Mozambique Rapid Market Assessment

A Rapid Assessment of Market Conditions for Maize Meal, Cowpeas, Certified Maize Seeds, Corrugated Galvanised Iron Sheets and Multipurpose Soap in Five Provinces of Mozambique

June 2018 Report

Tony Taylor, Sharon Truelove & Carol Ward

This report reflects the opinions of the authors alone and not those of the COSACA or DFID
1 Executive Summary

Mozambique is a country prone to natural disasters, most markedly floods, cyclones, pest and disease outbreaks and frequent droughts. These regularly exacerbate the underlying poverty and food security situation and cause major damage and set back economic growth in disaster-affected areas. Meteorological records show that flooding and cyclones usually occur during the rainy season between the October and April.

The overall purpose of the rapid market assessment was to provide market analysis that would contribute towards advocacy on the feasibility of humanitarian cash-based responses with the government; support contingency planning; and inform assistance modality decisions in the rural areas where COSACA operates.

The assessment objective was to provide evidence as to whether the markets for selected commodities and/or services could supply sufficient cross sector goods and services to crisis-prone populations in terms of quantity and quality. The rationale used for critical market commodity selection is included in Methodological Section 4 and Annexes 7 & 8)

Markets, districts and crisis scenarios chosen for assessment:

COSACA requested a pre-crisis market Assessment (PCMA) and the market assessment team adapted the PCMA methodology to a rapid approach drawing on tools from the Emergency Market Mapping and Analysis (EMMA) and the WFP Trader Survey that would fit the limited time and resources available. Fieldwork was conducted in the five districts of Mozambique selected by COSACA, shown in red on the accompanying map, between the 18th and 31st of May 2018. The market assessment team consulted 23 national stakeholders in Maputo as well as visiting 26 markets, conducted 94 semi structured interviews with traders, market chiefs and local authorities. The team held 14 Focus Group Discussions (FGD) and undertook 18 individual household (HH) interviews.

---

1 See Annex 2
2 PCMA, Truelove et al. (2013) and http://www.cashlearning.org/downloads/pmcafinalweb.pdf
3 See Annex
4 https://www.emma-toolkit.org
6 See annex 7.
<table>
<thead>
<tr>
<th>Province</th>
<th>District</th>
<th>Population*</th>
<th>Lead Agency</th>
<th>Crisis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sofala</td>
<td>Chemba</td>
<td>87925</td>
<td>Save The Children International (SCI)</td>
<td>Drought</td>
</tr>
<tr>
<td>Tete</td>
<td>Changara</td>
<td>128453</td>
<td>CARE</td>
<td>Drought</td>
</tr>
<tr>
<td>Gaza</td>
<td>Chicualacuala</td>
<td>27456</td>
<td>OXFAM</td>
<td>Drought</td>
</tr>
<tr>
<td>Manica</td>
<td>Tambara</td>
<td>59948</td>
<td>SCI</td>
<td>Flood</td>
</tr>
<tr>
<td>Inhambane</td>
<td>Govuro</td>
<td>40739</td>
<td>SCI</td>
<td>Cyclone</td>
</tr>
<tr>
<td><strong>Total population of concern</strong></td>
<td><strong>344521</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*INE 2017 census preliminary results

**Rapid Assessment Findings**

In 2017, according to the World Bank, 67% of the population lived in rural areas where there are poor roads and limited transport, leaving small farmers isolated and locked into a cycle of poverty that constrains their access to markets and income due the complex interplay of the limited production possibilities of small land holdings and poor prices received. This in turn affects their demand for agricultural inputs such as fertilizers, pesticides and improved seeds, metal storage containers, water management or irrigation and mechanization. This ultimately limits their yields (average maize yield per hectare is less than 1MT) and increases their post-harvest losses leaving them less resilient and more prone to droughts and floods. It also provides limited incentives to produce surplus. Lack of demand, coupled with the road transport issues also constrains entrepreneurs' willingness to set up businesses and supply these areas.

In a normal year, poor smallholders purchase very little, relying on their subsistence farms to produce most of their food needs and undertaking a variety of alternative income generating activities to make a few basic purchases locally at the village bancas (small kiosk type shop), or occasional usually day long visits to travel to larger retail centres in the geographic area. Though some households only have short distances to travel to markets, a large proportion of COSACA beneficiaries tend to be those travelling larger average distances of around 15km (on occasion 30-40km). Disposable income is limited and consequently the local rural markets are underdeveloped as demand is low.

Many rural areas have hardly any access to markets. Where rural transport does exist it is usually only in the form of ‘chapas’ (light trucks or pick-ups carrying passengers and goods) that travel between district capitals and larger towns, but seldom travel to isolated villages where they are considered relatively expensive, particularly beyond the reach of the target population who are the poorest of the poor. Targeted beneficiaries rarely travel to markets that are over 20km distant, as they access markets primarily by walking and lack means and prefer not to pay for chapas or, in extremely rare cases, by bicycle. Some villages but not all, have small kiosk shops, selling mostly soap, biscuits, rice and soft-drinks, plus, in many cases, beer. The team also heard reports of chapas being used as mobile shops, which may present an interesting potential innovation.

**Key findings on maize meal**

• At a national level, even in the baseline year of 2013/14, domestic supply is buoyed up by imports, particularly in the southern deficit region of Mozambique, from the Southern Africa region, specifically South Africa and Zambia – there are considerable opportunities for expanding imports during crisis times as the price is usually high as droughts tend to be regional in nature.

• The market for maize is fragmented due to the huge land area served by a very limited and poor-quality road network, limited and expensive transport, and the location of production areas and imports often being distant from the areas of demand. This results in some rural locations within the country having good availability and lower prices, and other locations where availability is constrained, and prices are consequently higher.

• The Northern region of the country, as well as northern districts of Tete Province together with southern districts Manica Province are traditionally surplus producers of maize, and maize is also imported from Zambia and South Africa through the Maputo, Tete and Zambezia regions. However, transport and road links are poor, maize is often traded across borders rather than transported internally.

• In 2016-2017 many households in the assessed areas received vouchers for fairs where maize meal was one of the products available, as this is a staple food. This cash transfer addition to household stores is reported to have reduced the degree to which beneficiary households had to resort to their usual drought coping strategies\(^8\).

• Effective demand for maize meal was supported by the provision of vouchers, but it is not clear how much demand would be created if multipurpose cash grants (MPG) were given, as people may opt to buy grain or substitutes.

• It is not clear that, in a situation where multipurpose cash grants (MPG) was given that supply would easily be met either, as traders might not be prepared to risk stocking up generally (and in some situations travelling closer to beneficiaries), not just for maize, but also for other substitute staples and other goods without the level of certainty provided by a voucher fair scheme.

Key findings on Certified Maize seed

• Though aware of certified seed and its potential yield benefits, more than 90% of small farmers continue to use own or informally available grain seed. Demand is hampered by the lack of local access to agro-dealers (some of the districts assessed were more than 100Km from the nearest dealer).

• The typical farm-gate price for maize grain (informal seeds) in September 2016 was 5-7MZN per kg., whereas the cost of OPV certified seed was 90-100/kg and hybrids were 140-150/kg and the seeding rate for a hectare of land is 25kg.

• There is a substantial deficit/shortfall in the supply of domestically produced certified seed that cannot be increased in the short term, and can not be adequately met by imports.

• Programmes that provide free or subsidized seeds are reportedly purchasing about a third of all the national supply – which, though ensuring demand from targeted beneficiaries in areas where they are operating, is also limiting the available supply to other farmers who may or are reported to wish to purchase certified seed.

\(^8\) increased recourse to other activities such as casual labour, harvesting and consumption of forestry products, wild foods and potentially other more corrosive coping strategies.
Some stakeholders reported that the high demand from agencies with seed programmes, is limiting the effective demand from farmers who are used to receiving seeds for free, or at subsidised rates. Seed programmes may thus reduce beneficiaries’ willingness to purchase seeds at full price in the future as they have become accustomed to unrealistically low prices.

**Key findings on Nhemba (cowpeas)**

- The drought tolerance, soil fertility and nutritional properties of nhemba are well understood and appreciated, so it is grown mostly as a fall-back for household food security rather than for preference.
- Those growing Nhemb/Cowpeas do not interact with the market system as either producers for the main market system supply chain, or as consumers from the supply chain, as they consume own production.
- In the areas assessed, cowpeas are not grown as a commercial crop, although they are grown by most households, thus it is not an important income stream for the targeted poorer households of interest to the assessment. It is, however, recognised that in other areas (like Nampula) cowpeas have better marketing opportunities, although market demand overall is very low, and appears to be predominantly for export and the preparation of Bhadjias (fried snacks).
- Pre and post-harvest losses due to pests specific to the nhemba bean limit household demand as well as trader’s willingness to stock them.
- When people purchase beans or legumes, cowpeas are not the preferred choice - with their own money people report buying sugar beans, i.e. households in the areas assessed will consume their own crop but are very unlikely to purchase nhemba from the market.

**Key findings – Zinc Sheeting**

- National supply is robust and capacity to manufacture could be increased through domestic production or import, but this may take some time.
- Zinc Sheeting is a shelter item distributed by the Government INGC and by IOM as a 12 sheet shelter package for crisis response.
- Provincial stocks of finished goods are high and could absorb some increased demand.
- Demand for zinc sheeting is generally low, particularly amongst the poorest of the poor who are usually targeted, as this commodity is perceived as expensive even though it is very durable, compared to the freely (subject to access to surplus household labour) and readily available alternative of using thatching grass.
- Village Bancas do not stock zinc sheeting – and transport is difficult because it is large, heavy and easily dented – thus making it unlikely that if humanitarian assistance were provided as a multi-purpose grant (MPG), that it would be spent on this commodity.
- However, post-cyclone in urban and peri-urban areas zinc sheeting was reported to be a desirable choice for reconstruction should the beneficiary targeting include this demographic. In these areas a single cash transfer for 12 sheets in line with the shelter cluster standards, would seem appropriate.

**Key findings on Soap**

- National production is high and there is capacity to increase volume domestically or through imports or as small income generating opportunities.
• Wholesalers at large provincial trading centres have large stocks and can normally restock quickly within 1-2 days unless there are road blockages in the rainy season or due to cyclones or flooding
• Immediately after a crisis, village shops may be unable to re-supply quickly due to reduced transport after cyclones and flooding further affecting already poor roads. Soap is usually stocked at the rural level in bancas or kiosk shops, which are accessible to most members of the rural community, even those who are not able to afford a full 250g bar and instead buy cut sections of bars. During a crisis demand may fall as people may prioritise basic staple food items over soap
• Soap is readily available at the wholesale level and does not require special storage or transport and is a relatively cheap item and is reportedly readily re-stocked and supply resumed as soon as the normal market activities restart following a crisis, provided that there is road access to more remote villages and there is sufficient cash in the target population’s pockets to meet food needs and soap purchase needs.
• Soap is a priority item for the WASH cluster and may be distributed as part of a WASH response, although the quantities are unlikely to cause much impact on the overall market.

Market Response to Cash-based Interventions
Subsistence smallholders targeted by COSACA in the past, make few market purchases of staple foods in years when their own harvest meets household needs. The limited transport services are considered beyond the means of beneficiaries as expensive (costing 10 - 100 MZN each way to the district capital) and only a small percentage of poor people have their own means of transport. When NGOs carry out distributions or hold voucher fairs these are characterised by the event being brought to the village, or at least to a convenient nearby location (in some cases during the COSACA drought response the beneficiary villagers were provided with transport to get them to the trade-fair events). As a result, when asked in focus group discussions (FGD) which type of assistance would be preferred in future, many of those who do not have any easy means of transport and are distant from commercial centres reported that they preferred the voucher fairs or distribution, since the ease of access to these events was a major part of their success. National stakeholders also indicated that there were now reports that traders were showing considerably more readiness to take part in voucher fairs and take temporary markets closer to beneficiaries in order to supply needs.
The voucher fairs used a very limited number of vendors, and whilst those selected made large profits, this did reduce the potential positive effects of the multiplier effect within the affected districts themselves, as supplies, and in many cases, suppliers came from other areas. The voucher fairs also gave the few selected vendors some certainty about the level of demand and nature of items that would be selected by the beneficiaries. This removed the element of risk in building up stocks for potential demand in an open marketplace, while at the same time removing the constraints of access to the markets.
It is clear that, even if a suitable delivery mechanism for a multi-purpose grant (MPG) could be found for the targeted beneficiaries in most remote areas of Govuro, Chicualacuala, Chemb, Tambara and Changara, that beneficiaries would have to spend a lot of time, and disproportionate amount of their transfer on transport, thus affecting the efficiency and effectiveness of such a transfer. At the same time, it is not clear that the free market, within a reasonable distance would

---

9 Reportedly up to a maximum 2 weeks for cyclone and a month for floods.
consistently be able to provide the range of cross sector goods and services, that might be included in a typical minimum expenditure basket, when it has been calculated, at a reasonable price. In these areas vouchers fairs with a larger number of vendors of various sizes offering an unrestricted range of goods are recommended. Urban areas are suitable for MPGs, if acceptable delivery mechanisms are available. Rural areas with regular transport links might be suitable for MPGs if an area-specific transport top-up was added to the value.

