



Food and Agriculture
Organization of the
United Nations

Yemen

DIEM – Data in Emergencies Monitoring brief, round 6

Results and recommendations
June 2023

Key highlights

- > In the three months preceding data collection, 63 percent of the surveyed households experienced various shocks and nearly 60 percent of the households reported a decrease in income. The reporting on shocks and decrease in income significantly improved compared to the fourth round.
- > Of the crop producers who planted crops, over one-third reported a decrease in the area planted. A high proportion of crop producers (75 percent) reported difficulties, and the most reported difficulty was insufficient irrigation or rainwater (66 percent). In February and early March, rainfall was less than the long-term average, causing water scarcity for the farmers. This could be a reason for a large majority of the crop producers expecting less harvest than the same period last year.
- > Nearly half of the livestock producers saw a reduction in the number of livestock compared to last year, mostly driven by distress sales and animal deaths. Nearly 65 percent of the livestock producers reported facing difficulties. The most reported difficulty was accessing feed from the market (67 percent).
- > The two experience based food security measures – recent food insecurity (RFI), based on the Food Insecurity Experience Scale (FIES) equivalent to the Integrated Food Security Phase Classification (IPC) Phase 3 and above, and the household hunger scale (HHS) – estimated that between 30 to 40 percent of the households experienced food insecurity and hunger at IPC Phase 3 and above (Crisis or worse). According to the food consumption score (FCS) and the Household Dietary Diversity Score (HDDS), the two-food consumption-based measures, around 40 to 50 percent of the households had inadequate food consumption and insufficient dietary diversity during the survey period.
- > All food security indicators, except for FCS, significantly improved this round compared to the fourth round in April 2022. The fourth round was conducted during Ramadan when households receive food as gifts and assistance, usually resulting in better food consumption.
- > Ad Dali', Al Bayda and Taiz have a high prevalence of food insecurity under all five food security indicators. Amran, Hajjah and Lahj were reported to have a higher prevalence of food insecurity in at least three of five food security indicators.

- > Overall, RFI was significantly higher in agricultural households, including fisherfolk, than in non-agricultural households. Among agricultural households, a higher proportion of agricultural day labourers, livestock producers and sellers experienced food insecurity compared to fish and crop producers.
- > Due to shortage of food or money, one in five households resorted to emergency livelihood coping strategies, and over one-third of the households adopted food consumption-based coping strategies. The households resorting to emergency coping strategies significantly decreased compared to the fourth round.
- > Ninety-two percent of agricultural households reported needing assistance in the coming three to six months. The major needs for over one-third of the agricultural households were crop inputs, livestock feed and cash.
- > It is recommended to scale up the existing food or cash-for-work programmes in food insecure areas, prioritize vulnerable livelihood groups for humanitarian assistance, and distribute crop inputs and livestock feed to small farmers.

Methodology

The Food and Agriculture Organization of the United Nations (FAO) launched a household survey in Yemen through the Data in Emergencies Monitoring (DIEM-Monitoring) System to monitor agricultural livelihoods and food security. This sixth-round survey reached 2 443 households through computer-assisted telephone interviews conducted from 1 to 18 March 2023. Households were surveyed across all 22 governorates of Yemen.

A survey targeting 2 420 households was initially designed with 110 households targeted in each of the 22 governorates. The sample was representative of the population of Yemen and of the governorates at administrative 1 level with a 95 percent confidence level and a 10 percent margin of error. A total of 2 443 households were interviewed during this sixth-round survey using random digit dialing and a panel list of agricultural households, that had been interviewed in the previous data collection rounds, to reach the target.

Of the surveyed households, 48 percent were engaged in the production and sale of crops, livestock and both, and around 2 percent were engaged in the production and sale of fish in the 12 months preceding the survey. However, the number of agricultural households interviewed in Aden, Al Jawf and Sana'a City was low and findings from these governorates should be interpreted with caution.

Data were weighted at the analytical stage to ensure that regional population distribution was adequately represented. Weights were computed based on population size and wealth proxies (education of the heads of the household and access to potable water).

The fourth-round survey which was conducted between 29 March and 30 April 2022 has been drawn from to make comparisons throughout this brief as it took place in the same season and time period one year prior. The fifth-round survey was the first high frequency monitoring survey, following the same methodology but using only a subset of indicators (related to income and shocks, and food security outcomes only). It was conducted from 25 January to 5 February 2023 and reached 2 588 households.

