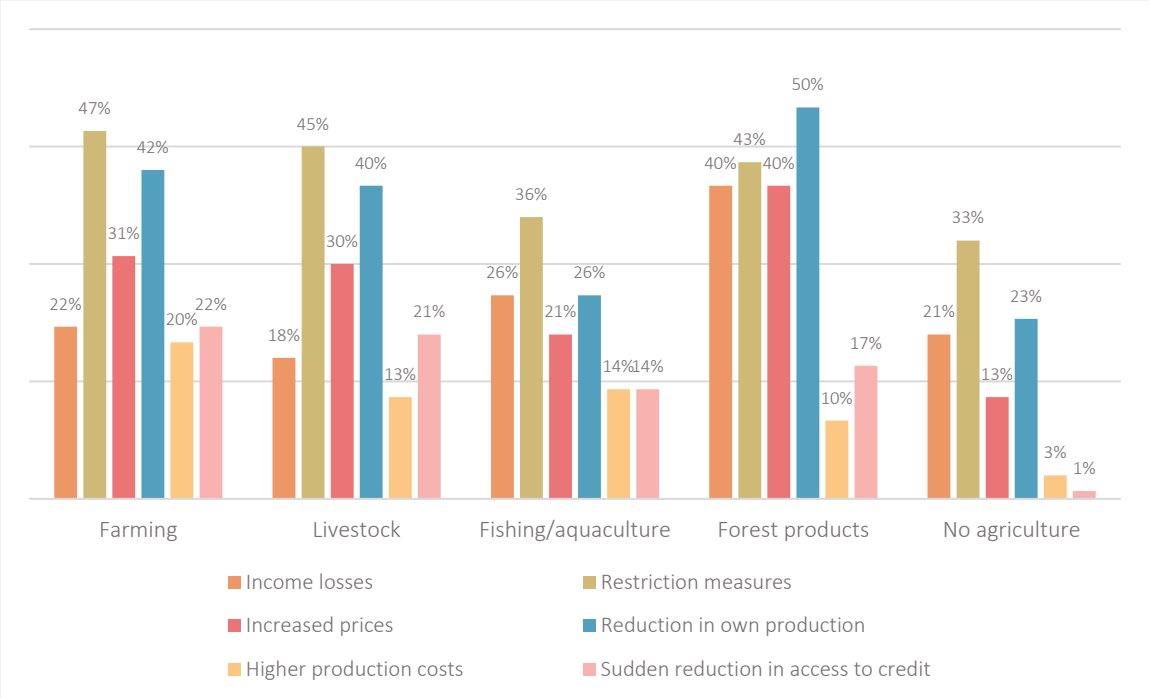
The data suggest that this is because different shocks affect different livelihood activities in different ways: whereas income loss was more frequent among forest producer households, restriction measures were highly citied across livelihood groups (Figure 31).

Figure 30. Percentage of households having reported changes of income during the three months prior to the survey compared to one year ago, by livelihood activity



Source: FAO and WFP, 2020; FAO and WFP assessment results

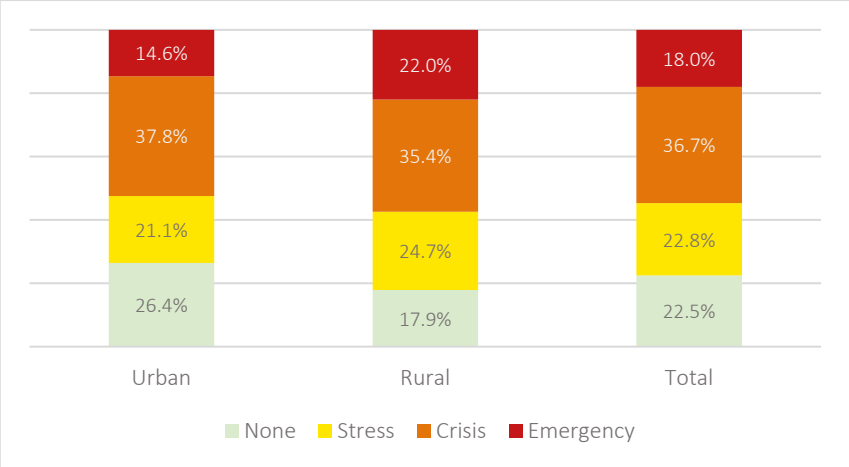
Figure 31. Percentage of households facing shocks during the three months prior to the survey, by type of shock



