Food and Agriculture Organization
of the United Nations

IMPACT OF FLOOD ON AGRICULTURAL LIVELIHOODS AND FOOD SECURITY IN SOUTH EAST & RAKHINE

Data in Emergencies-Impact

(DIEM-Impact)

14th Nov 2023

Portable Flood Inundated areas in Kayin and Mon as of 12nd August, MIMU

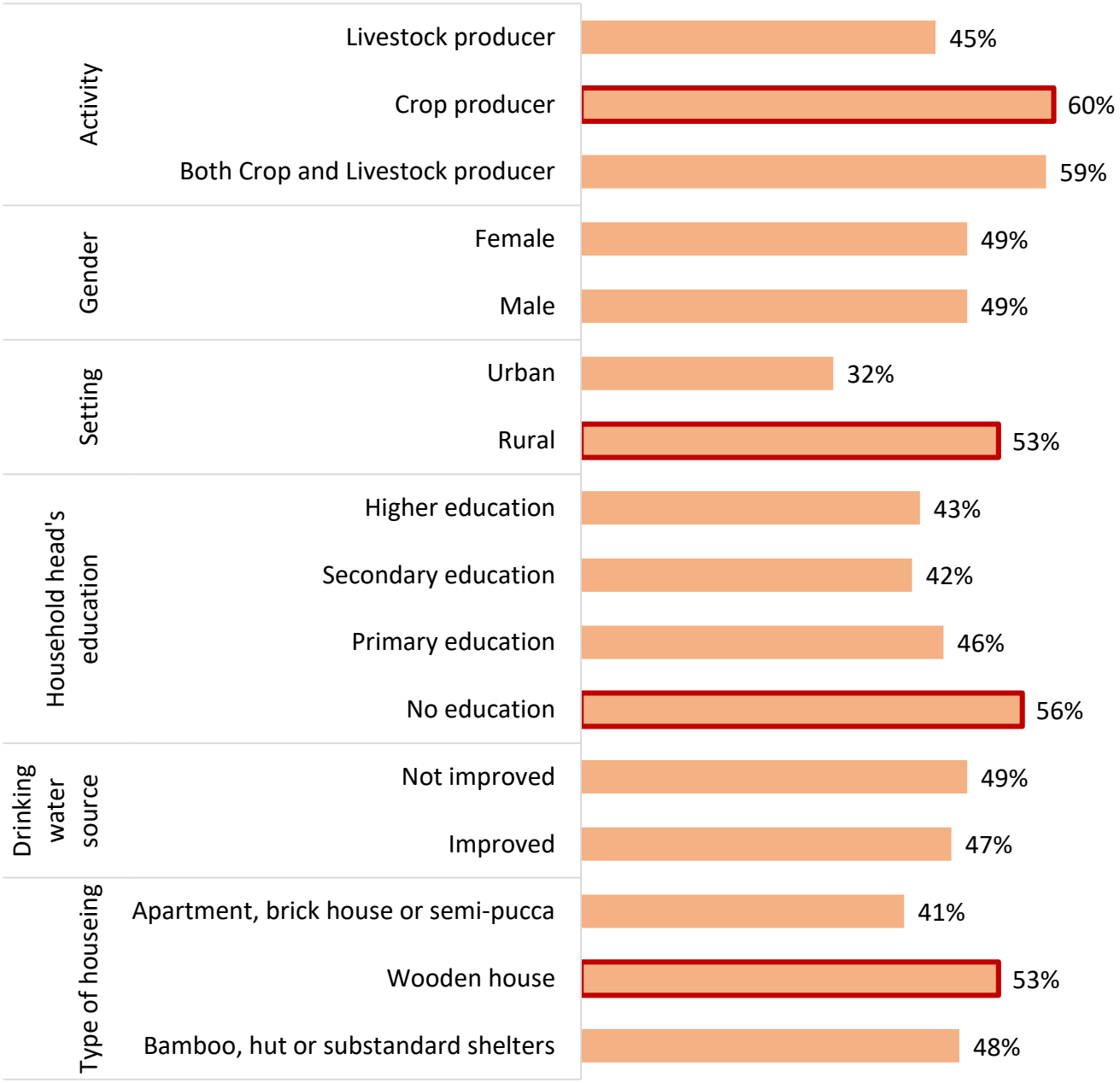
Region	Township	Water Extent (Km2)	Population potentially exposed
Mon	Bilin	30	3,938
	Kyaikmaraw	265	40,909
	Paung	50	5,795
	Thanbyuzayat	5	1,818
	Thaton	198	19,707
Kayin	Hlaingbwe	253	36,449
	Hpa-An	644	105,159
	Kawkareik	280	51,623
	Kyainseikgyi	63	7,816
Grand Total		1,789	273,213

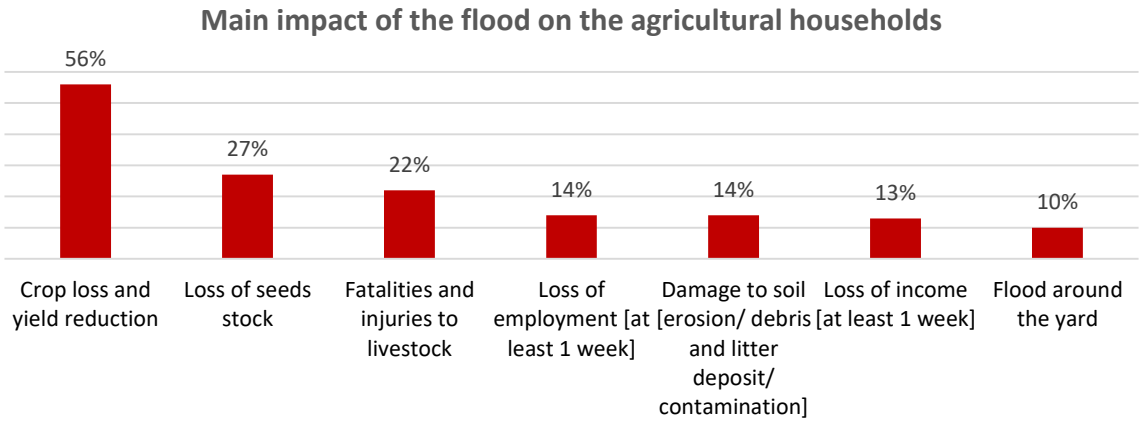
- UNOCHA bulletins from October 2023 stated that flooding in Rakhine and the Southeast, affected 80,000 people since early August 2023. Floods has resulted in the loss of civilian infrastructure, new humanitarian supplies, and relocation.