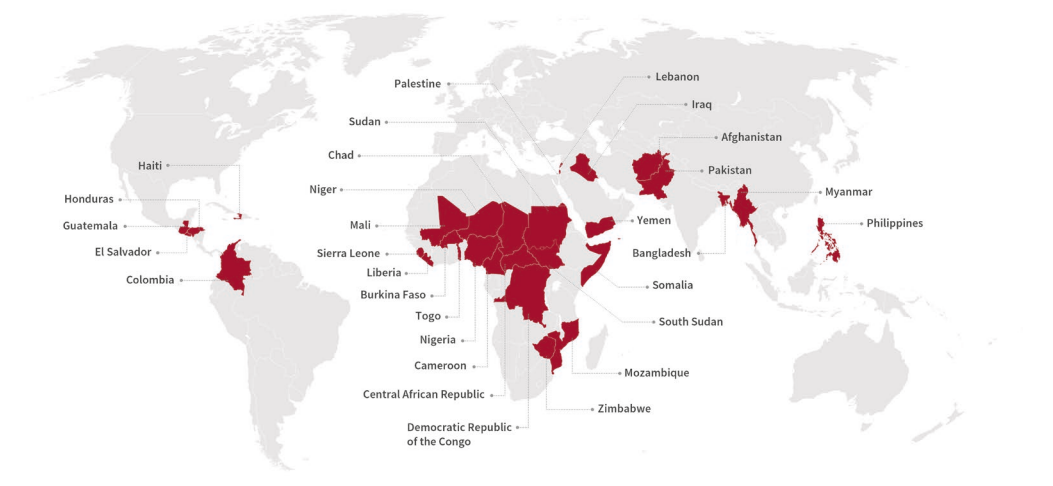
About DIEM-Monitoring

FAO established the DIEM-Monitoring System to collect, analyse and disseminate data on shocks and livelihoods in countries prone to multiple shocks. DIEM-Monitoring aims to inform decision making by providing regularly updated information on how different shocks are affecting the livelihoods and food security of agricultural populations.

At the core of the DIEM-Monitoring System are country-level dashboards. Readers are encouraged to explore these dashboards to gain more insight into the context of Yemen and other countries.

> **Learn more at** data-in-emergencies.fao.org/pages/monitoring

Figure 1. Countries with established DIEM-Monitoring Systems



Source of data: FAO. 2023. DIEM-Monitoring. Rome May 2023. <https://data-in-emergencies.fao.org>

Source of map: United Nations. 2020. Map of the World. Cited 6 April 2022. un.org/geospatial/content/map-world

Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. Final boundary between the Sudan and South Sudan has not yet been determined. Final status of the Abyei area is not yet determined.

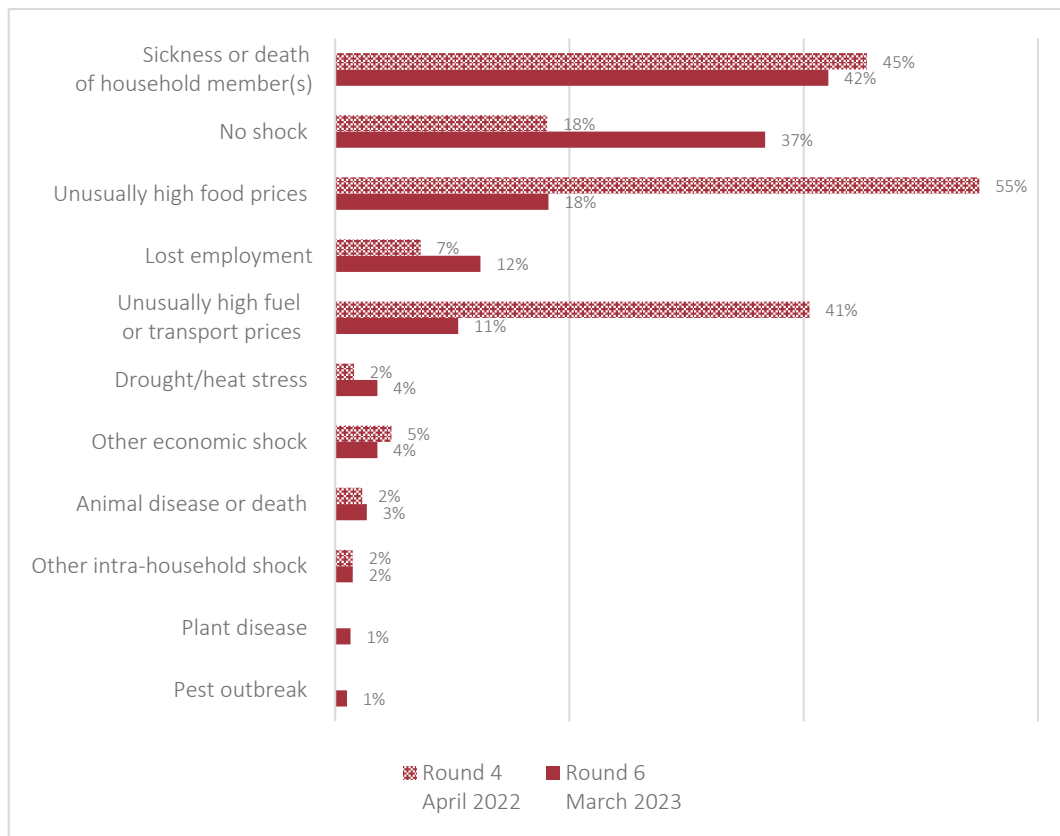
Income and shocks

Approximately 63 percent of the surveyed households faced shocks in the three months preceding the survey. Sickness or death of household members (42 percent), high prices of food (18 percent) and loss of employment (12 percent) were the top three shocks reported (Figure 2). Only 11 percent of the surveyed households reported high fuel prices as a major shock. The proportion of households that reported experiencing shocks has significantly decreased compared to the fourth round conducted in April 2022, particularly because high food and fuel prices are no longer a major shock. Despite both the fourth and sixth round surveys being conducted in the same agricultural season, the current situation has improved due to economic reasons. According to the food and fuel price data in FAO's Market Monitoring System, the volatility in food and fuel prices reduced in 2023 compared to the same period in 2022 (FAO, 2023). This may have improved the situation in the country.

