Food and Agriculture Organization of the United Nations

Data in Emergencies

Agriculture Input Trader Pilot Survey

Myanmar

December 2023

The method

- CATI using convenience sampling, a non-probability sampling (meaning that not all agro input traders have an equal chance of participating in the study).
- Sampling by 'market catchment' areas: in some cases this corresponded to admin 3, in others in clusters groups of admin 3
- FAO has a database of about 171 agro-input retailers in the main township centers (obtained from past operation) + new contact numbers were collected and interviewed from snow balling, local contacts, Facebook and yellow page => a total of 227 agricultural input businesses participated in the survey
- 4 products were targeted: fertilizer, seeds, livestock feed and veterinary drugs (but traders of livestock inputs were quite few)

<u>Why agricultural input markets are important:</u>

- Food production is sensitive to return to input costs
- Monitoring this key element of food system allows us to anticipate future shocks
- Farming profitability speeds up agricultural recovery

Some aspects are concerning, given the <u>background</u>:

- Ongoing conflict
- Disruption of banking system 2 years ago, now reestablished…. But this has affected trade
- High inflation (and currency depreciation)
- Import Ban on some fertilizer products

- IFPRI conducted a similar survey a month before, with a different (slightly smaller) sample: questions were slightly different, but IFPRI also asks about major difficulties
- Frequencies for key aspects (difficulties, supply, demand, etc…) are not totally consistent with our findings

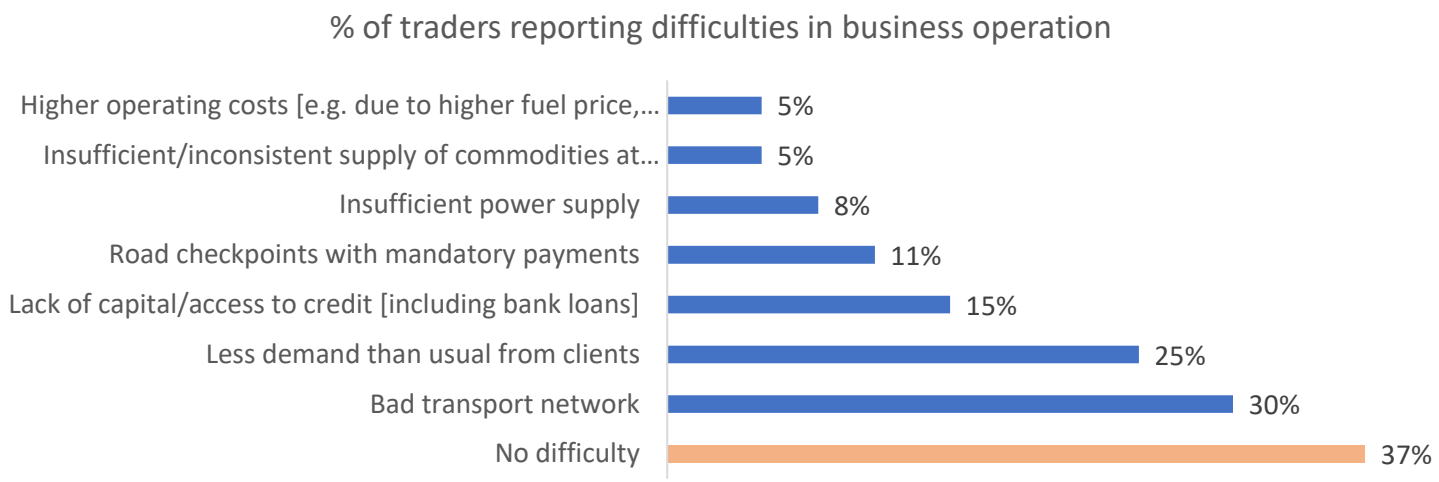
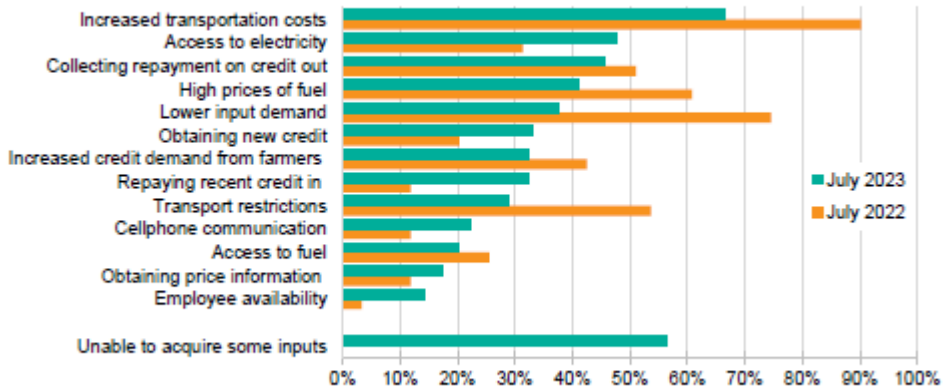


Figure 2. Disruptions experienced by input retailers in July 2023 and July 2022, percentage reporting, panel sample only (N=153)



Sources: Agricultural input retailer phone survey– August 2023 and July 2022 round

IFPRI MYANMAR

STRATEGY SUPPORT PROGRAM RESEARCH NOTE 101 SEPTEMBER 2023

Monitoring the Agri-food System in Myanmar

Agricultural Input Retailers – August 2023 survey round

To understand the effects of political instability and related shocks on Myanmar's agricultural input sector, we conducted a phone survey of 187 input retailers throughout the country in August 2023.

Key Findings

- Fertilizer and pesticides were generally more available in 2023 monsoon than in 2022, though seeds were less available. More input retailers reported higher fertilizer sales in 2023 compared to pre-pandemic sales in 2019. Also on a positive note, the share of input sellers reporting low input demand dropped in 2023 compared to 2022.
- Nominal fertilizer prices remain high in 2023, but sales have increased and prices relative to rice prices decreased 50 percent for urea and 38 percent for compound compared to 2022.
- The percentage of input retailers reporting transportation disruptions has declined over the past 12 months, but 66 percent of retailers still report higher transportation costs.
- Import challenges are now the most significant disruption to input retailers' businesses, increased more than sixfold from less than 5 percent in 2022 to 30 percent in 2023. Fifty-six percent of input sellers could not acquire at least some inputs.
- More retailers reported purchasing and selling inputs on credit in 2023 compared to 2022 and demand for both credit in and credit out remain high.
- The input retail sector has generally experienced growth in fertilizer sales over the past 10 years. Competition has also increased with 92 percent more input sellers in retailers' village tracts or wards in 2023 compared to 2013 and 27 percent more relative to pre-COVID levels.