Source: FAO and WFP, 2020; FAO and WFP assessment results

The Livelihood Coping Strategies Index (LCSI) is used as an indicator to measure the coping strategies households utilize as a response to a lack of food (or money to purchase food) during the 30 days prior to the survey. It was used to understand the stress and insecurity faced by households – and their capacity for future productivity. Coping strategies are classified as "Stress", "Crisis" or "Emergency" according to the degree of livelihood asset depletion.[11]

Figure 32. LCSI classifications for urban and rural respondents



Source: FAO and WFP, 2020; FAO and WFP assessment results

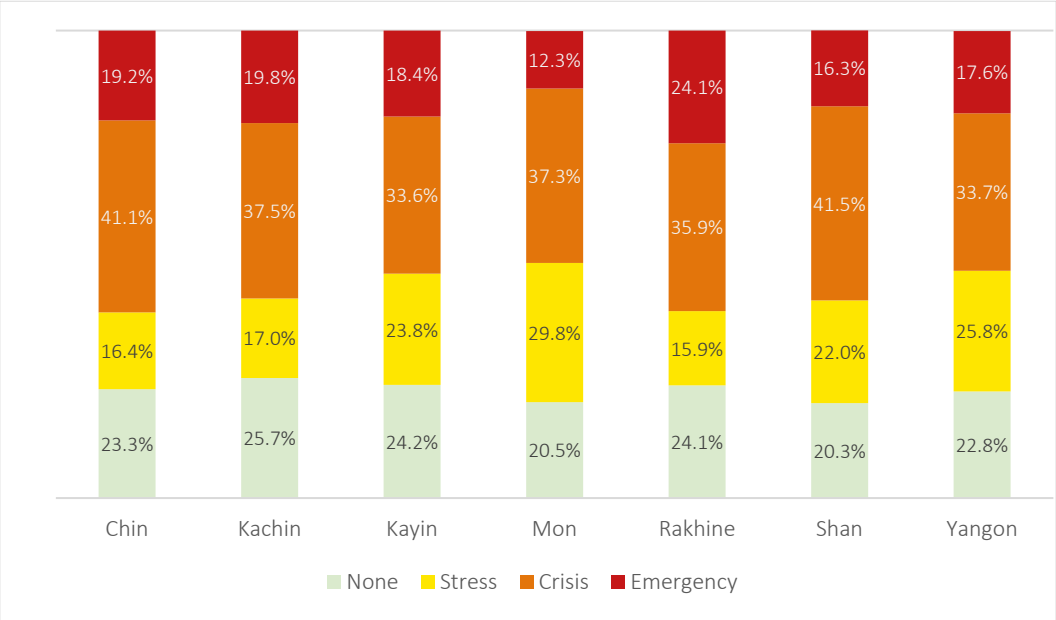
More than half of assessed households (54.7 percent) used coping strategies described as "Crisis" and "Emergency", which deplete assets, decrease production and reduce human capital (Figure 32). The most common strategies employed by respondents were: spending savings (56.1 percent); reducing non-essential expenditures (46.8 percent); and buying food on credit (38.4 percent). No significant differences were observed between female- and male-headed households.

Rural households employed more "Emergency" coping mechanisms than urban ones (Figure 32). For the most commonly used coping mechanisms, spending savings was employed by 58.8 percent in rural areas vs 53.1 percent in urban areas; reducing non-essential expenditures was used by 47.8 percent in rural areas vs 45.7 percent in urban ones; buying food on credit was used by 47.6 percent and 28.5 percent respectively; and borrowing money was employed by 39.2 percent and 26.5 percent respectively.

Across states and regions, surveyed households in Chin and Rakhine states employed high levels of "Crisis" and "Emergency" coping mechanisms while in Mon state, households resorted to fewer of these coping mechanisms (Figure 33).

[11] Coping strategies categorized as "Stress" include borrowing money or spending savings, indicating a reduced ability to deal with future shocks due to reduced resources or increased debts. Coping strategies categorized as "Crisis", such as selling productive assets, threaten future productivity, including human capital formation. Strategies classified as "Emergency", such as selling one's land, also affect future productivity, but are more difficult to reverse or more dramatic in nature.