Nearly 60 percent of surveyed households reported a decrease in income from their main income source in the three months preceding the survey, of which 30 percent mentioned that the decrease was more than half when compared to the same period last year. During the fourth-round survey, households reporting a drop in income from their main income source was nearly 66 percent, but this improvement is not statistically significant.

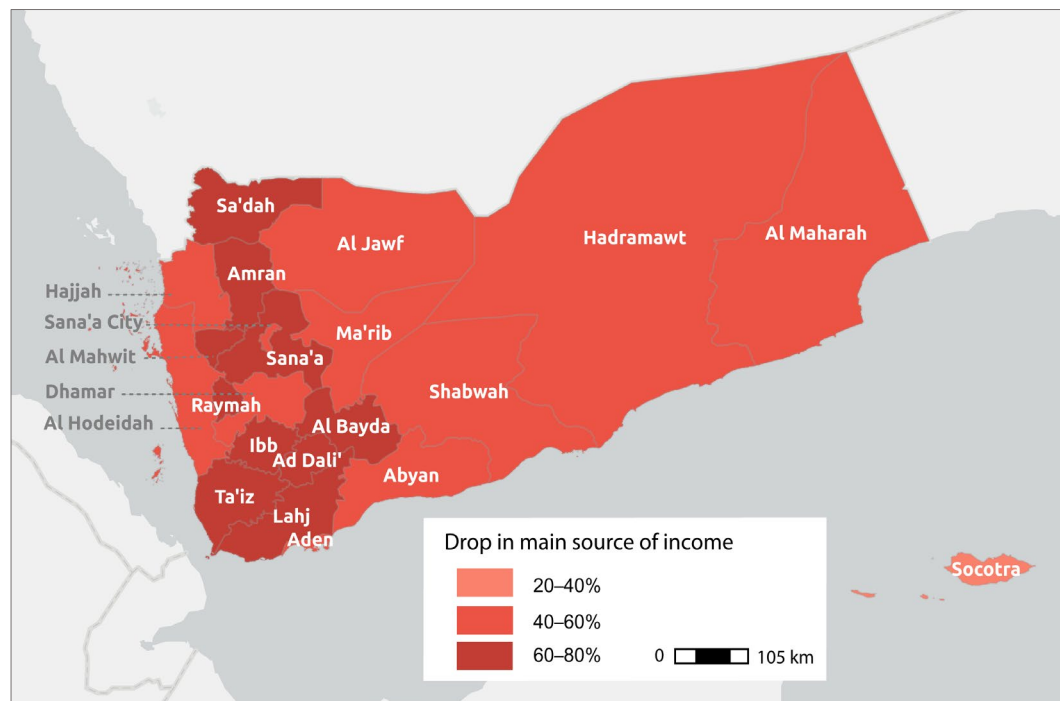
In Ad Dali', Al Bayda, Al Mahwit, Amran, Ibb, Lahj, Raymah, Sadah, Sana'a and Taiz over 60 percent of the households reported a decrease in income from the main income source (Figure 3). Overall, 59 percent of the surveyed households were involved in agricultural activities as a main income source. Agricultural producers experienced a significant decrease in income at a larger proportion (more than 60 percent) than non-agricultural households. The survey took place predominantly in the planting season when agricultural income sources face constraints.

Figure 2. Main shocks reported (percentage of households)



Source of data: FAO. 2023. Yemen: DIEM-Monitoring assessments results (April 2022 and March 2023). Rome. Cited 19 May 2023. data-in-emergencies.fao.org

Figure 3. Decrease in income from main income source by governorate (percentage of households)



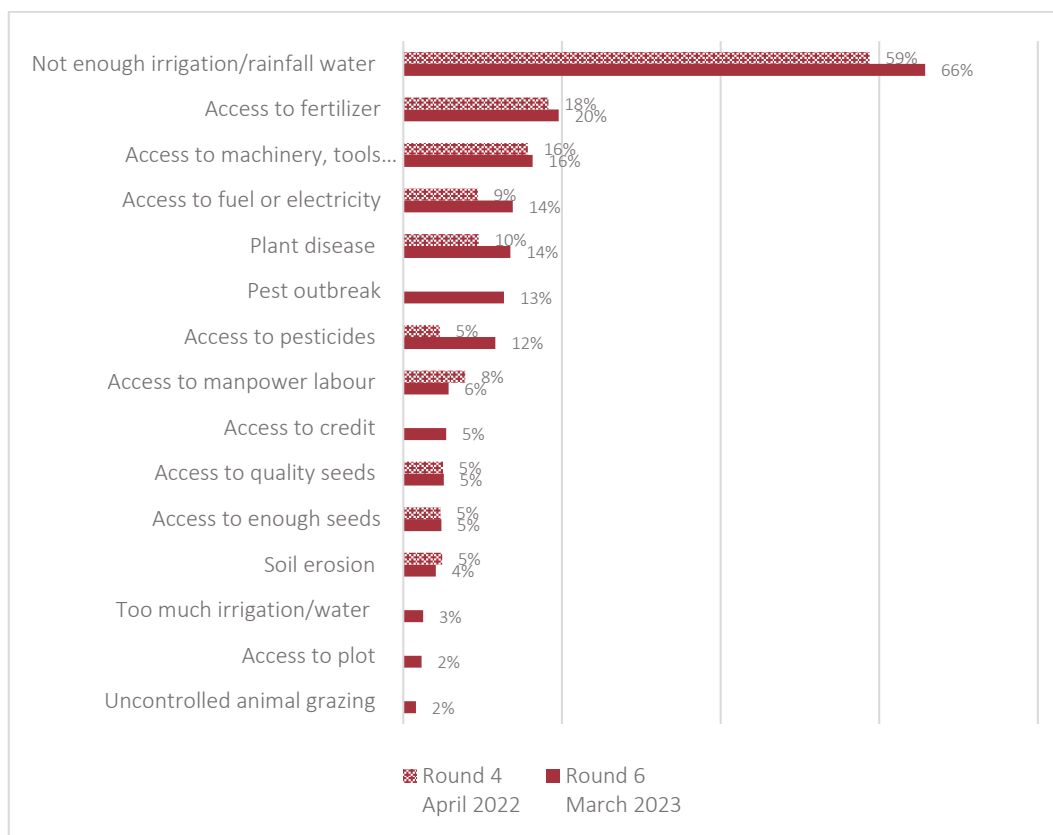
Source of data: FAO. 2023. Yemen: DIEM-Monitoring assessment results (March 2023). Rome. Cited 19 May 2023. data-in-emergencies.fao.org
 Source of map: Esri, HERE, Garmin, FAO, NOAA, USGS. 2018. Map of Yemen. Cited 8 August 2022. data-in-emergencies.fao.org/pages/explore