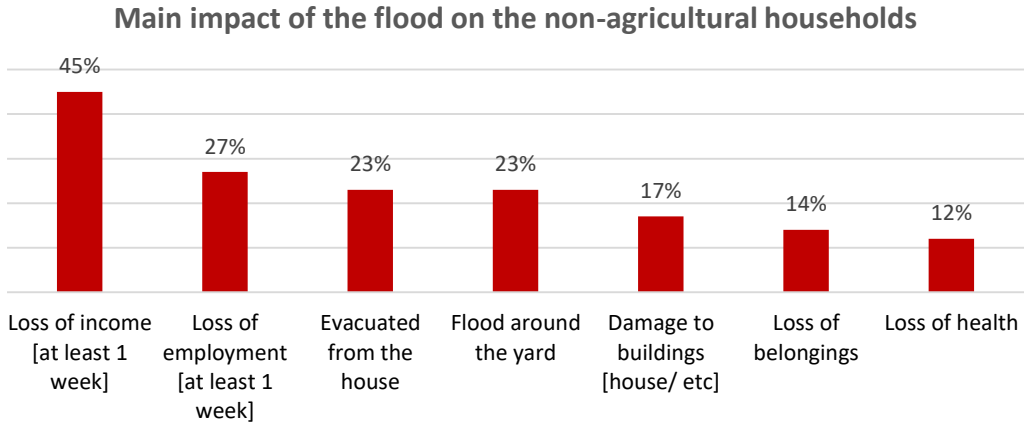
Methodology

- FAO-WFP food security and livelihood monitoring - Round 7 was completed shortly before the floods (11 August).
- Following the flood in August, 511 households from **affected townships** who were interviewed during Round 7 were re-interviewed again by telephone between 2 October and 11 October with an updated questionnaire
- The following flood affected state/region and townships were identified from the reports:
  - **Bago**- Bago,
  - **Yangon**-Taikkyi,
  - **Magway**-Chauk and Yenanchaung,
  - **Kayin**-Hlaingbwe, Hpa-An, Hpapun, Kawkareik, Kyainseikgyi, Myawaddy,
  - **Mon**-Bilin, Chaungzon, Kyaikmaraw, Kyaikto, Mawlamyine, Mudon, Paung, Thanbyuzayat, Thaton, Ye,
  - **Rakhine**-Kyauktaw, Maungdaw, Minbya, Mrauk-U, Thandwe, Toungup,
  - **Tanintharyi**-Tanintharyi.
- This allows the comparison between before and after the situation particularly on
  - Loss of Crop production and assets
  - Loss of Livestock production and assets
  - Food security
- Results weighted by demographics, engagement in agriculture, wealth proxy (education)

General impact of the flood: WHO WAS AFFECTED?



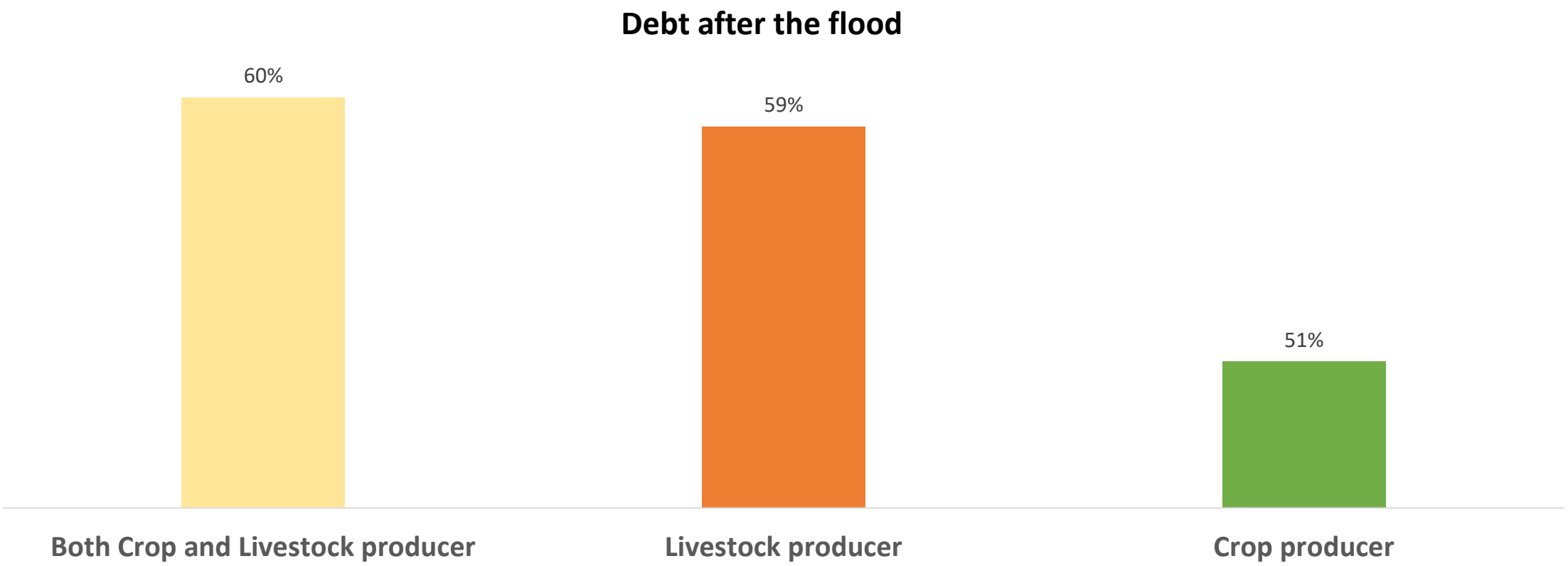




- Fifty-six percent of households received **flood warning** information, frequently from Govt. sources (40%), but also from social media (23% and various associations 22%).
- There was no relationship between information received and flood affected.