The provision of response recommendations was not included within the scope of this rapid pre-crisis market assessment, however the following summary recommendations have been included:

**Direct Market response recommendations**

- Calculate a minimum expenditure basket that encompasses cross sector needs\(^{10}\).
- MPG might be considered in Urban and peri-urban areas where a suitable delivery mechanism can be found.
- Post-cyclone or flood, in urban and peri-urban areas only, zinc sheeting was reported to be a desirable choice for reconstruction should the beneficiary targeting include this demographic.
- In remote areas voucher fairs have reportedly been proved very successful in the past. These could be adapted to meet cross sector basic needs – by increasing the variety of goods available in line with a MEB. An increase in the number of local vendors should be prioritised, with an effort to include small traders whose business might otherwise be adversely affected.
- Alongside other varied market support activities\(^ {11}\) until markets become more established in more remote areas.
- Including ‘top-up’ amounts for the cost of transport to access and transport purchased goods in cash, voucher or multi-purpose programmes, and ensuring beneficiaries are made well aware of this ‘transport top up’ would be relevant in more remote locations.
- Work with government to harmonise transfers to the long term, predictable social safety net system to make it shock responsive.
- Price monitoring of key commodities especially in tertiary markets within targeted geographic areas.

**Other Responses**

- Continue to support sustainable rural livelihoods
- Improve HH and village level storage facilities to reduce post-harvest losses
- Advocate for Improved rural transport and road networks and maintenance. Consider working with District Authorities to rehabilitate known seasonal road blockages (possibly though cash for work)
- Identify those likely target communities least well served by transport and traders and assess blockages and market support needs and investigate appropriate market support interventions.
- Provide support to transporters so they can further develop transportation services offered to market actors and consumers
- Consider ways of improving access to credit for transporters and market traders where assessed to be relevant.

\(^{10}\) shelter, food & nutrition, transport, WaSH, health, livelihood and non-food needs in line with SPHERE standards.

\(^{11}\) Specifically, to improve access to credit
## 2 Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Executive Summary</td>
<td>2</td>
</tr>
<tr>
<td>2 Contents</td>
<td>8</td>
</tr>
<tr>
<td>2.1 Team Members</td>
<td>10</td>
</tr>
<tr>
<td>2.2 Acknowledgements</td>
<td>10</td>
</tr>
<tr>
<td>2.3 Acronyms and Definitions</td>
<td>11</td>
</tr>
<tr>
<td>3 Introduction</td>
<td>12</td>
</tr>
<tr>
<td>3.1 Background</td>
<td>12</td>
</tr>
<tr>
<td>3.2 The COSACA coalition and other allied studies</td>
<td>13</td>
</tr>
<tr>
<td>3.3 Market Assessment Objectives &amp; Purpose</td>
<td>13</td>
</tr>
<tr>
<td>3.4 Scope of the Assessment</td>
<td>14</td>
</tr>
<tr>
<td>4 Market Assessment and Methods</td>
<td>14</td>
</tr>
<tr>
<td>4.1 Market Assessment Methodology</td>
<td>14</td>
</tr>
<tr>
<td>4.1.1 Key Analytical Questions</td>
<td>14</td>
</tr>
<tr>
<td>4.2 District, Crisis Scenario, Critical Market &amp; normal reference year selection</td>
<td>15</td>
</tr>
<tr>
<td>4.3 Limitations of Assessment</td>
<td>16</td>
</tr>
<tr>
<td>5 Context</td>
<td>17</td>
</tr>
<tr>
<td>5.1 Context at District Level</td>
<td>17</td>
</tr>
<tr>
<td>5.1.1 Chicalacuula – drought scenario area</td>
<td>17</td>
</tr>
<tr>
<td>5.1.2 Chemba – drought scenario areas</td>
<td>19</td>
</tr>
<tr>
<td>5.1.3 Changara: drought scenario</td>
<td>21</td>
</tr>
<tr>
<td>5.1.4 Tambara - River basin flood areas</td>
<td>22</td>
</tr>
<tr>
<td>5.1.5 Govuro - Cyclone and Flood areas</td>
<td>24</td>
</tr>
<tr>
<td>5.2 Transport and Logistics</td>
<td>25</td>
</tr>
<tr>
<td>5.2.1 Impact of limited transport on rural people’s access to markets</td>
<td>26</td>
</tr>
<tr>
<td>5.3 Operating Conditions for Agricultural Production Markets</td>
<td>27</td>
</tr>
<tr>
<td>5.3.1 Market Conduct Summary points – Agricultural Products</td>
<td>28</td>
</tr>
<tr>
<td>6 Market findings</td>
<td>29</td>
</tr>
<tr>
<td>6.1 Critical Staple Food Market – Maize Meal</td>
<td>29</td>
</tr>
<tr>
<td>6.1.1 Maize supply</td>
<td>29</td>
</tr>
<tr>
<td>6.1.2 Local Stocks in Assessed Areas</td>
<td>29</td>
</tr>
<tr>
<td>6.1.3 Maize milling and fortification</td>
<td>30</td>
</tr>
<tr>
<td>6.1.4 Demand</td>
<td>31</td>
</tr>
<tr>
<td>6.1.5 The effect of vouchers on the market</td>
<td>31</td>
</tr>
<tr>
<td>6.1.6 Estimated volume of maize meal purchases</td>
<td>32</td>
</tr>
<tr>
<td>6.1.7 Maize meal baseline ‘normal year’ market map</td>
<td>32</td>
</tr>
<tr>
<td>6.1.8 Maize meal – drought scenario</td>
<td>33</td>
</tr>
<tr>
<td>6.1.9 Overall findings on maize meal</td>
<td>34</td>
</tr>
<tr>
<td>6.2 Critical Livelihood Recovery Market – Certified Maize seed</td>
<td>34</td>
</tr>
<tr>
<td>Section</td>
<td>Title</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------</td>
</tr>
<tr>
<td>6.2.1</td>
<td>Certified Maize Seeds Supply</td>
</tr>
<tr>
<td>6.2.2</td>
<td>Demand for Certified Maize Seeds</td>
</tr>
<tr>
<td>6.2.3</td>
<td>Certified maize seed market system map</td>
</tr>
<tr>
<td>6.2.4</td>
<td>Overall findings on Certified Maize seed</td>
</tr>
<tr>
<td>6.3</td>
<td>Food Market – Cowpea Beans (Nhemba)</td>
</tr>
<tr>
<td>6.3.1</td>
<td>Introduction to Nhemba Beans</td>
</tr>
<tr>
<td>6.3.2</td>
<td>Cowpea Supply</td>
</tr>
<tr>
<td>6.3.3</td>
<td>Cowpea pre and post harvest losses</td>
</tr>
<tr>
<td>6.3.4</td>
<td>Demand</td>
</tr>
<tr>
<td>6.3.5</td>
<td>Cowpea Prices</td>
</tr>
<tr>
<td>6.3.6</td>
<td>Nhemba Market Purchases by the population of Interest</td>
</tr>
<tr>
<td>6.3.7</td>
<td>Market Map for Cowpeas</td>
</tr>
<tr>
<td>6.3.8</td>
<td>Overall findings on nhemba</td>
</tr>
<tr>
<td>6.4</td>
<td>Critical Shelter Market – Zinc or Corrugated iron (CGI)</td>
</tr>
<tr>
<td>6.4.1</td>
<td>Overview of the supply chain for zinc sheeting from manufacture to consumer</td>
</tr>
<tr>
<td>6.4.2</td>
<td>Transportation</td>
</tr>
<tr>
<td>6.4.3</td>
<td>Capacity to respond to a disaster</td>
</tr>
<tr>
<td>6.4.4</td>
<td>Zinc sheet Prices</td>
</tr>
<tr>
<td>6.4.5</td>
<td>Humanitarian Zinc Sheet Standards in Mozambique</td>
</tr>
<tr>
<td>6.4.6</td>
<td>Previous Government Shelter Assistance</td>
</tr>
<tr>
<td>6.4.7</td>
<td>Alternatives to CGI</td>
</tr>
<tr>
<td>6.4.8</td>
<td>Market Map for Zinc Floods Reference Year (2014)</td>
</tr>
<tr>
<td>6.4.9</td>
<td>Market map for Zinc sheets – Flood-affected (2015)</td>
</tr>
<tr>
<td>6.4.10</td>
<td>Overall findings –Zinc Sheeting</td>
</tr>
<tr>
<td>6.5</td>
<td>Critical WASH/NFI Market – Multi-purpose Soap</td>
</tr>
<tr>
<td>6.5.1</td>
<td>Overview of the supply chain for Bar Soap from manufacture to consumer</td>
</tr>
<tr>
<td>6.5.2</td>
<td>Transportation</td>
</tr>
<tr>
<td>6.5.3</td>
<td>Humanitarian WASH Assistance and Standards</td>
</tr>
<tr>
<td>6.5.4</td>
<td>Demand for soap</td>
</tr>
<tr>
<td>6.5.5</td>
<td>Soap Rapid Onset Reference Year 2014</td>
</tr>
<tr>
<td>6.5.6</td>
<td>Soap Rapid Onset crises map – Flood 2015</td>
</tr>
<tr>
<td>6.5.7</td>
<td>Overall findings on Soap</td>
</tr>
<tr>
<td>7</td>
<td>Conclusions</td>
</tr>
<tr>
<td>8</td>
<td>Recommendations</td>
</tr>
</tbody>
</table>

**List of Annexes:**

1 Bibliography
2 Terms of Reference
3 List of Stakeholders
4 Market Assessment Field Itinerary
5 Markets Visited
6 Map of Community Locations
7 Criteria and Rationale for District and Crisis Scenario Selection
8 Rationale for Normal Reference month/year & Crisis month/year selection
9 Examples of targeting criteria
The team authors would like to thank all stakeholders consulted but more particularly the team members and key contacts at Save the Children, CARE and Oxfam in Mozambique for their hard work and patience during this rapid market assessment.
2.3 Acronyms and Definitions

ANS  National seed authority
Banca  Very small kiosk type shop
BAU  Balcão de Atendimento Único (Unified Service desk)
CGI  Corrugated Galvanised Iron (known as zinc sheets)
Chapas  Light goods vehicle also used for carrying passengers in rural areas
COSACA  Oxfam, Save the Children International and CARE International
CPI  Consumer Price Index
CTGC  Technical Council for Disaster Management
CTP  Cash Transfer Programming
DFID  Department for International Development – UK
Ferrager  Ironmonger
FEWS NET  Famine Early Warning Systems Network
FGD  Focus Group Discussion
FSP  Financial Service Provider
GoM  Government of Mozambique
Grossista  Wholesaler
Ha  Hectare
HH  Household
IIAM  Institute for Agricultural Research of Mozambique
INAS  National Institute of Social Action
INE  National Institute of Statistics (Instituto Nacional de Estatistica)
INGC  National Institute for Disaster Management
IFAD  International Fund for Agricultural Development
IIAM  Institute for Agricultural Research of Mozambique
Kg  Kilogram
KI  Key Informant
KII  Key Informant Interview
MASA  The Ministry of Agriculture and Food Security
MIC  Mozambican Ministry of Industry and Commerce
MPG  Multipurpose cash grants
MT  Metric ton
MZN  Mozambique Metical (unit of currency)
POS  Point of Sale
SADC  Southern African Development Community
SCI  Save the Children International
SDAE  District Services for Economic Activities
SIMA  Sistema de Informação de Mercados Agrícolas
SEMAC  Sementes de Moçambique Ltda (Mozambique Seed Company)
UNICEF  United Nations Children’s Fund
USAID  United States Agency for International Development
USEBA  Basic Seed Unit at IIAM (Mozambique Institute of Agricultural Research
WB  The World Bank
WFP  World Food Program
3 Introduction

3.1 Background

The following narrative is adapted from the February 2018 COSACA “DFID 2017/18 Lean Season Recovery Response Proposal: “Mozambique has a Human Development Index of 0.418, ranking it 182nd out of 188 Countries and putting it among the poorest in the world”\(^\text{12}\). Currently, it has a population of 28,861,863 people with an annual growth rate of 3.5% and a high population density of 36.1%\(^\text{13}\) with a high proportion of 68% of the population living in rural areas\(^\text{14}\). Life expectancy is at 55.5 and living standards are generally low as evidenced by a multi-dimensional poverty index of 0.390, a poverty head count of 70.2% and a national poverty line of 54.7%. The intensity of deprivation is 55.6% with 44.1% of the population being in severe poverty where education, health and living standards contribute 30.4%, 22.3% and 47.3% respectively towards overall poverty levels\(^\text{1}\). The Gross Domestic Product of Mozambique is currently US $31.2 billion with an annual growth rate of 6.6%\(^\text{15}\). While this is a healthy rate of growth, some economic indicators like unemployment rates are not as promising standing at 22.3% with youth (between 15-24 years) unemployment rates being as high as 37.8%\(^\text{16}\).

In addition to commonly occurring annual rainfall shortfalls throughout large proportions of the country and subsequent lengthening lean seasons, which have caused increasingly large-scale food insecurity in the past few years, Mozambique is a country that is prone to other natural disasters, most markedly floods, cyclones, pest and disease outbreaks and frequent droughts\(^\text{17}\). These regularly exacerbate the underlying poverty and food security situation and cause major damage and set back economic growth in disaster-affected areas. Meteorological records show that flooding and cyclones usually occur during the rainy season between the October and April. At other times, flooding predominantly affect river valleys and low-lying areas where drainage systems are weak or do not exist. The most at-risk provinces include Maputo (including Maputo city); Gaza, Inhambane, Sofala, Tete, Zambézia, and Nampula.

The ToR (see Annex 2) states that “Given COSACA partners are working in areas of predictable crisis, there is a need to conduct a market analysis to help in anticipating how markets will respond once the shock/crisis occurs. The assignment forms part of a COSACA consortium project on MPG preparedness”, funded by DFID, 2018). Thus COSACA and other interested organisations within the Mozambique Cash Working Group (including WFP who propose to undertake allied more extensive market assessments also) have identified a need to improve the availability of current market information in order to better inform response option choices and improve readiness for appropriate modality decision making across actors, especially to inform policy and decision making around the potential use of Multi-Purpose Grants (MPGs) in disaster responses where relevant and operationally feasible.