Crops

The survey took place in March, a time that is predominantly a planting season. The major crops planted by surveyed households were sorghum (31 percent), other cereals such as wheat, maize and millet (28 percent), and *qat* (20 percent). Around 75 percent of the crop producers faced difficulties during crop production, the proportion is almost the same as it was during the fourth round. In Abyan, Ad Dali', Aden, Amran, Lahj, Sana'a and Sana' City, more than 90 percent of the crop producers faced difficulties.

The main reported difficulties have not changed much when compared to the fourth round. However, a higher proportion of households (66 percent) cited insufficient irrigation or rainwater as a major difficulty in the current round compared to 59 percent in the fourth round (Figure 4). On the other hand, reported crop damage, mostly by pests, has reduced. Low rainfall in February and the first week of March caused water scarcity for rainfed farmers who represented almost half of the crop producers. This situation may have led to a reduction in the area planted. Of the crop producers who planted crops, 34 percent reported a decrease in the area planted, and 54 percent expected a reduced harvest compared to the same period last year. In Abyan and Al Bayda over 60 percent of crop producers reduced the area planted in the ongoing season compared to the same period last year. Crop sales were limited to non-food cash crops like *qat* (66 percent), some food crops and vegetables. Sixty percent of the crop sellers faced difficulties selling main crops as opposed to 53 percent in the fourth round. The major difficulties reported were largely similar to the fourth round with lower crop prices, high transportation or marketing costs, and low demand remaining the most cited difficulties.

Figure 4. Crop production difficulties reported (percentage of crop producers)

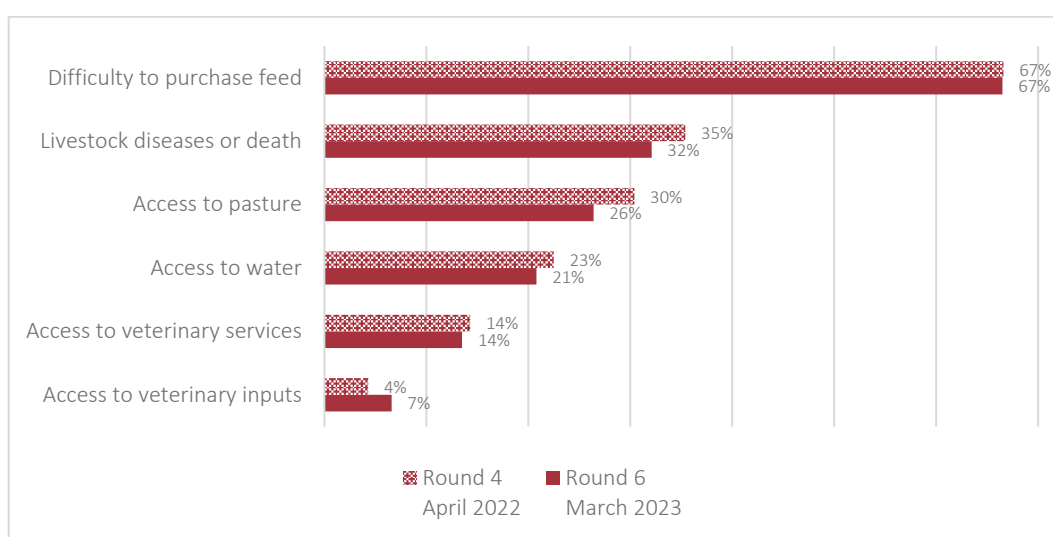


Source of data: FAO. 2023. Yemen: DIEM-Monitoring assessments results (April 2022 and March 2023). Rome. Cited 19 May 2023. data-in-emergencies.fao.org

Livestock

Ninety-nine percent of livestock producers reared sheep, cattle or goats as their main livestock in the 12 months preceding the survey. Around 48 percent of livestock producers reported a reduction in the number of livestock compared to last year, mostly driven by distress sales and the death of animals. Nearly 65 percent of livestock producers reported facing difficulties in the three months preceding the survey compared to 75 percent in the fourth round. The most reported difficulties included access to feed from the market (67 percent), animal diseases or deaths (32 percent) and access to pasture (26 percent), similar to the fourth round (Figure 5). Nearly 54 percent of livestock producers accessed livestock feed from open pasture and 23 percent accessed livestock feed from community-managed pasture. Sparse rainfall in the months of February, March and early April have likely affected the pastures and caused fodder scarcity. Livestock producers may need to purchase feed from the market during this season. High feed prices pose a major difficulty.