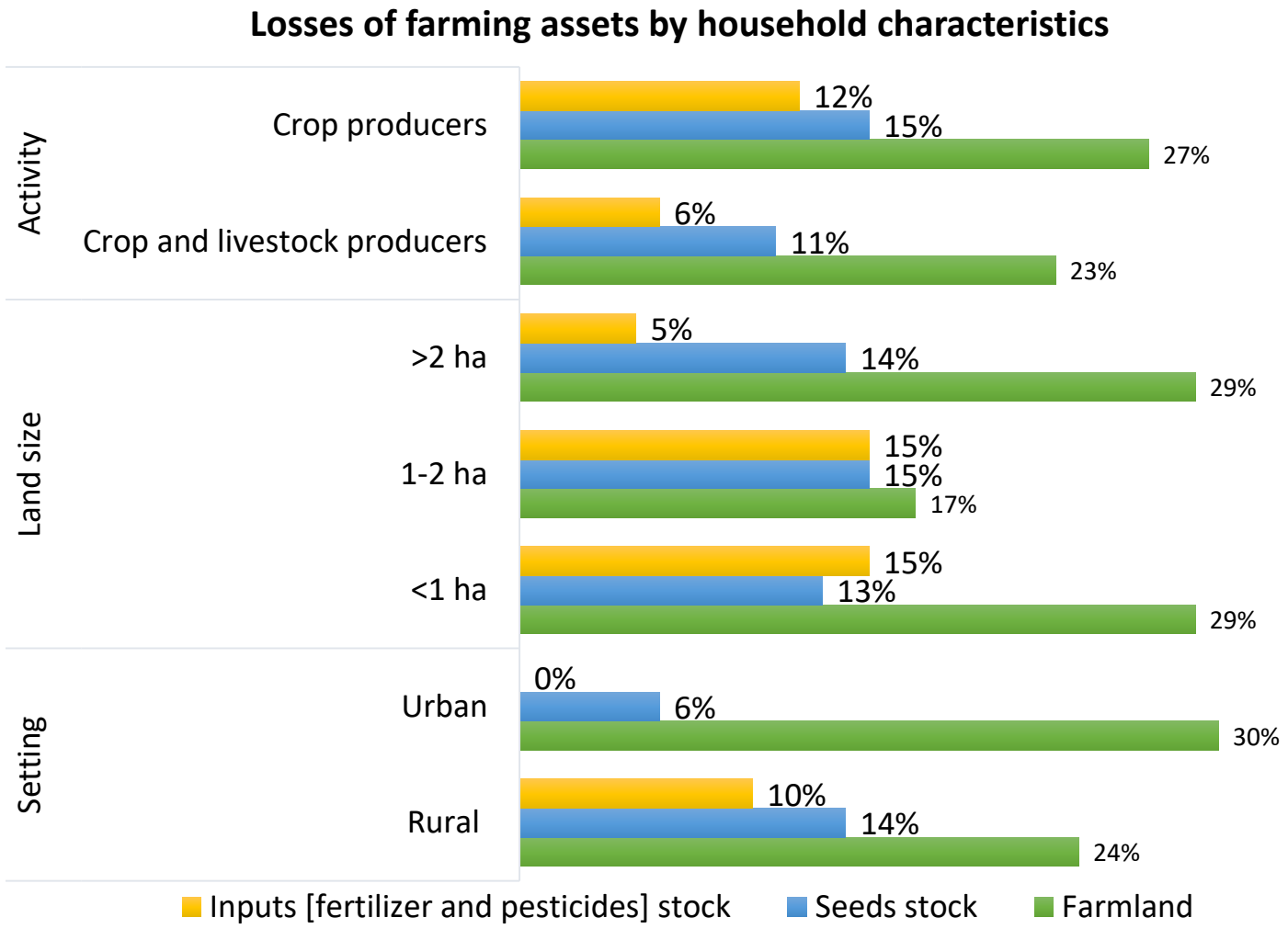
General impact of the flood: WHO WAS AFFECTED?

- 57 percent took on debt, in particular by HHs engaged in livestock production.