Looking Forward

- Higher fertilizer sales and decreased transportation disruptions in each agro-ecological zone relative to last year are positive signs for 2023 monsoon crop production.
- However, unpredictable import processes and foreign exchange regulations could negatively affect input availability in the upcoming seasons.
- More input retailers reported challenges with recovering credit lent out to farmers, and more farmers were buying inputs on credit in 2023 compared to 2022, indicating that farmers are still cash constrained.

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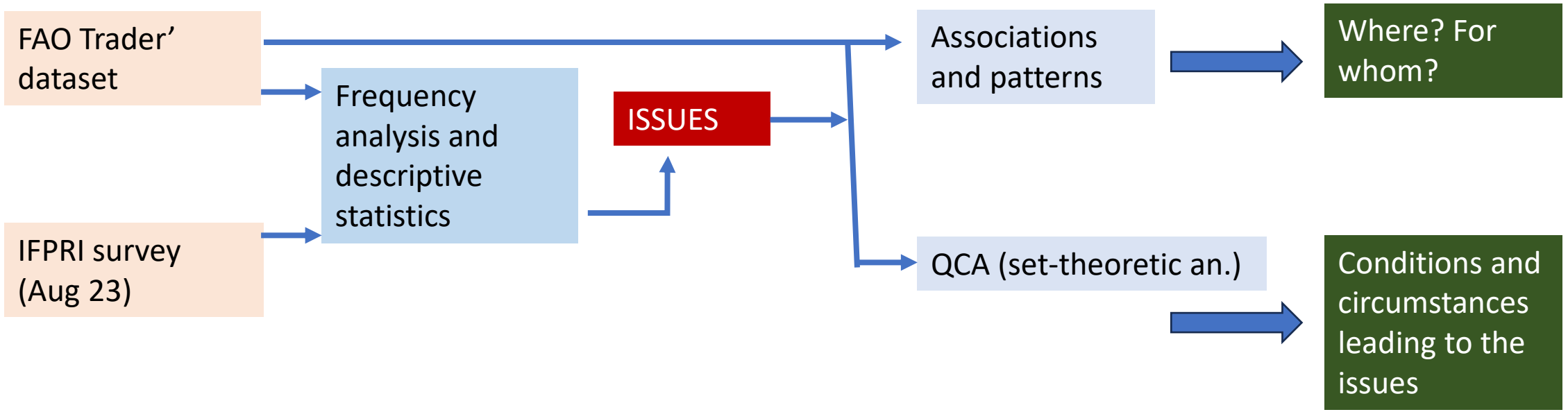
These inconsistencies led us to suppose that:

- The two samples may be subject to a bias.
- We cannot generalise findings from descriptive statistics: descriptive statistics are not regarded as a measure of frequency (if 34% of traders report about unavailability of seeds, for example, we do not necessarily consider this share as applicable to the while country)

But if we assume that the characteristics of the markets, trade volumes, location, etc… have an influence on the issues reported, we can consider the sample still informative. Here is how we set to proceed:



From the triangulation of the frequency analysis in our sample, and IFPRI's, we identified <u>two major issues</u>:

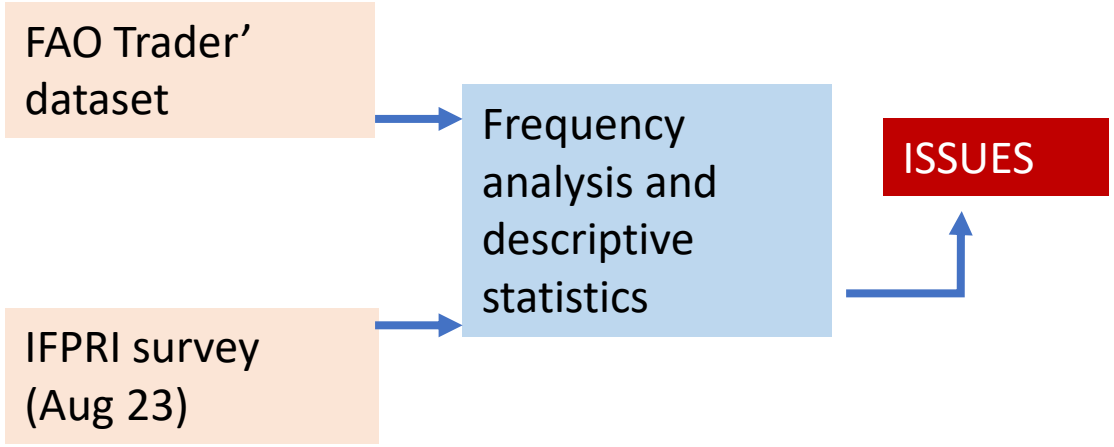
For each issue, we worked on 2 variables

1) **Availability of supply** ← capacity to meet the demand + projections about availability

2) **The decrease in demand** ← number of clients + volumes of sales

These issues were central for both samples, and others (such as price, transportation problems, etc… were rather seen as the causes).

These issues are crucial in the MMR context: there are concerns that the import ban on fertilizer and the depreciation of the kyat limit the availability of supply, and that the risks due to conflict reduce the demand.



The Supply

Patterns and associations

- The longer the logistics, the most difficult is supply: the origin has an impact on the availability of both seeds and fertilizer => conflict areas affected
- But also the product: supply of Urea is less problematic than NPK
- Roughly, for seeds the aspects associated with insufficient supply is conflict/security; for fertilizer it is the impossibility to procure it at local level.
- Difficulty in transportation tends to co-occur with conflict
- Other problems affecting supply: lack of capital/access to credit and high operating cost (associated with the rise of the cost of fuel)