Figure 5. Livestock production difficulties (percentage of livestock producers)



Source of data: FAO. 2023. Yemen: DIEM-Monitoring assessments results (April 2022 and March 2023). Rome. Cited 19 May 2023. data-in-emergencies.fao.org

Of the producers selling livestock and livestock products, 51 percent faced difficulties. In Al Mahara, Marib, Sana'a, and Sana'a City, the proportion of livestock producers facing difficulties selling livestock was very high – 80 percent and above. Low selling prices (70 percent) was the most cited difficulty followed by low demand (19 percent) and high marketing costs (19 percent). Low selling prices and marketing costs were also cited as the top two major difficulties during the fourth round.

Surplus livestock in the local markets due to reduced cross-border trade and poor animal body conditions in dry weather could be two reasons for the low selling prices. Slightly over 58 percent of the livestock producers mentioned that the livestock price decreased compared to the average price during the same period last year, of which 21 percent stated that the decrease was a lot.

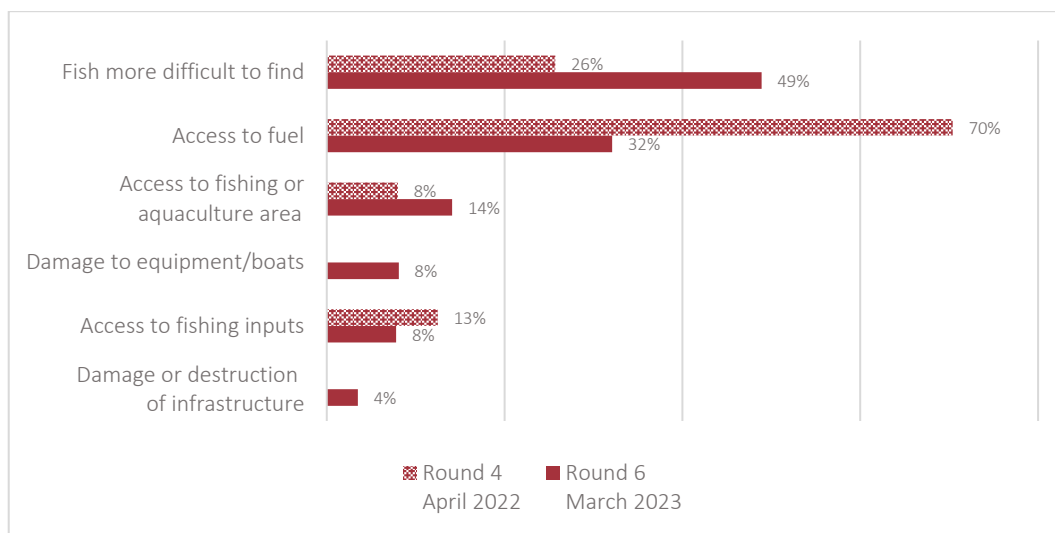
During the survey, around 2 percent of the surveyed households engaged in fish production and sales along the coastal areas of Abyan, Al Hodeidah, Al Maharah, Hadramaut, Lahj, Socotra and Taiz. Over 50 percent of the fishery households were fishing in the coastal and offshore sea

fishing grounds. Around 76 percent of the fishery households saw a reduction in fish production in the three months preceding the survey compared to the same period last year. The reduction in fish production was likely caused by restricted movement to open sea fishing grounds due to security reasons and high fuel prices limiting fishing in the favourable season (March–April).

Eighty-five percent of fishery households reported difficulties with fishery and aquaculture production. The most reported difficulties are similar to the difficulties reported in the fourth round, however reporting on the difficulty ‘fish being more difficult to find’ almost doubled in the current round. On the contrary, fish producers reporting high fuel prices as a difficulty reduced by nearly half in the current round compared to the fourth round (Figure 6). Reduced volatility in the fuel price in 2023 compared to 2022 could be the reason for this change (FAO, 2023).

In the three months preceding the survey, 22 percent reported difficulties with fish sales. The most cited difficulties for the sale of fish products were damages and losses due to lack of storage facilities or the inability to access markets, low selling prices, and high transportation and marketing costs. Thirty-one percent of fish producers reported a decrease in fish price compared to the same period last year.