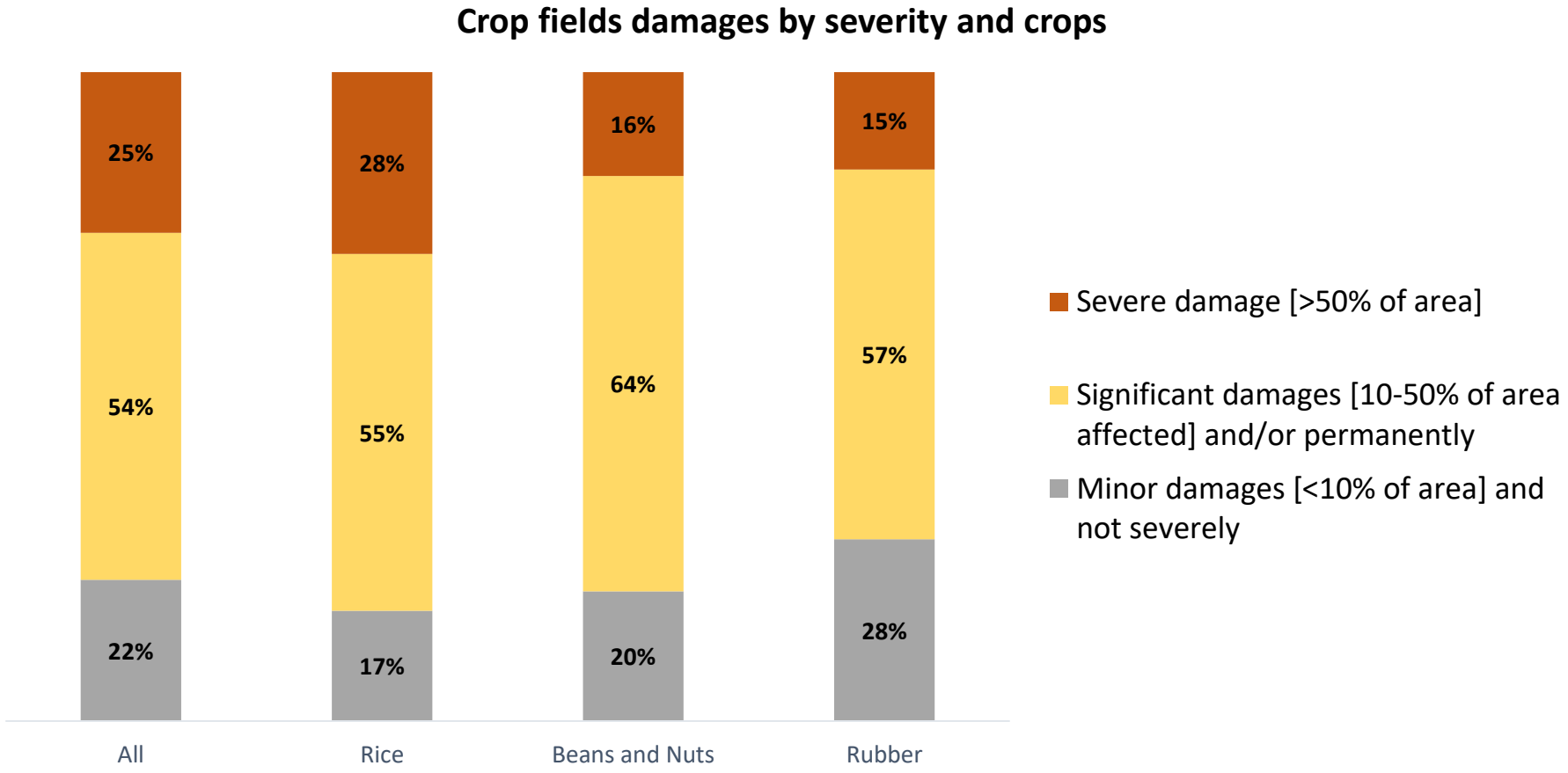
- Taking debt is associated with poor households, inadequate food consumptions and adopting asset depletions.
- The agricultural households who received cash assistance in the last 3 months were less likely to take on debt compared to those who did not receive.

Forty-nine percent of flood affected households reported the lost of farming assets particularly farmland (25%), Seed stocks (13%), Inputs (9 %)



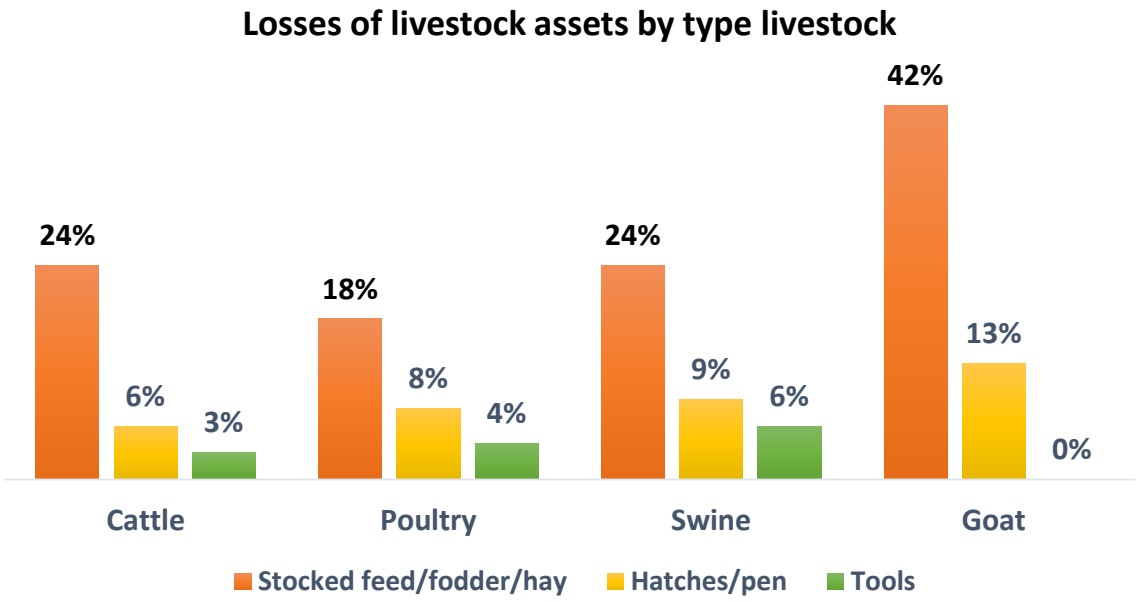
- Loss of farmland – reported by almost all farmers in Kawkareik, Mawlamyine, Thaton
- Loss of seeds-particularly in Mawlamyine, Chaungzon, Kyaikmaraw, Hlaingbwe, Hpapun, and Kyaineseikyi
- Loss of inputs-Hpa-an, Minbya, Mrauk-U, Kyauktaw, and Kyaikto