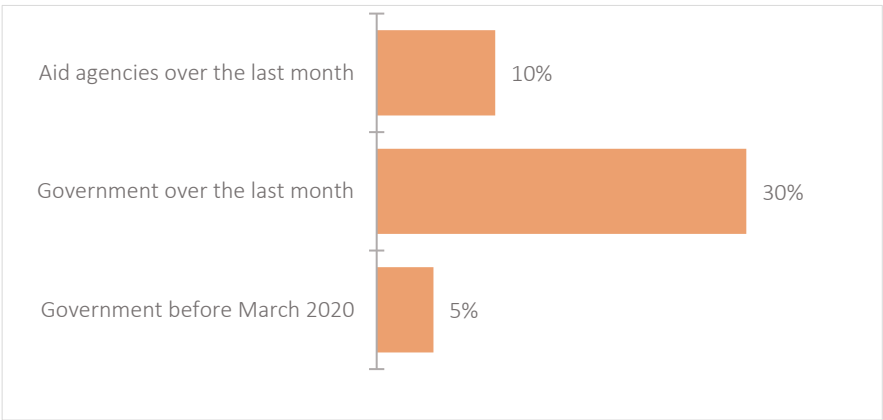
Figure 33. LCSI classification, by state and region



Source: FAO and WFP, 2020; FAO and WFP assessment results

The survey data showed that Government assistance increased significantly during the month preceding the survey (Figure 34), particularly in Rakhine state and Yangon region, and among households relying on agricultural and non-agricultural labour. Results from this sample show that households relying on fisheries received less assistance than other livelihood categories.

Figure 34. Percentge of households surveyed by provider of assistance



Source: FAO and WFP, 2020; FAO and WFP assessment results

While the results are not statistically significant, the data suggest that this assistance has been helpful in supporting livelihoods: households that were forced to adopt "Emergency" coping strategies had received less government assistance other respondents.

In conclusion, the survey results suggest that in the face of economic shocks, income flows were not steady and secure. This affected how surveyed households adapted, given their existing assets and capacities.

Food security

On average, surveyed households consumed 2.7 meals per day, and no significant differences were observed between female- and male-headed households, or among states and regions. More urban households reported consuming or more meals per day (79.1 percent) than rural households (70.3 percent).

Markets were the main source of food for more than three quarters of respondents (78.6 percent), while their own production accounted only for 16.4 percent. Because the survey was undertaken during the lean season, these figures are considered typical. When looking across states, overall findings were similar, although Yangon region and Mon and Shan states showed higher reliance on markets, while Chin, Kachin and Rakhine states indicated higher levels of respondents' own production as source of food. As expected, urban populations' dependence on markets was greater (88.3 percent) than those in rural areas (69.6 percent), and urban respondents' own production was less important (6.6 percent) than it was in rural areas (25.5 percent).

At the time of the survey, 85 percent of households reported having food stocks, of which 40 percent reported they would only last three weeks or less. Again, this is considered typical for the season.

Food security is assessed through different indicators:

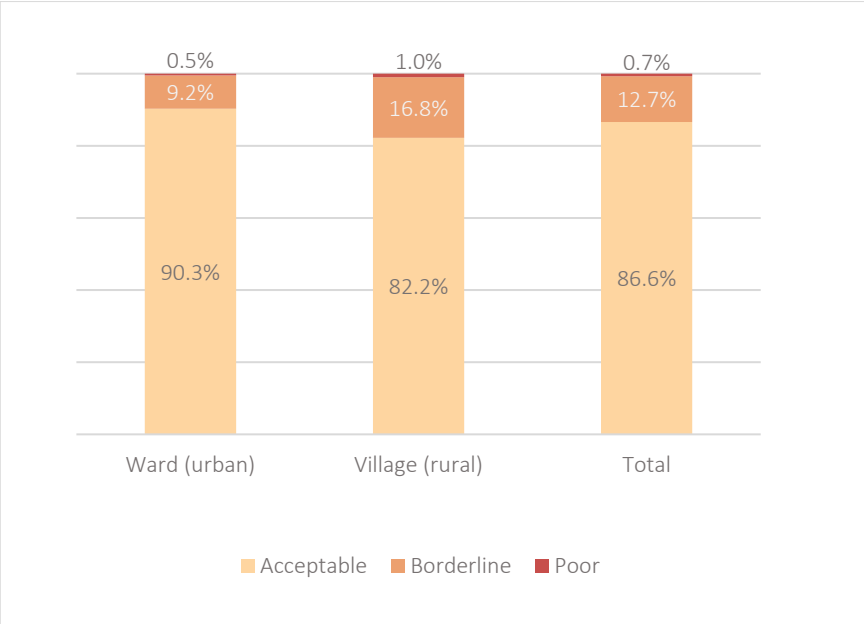
- The Food Consumption Score (FCS)[12] is a composite of dietary frequency, food frequency and the relative nutritional importance of different food groups.
- The Food Insecurity Experience Scale (FIES) is an experience-based metric of food insecurity severity. Its standard module consists of eight questions referring to conditions and experiences typically associated with the inability to access food. When applied to the 30 days preceding the assessment (as was the case for this survey), the data can be used to estimate the prevalence of recent food insecurity at different levels of severity (Cafiero, Viviani and Nord, 2018).[13]