Figure 6. Fishery production difficulties (percentage of fishery households)



Source of data: FAO. 2023. Yemen: DIEM-Monitoring assessments results (April 2022 and March 2023). Rome. Cited 19 May 2023. data-in-emergencies.fao.org

Food security

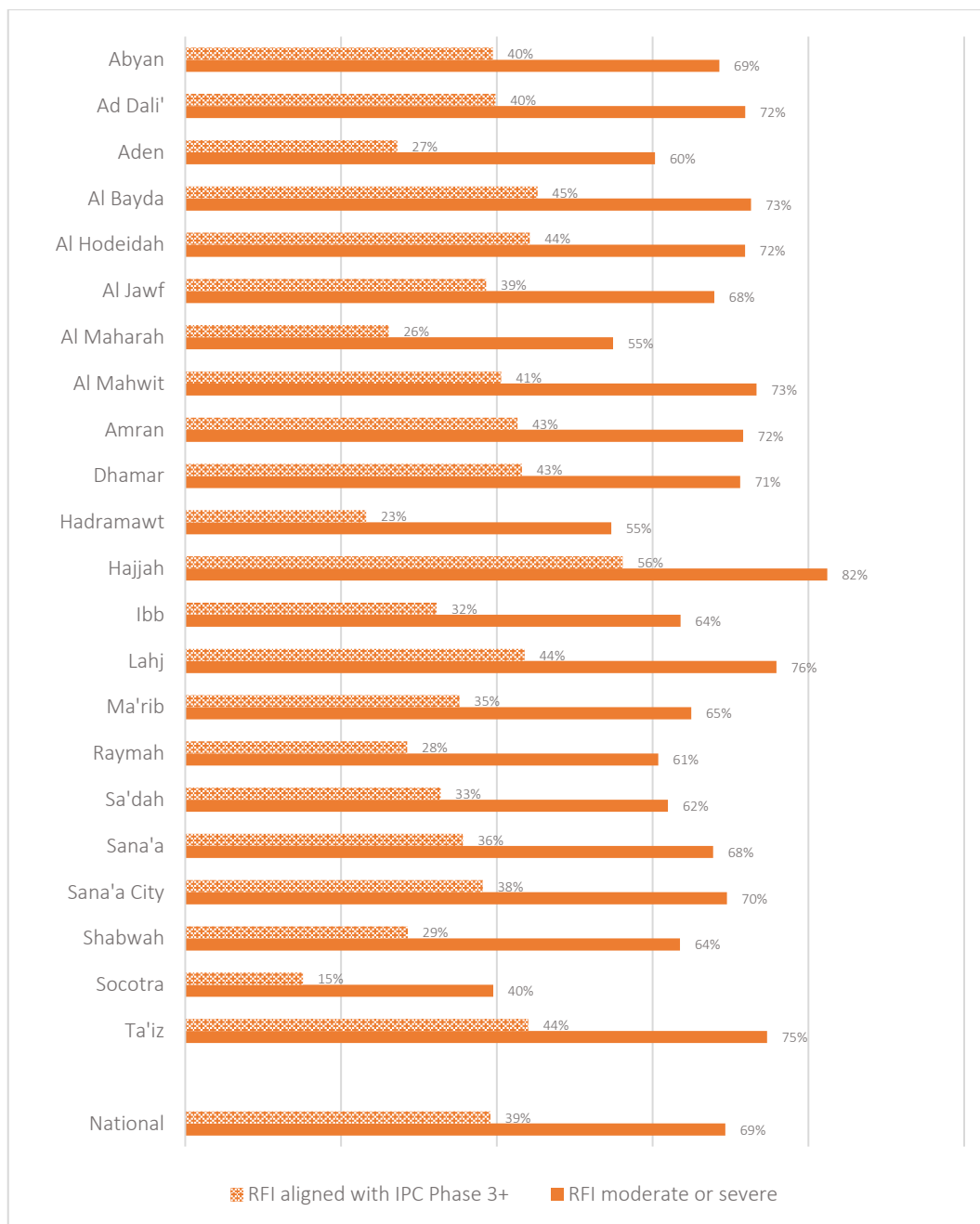
Based on the FIES,¹ the prevalence of moderate to severe RFI was 69 percent, and the prevalence of RFI equivalent to Crisis or worse (IPC Phase 3 and above) was 39 percent (Figure 7). Based on the FIES, the recent Crisis or worse (IPC Phase 3 and above) levels of food insecurity has improved during this round compared to the fourth round by 3 percentage points.

Households with no income sources reported the highest prevalence of RFI followed by agricultural wage labourers. Among farmers, a higher proportion of livestock producers and

¹ FIES results are subject to change. The country scale will continue to evolve over additional rounds of data collection allowing for more consistent comparability across rounds.

sellers experienced RFI compared to fish and crop producers. Overall, RFI was significantly higher in agricultural households, including fisherfolk, than in non-agricultural households.

Figure 7. Prevalence of RFI at different severity levels based on FIES (by governorate)