\(^\text{13}\) Mozambique Population Census 2017 preliminary results, Instituto Nacional de Estatística, Dec 2017
\(^\text{14}\) National Institute of Statistics population and housing census report, 2007
\(^\text{16}\) Ministry of Agriculture and Food Security’s Strategic Plan for Agricultural Development, 2011-2020
\(^\text{17}\) Mozambique ranks third amongst the African countries most exposed to risks from multiple weather-related hazards, e.g. periodic floods, tropical cyclones and droughts.
3.2 The COSACA coalition and other allied studies

COSACA is a consortium of three International NGOs working in Mozambique and is comprised of Save the Children (SC), CARE and Oxfam. It is led through a Coordination Unit (CU) supported by a Board of Directors. The agencies have been working together since 2009 in emergency preparedness and response to natural disasters; “COSACA was created to leverage the specific technical skills and geographical reach of each agency and to support effective coordination of humanitarian response and preparedness activities amongst these agencies.” The COSACA partners collaborate on activities including partner training, research and context analysis, development projects and coordination of emergency response activities.

This market assessment forms part of a wider ‘Lean season recovery response piece of advocacy and readiness work’ funded by DFID (PROJECT NAME: DFID 2017/18 COSACA Cash Preparedness). Where “COSACA intends to use its leadership to build on the experience gained from implementing past responses to improve the ability of humanitarian actors, including COSACA and its members, the government, and private sector (service providers) to respond to recurrent emergencies or disasters affecting Mozambique using cash transfers by increasing preparedness and advocating for unconditional MPGs as an intervention modality within the country” (DFID 2017/18 Lean Season Recovery Response Proposal” Feb 2018).

This wider COSACA cash preparedness project overall objective is: “Humanitarian actors, service providers, and government in Mozambique are more prepared to start, design and implement a humanitarian multipurpose cash response “(source: COSACA Logframe-Revised-24-05-2018).

Other closely related COSACA activities under the same DFID Funded COSACA programme output include a mapping and analysis of financial service providers by Oxfam. An allied piece of work on cash feasibility and readiness was funded by DFID19 and commissioned by World Vision on behalf CHEMO and COSACA coalition. The aim of which was to “analyse the environment and determine if CTP and more specifically unconditional and multi-purpose cash transfers could be used in the future as a humanitarian delivery mechanism.” (Are CTP Fit For Purpose To Respond To Future Natural Disasters In Mozambique? 2017) ECHO also funded a Cash Advocacy Project.

3.3 Market Assessment Objectives & Purpose

From the TOR (annex 2) the overall purpose of the rapid market assessment was to provide market analysis that would contribute towards advocacy with government; support contingency planning; and inform assistance modality decisions in the areas where COSACA operates.

The assessment objective was to provide evidence as to whether the markets for selected commodities and/or services could supply sufficient cross sector goods and services to crisis-prone populations in terms of quantity and quality.
3.4 Scope of the Assessment

The scope of the rapid market assessment was limited by its’ commissioners not to include the following, as these areas of work would be completed by others:

- cash feasibility
- response analysis

4 Market Assessment and Methods

4.1 Market Assessment Methodology

COSACA requested the use of a pre-crisis market analysis (PCMA) approach as indicated in the ToR (see Annex 2) and the market assessment team adapted the PCMA. methodology to a rapid approach drawing on tools from the Emergency Market Mapping and Analysis (EMMA) the WFP Trader Survey and that would fit the limited time and resources available. The semi-structured Interview checklists used can be found in Annex 10. Annex 3 contains a list of Stakeholders interviewed.

The rapid market assessment fieldwork was conducted in five districts of Mozambique between the 19th of May and 1st of June 2018 as demonstrated in the itinerary in Annex 4. In addition to 3 days of desk review, the itinerary indicates that the three-person international consultant team had 8 days working in Maputo for non-government national level consultations and stakeholder KII s (See annex 3) and the two-person international consultant (and 2-person national, first time market assessors) team had 16 days (of which 9 were working days, and 7 were travel and training of team member days) in the field equating to 3 days per district.

The market assessment team met 23 stakeholders in Maputo (donors, international organizations and NGOs as listed in annex 3), visited 26 market places between 18th and 31st of May 2018 as listed in Annex 5. The team conducted 94 interviews with traders, market chiefs and local authorities. The team also held 14 Focus Group Discussions (FGD) and 18 individual household (HH) interviews – when possible, the communities and individuals selected for inclusion were purposively chosen for their geographical remoteness.

4.1.1 Key Analytical Questions

The overall research questions defined in the TOR (as appropriate for each location and market) were:

- What is the current and projected DEMAND for the selected commodities/services?
- Can DEMAND access supplies safely, now and in the hypothetical event of a disaster?
- What is the marketplaces map, now and in the hypothetical event of a disaster?
- Can Supply meet Demand, now and in the hypothetical event of a disaster?
- What constraining or enabling factors affect the local markets, now and the likely impact of a future disaster, hypothetically, in the event of a disaster?

---

21 https://www.emma-toolkit.org
4.2 District, Crisis Scenario, Critical Market & normal reference year selection

Initially COSACA planned to undertake market system assessments of a more extensive cross sectoral range of food and non-food items across seven districts. However, the time and resources available (limitations summarised in below in section 3.3) limited this to coverage of five critical market commodities for the three main crisis scenarios of drought, flood and cyclone within five of the most affected districts across five provinces in a reference year or average year which was chosen as 2013/4, and compared to a crisis year (for the final rationale of year selection see details in Annex 8) for each of the chosen crisis scenario as summarised in the table below:

<table>
<thead>
<tr>
<th>Province</th>
<th>District</th>
<th>Lead Agency</th>
<th>Reference year</th>
<th>Crisis Year</th>
<th>Crisis Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAZA</td>
<td>Chicualacuala</td>
<td>Save the Children (SCI)</td>
<td>2013/14</td>
<td>2016/17</td>
<td>DROUGHT</td>
</tr>
<tr>
<td>INHAMBANE</td>
<td>Govuro</td>
<td>CARE</td>
<td>2013/14</td>
<td>2017</td>
<td>CYCLONE</td>
</tr>
<tr>
<td>SOFALA</td>
<td>Chemba</td>
<td>OXFAM</td>
<td>2013/14</td>
<td>2016/17</td>
<td>DROUGHT</td>
</tr>
<tr>
<td>MANICA</td>
<td>Tambara</td>
<td>SCI</td>
<td>2013/14</td>
<td>2015</td>
<td>FLOOD</td>
</tr>
<tr>
<td>TETE</td>
<td>Changara</td>
<td>SCI</td>
<td>2013/14</td>
<td>2016/17</td>
<td>DROUGHT</td>
</tr>
</tbody>
</table>

COSACA undertook a process of district selection based on the following reported criteria:
- FEWSNET Food security information and Integrated Phase Classification (IPC) ranking.
- WFP Integrated Context Analysis (ICA) ranking.
- COSACA member areas of operation (Further details are included in Annex 7)

Table 1. Markets, districts and crisis scenarios chosen for assessment

The rationale for the particular commodity markets selected has been documented in Annex 7 and can be summarised as aiming to cover the most appropriate cross-sector critical commodity markets for the likely COSACA target populations.

The 5 commodity markets selected by COSACA represent (full rationale in Annex 7)
- two staple food commodities of maize meal, & cowpea bean (Nhemb),
- one food security and recovery market - certified maize seed,
- one shelter material - sheets of corrugated galvanised iron (CGI) known as zinc
- one Water, Sanitation and Hygiene (WASH) commodity of multi-purpose bar soap.

Three of the five critical markets were analysed in each district:

In Drought scenarios the three critical markets selected by COSACA were:
1. Cowpea Beans (Nhembe)
2. Maize Meal
3. Certified maize seed

In Flood AND Cyclone scenarios the three critical markets selected by COSACA were:
1. Cowpea Beans (Nhembe)
2. Corrugated Iron (CGI)/Zinc roofing
3. Multi - purpose Brown Bar-Soap 250g
4.3 Limitations of Assessment

### Summarised limitations

- **Commodity Selection Process** – an extremely limited number of COSACA permanent staff were present for the full selection workshop[^23] and only one national staff with regional and local experience. This resulted in suboptimal selection of 2 of the five critical market commodities. Cowpea bean (Nhemba) turned out to be a market, to which the poor rural communities selected were not really connected. Certified maize seed market is a specialised market with structural limitations which the COSACA members already knew had supply issues from experience of trying to purchase seeds for distribution.

- **Limited time available** – the amount of time originally dedicated for a PCMA approach was always limited anyway and contributed to by the long travel distances involved (between one and 2 days by car between some sites). This was further curtailed by the need to retrain teams in some of the districts as well as delays caused by decision making on the TOR and critical market selections within a consortium as well as due to awaiting official approval for the assessment from government authorities. It had been planned that there would be three market teams to cover each district separately, each consisting of one international consultant teamed with one higher level national consultant or preferably COSACA staff member with the support of 3 further nationals and 3 local guides/translators. This was later reduced to only two teams. This was due to the delay in gaining approval from the government and due to other planning and resource constraints.

- **While permissions to undertake the assessment and collect data were being sought, the international team was only able to do a very restricted number of non-government KI interviews due to awaiting permissions.**

- **Small teams with no prior knowledge and experience of market assessment** – key focal persons and the staff allocated to district assessments had limited or no prior experience of market assessments, and this combined with field teams only speaking Portuguese required additional time for explanations and trainings and misunderstandings. Team size was adequate in the first district and insufficient in remaining districts (one team was international consultant, local consultant with a translator and three further team members).

- **Flood/ cyclone areas** - limited focus of district to locations actually at risk, since in Tambara the flood affected area was just along the banks of the Zambezi River.

- **Accurate information reporting** – Some local officials were less prepared or un-prepared to provide information and reliable local figures on trade, harvest yields and general market information, possibly due to the forthcoming elections.

- **Provision of data, and reports** by some COSACA members on their programmes and activities was in some cases delayed and in other cases minimal.

- **COSACA members did not actively engage in the selection of the population of interest. It was tacitly agreed that they should be poor rural households similar to the programme targets – having a maximum 1.5ha of land and no livestock** The Targeting criteria used in the

[^23]: 1 x CARE International, 1 x Save national staff plus 1 x Oxfam short term international staff and 1 X Save international staff newly arrived in country that day and an initial briefing from COSACA coordinator.
5 Context

5.1 Context at District Level

The teams carried out a rapid market assessment in the following districts:

Chicualacuala in Gaza province, Govuro in Inhambane province, Changara in Tete province, Chemba in Sofala province and Tambara in Manica province. Also key markets and producers were visited in Maputo / Matola, Macia, Chokwé, Xaixai, Maxixe, Massinga, Chimoio and Tete city.

5.1.1 Chicualacuala – drought scenario area

Chicualacuala district in Gaza is a remote semi-arid area of Gaza Province, with a population in 2017 of 27456. It covers an area of 11,393 km², thus having a population density of 2.41 people per km². The district is partly covered in dense vegetation and is prone to droughts. The District capital which is on the main road and the railway from Maputo to Zimbabwe is the main trading centre.

Chicualacuala has an ATM and a large market every Thursday when the train to Zimbabwe stops. The other trading area is in the nearby town of Mapai which is on the main road and is a train stop that has several shops. Some of these shops have PoS or electronic transfers, including M-Peza, e-Mola and Millennium BiM and the town also boasts a new medium sized mill.

Most goods not produced locally are trucked into the District from either Chokwe or directly from Maputo. The extent of informal or cheap imports across the border with South Africa was raised by a number of informants. Less was heard about informal imports or exports to Zimbabwe. Since the reference year, when there was only one medium sized shop (or ‘grossista), new traders have opened shop. Where once Maize meal was available from the three retailer/ grossistas, now there are 4 maize meal outlets, and there is a more competitive environment for dry goods.

Very small quantities of nhemba are for sale, from local production in the market area. There is nowhere selling certified maize seeds. shops in the town

There is a 50km stretch of poor unpaved road between Chokwe and Chicualacuala that becomes an obstacle in most wet seasons. Significant parts of the district are remote, but most have villages which have small kiosk type shops known as bancas and are served by light trucks (about 3MT) used for carrying good and passengers, known as chapas. FGDs reported the cost of a one-way trip to Chicualacuala or Mapai as 100MZN. These areas are, however, difficult to access in the rainy season due to the poor unpaved roads. Within communities, away from the road and railway, many exchanges of livestock and crops take place between households as needs arise. In addition, in good years informal traders travel to villages to buy crops and livestock from wealthier families.

24 https://www.citypopulation.de/php/mozambique-admin.php accessed 4/6/18
25 (now capital of its own district - but was until recently part of Chicualcuala)
However, bad roads, limited communication and low demand for some of the local crops such as sorghum (grown particularly in the northern part of the district) are constraints to the development of local markets. The flow of market information is also limited, putting households in the zone at a disadvantage when it comes to negotiating with traders. Additionally, the consecutive failed droughts that have impacted the area over the past few years have forced households to consume their stocks of maize grain, subsequently putting pressure on the markets to increase supplies due to a lack of production.  