Of surveyed households, 13.4 percent reported poor or borderline food consumption. No significant differences were observed between male- and female-headed households, while rural households showed higher levels of food insecurity than urban ones. The severity of food insecurity varied across states, with poor and borderline food consumption highest in Chin state – most likely driven by the lower consumption of proteins, dairy and fruits. The lowest levels or poor and borderline food consumption were found in Kachin state (Figure 36).

[12] For guidelines on the FCS, see: https://fscluster.org/handbook/Section_two_fcs.html.

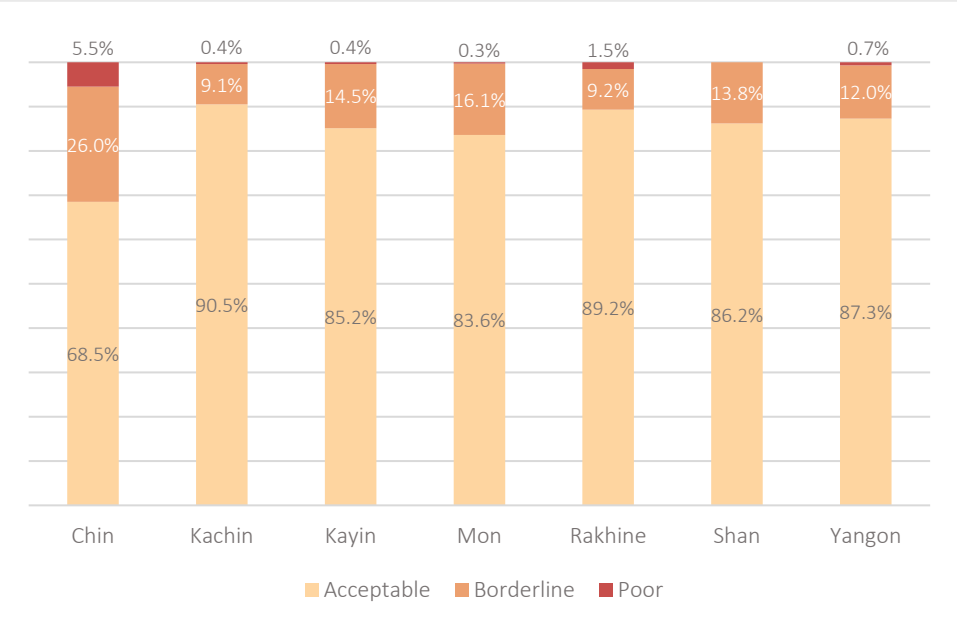
[13] Since the sample is not nationally representative and weights were not applied, food insecurity data refer to the surveyed households only and cannot be directly compared to national food security assessments.

Figure 35. Percentage of surveyed households according to food consumption groups in urban and rural areas



Source: FAO and WFP, 2020; FAO and WFP assessment results

Figure 36. Percentage of surveyed households according to food consumption groups, by state and region



Source: FAO and WFP, 2020; FAO and WFP assessment results

The FIES analysis largely confirmed the results of the FCS. In the period from mid-August to mid-October 2020, 19.3 percent (± 2.88) of the surveyed households were found to have experienced moderate to severe levels of recent food insecurity ($RFI_{mod+sev}$). People living in these households have faced uncertainties about their ability to obtain food, and during the reference period were forced to reduce the quality or quantity of food they consumed due to lack of money or other resources. During the same period, the prevalence of severe food

