EMERGENCY MARKET ASSESSMENT

TIMBER, POLES AND BAMBOO

THE IDAI CYCLONE RESPONSE

EXECUTIVE SUMMARY

Shelter Cluster Mozambique
ShelterCluster.org
Coordinating Humanitarian Shelter

Members of the data collection team conducting the market survey with an informal vendor near Sussendunga, Manica.
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Cover page
A man uses his bycyle to transport small amounts of bamboo from producers to the market in Dondo.
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Kids affected by Idai standing next to a informal pole and bamboo shop (called „estaleiros“) in Beira along the Estrada Manga Aeroporto.
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Background

In March 2019, over 1.5 million people were affected by Cyclone Idai across four provinces of Mozambique. By October 1 that year, half of those in shelters had returned home, while 61 resettlement areas remained open. An estimated 240,000 homes have been affected, half destroyed completely, and the rest partially destroyed. Through a rapid market assessment, the government of Mozambique and its partners sought to better understand markets to help communities rebuild their homes. By October 2019, the emergency response had reached 182,366 houses, though 49 partners in four provinces and 20 districts.[1] For shelter upgrades and recovery, cluster partners supported a broad set of activities, implementation methods, construction typologies and targeting criteria. Nearly $4.5 million[2] has been earmarked for recovery programming, targeting 47,000 families with support ranging from $50 to $3,500 per family.

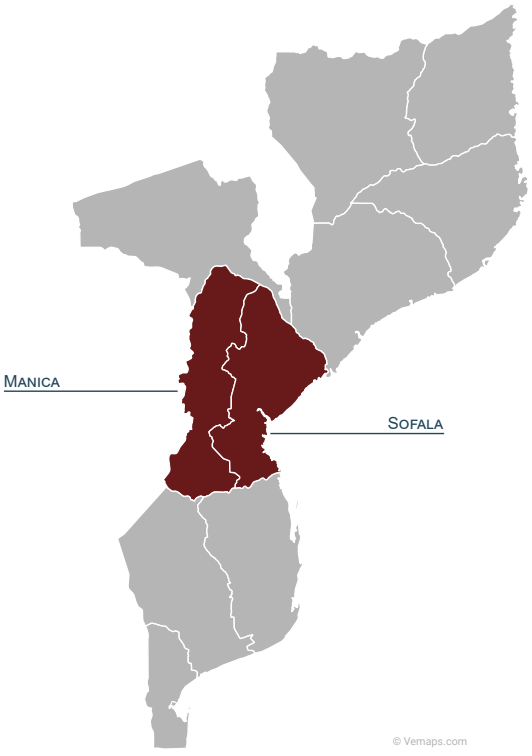


Figure 1. Geographical coverage of the study: provinces Manica and Sofala, Mozambique.

Findings

Findings, organized by key research question:

1. What is the capacity of markets to supply material needs for the shelter upgrade to 100% of the target population?

Key finding: Although in-country availability of pine through IFLOMA is very high, output capacity is limited by the demand pipeline and current sawing capability. Supplemental findings include:

- Nearly all assessed items (timber, poles and bamboo) can be found in the markets to varying stock levels and quality. Distant markets off the value chain axis (Mbuzi and Dombe) have far less quantity and inferior quality. Current and projected stock will not meet the needs for timber, poles and bamboo.
- The timber market is dominated by untreated local pine from one producer (IFLOMA). IFLOMA operates across the value chain in four key links: production, sub-licensing, agents and direct sales. Treated higher-quality imported pine from South Africa and Zimbabwe can be found in the formal (South Africa) and informal (Zimbabwe) markets at higher prices and in much more limited quantities.
- Households that do not have the funds to buy sawn timber opt for poles (preferably exotics and then forest poles). Other species were found in the market, but to a lesser extent, such as coco wood, mangrove and unknown "forest woods."[22]
- Poles and bamboo market chains were dominated by smaller players and more decentralized chains in two main scenarios: In the first, poor households would individually cut poles or bamboo from the source, transport the material to a central market, and sell the "pile" to retailers in the open market. In the second scenario, groups of retailers hired tractors to collect poles and/or bamboo, paying cutters at the production site.

[1] Mozambique Shelter Cluster
[2] Data was collected in Mozambican meticais, and converted to USD using the rounded up, average rate during the week data collection, or 62 meticais per USD (Oanda.com). For ease of reading, when useful, figures are rounded to the nearest dollar.