**National KIs** consistently identified that the lack of initial demand (caused by insecure livelihoods & poverty) was added to by the remoteness of target beneficiaries from markets (due to distances involved and poor and poorly maintained, road infrastructures). FEWSNET identified; “Overall, households within the district are not sufficiently connected to the markets in ways that could enhance both their purchasing and bargaining power. Seasonal variability in the demand for casual labour and natural products (e.g. for thatching grass, construction poles and charcoal), and in the availability of raw materials such as maize husks for making local beverages, affects the seasonal flow of cash incomes to the poorer households”. (FEWSNET MZ22)  

Wild food consumption substitutes for poor grain reserves for the less wealthy households during the whole rainy season (from October through April), even beyond the beginning of the harvest. The normal rainy season runs from November to March, but is now increasingly irregular. It overlaps with the lean season, when stocks run out for many households and staple food prices are highest. January is a particularly difficult month, when poorer households especially can be coping with high rates of malaria and diarrhoea, low food stocks, and the continued pressure to earn cash income through long days of weeding on local farms. See seasonal calendar below.

<table>
<thead>
<tr>
<th>Seasonal Calendar – Chiculalacuala</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct</td>
</tr>
<tr>
<td>Rainy season</td>
</tr>
<tr>
<td>Maize</td>
</tr>
<tr>
<td>Cowpeas</td>
</tr>
<tr>
<td>Lean Period</td>
</tr>
<tr>
<td>Charcoal production</td>
</tr>
<tr>
<td>Wild foods</td>
</tr>
<tr>
<td><strong>Green Harvest</strong></td>
</tr>
<tr>
<td>Harvest</td>
</tr>
<tr>
<td>Land</td>
</tr>
<tr>
<td>Planting</td>
</tr>
</tbody>
</table>

Adapted from *FEWSNET MZ22 with material from assessment*

Charcoal production permits are issued to individuals who then employ labour to make the charcoal. Many of the charcoal production communities along the roadsides are temporary consisting of families from more remote locations who are employed to make charcoal. People living along the main road are able to access this means of income generation, people in villages more distant from the road and railway are less able to sell charcoal and wood products. Charcoal production is reportedly not sustainable at current rates.  

Poor households have smaller household sizes, few or no cattle and the least amount of cultivated land. They cultivate the least in the village because they have no oxen for ploughing, they have few cash resources, and are themselves often employed to work on the plots of better-off households, leaving them with less time to devote to their own land. In a normal year, poor families rely on wild

---

26 FEWSNET Mozambique Livelihood Baseline Profile. Southern Semi-Arid Cereals and Cattle Livelihood Zone (MZ22) (FEWSNET MZ22)
foods (such as baobab) and the market for about 30% of their food needs, is met mostly through casual work, as well as the sale of charcoal and forestry products. In a drought year without humanitarian assistance people would increase the consumption of wild foods, step up sales of charcoal and forestry products, and members of households would increasingly migrate to find work. (FEWSNET MZ22).

Vulnerable households in Chicalacuala District received seeds and food vouchers in 2016/7. Some people in FGDs said they were actually self-sufficient for maize and nhemba in a good year like 2013/4 but had completely failed harvests in 2017. When asked about the way they would prefer to receive assistance, they all said they would prefer cash although they feared some would be spent by men on drink. Everyone agreed that the money should be given to women so that it could be spent on food and education. Men were reported to be the decision makers for major expenditure.

5.1.2 Chemba – drought scenario areas

Chemba is a district of Sofala, on the border with Manica Province with a population in 2017 of 87,925, an area of 3,978 km² and a population density of 22.10/km² 27

The climate of the district is tropical semi-arid at the bank of the Zambezi and tropical dry in the interior. The average annual rainfall at the bank of the Zambezi is 715 millimetres (28.1 in); in the interior of the district it is 650 millimetres (26 in).28 The district is separated into what is described by the inhabitants as lowland and highland zones. The inhabitants of the lowland zone have access to the Zambezi river and cultivate islands on the river when the water level falls at the end of the rainy season. The Lowland zones are prone to seasonal flooding, the Highland zones are prone to drought and also to washouts of roads at river crossings. In Lowland villages next to the Zambezi River villagers have fishing and cattle as well as cultivation of maize on the islands as livelihood activities. There are 2 harvests per year in the lowland zones, during droughts the first harvest can be lost, but the ‘island’ harvest is usually reliable since it is river-fed. However, in 2017 the second harvest was reportedly affected by rats. When there are severe floods the harvests on the islands and river edges are affected. The study in Chemba concentrated on Highland zones since the target of the survey was drought affected areas.

The district has no surfaced roads and a very limited amount of unsurfaced roads, some of which are regularly washed out at river crossings during the rainy seasons.

This is considered to be a food secure livelihood zone, which has experienced few serious hazards in the past. Malaria and animal diseases have been highlighted as chronic hazards and drought and crop pests as intermittent problems. Drought impacts normal food access for all households. Crop production accounted for 40-95% of household food sources in the reference year, increasing by wealth group. Inadequate rainfall not only affects access to food but also income earning opportunities associated with agriculture-based livelihoods. Agricultural labour accounts for a large portion of the annual food needs and cash earnings of very poor and poor households and half to three-quarters of their earnings are used to purchase food. Any reduction in food and income for the

27 https://www.citypopulation.de/php/mozambique-admin.php accessed 4/6/18
28 “Perfil do Distrito do Chemba” (PDF) (in Portuguese). Ministry of State Administration. 2005
very poor may result in reduced food access. The effect of crop pests on agricultural production, as well as on livelihoods, is determined by their severity. Very poor and poor households obtain 10-25% of their annual food needs from casual work. 

Households in this livelihood zone have a number of strategies to respond to hazards such as increased consumption of wild foods, however, very poor and poor households collect and consume wild foods even in normal years. In bad years, households increase the amounts collected and consume them over a longer period of time. Middle and better-off households may also collect wild foods in bad years.

<table>
<thead>
<tr>
<th>Seasonal Calendar - Chemma Highlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainy season</td>
</tr>
<tr>
<td>Maize</td>
</tr>
<tr>
<td>Sorghum</td>
</tr>
<tr>
<td>Cowpeas</td>
</tr>
<tr>
<td>Lean Period</td>
</tr>
<tr>
<td>Malaria</td>
</tr>
<tr>
<td>Casual Labour</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainy season</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maize</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorghum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cowpeas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaria</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casual Labour</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source - adapted from (FEWSNET HEA baseline – Zambezi Basin) with assessment data

Very poor and poor households seek out more local casual work in bad years and migrate to neighbouring areas when work is not available locally. Selling of animals: Households, particularly those from the middle and better-off wealth groups, sell additional livestock to cover food and other essential purchases in bad years. There is a limit to how many animals a household can sell without negatively affecting herd viability, production and livelihoods. Poorer households are less able to expand this strategy, as their normal livestock holdings are smaller. Switching expenditure: Non-essential expenditure is reduced or cut out entirely (e.g. in the case of clothing) in bad years, but there is less flexibility with this option for the very poorest households (FEWS NET Zambesi)

Chemba district was supported by Oxfam in 2017 when two distributions were carried out, one voucher based distribution and one direct distribution of seeds. A beneficiary interviewed in the highland zone reported that she had received tools and seeds of maize and sugar beans in the first (voucher based) distribution, and seeds of sorghum and maize in the second distribution. She reported that these certified (gizungo!) seeds had produced a good harvest, but that this had been because there had been good rains after planting. In FGDs and household (HH) interviews in the district, people expressed satisfaction with the vouchers, although they were seen as distributions, because the fairs were close to home.

Currently the maize crop is being attacked by fall army worm. No pesticides are available locally and Agricultural Extension Worker said that people were being advised to plant a month earlier than normal in order to beat the infestation.

---

29 FEWS NET livelihoods baseline profiles Zambezi Basin, Mozambique. November 2010 (FEWS NET Zambezi)
5.1.3 Changara: drought scenario

The District of Changara, in Tete Province, had a population of 128,453 and occupies an area: 6,148 km², giving a population density: 20.89/km² in 2017. Running through the district is main road 102 linking major agricultural production areas of Chimoio and Tete. Informal sales of baobab, charcoal, maize and other products takes place in significant quantities. There is also a road with a border crossing to Zimbabwe, which facilitates the formal import and export of goods. There are other border points where less formal trade takes place. There are no large markets, so most households rely on the capital, Luenhe and local markets such as Cuchamano and Mazoe on the main roads to sell and buy commodities. Maize grain is for sale for local milling, and small quantities of Nhmeba are for sale in the market area. Although packets of certified vegetable seed were available, the assessment team found nowhere selling certified maize seeds.

Away from the main road, poor road networks and inadequate vehicle transport constrain market access in the zone. Traders from Tete and larger towns purchase grains at the farm gate and sell non-food essentials throughout the zone. Various seasonal streams and rivers transect the District and during the rainy season road access is often hampered, limiting the flow of commodities. Market access in the zone is limited, although most villages have small kiosks (banca fixa) that mostly sell soft drinks, biscuits, soap and phone top-up cards (FEWSNET HEA baseline -Zambezi Basin). People in FGDs reported selling produce when they had a surplus but only when they wanted to buy goods – and they travelled by oxcarts.

Poor rural households have a number of livelihood strategies predominated by casual labour for agriculture and construction, as well as brewing. A minority of the zone’s residents engage in very small-scale mining, mostly of gold and precious stones. Some households located near one of the roads may also sell wood products, charcoal and wild foods (also for consumption), particularly baobab. (FEWSNET HEA baseline -Zambezi Basin).

Poor households typically have a land holding of 1.5- 2.25 ha which produce about 60% of the household’s food needs in an average year. Food security in the district is largely determined by rain-fed crop production, not only because it accounts for the bulk of households’ annual food needs but also in terms of labour opportunities for poorer households. Crop production and its associated income generating activities are largely determined by the rainy season, which should start in mid-October and continue to the middle of March. (see the seasonal calendar below) although in recent years, rainfall has become increasingly erratic. Poor households typically own less land and no cattle. Having smaller plots of land and no draught animal power translates into limited crop production, which in turn translates into less access to food and cash income. Very poor households own only a handful of hens and may sell a few throughout the year. (FEWSNET HEA baseline - Zambezi Basin)

In times of drought poor households cope by increasing some of their normal activities such as wild food consumption and sales, migration to urban centres to find work and sale of livestock, although poor households are less likely to expand this strategy, as their normal livestock holdings are very small. Increased sale of charcoal and forestry products, if normal income generating options become strained, are another way for households to expand their income source. In bad years, some middle households and poor households that do not normally engage in charcoal sales may turn to this. Some temporary villages by the roadside may be set up to facilitate sales, with people from more isolated villages moving to the area in order to access the passing trade of the road.

Vulnerable households in Changara District were supported with seeds and vouchers for food in 2016/7 by Save the Children. 2 FGDs in one village revealed that men would have preferred cash, women would have liked a wider choice of food products with voucher. Men were reported to make the major spending decisions, although women hold on to the money.

5.1.4 Tambara - River basin flood areas

With an area of 4,285 km² it has a population density of 12.82/km². Tambara District, in Manica province, had a population 59,948 in 2017. Although most of the district is semi-arid and prone to drought, much of the sparse population is concentrated along the Zambezi valley (the lowland), which is subject to flooding from the Zambezi river in the wet season that could be exacerbated by opening of the dams above. River banks and islands are used for cultivation but are frequently flooded in the wet season and both crops and traditional housing can be lost when flooding occurs particularly when the inundation persists for long periods. Many households have land and houses in both ‘lowland’ and ‘highland’ zones. The assessment was focused on the areas prone to flooding.

There are no large markets in the district although the capital Nhacolo is an administrative centre with two medium-sized Grossistas stocking most things, including soap and zinc sheets and selling stocks to bancas, as well as providing a mobile shop service to some nearby villages. There is also a small market place where small-scale grain traders sell by the side of the road when there is demand. Nhacolo is accessible by approximately 130km of

---

unpaved road branching from the main route 102 from Chimoio to Tete. Most goods sold in the district are actually sourced from the route south towards Chimoio, a truck leaves at 3am most mornings, often with livestock for sale. There is no public transport in that direction and poor households are unlikely to have their own transport, so they resort to getting rides on trucks and other transport. There are chapas traveling along the river valley road towards Sena, where local restaurant and banca owners restock.

Logging companies are present in the area, and some households, with greater access to land, reported selling up to 50 buckets (of 20l) surplus of nhemba in good years (at the farm gate) to the loggers, or traders from the neighbouring district of Guru. The distance from the main road together with the cost of transport precludes the manufacture of charcoal and the sale of wild foods and fish as a livelihood strategy, although the latter occupations increase household food security. The logging trucks cause considerable damage to the roads and render parts of them problematic and impassable for parts of the wet season, when floods are a risk, this also coincides with the lean season when food purchases peak, as poor households have exhausted their reserves and would normally rely on casual labour in construction and on larger farms.

<table>
<thead>
<tr>
<th>Seasonal Calendar - Tambara Lowlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainy season</td>
</tr>
<tr>
<td>Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep</td>
</tr>
<tr>
<td>Cowpeas</td>
</tr>
<tr>
<td>Lean Period</td>
</tr>
<tr>
<td>Malaria</td>
</tr>
<tr>
<td>Grass cutting/ thatching</td>
</tr>
<tr>
<td>Casual Labour</td>
</tr>
<tr>
<td><strong>Green Harvest</strong></td>
</tr>
<tr>
<td>Harvest</td>
</tr>
<tr>
<td>Planting</td>
</tr>
</tbody>
</table>

Seasonal calendar adapted from (FEWSNET HEA baseline -Zambesi Basin) with assessment data

In normal years, poor households earn cash income from casual local agricultural work (land preparation, weeding and harvesting) as well as for construction for better-off households in order to meet their needs. They also sold small quantities of forestry products and poultry while supplementing household consumption with home-caught fish and wild foods. Severe floods can overwhelm poor peoples’ ability to cope and assistance is required.

After the flood of 2015 focus groups and a household interviewee reported the increased need for casual work, as they lost their riverbed crops. Householders had to arrange transport locally to bring food, but not soap or building materials to affected peoples. In the area there is a mixture of traditional buildings made of wood and thatch intermingled with buildings constructed with local bricks and zinc roofing. A few traditional buildings were washed away by the floods of 2015.