A quick word on Qualitative Comparative Analysis

Rooted in the set theory

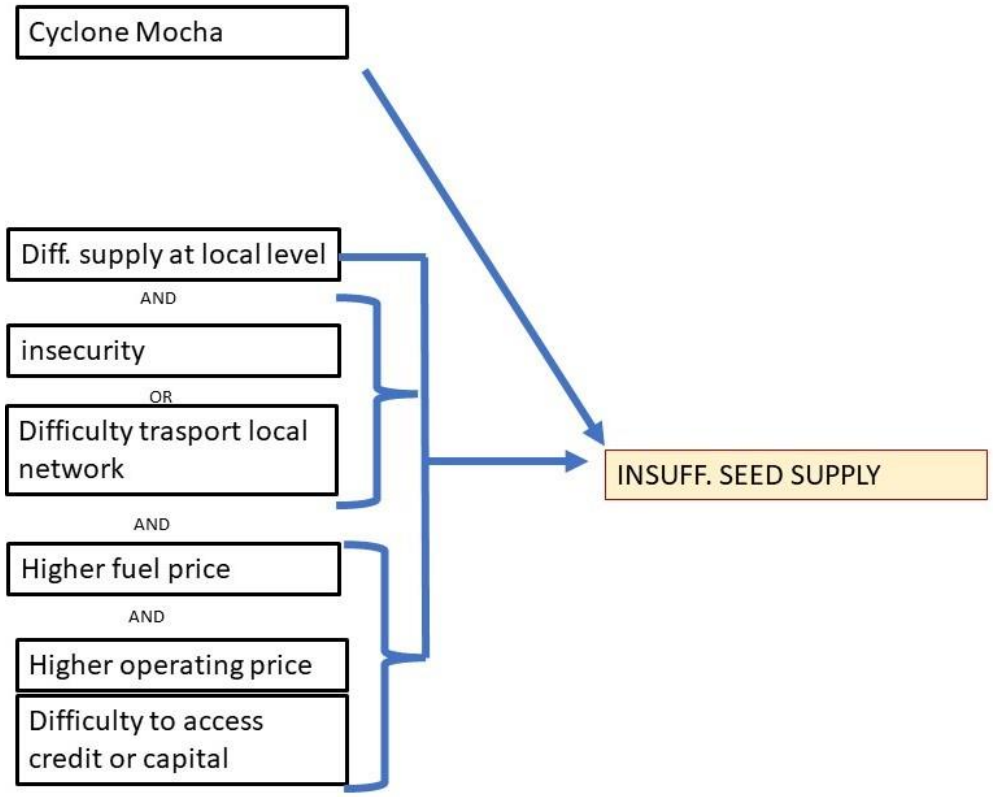
- the branch of mathematical logic that studies sets, which can be informally described as collections of objects
- This is useful when memberships or non-memberships are understood as conditions
- Necessary condition: a condition must be present for an outcome to produce
- Sufficient condition: a condition always produce the outcome when present, but the same outcome can be produced without that condition

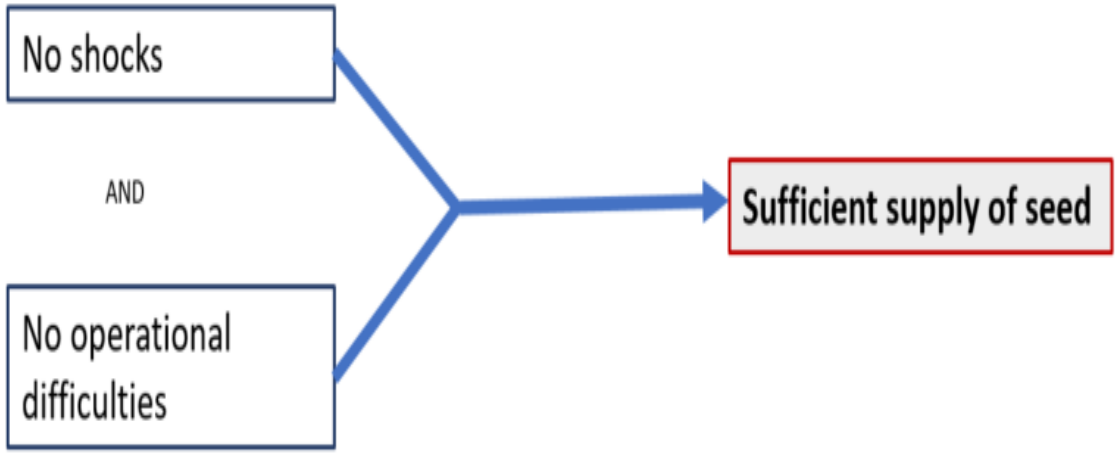
It allows for causal inference: we can talk of causes and effects

equifinality

- There could be other causal paths that can lead to the same outcome.
- Additivity (the idea that each single cause has its own and independent impact) is abandoned.
- The uniformity of causal effects is not assumed; on the contrary, a given condition may, combined with others, sometimes act in favour of the outcome, and sometimes, differently combined, against .
- Causality is not assumed to be symmetrical – rather, causal asymmetry is assumed, meaning that the presence and the absence of the outcome may require different explanations, i.e., different analysis, one for the presence and one for the absence of a certain outcome.