Findings

2. Is a market-based response appropriate for the shelter upgrade response?

Key finding: Market-based response should be an integral part of the response, but probably most appropriate for smaller projects with shorter timelines that include a strong component of quality control. Broad payment method options in Mozambique are limited, and few vendors expressed overt interest in vouchers. Supplementary findings:

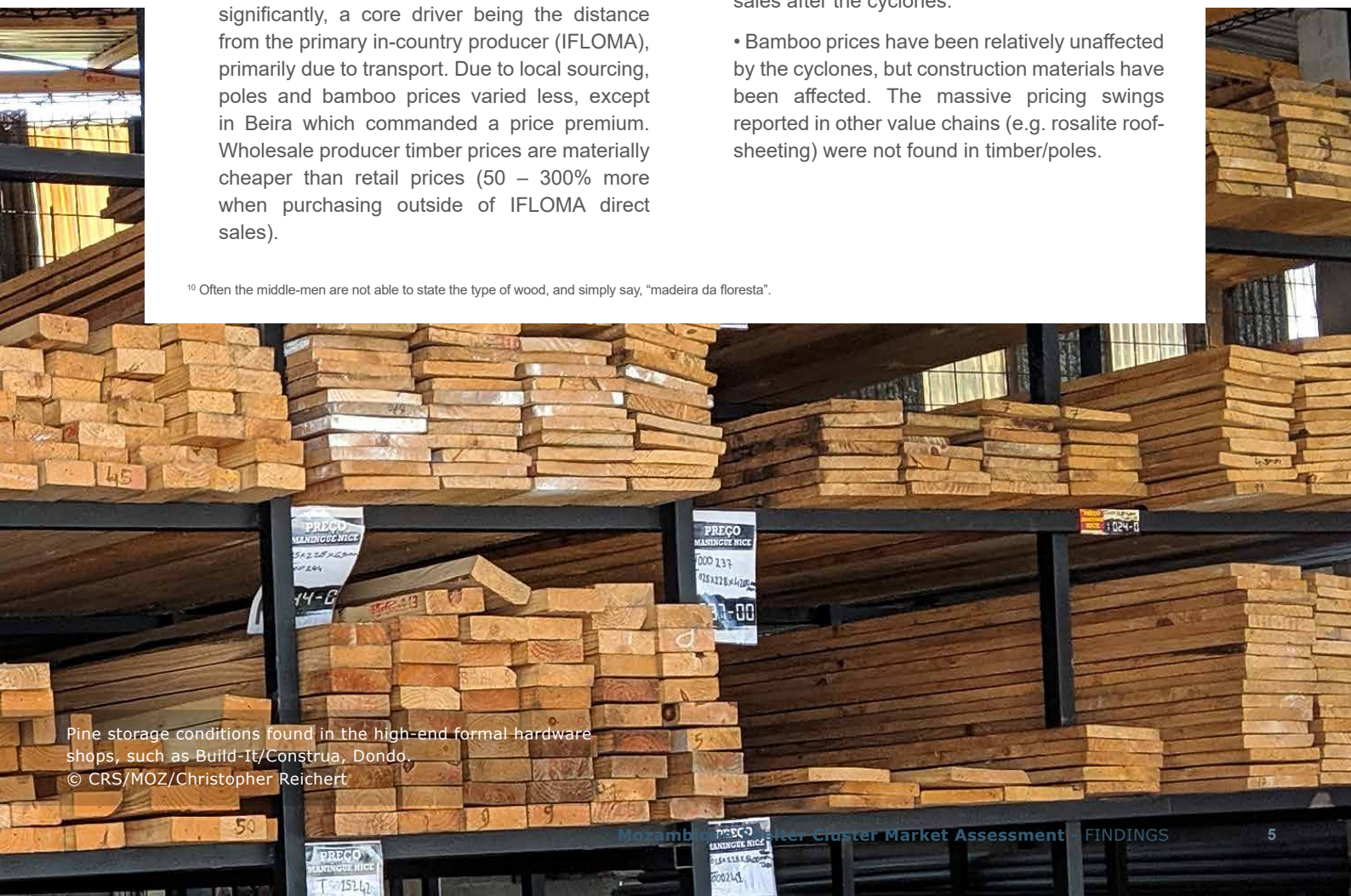
- Nearly all vendors lack the capacity or the interest in post-payment systems. However, those that have expressed interest should be further canvassed for working modalities. Learning can be gleaned from current voucher programming.
- There is a strong preference among communities for construction timber rather than other roofing materials, such as forest or exotic poles. Local implementing partners and communities are not accustomed to using pine alternatives (e.g. treated msasa) for construction, and there were examples of active resistance to piloting alternatives.
- Prices for timber across markets varied significantly, a core driver being the distance from the primary in-country producer (IFLOMA), primarily due to transport. Due to local sourcing, poles and bamboo prices varied less, except in Beira which commanded a price premium. Wholesale producer timber prices are materially cheaper than retail prices (50 – 300% more when purchasing outside of IFLOMA direct sales).
- Transportation of pine timber for a 18m2 home from IFLOMA to target markets averages $17.36/m3, or $6.29/house, or 8.2% of the house's timber cost.

3. Are there risks associated with market-based response options for shelter upgrade? (deforestation, inflation, etc.)

Key finding: There are significant risks associated with market-based responses that may promote and/or accelerate burnt brick production. Price data from the study indicate a small risk of price inflation.