Although the rapid market assessment looked at effects of floods in this district, the effects of the drought on most of the area is currently affecting agricultural production on the higher ground to the extent that there is a local initiative to invest some government funding in a grain bank for the residents, which is to encourage purchasing before prices rise to an expected peak of up to 200MZN per tin (approximately 17.5kg).

Although Save the Children is present in the area supporting education, no direct relief to flood-affected households was provided in 2015. Most people in FGDs said they would prefer distributions of items like seeds, food, soap and improved housing in kind as prices would be likely to rise so they would be sure of what they would get. If they did receive cash they would spend on food, education and health. Men were reported to make the major spending decisions.
5.1.5 Govuro - Cyclone and Flood areas

Govuro District in the North East of Inhambane Province had a population of 40,739 in the census of 2017, (43,000 according to District Administration, 2018) and has an area of 3,967Km2 giving a population density of 10.27 people to the square kilometre.\(^\text{32}\)

Cyclone DLneo in February of 2017 affected Govuro as well as other districts of Inhambane and Gaza, causing 7 deaths and damaging or destroying 20,000 homes (contemporary news reports). Subsequently the District Authorities have set up warning systems to alert communities in advance of approaching cyclones. There is an emergency operations centre and identified safe areas.

There are currently 2 Grossistas in Nova Mambone. They stock Zinc and Bar Soap but do not stock or trade in nhemba. Although Inhambane is known as a nhemba growing area no nhemba wholesalers were found by the assessment team, and it seems there is only household production. Households mostly produce Maize, Rice and seafood. Where nhemba is grown it is grown for the leaves, used to make stew, with the beans mixed in while still fresh. The dried beans are only used to make bhadiiya (fried snack), or as a thickener, not as a main meal. Nhemba surplus if any, is sold to people from Massinga and Maxixe.

One grossista in Nova Mambone can import nhemba if required, and has done so for WFP in the past. One commercial enterprise reported being able to provide up to 2,000 sacks if required, bringing in the nhemba from Nampula Sofala and Zambezia provinces. Paying 900Mts per sack (approximately 50kg) and 50Mts transport, and selling the sacks at 1000Mts in 2017. 2000 sacks at 50kg is 100tonnes of nhemba. However, they would not carry nhemba as normal stock or trade in it, the previous supply was for a contract with WFP.

Soap is also available in Nova Mambone, sourced in Nampula or Maputo and is normally available in any circumstances. However, it was commented that after the last cyclone sales of soap declined because ‘people had other things to worry about and didn’t bother so much with hygiene’

After the last cyclone sales of zinc sheeting declined from 100 sheets a month normal sales to only 50 sheets per month - he attributes this to people having no money to buy zinc sheeting. He holds stock of approximately 400 sheets and sells for 440Mts per sheet, with 1 day replacement of stock from wholesalers in Maxixe. The Government is reported to have provided zinc sheeting to villagers in some cyclone affected areas through ICGN in 2017.

**Seasonal Calendar - Govuro Cyclone belt**

<table>
<thead>
<tr>
<th></th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rainy season</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassava consumption</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cowpeas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lean Period</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak purchases</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fishing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Green Harvest</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Harvest</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Land</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Planting</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Seasonal calendar adapted from (FEWSNET HEA baseline – Livelihood Profiles) with assessment data*

Each Month the District Trade Representative calculates that 50 tonnes of cereal products - mostly maize - come in from Maxixe, some to be consumed in Govuro, some to go on north to Changara province.

There are ATMs at the bank in Nova Mambone, and m-pesa is used by most traders because it is regarded as safer than cash. Informal banking using the *Shitique* syndicate system of loans between 3 participants, and the *Asca* informal loan syndicate system are practiced.

The National Road 1 passes through for 60km leading North to the Save River bridge, the district capital, Nova Mambone is approximately 45km from the main road, set at the mouth of the Save River by the coast. Fishing is a major livelihood, and the town of Nova Mambone exports salted fish to Chimoio, several light trucks operating the route based in Nova Mambone and usually returning empty from Ghimoio, but picking up people on the way as an informal *chapas* system. Depending upon catch between one and two trucks of salted fish per day are sent to Chimoio. The district also produces vegetables and livestock.

There are several *chapas* companies operating in Nova Mambone, each follows a route to a particular village or town, including long-distance to Maxixe and Inhambane at a cost of 420MZN, Inhassoro: 200MZN. and Vilanculos: 200MZN. some 3 hours to the South along the badly potholed NR1. More local destinations are Malovane: 60MZN. (the junction to the National Road 1), Makasse: 10MZN. and Dane: 10MZN. Other destinations are only accessible in dry weather, the village of Matxacane: 100MZN. is regularly cut off, and a local person there operates a chapas to Nova Mambone only on Monday and Friday because children from the village attend secondary school in Nova Mambone staying during the week. Prices for *chapas* are fixed by the government, and set for 5 years at a time, the last revision being in February 2017. Due to increasing fuel costs the transporters say they may go on strike if they are not permitted to increase charges. In Govuro District there are 22 *chapas* pick-ups, and 9 minibuses (used for Inhambane and Maxixe routes) owned by 24 different associations. During recent cyclones and heavy rainfalls transport was not affected more than the usual rainy season road closures and delays.

### 5.2 Transport and Logistics

Africa Gearing Up, a Price Waterhouse study of Southern Africa Logistics found that Mozambique ranked 136th 155 countries in the World Bank’s 2010 Logistics Performance Index. Freight transport throughout the country is characterised by being the responsibility of the purchaser;

---

33 [https://www.pwc.co.za/en/assets/pdf/africa-gearing-up.pdf](https://www.pwc.co.za/en/assets/pdf/africa-gearing-up.pdf)
distribution networks are uncommon, being mostly restricted to the brewing and soft-drinks industries. In place of a distribution system from suppliers, loads are collected, the owners of small and medium sized businesses dispatch their own trucks to collect stock, with loads being mixed and non-palletised. Cargoes are non-standardised and all loading and unloading is done by hand, including unloading and reloading at bridges with weight restrictions such as the Save River bridge in Govuro District.

This results in trucks frequently traveling empty for one leg of the journey. This does however provide an opportunity for carriage of informal loads such as people, charcoal and forestry products. Due to a combination of poor road conditions, high import duties on vehicles and a shortage of spare parts the transport fleet is unreliable and inefficient. Breakdowns are common, with the additional risk of loads being stolen while a vehicle is immobilised.

Mozambique has a total land area 799,380 square kilometres, and yet the road infrastructure is in very poor condition, with only 7,365km of paved roads in the country (and 23,718km of unpaved roads) leaving huge tracts of land without any vehicular access. Many rural areas have no access to markets since where rural transport does exist (the chapas light trucks or pick-ups carrying passengers and goods) these travel between district capitals and larger towns, not often to isolated villages. As a result the majority of the rural population have little or no access to markets which are often 30+km distant, except by walking or, in rare cases, by bicycle. A further constraint may arise because the chapas transport system is in many places regulated by government, with prices fixed for a 5-year period. Since fuel costs are rising globally the likelihood is that it will soon become uneconomic, and in the words of the owner of the chapas company in Nova Mambone (Govuro District) “if the fuel costs increase we will go on strike”.

Seasonal road closures due to wet-season and deterioration due to poor maintenance creates delays and additional expense in transport. It is not uncommon for trucks to be stuck for several days at a time in wet-season, this is simply accepted as a normal feature of transport. Historically conflict-related closures of roads have had further impacts on movement of goods, although this is currently not an issue. The extremely poor condition of the road surface remains a severe problem, and while few burned out trucks are now seen as a result of insecurity, many permanently broken down or burnt-out through mechanical or electrical faults and fire are to be found along the roads.

Where railways exist they provide an opportunity for small-scale traders to access markets, as well as enabling people to travel in search of short-term work. There are 4787km of railways that provide an opportunity for small-business to move goods economically, hence the weekly markets in Mapai and Chicualacuala which can be accessed from Maputo by small-traders. Many individuals purchase items in Maputo for resale at these markets, e.g. a second-hand clothes dealer was interviewed at Maputo Station, loading 6 sacks of clothes, each of which cost 220 Meticals to transport by rail to Mapai for sale in the market, with a similar trip every 2nd week. Such small-scale trade provides rural areas with access to items which would otherwise be unobtainable and enables small producers to sell agricultural products to urban consumers through the interface of the small-traders.

5.2.1 Impact of limited transport on rural people’s access to markets

The consequence of all the above means that villagers in most rural areas have very limited access to markets of any sort. Some villages but not all, have small kiosk shops, selling soap, biscuits, rice and soft-drinks, plus, in many cases, beer. These are resupplied by the owners who take a chapas
to the local town to purchase new stock. The limited transport services are expensive (costing 10 - 100 MZN each way to the District capital) and considered too costly by typical beneficiaries, with only a small percentage of poor people have their own means of transport (See Annex 15 for an example of prices and constraints for chapas in Nova Mambone). Including amounts for the cost of transport to access and transport purchased goods in CBA, and ensuring beneficiaries are made well aware of this ‘transport ‘top up’ would be relevant in more remote locations. When NGOs carry out distributions or hold voucher fairs these are characterised by the event being brought to the village, or at least to a convenient nearby location. (In some cases during the COSACA drought response the beneficiary villagers were provided with transport to get them to the events). As a result when asked which type of assistance would be preferred in future those who do not have independent means of transport are unanimous that they prefer the voucher fairs, since the access to these events was a major part of their success.

The assessment team learned that lack of access to transport limits household interaction with markets/ demand in the following ways:

- Reduces the ability of small agricultural producers to reach markets which would provide an opportunity to sell surpluses in order to make purchases
- Reduces the opportunities for income generating activity, such as charcoal production, if not close to a main highway,
- Some children attending secondary schools have to live in rented rooms in towns during the week in order to continue with schooling due to the lack of rural transport and secondary schools
- Where rural transport exists, it is relatively expensive for households that are subsistence farms and little access to other income.

The combination of increased spending and reduced income opportunities creates a situation where money is in extremely short supply even in good years.

**Impact of lack of rural transport on preference for assistance;** It was noticeable to the assessment team that individuals who said that they would prefer an unrestricted cash distribution were those who lived near a *chapas* service or had their own bicycles and were thus able to travel to shops. The COSACA target group consists of rural poor smallholders, with an average household size of 5, and this group has the least access to means of travel to shops or district centres. Any distributions of commodities, or voucher fairs would potentially be disrupted by wet season road closures, as are the normal resupply of shops. If any cash-based assistance was to be carried out the provision of transport, either as part of the cash assistance or by providing transport to a market would have to be included for some less connected communities.

**5.3 Operating Conditions for Agricultural Production Markets**

In 2017, according to the World Bank, 67% of the population lived in rural areas\(^\text{34}\), and the agriculture sector employs over 71% of the rural populace in Mozambique with over 90% of them being smallholder farming households practicing subsistence agriculture. The seasonal calendar for rain-fed agriculture starts in October in the Southern Provinces and November/December in the Northern Provinces with harvests commencing in April till May/June. Due to the vagaries that rain-fed agriculture is exposed to because of climate variability and change, most smallholder farming

\(^{34}\) https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=MZ. Accessed 14/7/18
households are not able to produce food to last them for twelve months. As such, almost every consumption season is characterised by lean season food gaps that are typically experienced from October/November to March with the peak being in January and February. The situation starts to improve in March due to the consumption of green maize with harvests in April. (Adapted from the February 2018 COSACA “DFID 2017/18 Lean Season Recovery Response Proposal”)

In rural areas the roads are particularly limited, leaving small farmers locked into a cycle of poverty that limits their income due to limited production possibilities of small land holdings and receiving poor prices. This in turn affects their demand for fertilizers, pesticides and improved seeds, metal storage containers, water management and mechanization. This ultimately limits their yields (average maize yield per hectare is less than 1MT) and increases their post-harvest losses leaving them less resilient and more prone to droughts and floods and limited incentive to produce surplus. The evidence for continued social safety net support and advocacy as well as further livelihood support prior to and/or alongside short-term emergency cash or in kind response are evident. Lack of demand coupled with the road transport issues also limits entrepreneurs’ willingness to set up businesses and supply these areas too.

5.3.1 Market Conduct Summary points – Agricultural Products

- Consumer prices are not transparent or openly displayed. Traders charge different prices to different consumers for the same commodity
- Most producer prices are negotiated in private arrangements rather than being advertised so farmers are less likely to know the real price. Where they are transparent – as with some of the large mills, they are set low.
- Small Farmers in low-production areas generally sell directly to buyers at their homes and/or farms, where they get less income, but do not incur costs of transporting produce to markets. Often they are unaware of the real market price, which leaves them in a poor negotiating position.
- Farmers sell in small quantities and they rarely seem to engage in collective bargaining or marketing, even when they are part of an association. This means they lose the opportunity to get higher prices due to lack of increased bargaining power and lack of economies of scale from trading in larger volumes.
- There are limited standard units of measurements in markets for volumes traded such as scales for weighing. Generally, buckets and tins are used for selling unpackaged dry goods even at wholesale markets.
- There appear to be no grades and standards followed when selling and buying, so farmers do not get price premiums for producing higher grade food commodities.
- Shop-owners collect supplies from manufacturers and collection/distribution points to cut out transporter and middleman costs. This is very inefficient and often leads to goods vehicles standing idle for some periods, and being run for at least part of a return trip at below capacity
- There are very few transport companies and the cost of moving goods is high and also slow due to road conditions.
6 Market findings

6.1 Critical Staple Food Market – Maize Meal

6.1.1 Maize supply

Domestic production in 2014, the reference year harvest, was reported as good at approximately 2 million MT. Surplus production from the North is exported or trucked to deficit areas. Even so, even in a good year, the deficit Southern and Central region requires imports of maize or maize meal from South Africa (see domestic and regional trade flow maps in annex 12.)