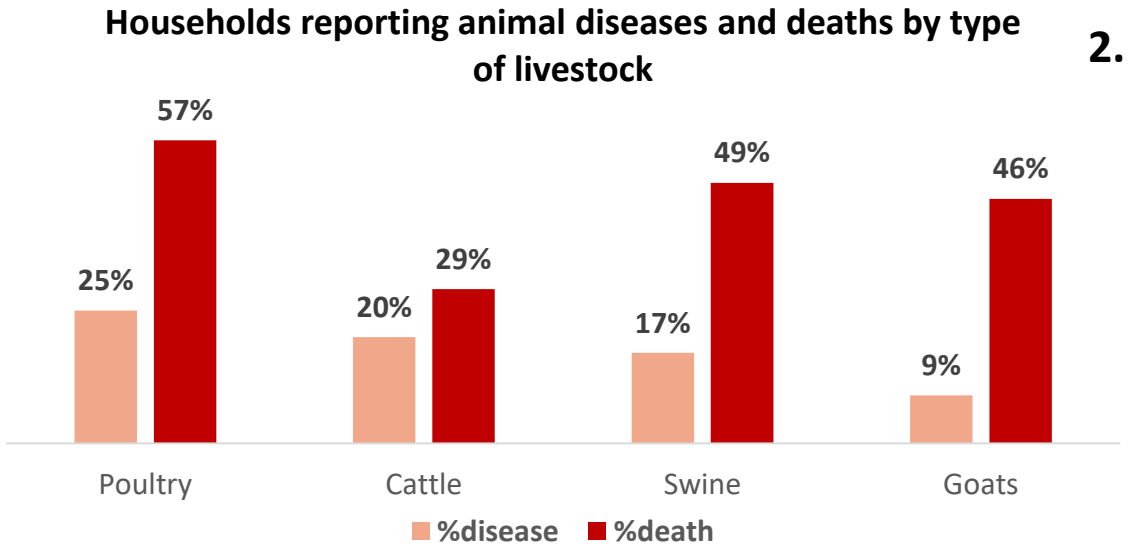
Loss of assets: Crop Production



- The majority of rice, nut and rubber producers experienced significant and severe crop field damages (reported by over 80 percent)
- The damage likely occurred among the farmers who produce nuts, rubber, crops only without livestock , urban farming, and smallholders

Loss of assets: Livestock Production





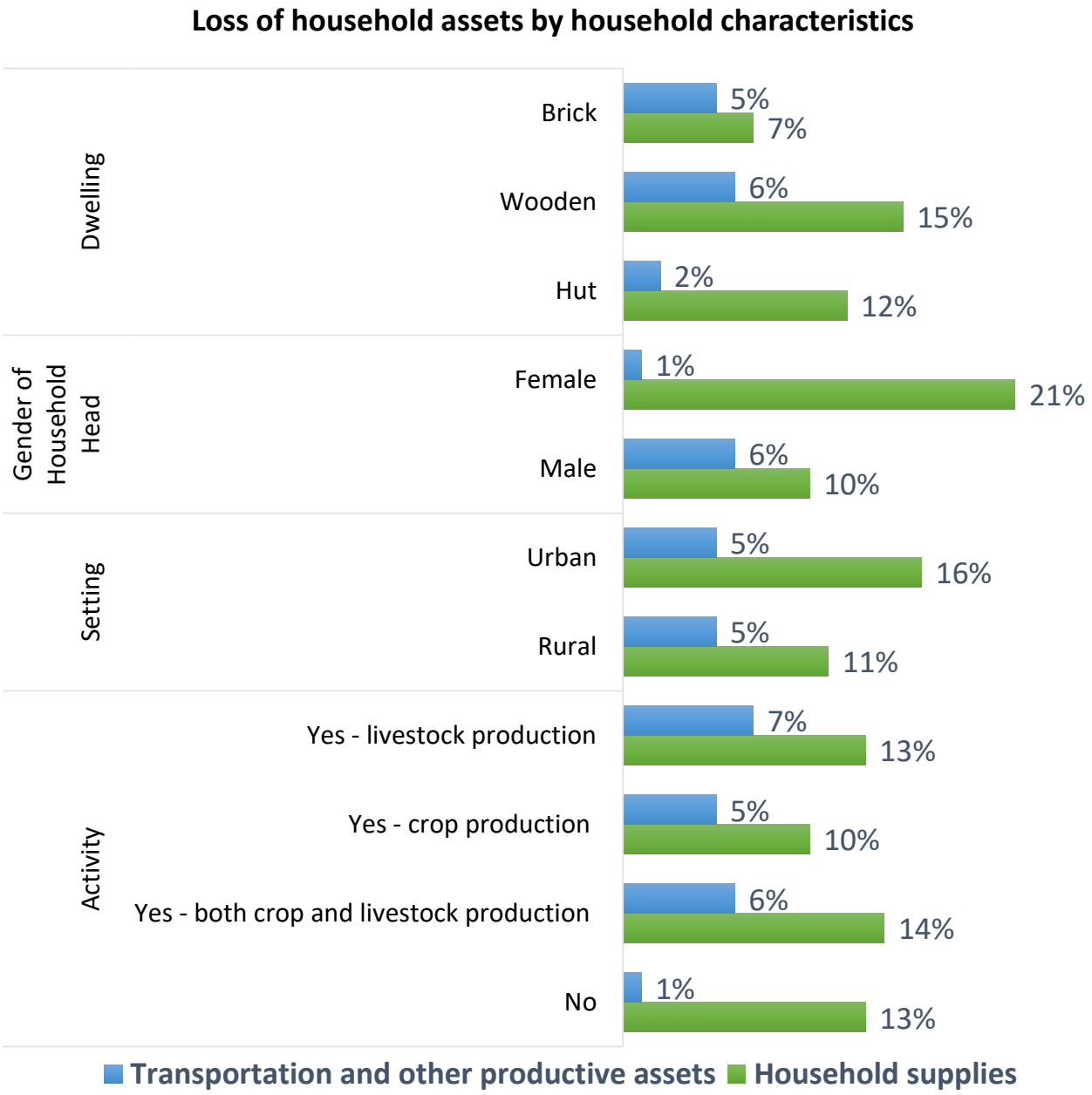
1. Productive assets loss

- **<u>Thirty percent of households</u> also experienced the loss of productive assets, mostly feed stock (22 percent), hatches or pens (8 percent) and tools (3 percent).**
- The loss happened more frequently in Hpa-an, Minbya, Mrauk-U, Kyauktaw, and Tanintharyi, as well as among poultry producers
- There was a higher likelihood of feed stock loss in rural households, livestock-only farmers, and households headed by men.
- The loss of pens or hatches is more common among urban producers.