Conditions for seeds supply

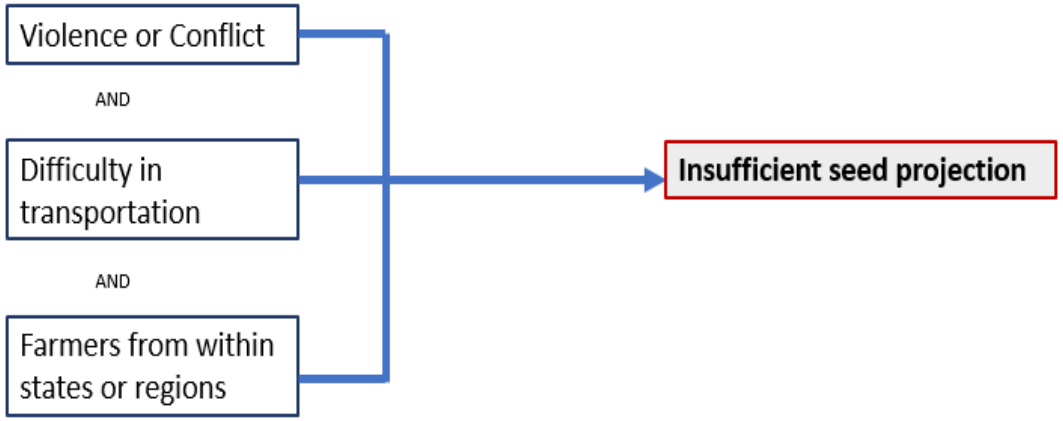


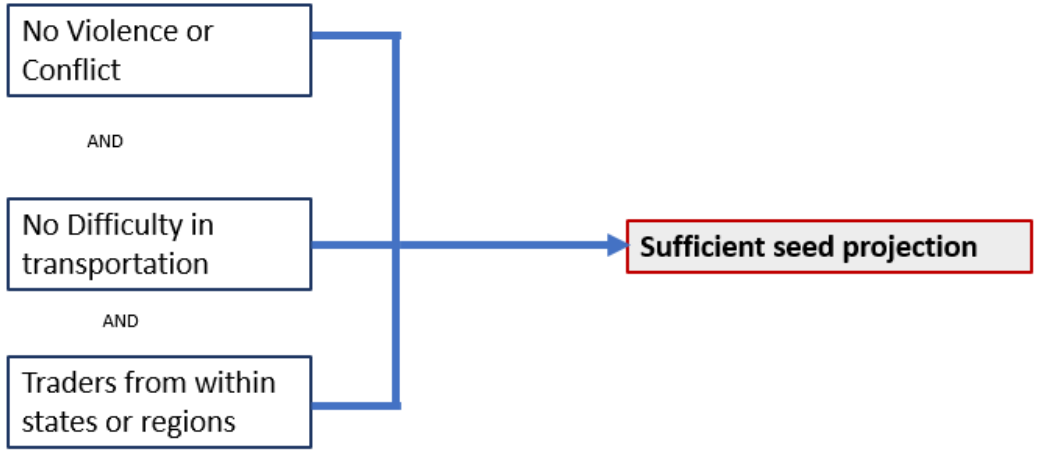


- Two conditions are, when combined, sufficient to produce the outcome
- Yangon, Kayin, Ayeyarwady, MonSouth, MandalayCDZ, MagwaynoCDZ, Bago, Kachin, Rakhine, Shan, Tanintharyi

- 2 causal paths: one is simply being affected by cyclone Mocha; another, where the difficult supply at local level is coupled with insecurity or difficulty in transportation (which tend to co-occur) and the combinations of high fuel price and high operating cost or difficulty in accessing capital (which makes products more expensive)
- Magway CDZ, insufficient seed supply at regional level
- Shan, Yangon, the Magway non-CDZ, and Kayin -increased prices and civil unrest (price*civil_unrest).

Conditions for seed projections

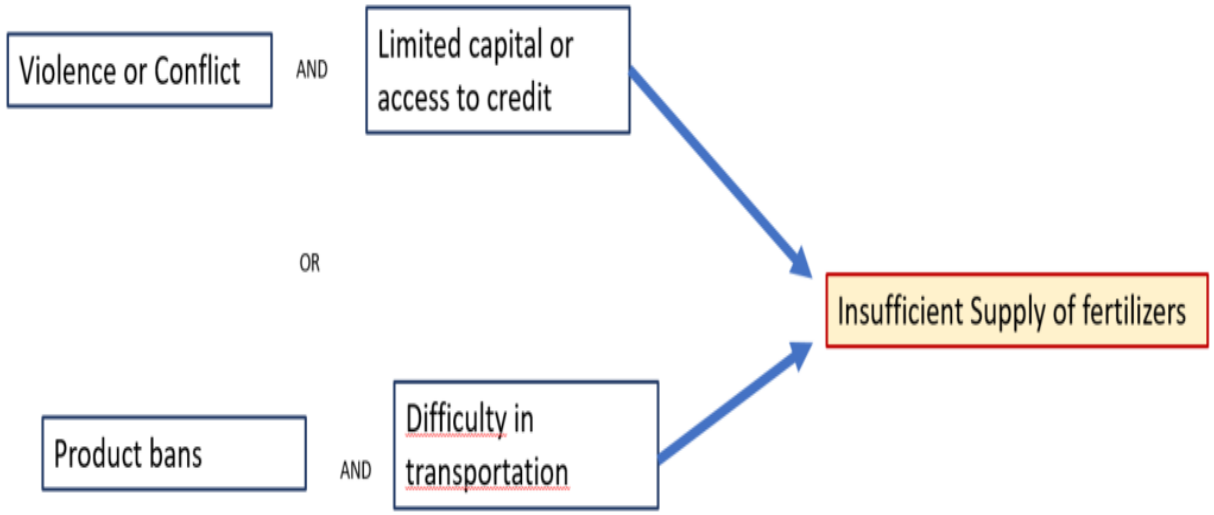


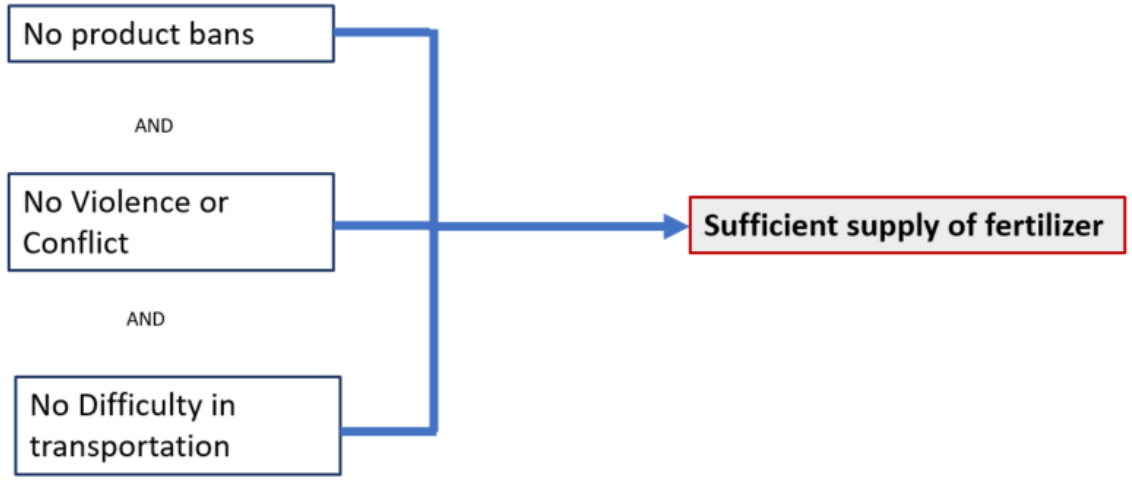


- Violence or conflict as shock, transportation difficulty and whose suppliers were from the farmers within states or regions expected inadequate supply of seeds in the next three months.
- The outcome resulted in Sagaing noCDZ which is one the most important agricultural zone and also, ongoing armed conflicts

- No civil unrest or security threats, or transportation issues, as well as those whose main suppliers are from dealers in the same states or regions, anticipated having an adequate supply of seeds in the upcoming three months