Trade flows from the North were disrupted in the first part of the 2016/17 agricultural campaign, as armed groups caused insecurity and targeted transport, mainly on the main N1 and 102 roads in Manica and Sofala provinces. According to the government, 43 people died and 143 were injured in such attacks from November 2015 to December 2016. During that period convoys were required for vehicles – adding to the time and cost of transport and impacting on prices and availability. Although there were no attacks in 2017, a truce was not actually declared until May that year, so there was uncertainty about using the roads safely and possible consequent price and availability issues for a prolonged period.

Domestic supply in 2017 was 1.9m and the estimated requirement was over 2.3m which was met by imports, mostly from South Africa. Surplus from small farms is negotiated for at the farm gate and “chunked” into bulk by collectors/ distributors, who in some instances people reportedly felt hoarded grain in order to increase and maximise prices. They then sell to mills, grossistas, mobile traders (who sell by the side of the road or directly from a small truck) and other vendors. Maize grain is generally traded by 20 litre buckets, or sacks containing 4 x 20 litre buckets (approximately 70kg).

When mobile and market vendors in Changara and Chemba districts require maize, it is generally bought in the form of grain from Catandika and Barue districts (Manica) and milled locally. Commercial maize meal is mostly purchased from grossistas in Chimoio, although Chemba is also supplied from Sena. Chicualacuala stocks are brought in by local traders from surplus areas along the Limpopo for local milling, and maize meal is purchased from grossitas in Chokwe or directly from the large mills in Matola (Maputo).

6.1.2 Local Stocks in Assessed Areas

In a good year, like 2014, local merchants keep minimal stocks of Maize meal as demand is low and the product is perishable, stocking more in the lean season. In a bad year such as 2017, when demand is higher for longer periods turnover is faster with restocking taking place much more frequently. Some road disruptions occurred during the rainy season interrupting supplies to and within Chicualacuala and Chemba Districts. Although supplies to Changara on the main road are unaffected by rains, the interior of the district is still prone to seasonal disruptions.

http://www.mea-risk.com/kb/2016/04/19/mozambique-organization-renamo/
FEWS NET Regional Maize Supply And Market Outlook Update February 19, 2018
6.1.3 Maize milling and fortification

Since 2017 commercial mills have been required by law to fortify maize when it is milled. There are at least nine medium to large size millers (for both wheat and maize) in Mozambique that have milling capacities ranging from 50 MT/day to 380 MT/day in a variety of bag sizes from 1 kg to 50 kg. These tend to be close the southern border for imported grains and/or close to the major production areas. The finished product is packaged in various different sizes, measured in kg.

In addition, there are thousands of small-scale millers that process less than 5 MT of grain per day, but many typically mill less than 1MT and they generally do not have a fortification capability. A typical mill might have 1 – 3 hammer mills and they mill locally produced cereals for local consumption. Customers either grow their own cereals or purchase un-milled supplies in the market and bring to a small local mill, for which they are currently charged between 40 and 50 MZN for up to 20l (about 17.5kg). Prices are not advertised – everyone negotiates for themselves. This generally works out cheaper (but lower quality) than purchasing maize meal, and the bran is frequently used for brewing or fodder. Small batches of 20 litre buckets of grain may be milled at a time as unpackaged maize meal has a shorter shelf life than grain, so most households keep their reserves as grain.\(^{38}\) \(^{39}\)

Over the period 2013 -2017 the price of Maize grain and maize meal (see following chart) shows a clear correlation between the price of Maize Meal and the level of inflation or the value of the of the Metical, (see maize prices and metical inflation annex 13) with the price of the maize meal following slightly behind the inflation/exchange to the USD rate, which would be expected as domestic production prices increase following inflationary pressure, and the import prices adjust to the new exchange rates.

![Maize Meal and Maize Grain prices, 2013-2017](data:image/png;base64,iVBORw0KGgoAAAANSUhEUgAAAAEAAAABCAQAAABhcB3zAAAAGXRFWHRTb2Z0d2FyZQBBZG9iZSBJbWFnZVJlYWR5ccllPAAAAyZpVFh0WE1MOmNvbS5hZG9iZS5jb20uellG2yD9TzAAAAAElFTkSuQmCC)

Data Source - WFP\(^{40}\) with analysis from the rapid market assessment team

\(^{38}\) [http://dlca.logcluster.org/display/public/DLCA/2.7+Mozambique+Milling+Assessment;jsessionid=7C63ACC30810E7O6C0A DE45087E0972#id-2.7MozambiqueMillingAssessment-MillingCompanyGaniCommercial](http://dlca.logcluster.org/display/public/DLCA/2.7+Mozambique+Milling+Assessment;jsessionid=7C63ACC30810E7O6C0A DE45087E0972#id-2.7MozambiqueMillingAssessment-MillingCompanyGaniCommercial)

\(^{39}\) [ffinetwork.org/.../Day%202-3-8-Maize-Fortification-strategy-workshop_Mozambique...](http://dlca.logcluster.org/display/public/DLCA/2.7+Mozambique+Milling+Assessment;jsessionid=7C63ACC30810E7O6C0A DE45087E0972#id-2.7MozambiqueMillingAssessment-MillingCompanyGaniCommercial)

\(^{40}\) [https://data.world/wfp/4fdcd4dc-5c2f-43af-a1e4-93c9b659a27](https://data.world/wfp/4fdcd4dc-5c2f-43af-a1e4-93c9b659a27)
Maize Grain price curves remained remarkably similar to those of Maize Meal, despite some of the Maize Meal being imported while the grain is more likely to be domestic produce. Note that the actual price of grain is lower than that of meal, to reflect the additional cost, packaging and density of the milled flour. Prices of grain have fallen to pre-crisis levels while milled maize remains more expensive. This may reflect the increased cost of imported maize meal as a result of the fall in exchange of the Metical.

In addition to the recent volatility of prices, there is a wide disparity of prices in different locations within the country, and costs reflect the other costs involved in transport and logistics. In Chicualacuala in April 2014 5kg of maize meal (import from South Africa) cost 38 MZN, whereas in April 2017 it cost 55 MZN.

6.1.4 Demand

Rural households generally rely on staples to fulfil most of their calorific requirements, and the team were told by an official for SDAE that they use a figure of 500g per person of maize meal per day for planning purposes.

In a good year, like 2013/2014 Changara, and Chembas small farmers reported to the assessment team they were self-sufficient, and some were able to sell surplus to the market, although they got low prices, however the number of focus groups was low. Whereas according to FEWSNET (MZ22), in Chicualacuala smallholders were never able to grow all they needed and purchased for 4 to 5 months a year about 40% of their maize needs. In a bad year they reportedly needed to purchase almost all. In 2017 Chembas farmers were hit not only by drought in the highlands but also by pests in the lowlands, leaving them with about 30-35% of their normal production and having to purchase the rest of their needs. Changara had hardly any of their own production and needed to purchase for most of the year. In the Changara village of Mudze last year they had to purchase all their needs as their first planting failed as the rains stopped after a month and they received donated seeds from SCI for a replanting – but it all failed to germinate. 41 Poor households reported increased coping strategies, made substitutions for other staples and some were provided with humanitarian assistance.

6.1.5 The effect of vouchers on the market

All three drought districts investigated, relied on COSACA food vouchers for fairs during 2016-17, to the value of 3200 MTN, later rising to 3800 MTN. No data on the amount of maize meal purchased with vouchers was available to the assessment team.

The market was able to fulfil the increased demand created by voucher fairs in 2016/7. However, it should be noted that only larger local traders were contracted, and of those interviewed, some reported that the limited competition at the fairs meant they were able to purchase stock with a high degree of confidence on sales of a restricted selection of commodities including maize meal, sugar beans and vegetable oil. The fairs increased their turnover greatly, but most of the voucher money spent was used outside the area on purchasing supplies, thus reducing market multiplier benefits to the local economy. Many of the households interviewed referred to the voucher fairs as distributions. When asked about their preference regarding modality of assistance, many women preferred the vouchers because it was easier to physically access the fairs than going to town. Some would have preferred distributions of commodities because the effects of inflation would be mitigated.

6.1.6 Estimated volume of maize meal purchases

The following table below shows the estimated household consumption needs of poor smallholder farmers in each of the drought districts. The estimated number of smallholders per district is based on provincial estimates from a household survey\(^42\). This was calculated by the assessment based on the national maize balance sheet in 2017/8 reported by FEWS NET/WFP\(^43\) although it is recognised that this may not be representative of average consumption patterns for the population as a whole.

<table>
<thead>
<tr>
<th>District</th>
<th>District Population 2017*a</th>
<th>Poor smallholder farmers **</th>
<th>Estimated Poor smallholder farmers **</th>
<th>Annual Est requirement for Maize MT***</th>
<th>2014 Estimated % maize from purchases****</th>
<th>2014 estimated market purchase</th>
<th>Est purchases (MT) 90% worst case scenario *****</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chembra</td>
<td>87925</td>
<td>40%  35000</td>
<td>2900</td>
<td>0</td>
<td>0</td>
<td>2600</td>
<td></td>
</tr>
<tr>
<td>Changara</td>
<td>128453</td>
<td>35%  45000</td>
<td>3700</td>
<td>0</td>
<td>0</td>
<td>3300</td>
<td></td>
</tr>
<tr>
<td>Chicalacuia</td>
<td>27456</td>
<td>38%  10000</td>
<td>820</td>
<td>25%</td>
<td>200</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>243834</td>
<td>90000</td>
<td>7420</td>
<td></td>
<td></td>
<td>6600</td>
<td></td>
</tr>
</tbody>
</table>

\(a\) National Survey and Segmentation of Smallholder Households in Mozambique. CGAP March 2016
\(b\) FEWS NET/ WFP. Southern Africa Regional Supply and Market Outlook Update. February 2018

---

6.1.7 Maize meal baseline ‘normal year’ market map

The following baseline maize meal market map shows that imports, particularly to the southern deficit provinces, are required to meet demand as domestic production is insufficient due to very poor yields achieved. Surplus from high production areas are often exported rather than transported to the South because of the high cost of carriage.
The differences in the reference year and crisis market maps are:

- In non-crisis times, local retailers stock maize meal mainly for the consumption of urban/ non-farming households, as rural smallholders consume home-produced maize, which is ground ant small local mills or pounded at home.
• The drought market map clearly shows the increase in demand for ready ground maize meal from the market by smallholder farmers in the areas assessed due to low household production.

• During the drought there was a significant increase in the market price of maize and maize meal.

• The increased purchasing of maize meal was mostly paid for through the provision of vouchers by COSACA and, to a lesser extent an increase in normal livelihood strategies – such as casual labour, charcoal production, wild fruit consumption and sales.

6.1.9 Overall findings on maize meal

• Maize meal has a short shelf life, so, when the need arises, people in villages purchase grain for local or home grinding and milling, as it keeps better.

• Most households have a number of different staple food alternatives (such as sorghum, cassava and rice) which they will substitute for, depending on price and availability.

• In a drought year, reduced subsistence production means household reliance on the market for staples increases – this would normally have been paid for by increased recourse to other activities such as casual labour, harvesting and consumption of forestry products, wild foods and resorting to other potentially more negative coping strategies. In 2016-2017, however, many households in the assessed areas received vouchers for fairs where maize meal was one of the products available, reducing the need to access distant markets and engage in coping strategies.

• Effective demand for maize meal was supported by the provision of these vouchers and fairs, but it is less clear how much demand for other sector products would be created if MPG (multipurpose cash grants) with less conditions or restrictions were given, as people may opt to buy grain or other food substitutes rather than other sector goods.

• It is not clear that supply would easily be met either, as traders regularly reported they might not be prepared to risk stocking up on maize meal without the certainty provided by the voucher scheme. Traders explained that they are cautious not to stock too much maize meal in particular since the shelf-life is limited to about 3 months, compared to the longer storage life of maize grain or other substitutes. Traders interviewed were clear that they knew a cash programme was planned.

• The market for maize is fragmented due to the huge land area served by a very limited and poor-quality road network, limited and expensive transport, and the location of production areas and imports often being distant from the areas of demand. This results in some rural locations with good availability and lower prices, and other locations where availability is constrained and prices are consequently higher. Due to the limited time available for this assessment and hence the limited coverage of data collection, the assessment team was unable to get a clear picture of the differences in availability and price within each district.

• At a national level, even in a good year, domestic supply is buoyed up by imports, particularly in the southern deficit region of Mozambique, from the Southern Africa region – there are considerably opportunities for expanding supply from imports, although the price is likely to be high as droughts tend to be regional.

• The cost of imports is mediated through exchange rates, and the Mozambique Metical has stabilised over the last year, making imports more affordable.

6.2 Critical Livelihood Recovery Market – Certified Maize seed

The agricultural sector is dominated by smallholder farmers who account for 90% of the cultivated area used and equate to over 2.5 million households, corresponding to 99% of the total number of farms. These smallholder farmers predominantly produce food crops for own consumption and sell
only when surpluses arise, alongside some cash crops, on farms ranging in size from 0.5 to 1.2 hectares. The smallholder farming system is characterized by the use of traditional technologies with limited irrigation (7.3%), pesticide (4.7%), fertilizer (4.6%) and improved seed (6%) use. This results in low average yields (MASA, 2015) at about 1 metric ton per acre, with some 98% of farmers in the country, only using grain for planting in their fields (USAID. Mozambique Early Generation Seed Study 2016). Typically, farmers use their own or locally sourced grain as seed (often sourced informally from family and neighbours), and reuses it for at least three seasons, leading to continuous decline in germination and yields, season after season. Although the use of certified seeds among farmers has increased from 6% in 2013 to 8.4% in 2016, and fertilisers increased from 2.7 to 6% these levels remain low.