2. Livestock loss

- **<u>Twenty-two percent of households</u> in the affected states and regions reported lost animals, particularly in townships in Rakhine and Hpa-an.**
- Poultry producers more frequently reported losses
- Animal losses amounted at a considerable share of the herds/flock size and four percent of livestock producers lost **all** livestock owned

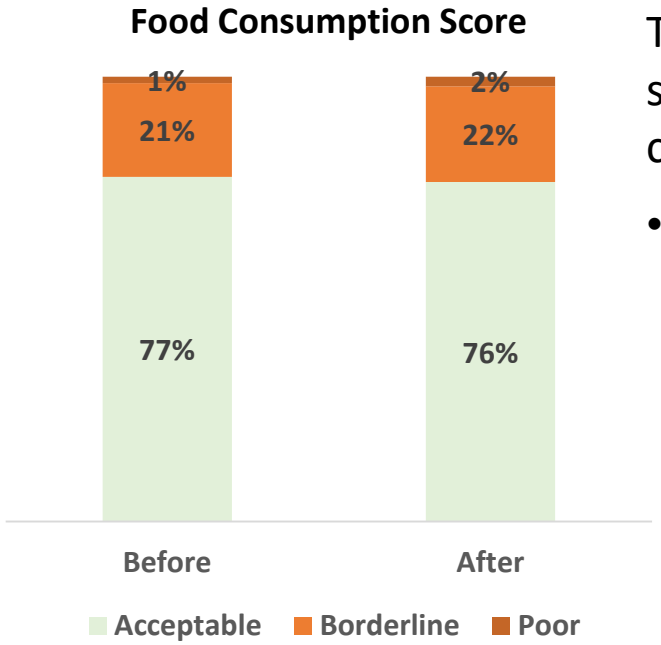
Loss of assets: Household Assets



- Sixteen percent of the population in the affected areas lost transportation and other productive assets and supplies. In most cases, the households' supplies, productive assets or machine (sowing machine/ saws, etc) and car or motorbike were lost. These losses concentrated in townships in Rakhine and Mon; Minbya, Mrauk-U, Kyauktaw in Rakhine and Chaungzon, Kyaikmaraw and Thaton in Mon.
- Better dwellings, households headed by men, and agricultural households were more likely to lose productive assets and transportation (presumably because they more frequently owned these assets), whereas rural, wooden homes and households were more vulnerable to lose domestic goods

Food Security Indicators

Food consumption indicators have not changed much from before the floods.
But the households affected faced worst outcomes already before the floods, compared to non-affected HHs, and they were now driven to cope with the consequences of the flood.

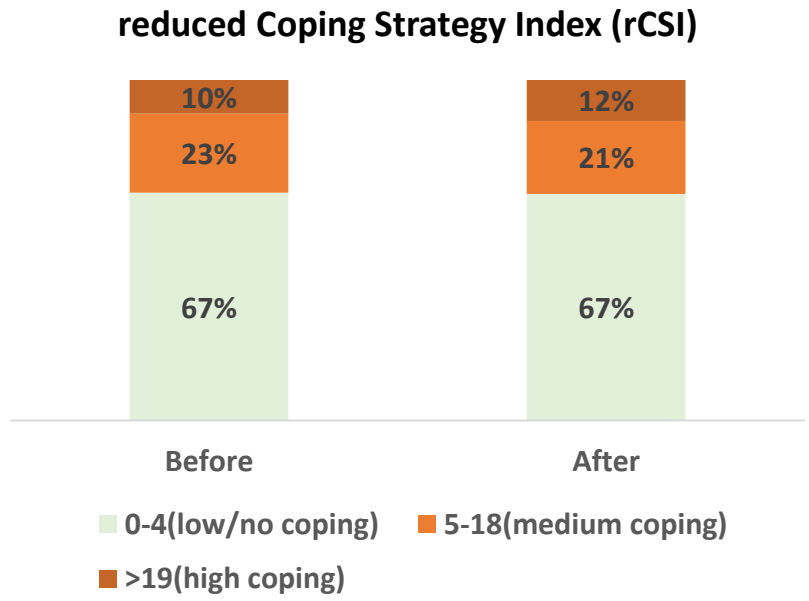


The food consumption score (FCS) is a proxy indicator of dietary diversity, using a seven day recall period. The score classifies households according to their food consumption (poor, borderline or acceptable).