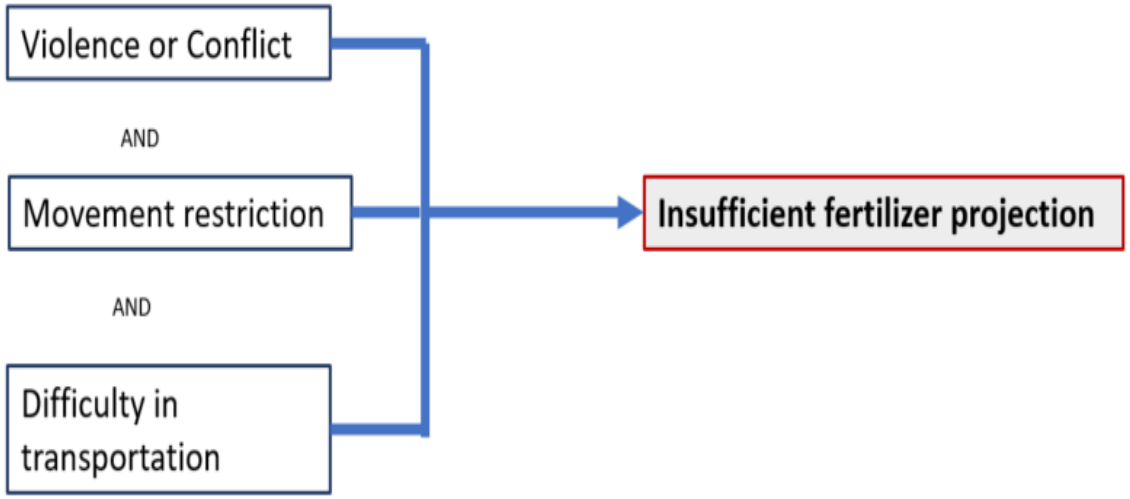
Conditions for fertilizer supply

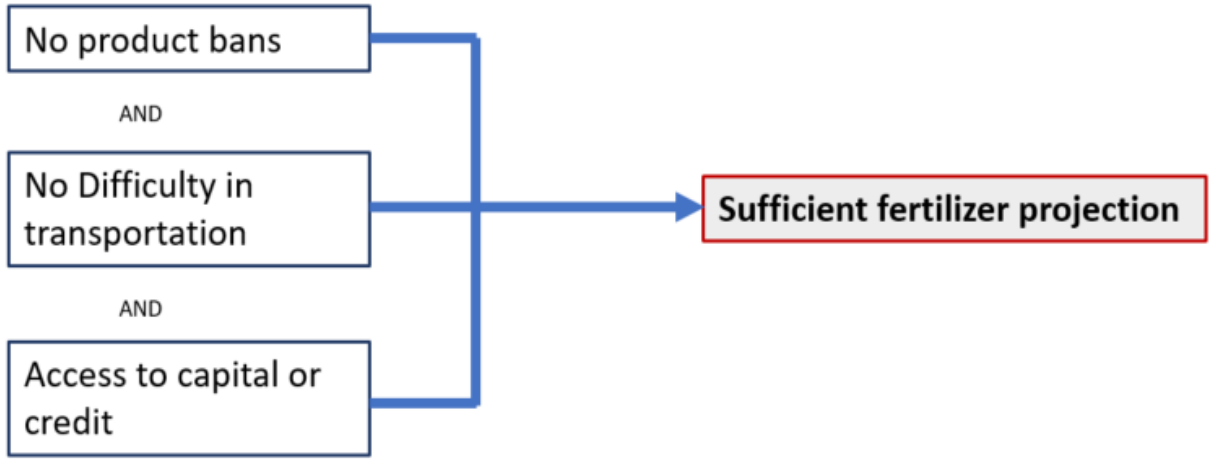




- Two causal paths.
- Product ban, alone, is not sufficient to create supply shortage
- Violence/conflict and limited capital or access to credit that resulted in Kayah.
- Banning certain products and higher price was mainly linked in MagwaynoCDZ.
- Violence and higher price were necessary to explain in MonNorth
- South Shan, Bago, Mon, Rakhine, and Magway were linked to this pathway