6.2.1 Certified Maize Seeds Supply

Supplies of domestically produced certified maize seeds were estimated to be just 4375 MT in 2016 (TASAI). The USAID SPEED report estimated the overall market size for maize seed to be 39300MT, most of which is currently met through the farmer-saved (informal) seed systems.

The formal seed system is a deliberately constructed system that involves a chain of activities leading to genetically improved products: certified seed of verified varieties. The chain starts with a plant breeding or a variety development program that includes a formal release and maintenance system. Guiding principles in the formal system maintain varietal identity and purity and produce seed of optimal physical, physiological and sanitary quality. Certified seed marketing and distribution take place through a limited number of officially recognized seed outlets, usually for sale. Another factor limiting interest in certified seed is the lack of availability of certified seed outlets. The central premise of the formal system is that there is a clear distinction between “seed” and “grain”.

Breeder seed is produced by or under the direction of the plant breeder who selected the variety. During breeder seed production, the breeder or an official representative of the breeder selects individual plants to harvest based on the phenotype of the plants. Producing seed within stringent standards of genetic control ensures that breeder seed is genetically pure and accurately represents the varietal characteristics identified by the breeder during variety selection. Breeder seed in Mozambique is mostly produced by the National Agricultural Research Institute’s (IIAM) and the International Centre for Maize and Wheat Improvement (CIMMYT). According to The African Seed Access Index (TASAI) there are only a small number of active breeders undertaking breeding activities of maize; the production of early generation seed from the public sector are constrained by several factors including:

(i) limited seed processing and storage facilities;

44 (Implementation Completion and Results Report - Ida-52140 and Ida-55810 - World Bank 2018), 45 Mabaya, E. et al. Mozambique Brief 2017 - The African Seed Access Index (TASAI). 2017 46 Marrule, H. Brief Review of the Mozambique Seed Market (SPEED) USAID. 2014 47 However it is not necessarily evident that even with access to nearby sales, whether target beneficiaries would have the understanding of the advantages needed to stimulate purchases alongside the knowledge required for effective use. Hence complimentary livelihoods programming would be recommended in the event of any cash programme aimed at increasing certified seed use amongst current targeted groups. 48 (USAID. Mozambique Early Generation Seed Study 2016) 49 (USAID. Mozambique Early Generation Seed Study 2016)
dispersed areas of production, making breeding activities expensive; (iii) possibly limited availability of irrigated land for maize isolation“ (TASAI, 2017)
(iv) lack of dedicated, skilled technical manpower for the continuous strategic management and supervision functions.”

Basic seed is the descendent of breeder seed produced under conditions that ensure maintaining genetic purity and identity. When foundation seed is produced by an individual or organization other than the plant breeder, there must be a detailed and accurate description of the variety the basic seed producer can use as a guide for eliminating impurities (“off types”) during production. Most basic seed originates from the IIAM’s Basic Seed Unit (USEBA). Volumes of these seeds are typically too low for sufficient multiplication and wide-scale distribution.

Private sector seed companies are slowly expanding their own basic seed development programs, though they complain of a lack of breeder seed, capacity constraints, and delays in getting new varieties approved for commercial sale. New varieties (or foreign varieties seeking entry into the Mozambican market) require two years of field trials to be submitted to the National Directorate of Agricultural Services (DSNA) for review and approval. Many seed producers are sourcing breeder seed from Zimbabwe or South Africa. A USAID report related that respondents interviewed stated that it was common for basic seed from IIAM research facilities to achieve just 40–60 percent germination rates at the multiplication stage. Although it is not clear if those low germination levels were due entirely to seed quality, or if there were issues with handling and or planting.

The import of genetically modified organism (GMO) maize seed for test trials has recently been approved, subject to specific controls with a special permit. One key informant felt that the controls were not rigidly enforced.

Certified seed: Certified seed is the descendent of breeder, or basic seed produced under conditions that ensure maintaining genetic purity and the identification of the variety and that meet certain minimum standards for purity defined by law and certified by the National Seed Authority (ANS) (Mozambique Early Generation Seed Study 2016). While there appears to be no reliable data on seed demand, TASAI estimated that sales of certified maize seeds amounted to just 4375MT in 2016 and the market share for the biggest four seed companies was 80%.

Quality Assurance. There is poor infrastructure and equipment from harvest to delivery to the end-users that compromises seed volume and quality, with some USEBA out-growers struggling to access suitable warehousing to store their seed. There are also reports of issues related to fake seed (grain) entering the formal market hampered by only 25 licensed seed inspectors with limited access to resources. The most prevalent certified maize ‘OPV Matuba’ was introduced in 1995 and is reported to have degenerated (USAID. Mozambique Early Generation Seed Study 2016).

Capacity to increase Certified Maize Seed Supply

50 Alberto, M.E. et al. Mozambique Brief 2017 -The African Seed Access Index
51 (USAID. Mozambique Early Generation Seed Study 2016)
53 A department of the National Directorate of Agriculture and Forestry - USAID
54 (USAID. Mozambique Early Generation Seed Study 2016).
MASA is working with donors, UN agencies and all the supply chain actors to increase the domestic production and supply of high quality certified seeds, but the plans require the long term investment of time and resources. In the short term, the capacity of the domestic certified seed supply chain to increase volume is reported by stakeholders to be extremely limited and is considered to be only satisfied from imports from Zimbabwe or elsewhere in the region where GMO is not an issue. Seed companies reported that, the length of the seed import process ranges from 7-30 days, with an average of 21 days (TASAI). One KI for this assessment reported imports often arriving late and so the seeds, once they reached the farmers, were too late for the optimal planting conditions (it is possible that the purchase orders were also not made in time either).

6.2.2 Demand for Certified Maize Seeds

The market assessment has identified similar demand issues to those of recent studies: “Without demand there is no functional seed system. Demand for seed is closely linked to the incentive that the producer has to change its seed variety selected over the years, according to preferences and resistance to shocks such as drought and pests. the lack of nearby certified seed vendors allied with, the high cost of certified seed, which can reach 30 times the price of grain retained by smallholder farmers, constitutes a real obstacle to the producer to decide to buy certified seed. This also allies with the capacity that the producers acquired over time to produce and keep their own seed55. However, it has identified both differences in reasons for supply and demand anomalies in terms of commonly targeted areas and other areas, as well as different interpretations of reasons for ‘low demand’.

In 2016, companies sold 29% of maize seed production to MASA, FAO and NGOs for distribution to farmers at subsidized prices (TASAI) through a voucher programme that gives smallholders up to 70% off the market price during normal seasons or for free/without cost in an emergency situation following a natural disaster such as cyclones floods or drought. Though this was a very rapid market assessment, a reasonable degree of information was gathered and triangulated in the time available, and it is recommended that further evaluation of some of the findings around interventions in certified seed markets are undertaken.

A recent report indicated that the demand for seed from the public sector provides an immediate and assured market for seed companies but prevents the development of a sustainable market56. The subsidized voucher system for seeds interferes with direct demand from smallholder farmers. There may also be indications that farmers are also becoming accustomed to poor seed quality, with a number of farmers and MASA officials interviewed complaining about the quality of seeds and low germination rate particularly for the Matuba OPV maize variety that is largely available through the voucher system. It should be noted that the cause of suboptimal germination could easily be at least partially attributed to poor storage, handling and or planting). Despite the fact that the number of communities included in the market assessment was small, one village where FGDs took place reported a 0% germination rate. In another village one key informant claimed that people compared the cost of subsidized seed to the market price for food grain, and then on finding it was cheaper, people would wash and eat the treated seeds.

The generally poor climatic, soil and water conditions faced by small subsistence farmers is aggravated by low use of complementary inputs such as fertilizers, herbicides, pesticides, and irrigation that further reduces the ability of farmers to optimize the potential yields and subsequent

---


56 (Support Program for Economic and Enterprise Development (SPEED). USAID/Mozambique)
income from use of expensive certified seeds. This can then be exacerbated if the selling prices for their agricultural products are not then high enough to compensate them for the high costs of production\textsuperscript{57}. The typical farm-gate price for maize grain (informal seeds) in September 2016 was 5-7MZN per kg., whereas the cost of OPV certified seed was 90-100MZN/kg and Hybrids were 140-150MZN/kg and the seeding rate for a hectare of land is 25kg.

The assessment team did not find agro-dealers in any of the District Capitals studied, or in any of the local markets. Although certified vegetable seeds were often on sale at ironmongers, they did not stock cereal crop seeds as the owners claimed there was a lack of demand due to the subsidy schemes. The nearest supplier to Changara District was found in Tete, about 80km away, whereas farmers in Chicualacuala had to travel to Chokwe, over 300km for their seeds. Chemba farmers to would have to travel the 380km to Chimoio. In terms of seed demand, one of the primary constraints has been the timely availability of accessible seed near to the small farmers. Most seed stores are located in cities and towns, away from the rural production areas. The distance combined with the poor state of roads contributes to the rise of the seed transport costs in an environment where few smallholders have access to credit (less than 8% of producers have access to credit\textsuperscript{58}).

The majority of land in the districts covered by this assessment are rain-fed, and limited to a single planting period to capture the seasonal rainfall which has traditionally been from October through to December/January (in the South & Central areas of Mozambique). In recent years, drought and erratic excessive and unpredictable rainfall patterns have become increasingly prevalent. The need for early maturing and drought tolerant crops and associated improved soil and water practices is increasingly apparent.

In total, Mozambique has 3,035 agricultural extension agents; 49% of these are public agents, employed by MASA, and the remaining 51% work are in the private sector (including seed companies and businesses engaged in contract farming for cash crops and with NGOs). Most of public agricultural extension agents (83% - TASAI) are male despite the proportions of women involved in farming practices and high proportions (33%\textsuperscript{59}) of female headed households. Given the 3.17 million agricultural households across the country, the ratio of extension agents to farming households is low at approximately 1:1,045. Despite this, farmers interviewed reported receiving advice with regard to use of certified seeds (particularly Matuba), and complimentary inputs, and farmers reported interest in certified seed use and some even said they would buy them if they were available in the event of a cash transfer, although it is not clear where they would actually make their purchases.

In conclusion, it appears that low domestic certified seed production and limited imports may be currently compounded by the local purchasing practices of international agricultural programmes. Though there are indications of a certain willingness of farmers to purchase certified seed, however there are multiple confounding factors limiting this above and beyond the shortfalls in supply. Estimated requirement for maize seeds

\textsuperscript{57} (Marrule, Higino, 2014).
\textsuperscript{58} (Implementation Completion and Results Report. (Ida-52140 And Ida-55810). World Bank 2018)
The following table shows the estimated total amount of seed of any sort used (whether certified or otherwise) by the smallholders of interest in the 3 districts as 1688 MT in the 3 districts studies. If all of the farmers in the three districts were to switch to certified seed use, this would consume over one third of total domestic certified seed production and indicates a substantial shortfall. Stakeholder KIs indicated that it is unlikely that in the short term this volume could be met through imports from the Southern Africa region, although this assessment did not look at the capacity of regional seed markets.

<table>
<thead>
<tr>
<th>District</th>
<th>District Population 2017*</th>
<th>Poor smallholder farmers **</th>
<th>Estimated Poor smallholder farmers **</th>
<th>Est requirement for Maize Seed for .75ha (MT)</th>
<th>2014 10% certified maize seed purchased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chember</td>
<td>87925</td>
<td>40%</td>
<td>35000</td>
<td>656</td>
<td>70</td>
</tr>
<tr>
<td>Changara</td>
<td>128453</td>
<td>35%</td>
<td>45000</td>
<td>844</td>
<td>80</td>
</tr>
<tr>
<td>Chicualacuana</td>
<td>27456</td>
<td>38%</td>
<td>10000</td>
<td>188</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>243834</td>
<td></td>
<td>90000</td>
<td>1688</td>
<td>170</td>
</tr>
</tbody>
</table>

*INE 2017 census preliminary results  
**based on FEWS NET Zambeze, FEWSNET M22 and team estimates

In the event of continued drought or further rapid onset crises, it is concluded that the market supply for certified seed could not meet the seed requirements of targeted beneficiaries should a cash-based programme (of any nature) be implemented.

6.2.3 Certified maize seed market system map

The market map remains unchanged as neither the limited supply nor the limited demand is expected to change.
6.2.4 Overall findings on Certified Maize seed

Though aware of certified seed and its potential yield benefits, the majority of small farmers continue to use own or informally available grain seed which is purchased at the current grain price. The reasons given for lack of demand for and use of certified seed are not just due to a lack of cash to purchase, but in many of the likely targeted communities it is due to lack of presence of certified seed for sale, as well as a complex mix of issue related to quality concerns and suitability to their growing conditions and input regime concerns related to the overall appropriateness and quality of certified seed. Demand is probably also hampered by the lack of local access to agro-dealers (some of the districts assessed were more than 100Km from the nearest dealer). The typical farm-gate price for maize grain (informal seeds) in September 2016 was 5-7MZN per kg., whereas the cost of OPV certified seed was 90-100/kg and Hybrids were 140-150/kg and the seeding rate for a hectare of land is 25kg. Domestic seed production and supply is reportedly hampered by a number of issues including lack of technical expertise and quality storage facilities. The market assessment has highlighted that there remains a substantial deficit/shortfall in the supply of domestically produced certified seed that cannot be increased in the short term, and cannot be adequately met by imports. Assistance Programmes that provide free or subsidised seeds are reportedly purchasing/consuming about a third of all the available supply – which, though ensuring demand from targeted beneficiaries in areas where they are operating, is also limiting the available supply to other farmers who (may/report that they) wish to purchase. It may also reduce beneficiaries’ willingness to purchase seeds at full price in the future as they have become accustomed to unrealistic prices. Stakeholders/Market traders report that the high demand from agencies with seed programmes, is limiting the effective demand from farmers who are used to receiving seeds for free, or at subsidised rates. Further investigation of the reported market implications of Government, UN and NGO subsidised certified seed programmes could be undertaken to ascertain the degree to which the sustainability and competiveness of the seed market are affected (as demand is currently not generated by farmers themselves).