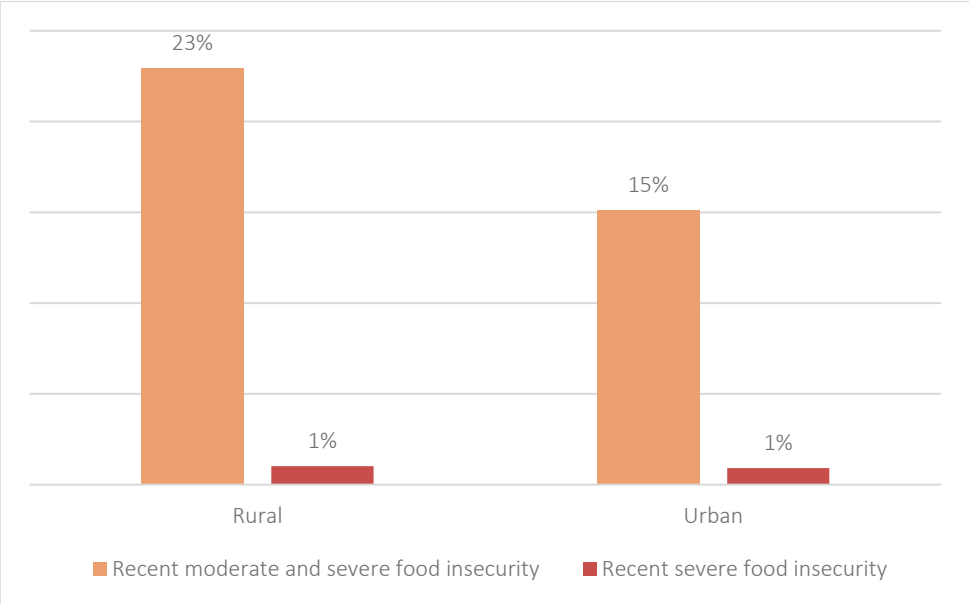
insecurity (RFI_{sev}) within the surveyed households was 0.98 percent (± 0.65), meaning that people in these households likely ran out of food, experienced hunger, and in the most extreme cases, gone for days without eating – putting their health and wellbeing at grave risk. The prevalence of $RFI_{mod+sev}$ and RFI_{sev} among rural households was higher than in urban households (Table 2 and Figure 37).

Table 2. Prevalence of recent food insecurity in rural and urban areas (percentage of households and margin or error)

	$RFI_{mod+sev}$	RFI_{sev}
Rural areas	23.16 (±4.25)	1.03 (±0.91)
Urban areas	15.15 (±3.79)	0.92 (±0.93)

Source: FAO and WFP, 2020; FAO and WFP assessment results

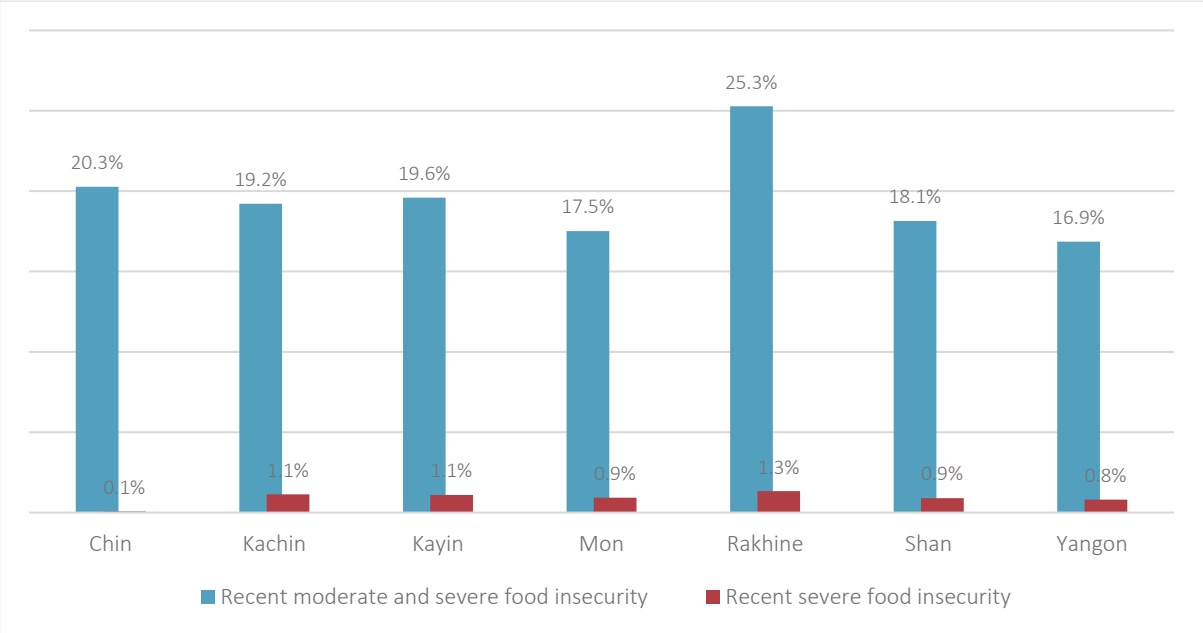
Figure 37. Prevalence of recent food insecurity (30 days prior the survey) in rural and urban areas