Conditions for fertilizer projections



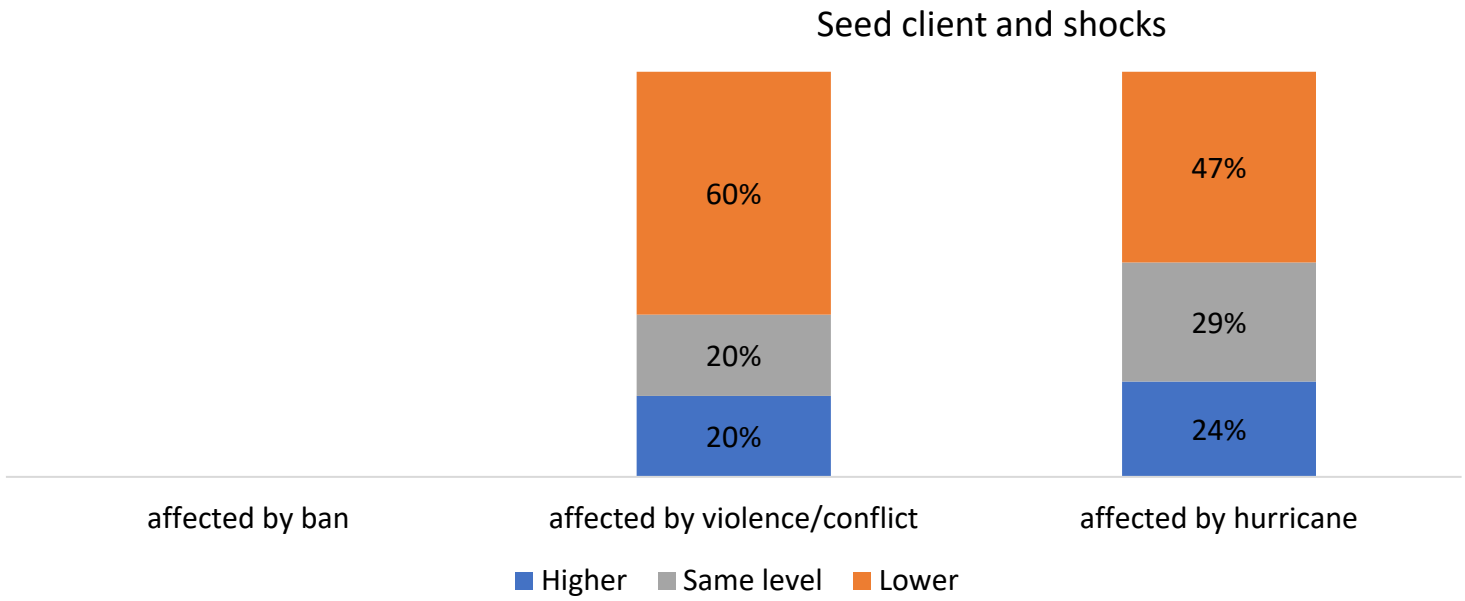


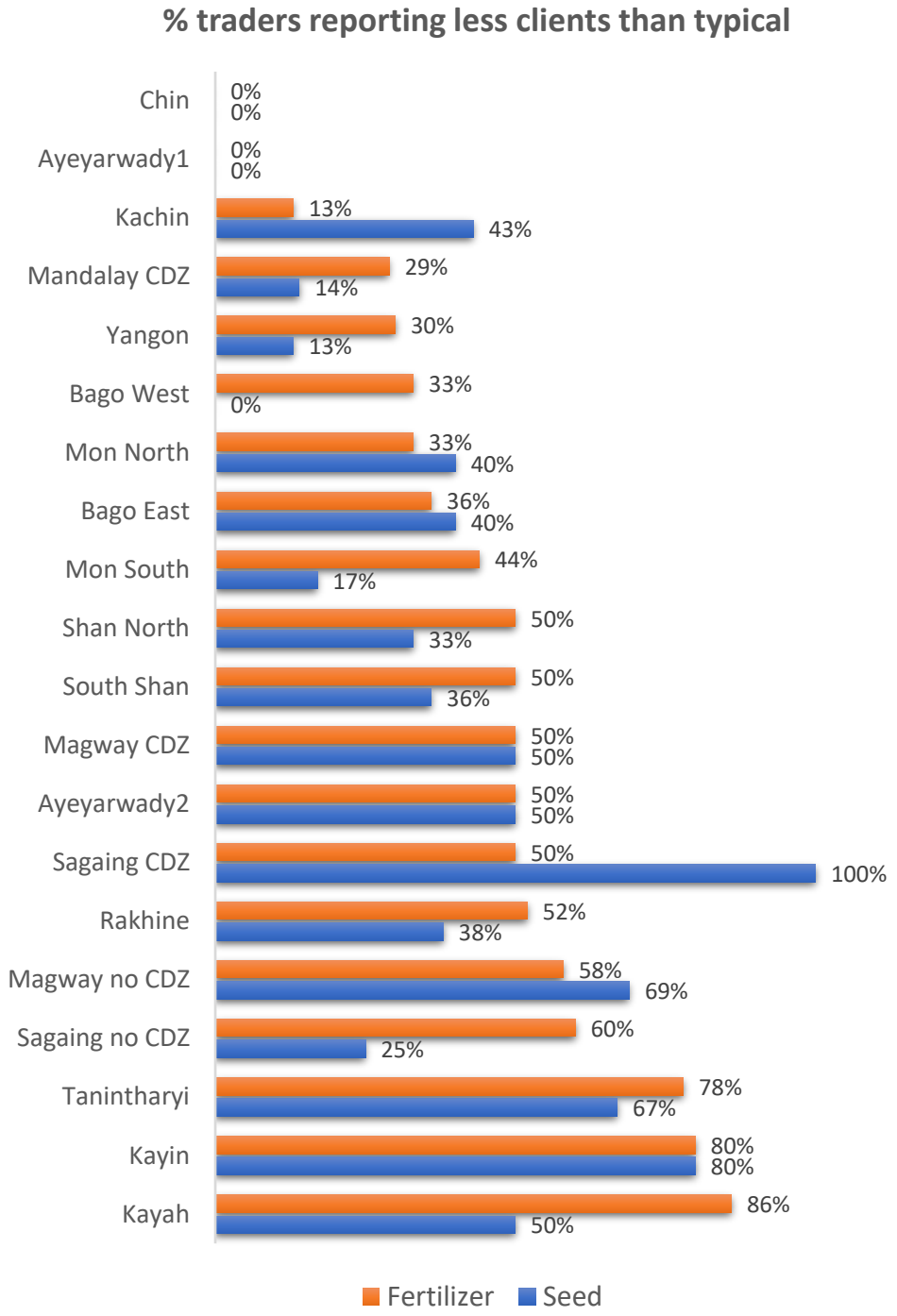
- Movement restrictions, violence and difficulty in transportation all contributed to expectation of inadequate fertilizer supply in the next three months. Similar to seeds, the pathway was significant in Sagaing noCDZ
- The fertilizer traders whose products were not banned, no transportation difficulty, and availability of capital or access to credit expected the sufficient supply of fertilizer in the next three months

The Demand

Patterns and associations

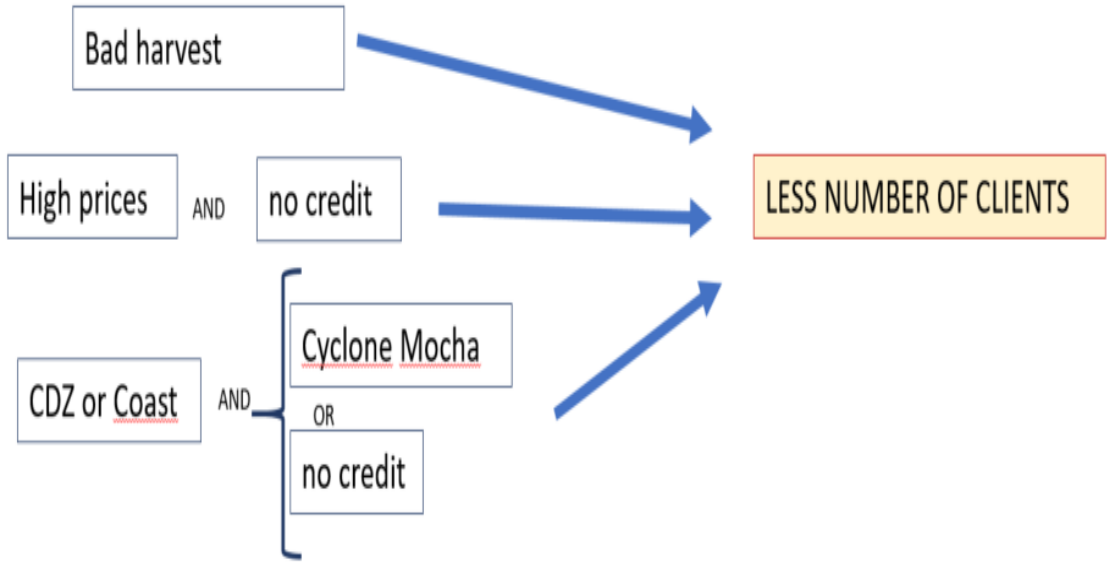
- Number of clients and volumes of sales had a geographic pattern for both seeds and fertilizer. In part, it seems that the conflict affects demand, but farming systems also play a part
- Some shocks, beyond violence and conflict, seem to have an impact on demand too, in particular cyclone Mocha