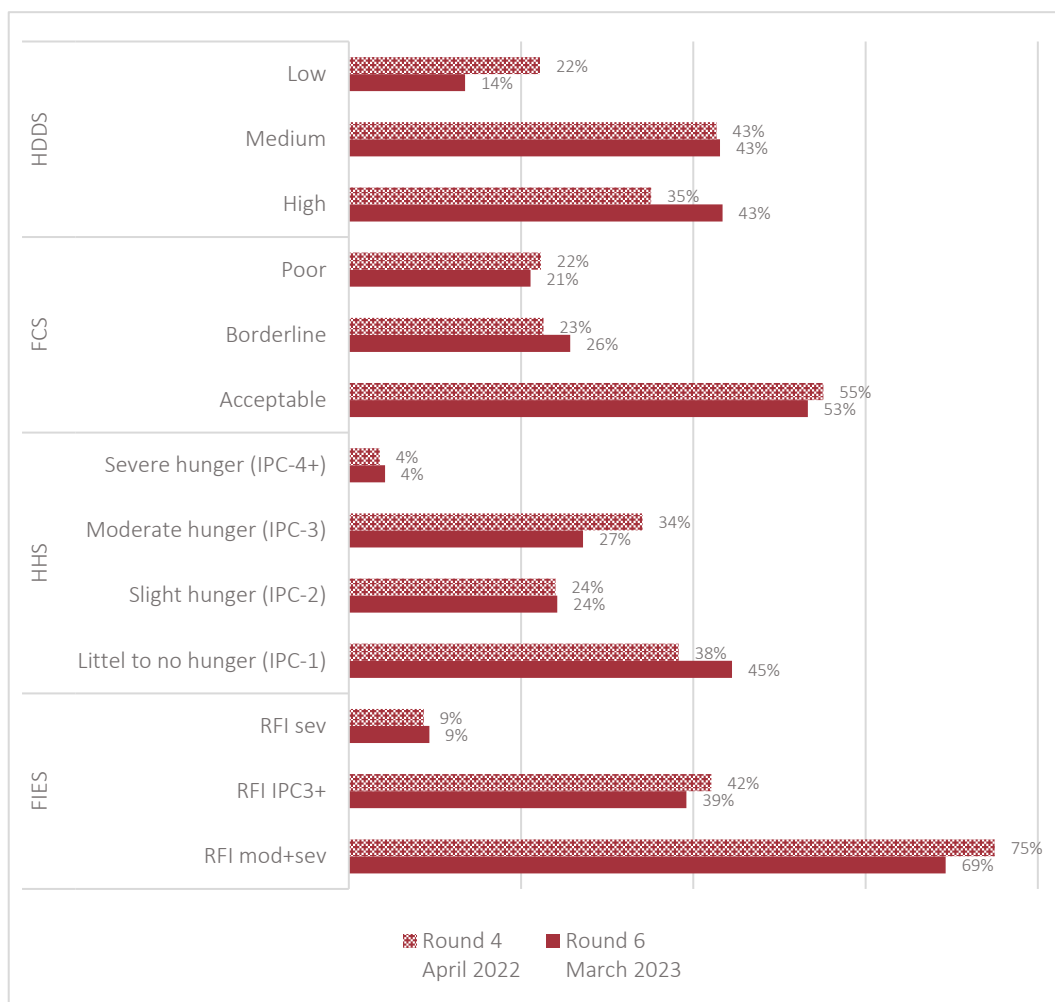
Source of data: FAO. 2023. Yemen: DIEM-Monitoring assessment results (March 2023). Rome. Cited 19 May 2023. data-in-emergencies.fao.org

Based on other food security measures, 31 percent of the households experienced moderate or severe hunger, 42 percent consumed less than four food groups and around 47 percent had borderline or poor food consumption. Except for food consumption, all other food security outcomes significantly improved compared to the fourth-round survey, which took place during Ramadan, a month in which households receive food as gifts and assistance, usually resulting in better food consumption.

Ad Dali', Al Bayda and Taiz had a high prevalence of food insecurity under all five food security indicators – RFI moderate or severe; RFI IPC Phase 3 and above; the food consumption score (FCS); HHS; and HDDS (Figure 8). Among the other governorates, Al Hodeidah, Al Jawf, Hajjah and Lahj had a high prevalence of food insecurity and hunger in three out of the five food security measures.

The various measures of food insecurity used in the assessment are not comparable due to different methodologies, however, the prevalence converges. Two experience-based food security measures – RFI based on FIES equivalent to Crisis or worse (IPC Phase 3 and above), and HHS – estimated that between 30 to 40 percent of the households faced food insecurity equivalent to Crisis or worse (IPC Phase 3 and above). According to FCS and HDDS, the two-food consumption-based measures, around 40 to 50 percent of the households had inadequate food consumption and insufficient dietary diversity during the survey period.

Figure 8. Food insecurity measures over time – HDDS, FCS, HHS and FIES



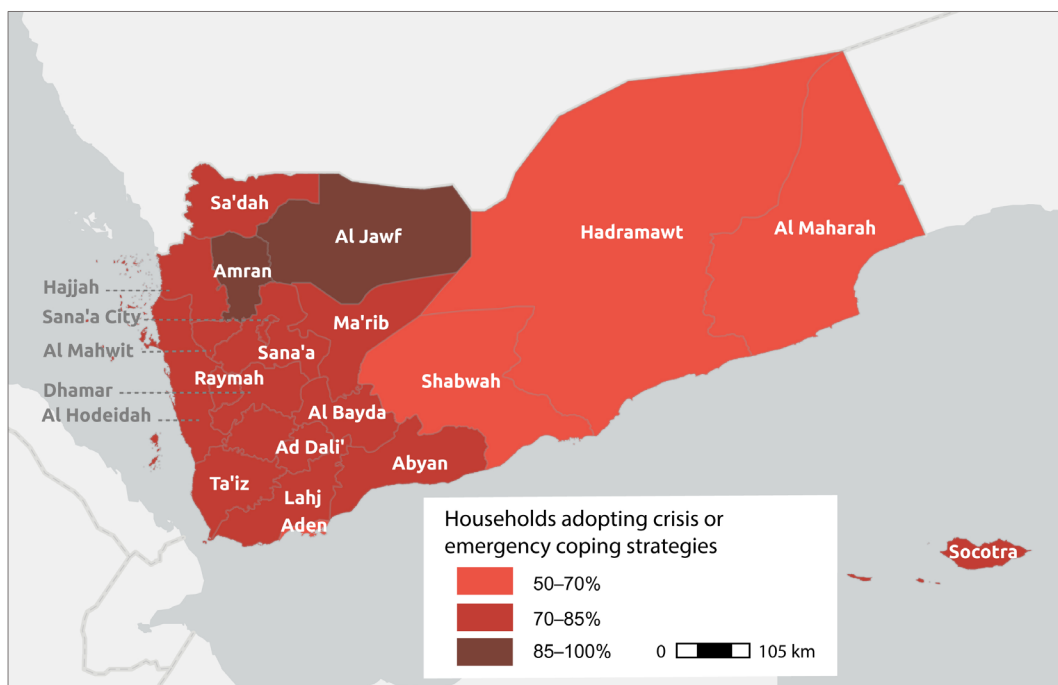
Source of data: FAO. 2023. Yemen: DIEM-Monitoring assessments results (April 2022 and March 2023). Rome. Cited 19 May 2023. data-in-emergencies.fao.org