Source: FAO and WFP, 2020; FAO and WFP assessment results

Results by state confirm the findings of the FCS (Figure 38). In Chin state, it is worth noting that the interruptions of the income flows were mostly seasonal, and that food insecurity seemed more severe in Rakhine and Shan states, although the margins of error overlap (Table 3 shows weighted results with margins of error).

Figure 38. Prevalence of food insecurity in the 30 days prior to the survey, by state and region (unweighted results)



Source: FAO and WFP, 2020; FAO and WFP assessment results

Table 3. Percentage of surveyed households according to FIES results, by state and region (with margin of error)

	$FI_{mod+sev}$	FI_{sev}
Chin	20.27 (± 12)	0.07 (± 0.54)
Kachin	19.22 (± 6.91)	1.13 (± 1.69)
Kayin	19.59 (± 6.95)	1.09 (± 1.67)
Mon	17.51 (± 6.28)	0.93 (± 1.36)
Rakhine	25.28 (± 8.6)	1.33 (± 2.05)
Shan	18.14 (± 9.69)	0.9 (± 2.13)
Yangon	16.86 (± 6.51)	0.81 (± 1.42)
Total	19.3 (± 2.88)	0.98 (± 0.65)

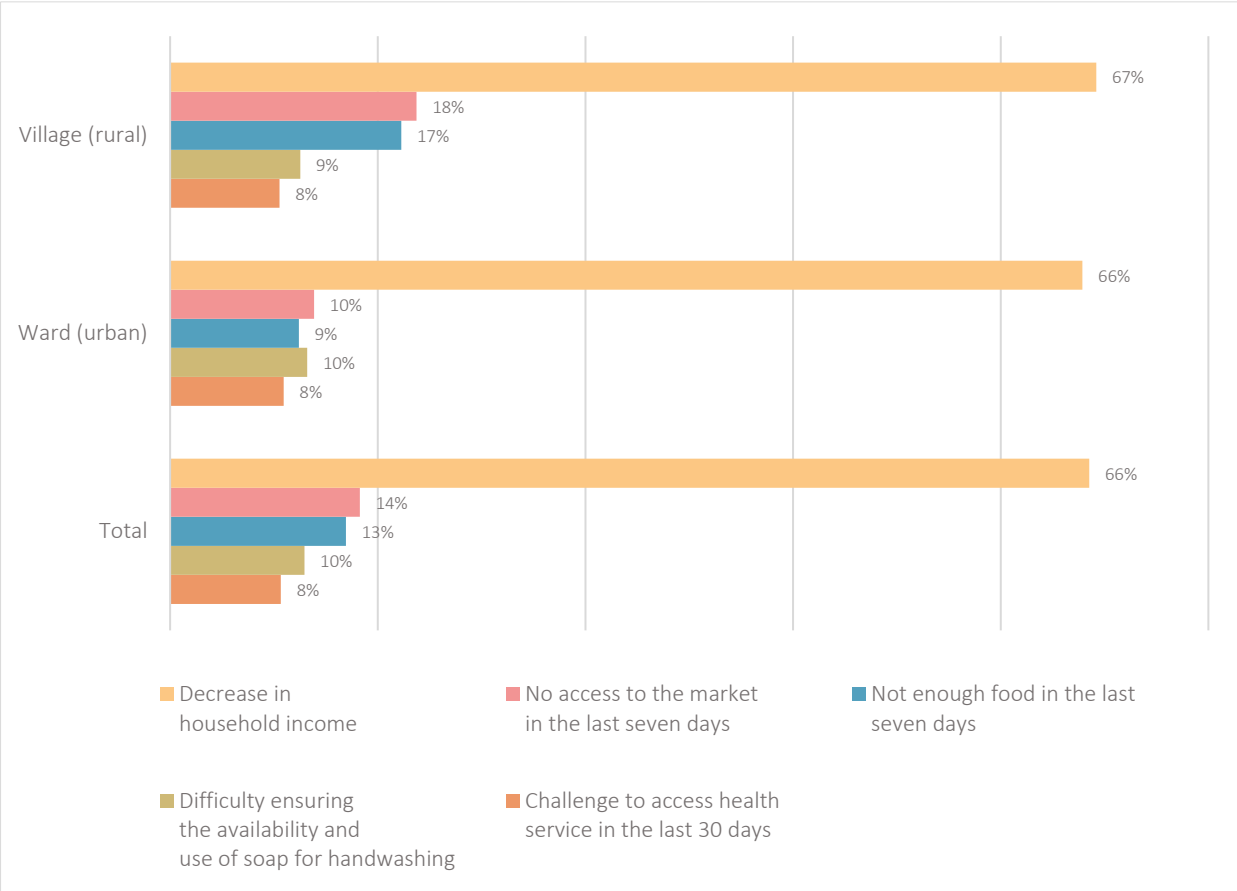
Source: FAO and WFP, 2020; FAO and WFP assessment results