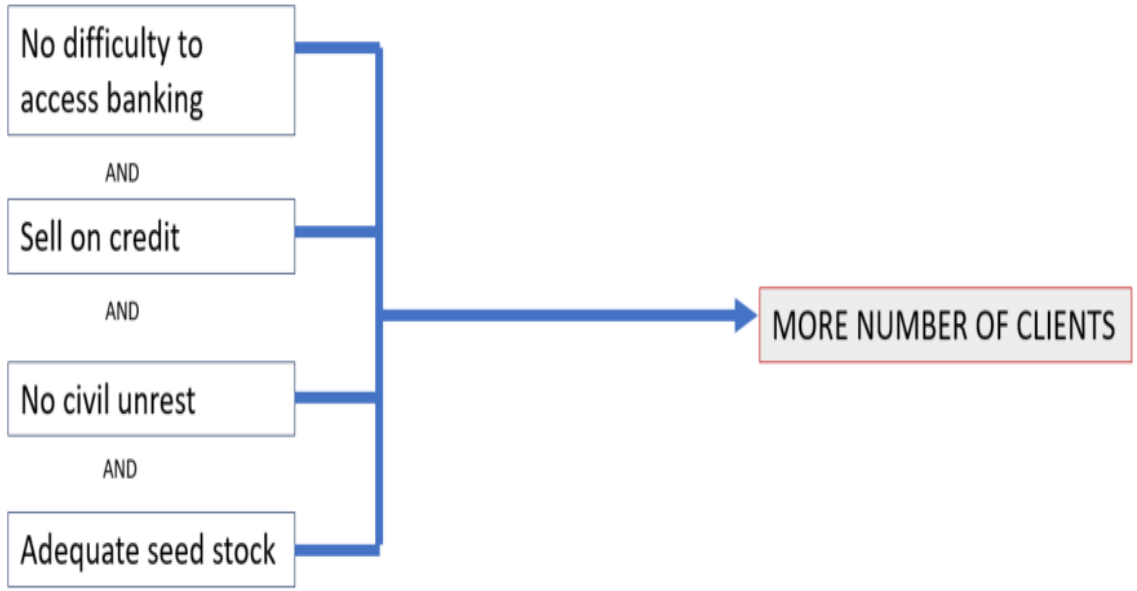




Conditions for seeds demand

Availability of supply is a necessary condition for stable/growing demand



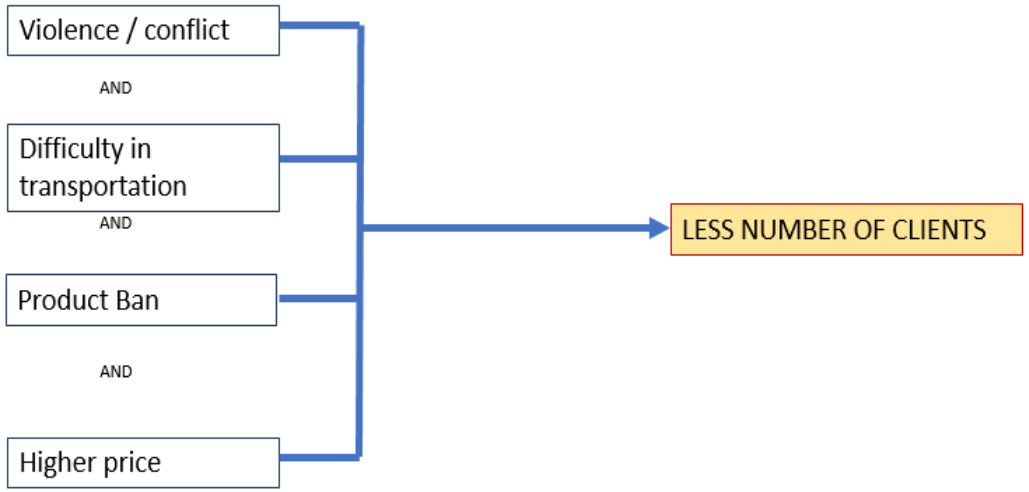


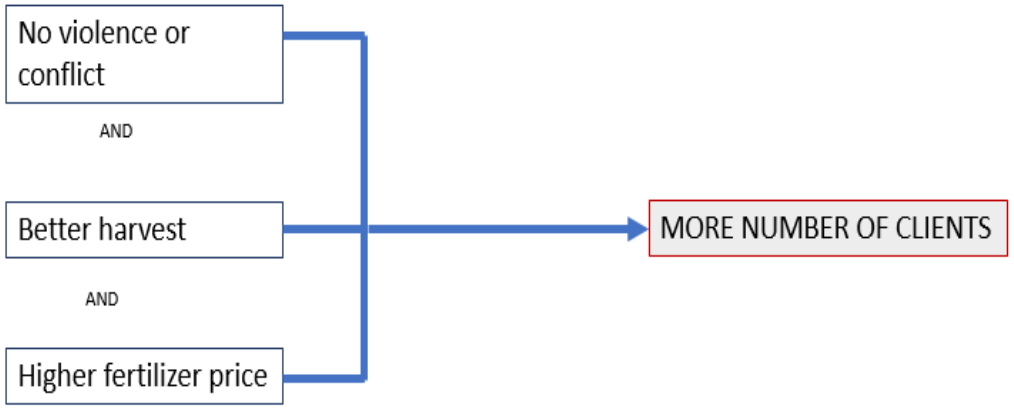
- a generalized bad harvest is a sufficient condition
- a combination of high prices and no credit (northern areas)
- either the CDZ or the coast, but combined with either being affected by the cyclone Mocha or the absence of credit for customers.

- Easy access to banking, lack of civil unrest or security unrest, an adequate stock of seeds and providing seeds on credit to the clients. This pathway is commonly found in Kayah.