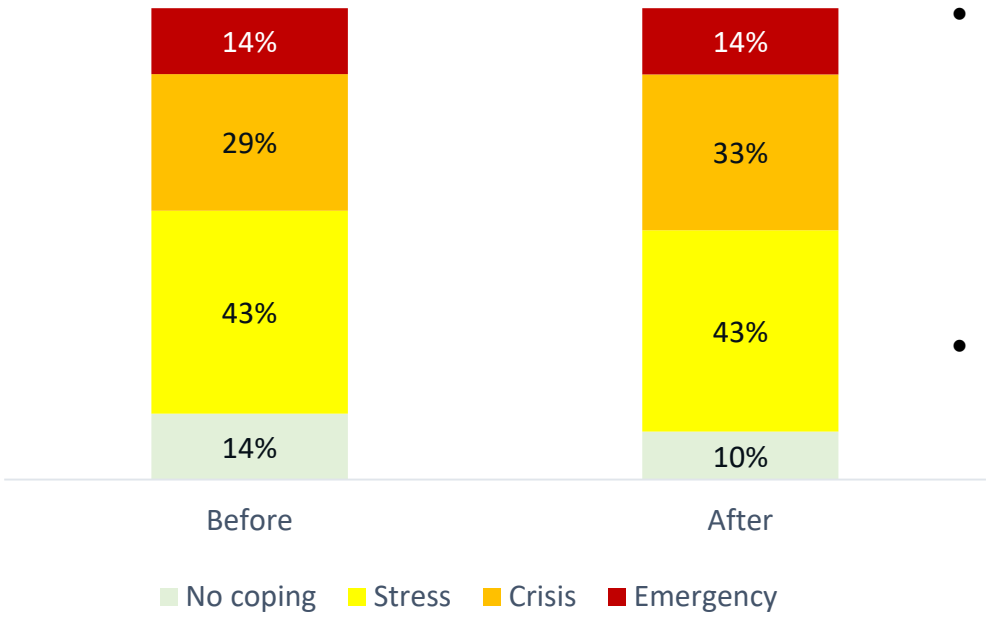
- Inadequate food consumption (borderline and poor) is significantly related to unimproved drinking water sources (e.g. unprotected wells, springs, river), and debt among the flood affected households, however, not linked with gender and education of the household head, household's activity, loss of livestock and farming assets and not with the floods as well.

The reduced Coping Strategy Index (rCSI) is a measure of coping related to food consumption.

- The adoption of high coping strategies is significantly associated with small land holders (less than 1 hectare), debt, and the loss of swine
- Problems in accessing markets to buy food and loss of stored food due to the flood are more likely to use high coping strategies.



Livelihood Coping Strategy Index:



Stress: Borrowing money or spending savings, indicating a reduced ability to deal with future shocks
Crisis: Selling productive assets, threaten future productivity.
Emergency: Affect future productivity, more difficult to reverse or more dramatic in nature.

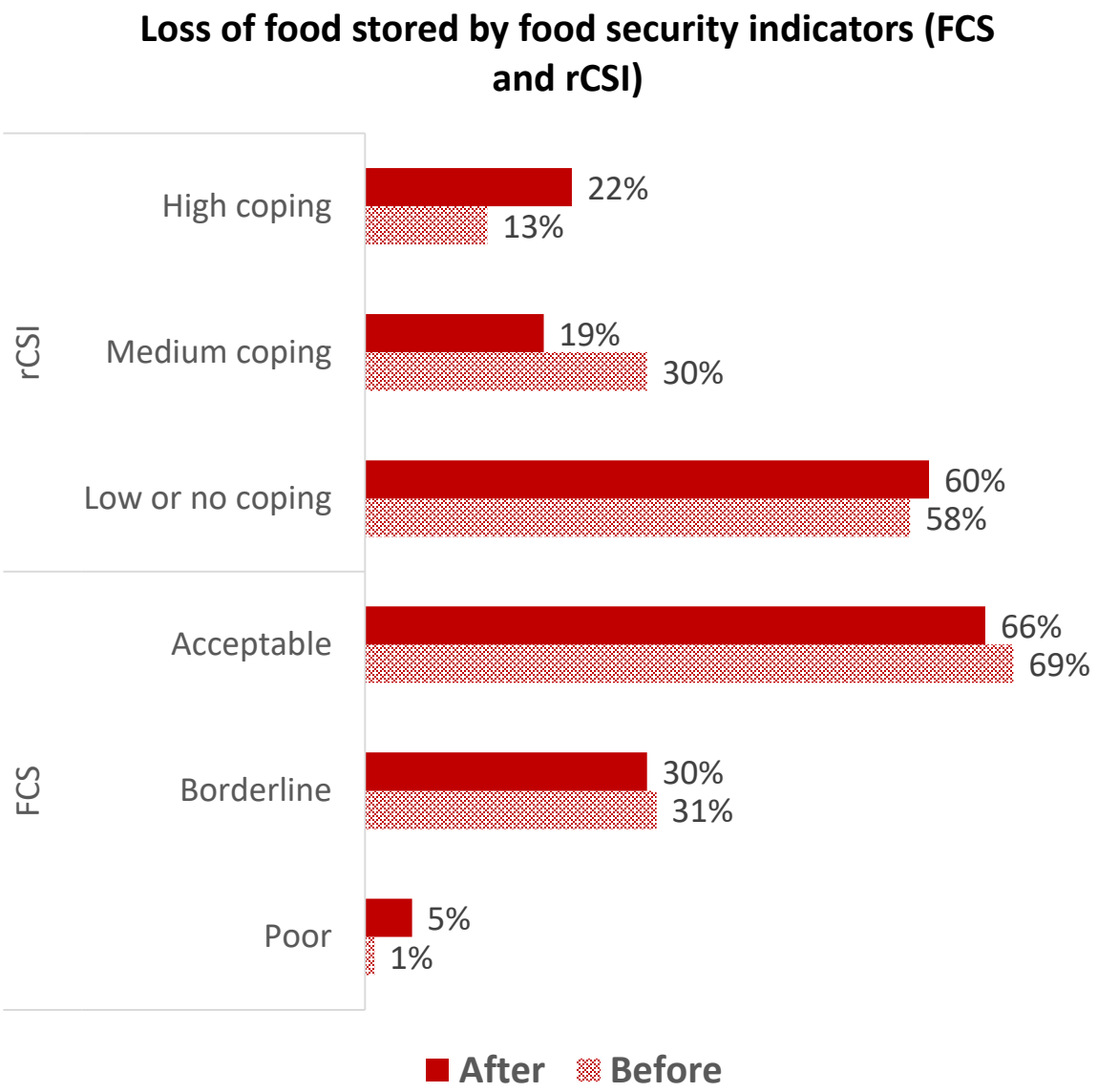
- Under the crisis coping mechanism category:
  - 11 percent sold their production asset or transportation assets
  - 13 percent consumed their stored seeds
  - 36 percent of households reduced expenses on health.
- Under the emergency coping mechanism category:
  - 8 percent of respondents cited that they either lost or sold their house,
  - the adoption of more severe coping strategies was common even before the floods.