While the great majority of surveyed households were found to be food secure, there may have been bias due to the survey modality since in Myanmar, telephones are typically owned by better-off households. It is therefore possible that the poorest households were facing worst food security outcomes.

Moreover, the household characteristics associated with poor consumption suggest that reduced income is likely the most important driver of food insecurity. Households that experienced an interruption of income flow in 2020 had higher poor and borderline food consumption scores (18.3 percent) than those whose income flow was not interrupted (10.7 percent). Finally, households whose main source of food was in exchange for labour and households involved in crop production were found to face greatest food consumption gaps (comprising 39.8 percent and 15.7 percent of households with poor and borderline FCS, respectively). Households with a higher level of education showed lower poor and borderline food consumption scores. Responses to survey questions regarding constraints to food access also suggest that income flows are critical to food security.

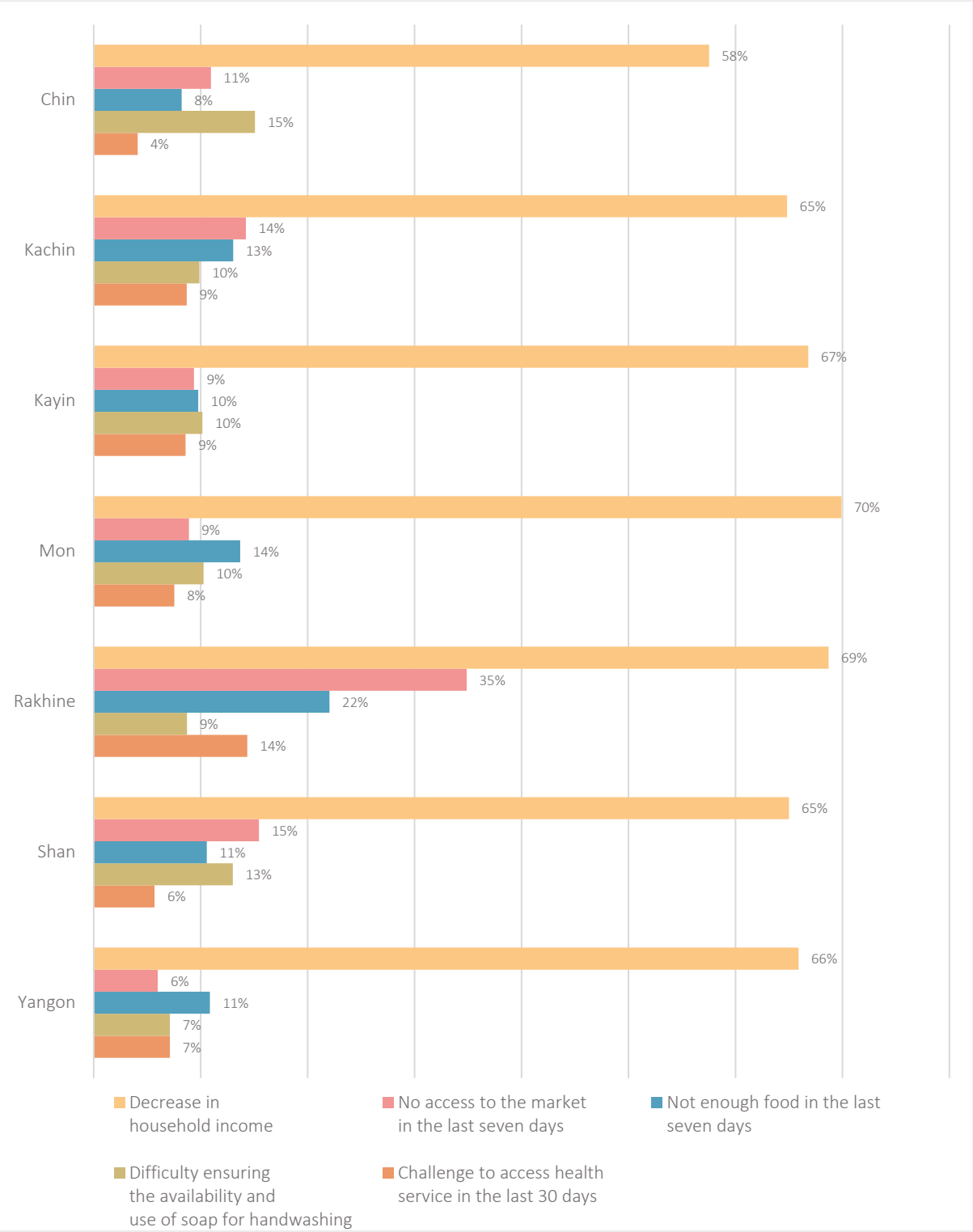
The food security challenges most frequently faced by respondents included: a decrease in income (66.4 percent); no access to the market in the past seven days (13.7 percent); and not enough food to consume in the past seven days (12.7 percent). There were no significant differences between female- and male-headed households. When comparing urban and rural populations, a higher share of rural respondents did not have access to the market (17.8 percent) or sufficient food (16.7 percent) in the seven days prior to the survey (Figure 39).