Based on the Livelihood Coping Strategy Index (LCSI), 55 percent of the surveyed households resorted to crisis coping strategies and 20 percent to emergency coping strategies due to shortage of food or money. Borrowing money, buying food on credit, reducing health expenditures and selling household assets were also widely practiced. The proportion of

households resorting to emergency coping strategies has significantly decreased from the fourth round. These households may have shifted to crisis and stress coping strategies. In the western governorates, over 70 percent of the surveyed households adopted crisis and emergency coping strategies. In Al Jawf and Amran, it was over 85 percent (Figure 9).

Nearly 35 percent of the households experienced hardships due to food shortages and adopted food consumption-based coping strategies. Nonetheless, the situation has improved compared to the fourth round. Frequently adopted coping strategies included eating less preferred foods and limiting portion size at mealtimes.

Figure 9. Crisis and emergency coping strategies by governorates (percentage of households)



Source of data: FAO. 2023. Yemen: DIEM-Monitoring assessment results (March 2023). Rome. Cited 19 May 2023. data-in-emergencies.fao.org
Source of map: Esri, HERE, Garmin, FAO, NOAA, USGS. 2018. Map of Yemen. Cited 8 August 2022. data-in-emergencies.fao.org/pages/explore

Needs

Ninety-two percent of the agricultural households reported needing assistance in the coming three to six months. In Abyan, Ad Dali' and Taiz, over 95 percent of the agricultural households reported a need for assistance. For over one-fourth of the agricultural households, crop inputs, livestock feed, cash, food and infrastructure for crop and vegetable production were reported as needs over the next three to six months. The reported needs align with the difficulties cited by the crop and livestock producers. During the fourth round, cash or food assistance was the most reported need.

Less than a quarter of the surveyed households reported receiving assistance in the three months preceding the survey. The assistance received was food (17 percent) and cash (4 percent). Of the households who received assistance, 56 percent reported it was from the World Food Programme, 7 percent reported it was from FAO, 22 percent reported receiving assistance from other United Nations agencies, 10 percent received assistance from non-governmental organizations and 4 percent received assistance from the government.

Recommendations

Short-term recommendations (1–6 months)

- > Scale up the existing food or cash-for-work programmes in food insecure areas like Ad Dali', Al Bayda, Al Hodeidah, Al Jawf, Hajjah, Lahj and Taiz through building or rehabilitating assets such as irrigation systems, water ponds, forests, etc. to strengthen the resilience and food security of vulnerable households and build community assets.
- > Prioritize households without income sources, agricultural day labourers and livestock producers for humanitarian assistance and livelihood resilience programmes.
- > Distribute crop inputs and livestock feed to crop and livestock producers, particularly small farmers.
- > Sa'dah and Socotra governorates should be prioritized for crop input distribution. Abyan, Aden, Lahj and Shabwah should be prioritized for livestock feed distribution.
- > Humanitarian and livelihood support programmes should consider agricultural seasonality. March–April is largely the plantation season when agricultural income is constrained. Agricultural day labourers and small farm holders need more support during this season than in the harvest and post-harvest.

Medium to long-term recommendations (6 months and beyond)

- > Rehabilitate traditional local water harvesting schemes such as cisterns or ponds, terraces and watershed management. Construct new water tanks and small reservoirs for water harvesting in rural areas.
- > Provide solar water pumps to irrigation dependent farmers to ensure water provision for crop production during a fuel shortage.
- > Al Mahwit, Dhamar, Lahj, Raymah and Taiz governorates should be prioritized for water harvest and solar pump initiatives.
- > Enhance vaccination campaigns of small ruminants, and treatments against internal and external parasites.

- > Strengthen Early Warning Systems that trigger early action focusing on crop and weather forecasting, pest and disease surveillance for livestock and crops, and domestic market monitoring.
- > Increase the share of small-holder livestock farmers in the value chain system through transferring, processing, packaging and marketing activities to farmers associations, and promoting partnerships with the private sector.
- > Facilitate the marketing and protection of fish products from spoilage by providing solar-powered cold storage facilities to the fisherfolk community in the coastal areas of Abyan, Al Hodeidah, Al Maharah, Hadramaut, Lahj, Socotra and Taiz.



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