- Assets lost during the flood were likely not all productive capitals available, as the increase in decapitalization was 4%.
- However, the lost of productive capital to flood is concentrating in some areas and among some profiles:
  - Households with debt after the flood, bamboo or hut and wooden houses, and loss of cattle are more likely to engage the crisis and emergency coping strategies
  - Following the flood, the decapitalization of assets deteriorated markedly in Bago, Taikkyi, Kyaikto, Chauk, Yenanchaung, Minbya, Mrauk-U and Kyauktaw, Toungup and Thandwe.

Access to Market and Food Security

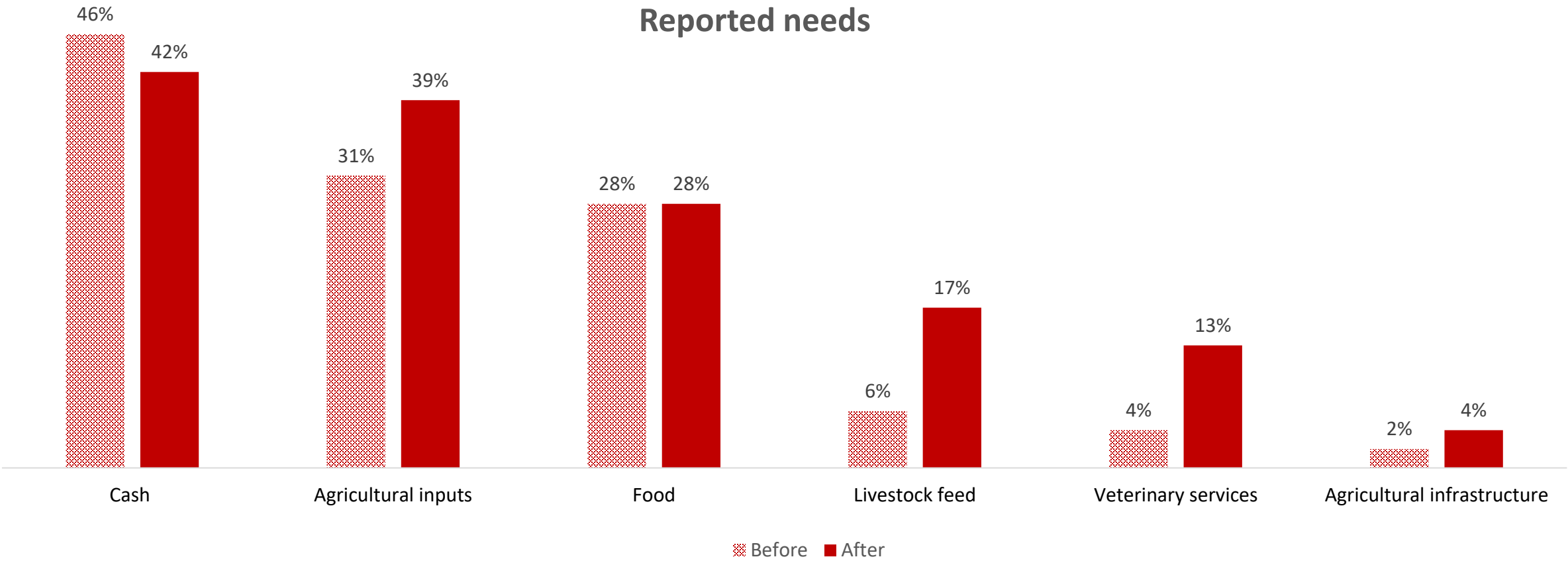
- The flood had no effect on market accessibility (Chi square tested)
- Transportation, road conditions, and security concerns were the common challenges as usual.
- Households with better wealth proxies had better access to markets. A deteriorating trend was found in poor, women headed households and crop producers
- If households with limited access to markets already experienced higher rates of food insecurity before to the flood, this trend continued during the flood.
- Access to the market was one of the contributing factors in households that had crisis or emergency coping strategies, poor and borderline food consumption, and high coping strategies (rCSI of 19 or higher).

Stored food damage and food security



- Fifteen percent of the impacted households lost their stored food, and dwellings built of wood and huts are more prone to lose than those built of brick (poor households)
- In comparison to before the flood, the impacted households' FCS and rCSI both worsened

Needs



- Around half of the agricultural households reported need regardless of flood affected or not.
- While the need for infrastructure, livestock feed, veterinary care, and agricultural inputs rose, the requirement for cash and food did not change before or after the flood.
- This finding suggests that the impacted households require in-kind assistance to maintain their livelihoods, which in turn affects their access to food.

Conclusion and Recommendations

- Poorer households were disproportionally affected: Rural households, lower education, wooden dwelling
- Around half of flood affected households reported the lost of farming assets particularly farmland, Seed stocks, and Inputs.
- One third of the livestock producers lost assets particularity productive assets and animal feeds. four percent of livestock producers lost **all** livestock owned including cattles.
- Food security situation is not different between and after the flood, but the floods affected poorer HHs (with a worse food consumption) more frequently.
- Impacts were mostly on livelihoods and assets. The affected households increased selling productive assets (crisis coping strategies) which will possibly preclude the possibility to increase incomes and deteriorate food consumption.
- Assistance should focus on improving the livelihoods of the affected households. The specific recommendations are as below.
    - Cash assistance is still in need regardless of a disaster occurrence or not due to the high inflation outpacing rural incomes. It is also make debts less likely and help in restoration of productive assets and improve livelihoods.
    - Agricultural input assistance including seeds and fertilizers to the affected households.
    - Provision of livestock feeds and veterinary services
    - Provision of livestock particularly to households that lost all of their owned