Figure 39. Percentage of surveyed households reporting various constraints in urban and rural areas



Source: FAO and WFP, 2020; FAO and WFP assessment results

Figure 40. Percentage of surveyed households reporting various constraints, by state and region



Source: FAO and WFP, 2020; FAO and WFP assessment results

Conclusion

Despite the possible bias introduced by the survey modality, the survey results indicate that the economic shock induced by COVID-19 restrictions is the likely cause of income interruptions. This is consistent with the results of other assessments. Although income flows eventually resumed for most of the households interviewed, cash constraints prompted some of these households to adopt coping strategies – notably using savings and reducing expenses. The reduction in demand for food was felt throughout the food system, representing a shock for crop and livestock producers.

Food insecurity appears linked to a reduction of income and interruption of income flows. The survey coincided with the lean season in most targeted areas, and the main source of food was purchase from markets. Such shocks to household income and market access can have significant impacts on household food security and nutrition.

Reduced demand for food on the market may have driven farm-gate prices below farmers' expectations: 36 percent of interviewed producers reported that low prices were a major constraint and 19 percent had to destroy part of their produce. Both the traders and households surveyed reported that access to markets has been a major challenge for producers.

The consequent cash constraints faced by producers are concerning for the outcome of the 2020–2021 agricultural season. Access to and use of chemical inputs and improved seed varieties is typically limited in Myanmar. Only 6 percent of the sample households cited problems in accessing fertilizer; for 68 percent of these respondents, the reason was insufficient income. However, the sale of seeds and fertilizers declined overall, as confirmed by the agri-dealer survey.

In the context of cash-flow shortages and reduced access to credit, rural households are particularly vulnerable to economic crises and concerns have been raised about financing the following agricultural campaigns. In addition, during the drafting of this report, state authority was challenged by the military, which triggered demonstrations across the country – further hampering the growth potential of the economy.

Key recommendations

- Provide food assistance to the most affected and vulnerable households throughout 2021. This assistance should be primarily targeted to households that continue to suffer from the devasting socioeconomic effects of COVID-19.

- Scale up of existing safety net programmes. Especially for agricultural producers, transfers should be conditional on the purchase of inputs (such as seeds and fertilizers), coupled with the necessary technical assistance.

- Encourage the development of rural areas by adapting processing and marketing channels for specific products. The findings that a significant proportion of producers have had to destroy part of their production may indicate a need to adapt demand and supply chains such as the cold chain to highly perishable products.

- Use cash-based transfers in areas where markets are functioning and there are financial service providers to encourage crop production and stabilize market supply through demand-side incentives.

- Maintain and strengthen existing price and market monitoring activities.

- Continue food security monitoring in rural and urban areas to assess changes over time.

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