Conditions for fertilizer demand

Availability of supply is a necessary condition for stable/growing demand



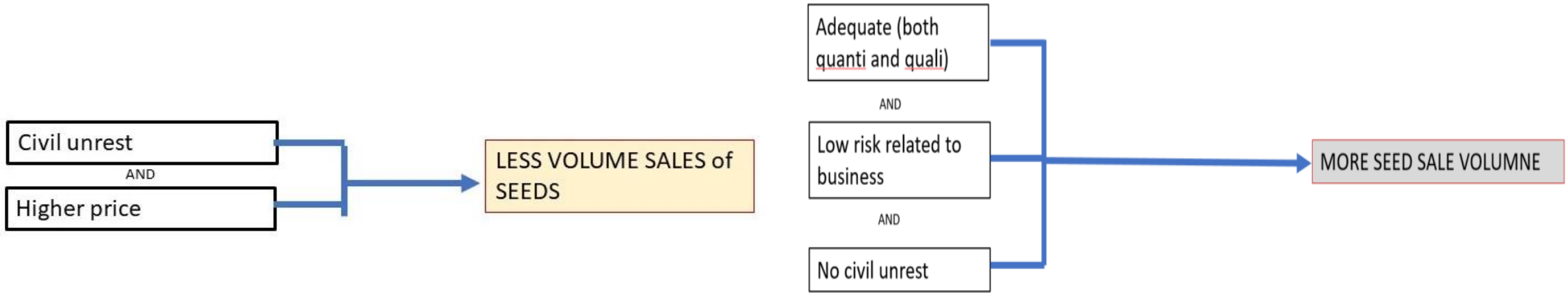


- Violence or conflict together with difficulty in transportation network, banning certain products and increased price were prominent pathways in Kayah.
- Banning certain products together with higher price was common in Magway noCDZ.
- Violence or conflict, and difficulty in transportation network was found in Sagaing no CDZ and Kayah.

- In Rakhine, Kachin and Mon South, increased client number was due to lack of violence or conflict, and better harvest in general.
- In Mon North, although there was higher price of fertilizer, better harvest was necessary to explain the increased client numbers.

Conditions for seeds sale volume

Availability of supply is a necessary condition for stable/growing demand

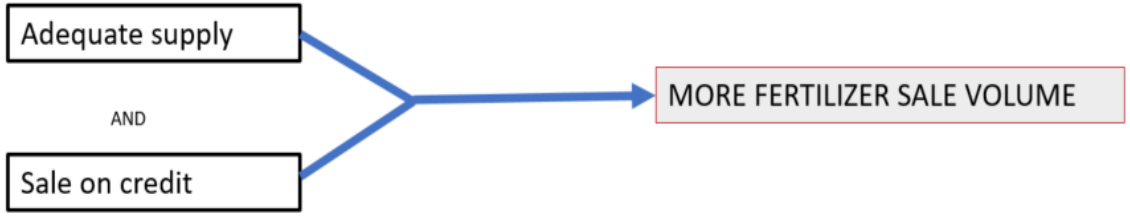


- Magway non-CDZ area- price increases, civil unrest, and a shortage of seeds were the key concerns
- Kayah and Magway CDC zones, the insufficient seed stock was a persistent problem.

- An adequate supply as a necessary condition avoiding a decrease in sales.
- In addition a perception of low risks related to business and no civil unrest are sufficient to lead to an increase in customers and sales volume.
- In Kayah, in particular, despite the high security risks, the trend is evident.

Conditions for fertilizer sale volume

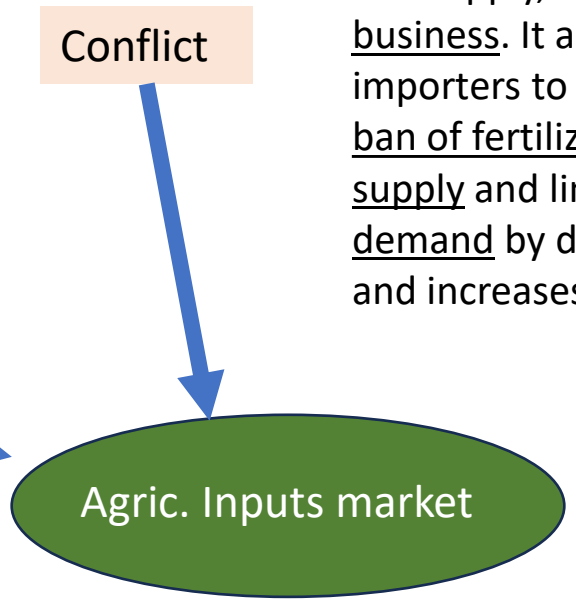
Availability of supply is a necessary condition for stable/growing demand



- In Sagaing and Magway, there were challenges to get supply from both foreign and local sources, were more likely to experience lower sale volume

- Fertilizer sales increased when there were no difficulties with supply from other nations or within the state and region.
- This allowed the dealers to satisfy customers' demands for both quantity and quality, and selling it on credit also contributed to the increased volume of sales.
- The pathway was particularly found in Kayah

This allows for considering other key aspects in terms of their influence on supply and demand:



major disruption in the trade flows, affecting demand and supply, and represents a risk for operating a business. It also (1) limits the ability of traders and importers to stock sufficient supplies through the import ban of fertilizer and the depreciation of Kyat; (2) it affects supply and limits transportation of goods; (3) it affects demand by diminishing production in the catchment area and increases price

With banking disruptions in the past, this was not expected to play a role. Yet, (1) credit recovery has been an important factors, and many traders in the FAO sample declared that they are out of business; (2) QCA showed how being able to sell at credit is an important determinant of demand.

Despite the increased return of the cost of inputs, price has a large importance for trade, as it enters QCA equations related to demand. Price increased in particular in conflict areas and for products affected by import ban

Conclusions

- According to FAO/WFP round 7 assessment,
  - ❑ 11% of farmer households had eaten their seeds stock that had been kept for the agricultural season
  - ❑ 6 % reported difficulty to access seeds.
  - ❑ 25 % reported difficulty to access fertilizer

Cyclone Mocha

- Cylcone-affected areas still needs seeds

Conflict

- Except for areas affected by a bad harvest, the demand for inputs is growing. This represents an opportunity to support local farmers, particularly smallholders, as seed growers.
- Indications for better targeting cash transfers in conflict areas + use of seed vouchers and organized fairs that promoted local inputs to overcome the price constraint

Products ban

- Urea less touched: there is an opportunity to promote the use of organic fertilizer and local made (qualified) fertilizer
- Conflict impacts logistics: direct fertilizer support is still needed, with training regarding the proper use