- Preliminary evidence suggests that burnt brick technology will have severe impacts on rebuilding efforts, as two tons of firewood (usually large truck of msasa) is used to create 20,000 bricks, or enough for three houses.
- For those organizations with a heavy emphasis on sustainable development, and broader fiscal leeway, strong consideration should be given to LevasFlor, the only FSC-approved vendor in Mozambique.
- There was little evidence of opportunistic trading, defined as those vendors setting up sales after the cyclones.
- Bamboo prices have been relatively unaffected by the cyclones, but construction materials have been affected. The massive pricing swings reported in other value chains (e.g. rosalite roof-sheeting) were not found in timber/poles.

[10] Often the middle-men are not able to state the type of wood, and simply say, "madeira da floresta".



Pine storage conditions found in the high-end formal hardware shops, such as Build-It/Construa, Dondo.
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Recommendations

Variables	In-kind	Voucher	Cash
Number of households	Higher	Medium	Smaller
Cost-effectiveness versus market support	Cost-effective from supplier, bulk order	Cost-effective from supplier agent, individual orders	Logistically simpler once system in place
Distance	Far from major transport axis/ markets	Midway, for medium densities (few vendors to implement system)	Higher density areas with higher number of shops
Needs	Most vulnerable	Mix	Self-recovery
Phasing	For large early support to beneficiaries	Complement the in-kind contribution with voucher system early on, and scale up or down depending on ability to shift to cash	Start with smaller pilot projects and, as market's ability to supply increases, shift to cash.
Pros	Able to meet large demand needs at once; negotiate prices; monitor quality at few checkpoints	Provides level of control of material procured (number/quality), supports local market	Best matches materials with need (family chooses; possible quickest way to deploy resources, assuming a fiscal control mechanism)
Cons	Bypasses local market which would benefit from cash injection; may take more time to source materials; sawing ability of producer	Little interest from informal vendors; slight interest from formal vendors; may not match material with need	Less experience/interest; few models/examples in Mozambique; less useful in thin markets such as Dombe/Mbuzi

Table 1. Variables to consider by program support type.

Example of informal market storage conditions for timber, poles and bamboo, Dondo.
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Recommendations

The recommendation section includes a detailed list of options to consider, and also a set of variables to consider for each type of support—in-kind, voucher and cash—found in table 15.

1. Consider a mixed and phased approach for meeting the timber, pole and bamboo needs by layering in various mechanisms including conditional cash pilots, local in-kind purchases, regional in-kind purchases and international in-kind purchases.

2. Due to transport and logistical demands, bulk orders from IFLOMA make fiscal and logistical sense at a certain tipping point, which ranges from 50 to 100 houses, (depending on shelter size). Smaller pilots and project target number should consider local procurement, which the larger administrative posts should be able to support.

3. Larger-scale responses will need close collaboration with IFLOMA to ensure demand can be met and/or selecting multiple external suppliers. Relying on local market actors for large amounts of pine is not feasible.

4. Large-scale shelter response should opt for sawn pine timber or exotic poles, avoiding unsawn forest wood either for brick burning or roofing trusses and purlins due the environmental implications.

5. Smaller-scale staggered responses may consider using the current market players to meet the timber roofing needs; however, if in-kind distributions are not used, carefully monitor the procurement of materials to reduce the environmental impact. For example, consider conditional cash transfers (if permitted) to ensure exotics are prioritized over forest poles.

6. For smaller-scale responses, consider piloting a shelter kit voucher program with an established retail store, such as Lucky Trading or Construa, which has multiple branches. Start with those homes closest to the retailer, providing for transport (e.g. cash for transport – hand-carts, motorbikes, etc). Although some retailers have expressed interest, their concern is payment and liquidity.

7. Quality control of timber will be a crucial component of any intervention. The markets contain a variety of qualities, including second-tier pine sold by IFLOMA. If second-tier pine cuts are permissible for the home designs, this may be a way to reduce costs further.

8. Of the three market chains assessed, bamboo is the best candidate for a market-based response in those communities: a) that habitually use bamboo for walls/ceiling, b) live close enough to the bamboo source. The cash injection would feed disposable income to those in the local value chain and relieve support organizations from the logistical complications already incurred by bamboo procurements.

9. Consider supporting and/or lobbying for increased sawing capacity with IFLOMA, and supporting local vendors on storage capacity and methods.

10. During distributions, provide educational support to beneficiaries on choosing materials, particularly around quality (storage, off-cuts and end-user storage).

11. Considering a larger environmental impact study of burnt bricks approach for construction prior to designing programs with burnt brick technologies.

Residents of coastal region come to terms with devastating cyclone. A girl navigates the rubble of her house destroyed by Cyclone Idai. She and her family are staying in the house of a neighbor until they are able to rebuild.
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