6.3 Food Market – Cowpea Beans (Nhemba)

6.3.1 Introduction to Nhemba Beans

Cowpea production is widespread throughout Mozambique, Nampula province was responsible in 2014 for about 34 percent of total national production of about 104,000 tonnes (MASA 2014). Approximately half of small- and medium-scale farmers produce cowpea on an annual basis, though areas cultivated tend to be very low at only one-fifth of a hectare and yields are likewise low averaging only 275 kg/ha. The average household only produces about 56 kg of cowpea and only about 10 percent of the product is marketed. Cowpeas are sold through informal market channels and is aggregated by medium- and large-scale buyers with buying centres and/or warehouses in rural areas, district centres, and urban areas. Cowpea is sold shelled, as grain, with little value added. (Mozambique Value Chain Analysis USAID. LEO Report 2016)

Cowpeas are important to nutrition and food security: the legumes provide protein, and their leaves are often harvested for fresh consumption during the growing season or dried for later consumption (in some locales, cowpeas are more valued for their greens than their legumes). Cowpeas are drought tolerant and nitrogen fixing. Furthermore, their short- duration production and early-maturing properties lend them well to integration in smallholder farmer inter-cropping systems as
their production can be timed to when labour is less constrained and when vulnerability to climatic variation is reduced. The crop is largely used for household consumption, with fewer than one farmer in 10 selling any of their cowpea production. Cowpeas are a particularly important crop for women-headed households—54 percent of households planting cowpea are women-headed, despite the fact that only 24 percent of households are woman-headed nationally. (Mozambique Value Chain Analysis USAID. LEO Report)

Overall, cowpeas are considered by farming households to be a “food security” or subsistence crop with drought resistance. The crop has nutritional benefits as well as nitrogen-fixing properties, although it is not perceived by either large private sector actors or industry expert key informants to have dynamic market demand and supply is provided through a weak and fragmented production base. Although the market is expanding, there are no easily identifiable market players ready to exert a “demand pull” that could help to drive emergence of a more efficient market or uptake of productivity-improving inputs. There is a lack of data available on cowpea markets disaggregated from beans more generally. However, major buyers report small volumes of exports to Asia (e.g., India, Indonesia, Philippines, Malaysia) as well as some recent sales to the World Food Programme for food aid programs in Angola and Sudan. (adapted from LEO Report 2016).

A trader interviewed in Nova Mambone (Govuro district, Inhambane Province) reported having sourced nhemba in 2017 for sale to WFP. Hassan Mohamed, owner of Manici Commercial, paid 900MZN per kg for 50kg sacks, plus 50MZN transport costs from northern provinces and sold 2,000 sacks to WFP at 1,000MZN each.

6.3.2 Cowpea Supply

Available data for 2013/4 from MASA shows that national production was about 104,000MT, and over 70% of that was produced in the northern provinces. (see annex 14 cowpeas). A trader in Tete described how they collected nhemba in the production areas and that once it was assembled into bulk it was exported or used in urban areas (particularly Maputo) for bhadjias.

Example of Nhemba Trade: Grossista of Massinga

A Grossista trader in Massinga (on the main road in Gaza Province) who purchases nhemba to sell onward to Maputo for production of bhadjiya described the process:

Small producers will approach him at his shop in Massinga to discuss selling their surplus of nhemba. A price will be agreed and he will repay the cost of the transport of the sacks to Massinga by chapas. Producers will bring one or two sacks at a time, this being surplus stock which they are unable to keep due to the problem of pests.

He will store the nhemba in metal or plastic drums and will fumigate them with insecticide to avoid the infestation problem. When he has sufficient stock he will sell onwards to XaiXai or Maputo. He trades a maximum of 10 tonnes in a good year (nothing in a bad year) and provides onward transport using his own truck which travels empty to Maputo to collect stock for his wholesale and retail business. Purchasers will visit him by bus to examine samples prior to purchase. They will generally buy two or three tonnes.

He buys nhemba at 450 MZN per sack (approximately 50kg) plus the transport costs to bring it to Massinga, and sells at 40 MZN per kg including his transport costs to deliver. This applies only in a good year, in a bad year there is no nhemba for sale. It should be noted that the nhemba trade is an extremely small part of his normal business which involves supplying supermarkets in the region, his 30 tonne truck making weekly trips to Maputo to restock. He stated he was the only trader he knew of in the region involved in nhemba trading.
Small farmer households in Chemba, Changara and Chicualacuala all reported producing enough cowpeas to meet their own needs even in drought years. As nhemba are mostly grown on higher ground there were no reports of losses due to flooding. Nhemba production is very low in volume, predominantly intercropped in order to provide a reserve food supply since it is highly drought tolerant, and fixes nitrogen for soil fertility to boost other crops. It is grown in small quantities by almost all farming households. The leaves which are often dried, are well regarded and provide a nutritious foodstuff which is available at the pre-harvest period, supplying an important lean-season food. Households and shop-owners reported that the product has a short shelf-life as it is prone to pests, that limits the amount available for sale, the willingness of shop-owners to sell it, given that generally cowpeas are not generally the preferred bean for consumption. The assessment team found that in most District capitals nhemba was for sale in small quantities (less than 100kg), usually together with other agricultural produce such as sugar-beans. Vendors reported sitting for several days without making a sale. Some household reported selling surplus because they are unable to keep it without getting infestations which can attack other stored products. Nhemba surplus was sold in the local markets by women producers in very small quantities. Some households reported selling surplus (less than 1 kg) to loggers who were working in the area.

6.3.3 Cowpea pre and post harvest losses

Cowpea is very attractive to insects. Insect pests have remained the most important setback to cowpea production, because each phase attracts a number of insect pests. The main pests during the growing season are pod sucking bugs (Riptortus spp., Nezara viridula and Acanthosoma sp.), aphis (Aphis fabae, Aphis craccivora), blister beetle (Mylabris spp.) and pod borer (Maruca vitrata). Cowpea is also susceptible to nematodes and should therefore not be planted consecutively on the same land. 60

Harvesting of cowpea in most cases should coincide with the onset of dry season when the dry pods can remain about a week awaiting harvesting without spoilage. However, to avoid field weathering or shattering, dry pods should not be left in the field longer than 2 weeks after full pod maturity. The storage life of cowpea depends on its moisture content before storage. Insect pests in particular can be devastating to cowpea during storage. There are storage insects that cause damage to the seed; it is therefore important to store seed in a protected place. A serious insect pest during storage is the cowpea weevil Cal- losobruchus maculatus, (Coleoptera: Bruchidae). In Chemba, households reported using ash to minimize pest activity during storage. (Production Guidelines for Cowpeas.) SDAE experts reported poor harvesting and drying techniques by households.

6.3.4 Demand

From a markets/demand-driven perspective, the primary constraint to expanded production and trade in cowpea is the lack of private sector engagement due to weak overall demand, which limits incentives for farmers and other value chain players to invest in productivity-enhancing inputs and practices. From a production standpoint, cowpea faces three primary constraints: lack of appropriate varieties, limited availability of quality planting material, and pest losses (LEO Report 2016)

60 (Adapted from) Production Guidelines for Cowpeas. Department of Agriculture, Fisheries and Forestry. South Africa. 2011.)
In all areas visited by the assessment teams, people stated that they did not purchase nhemba, preferring sugar beans. Where it is grown it is regarded as a subsistence crop, for home consumption, and is grown in very limited quantities, usually described as “one corner of the field” in order to provide an emergency food supply if the main crops fail. Nhemba is also used as animal feed by some households.

6.3.5 Cowpea Prices

![Cowpea (Nhemba) Prices, Mozambique 2013-2017](image)

Data Source - WFP\(^\text{61}\) with analysis from the rapid market assessment team

The preceding chart below shows the price of cowpeas for the years 2013 -2017. From this one can see that inflation and drought had an impact on market prices in 2016/7. It is not clear, due to lack of data how much of the price change was due to a fall in supply.

6.3.6 Nhemba Market Purchases by the population of Interest

The table below sets out the estimated needs of the population for nhemba in any year.

<table>
<thead>
<tr>
<th>District</th>
<th>Population*</th>
<th>Approx % of poor smallholders**</th>
<th>Approx Poor smallholders</th>
<th>Est (by team) % affected by specified hazard for district</th>
<th>Estimate (by team) amount nhemba required from Market</th>
<th>**Source of estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chembra</td>
<td>87925</td>
<td>40%</td>
<td>35000</td>
<td>100%</td>
<td>0</td>
<td>FEWS NET Zambezi Valley</td>
</tr>
<tr>
<td>Changara</td>
<td>128453</td>
<td>35%</td>
<td>45000</td>
<td>100%</td>
<td>0</td>
<td>FEWS NET Zambezi Valley</td>
</tr>
<tr>
<td>Chicualacual</td>
<td>27456</td>
<td>38%</td>
<td>10000</td>
<td>100%</td>
<td>0</td>
<td>FEWS NET M22</td>
</tr>
<tr>
<td>Tambara</td>
<td>59948</td>
<td>40%</td>
<td>24000</td>
<td>20%</td>
<td>0</td>
<td>FEWS NET Zambezi Valley</td>
</tr>
<tr>
<td>Guvuro</td>
<td>40739</td>
<td>40%</td>
<td>16000</td>
<td>25%</td>
<td>0</td>
<td>Estimate by assessment team</td>
</tr>
</tbody>
</table>

*INE 2017 census preliminary results

61 https://data.world/wfp/41dcd4dc-5c2f-43af-a1e4-93c9b6539a27

6.3.7 Market Map for Cowpeas

The following market map for 2013/4 for smallholder farmers in the assessed districts reflects the situation virtual detachment from the main supply chain as access to markets for the sale of produce is limited, and that own production meets the low demand for this product – people reported purchasing sugar beans, which has good availability, in preference.
The market map remains unchanged from reference year to crisis year as households consume their own production of this product but purchase other beans and legumes when the need arises.

6.3.8 Overall findings on nhemba

- The drought tolerance, soil fertility and nutritional properties of this crop are well understood and appreciated, so it is grown mostly as a fall-back for household food security rather than for preference. This population does not interact with the market system as either producer for the main market system supply chain, or consumers from the supply chain.
- In the areas assessed, cowpeas are not grown as a commercial crop, although they are grown by most households, thus it is not an important income stream for the targeted poorer households of interest to the assessment. It is, however, recognised that in other areas (like Nampula) cowpeas have better marketing opportunities, although market demand overall is very low, and appears to be predominantly for export and the preparation of Bhadjias.
- The nhemba produced for home consumption was reported to be largely unaffected by the drought and the maturing cycle is short.
- Pre and post-harvest losses limit household demand as well as trader’s willingness to stock them.
- When people require beans or legumes, cowpeas are not the preferred choice - with their own money people report buying sugar beans, i.e. households in the areas assessed will consume their own crop but are very unlikely to purchase nhemba beans from the market. Cash Transfers would be unlikely to affect the supply or market demand of nhemba by smallholder farmer since people would choose sugar beans over cowpeas if they were buying legumes in the market.
6.4 Critical Shelter Market – Zinc or Corrugated iron (CGI)

Zinc sheeting is popular both for roofing and for the side walls of homes and small livelihood businesses, ‘kiosks’ and shops and is the preferred option for roofing of permanent residential buildings for most people. In Cyclone and Flood affected areas there will be a significant percentage of the target beneficiary population using zinc for construction. The zinc sheeting market was only assessed in districts at risk of cyclone or flood.

6.4.1 Overview of the supply chain for zinc sheeting from manufacture to consumer

CGI (Zinc) is manufactured from steel and is imported either as finished product or as rolls of steel to be pressed and cut in Mozambique. Standard specification is 0.25mm thickness sheets of 12 foot or 3.6metres length, with zinc galvanised finish, sometimes coloured (green is particularly popular in Mozambique). Zinc sheeting follows a linear route from Importer/Manufacturer to rural consumer, passing through one or two traders. The profit is almost entirely taken by the secondary market Wholesalers (Grossistas) who are located in the all the large conurbations such as Chimoio, Beira, Tete and Nampula partly because the transport costs are high, but also because tertiary retailers are prepared to accept much lower profits, having lower operating costs and working in a cash-poor environment.

The assessment team visited a large importer in Matoba Business district of Maputo and found that Zinc sheeting is imported from Durban, South Africa to Matola, or from Dar es Salaam Tanzania to Beira. Quantities of finished and raw materials imported are sufficient to satisfy all normal market demand; approx. 3,500 Tonnes of Zinc roofing per month. Output from the factories supply a network of Ferragers (ironmongers)/ grossistas directly, the individual retailers and wholesalers sending own trucks to pick up loads, as there is no wholesale distribution network in Mozambique.

This importer/manufacturer supplies the Mozambique government for emergency response shelter: ICGN uses 12 x 0.25mm gauge sheets per average household (and 24 sheets for large or ‘2 wife’ households). They also supply IOM for camp relocation packages.

Estimated annual production/Import capacity in a normal year is 60,000 tonnes (approx. 13 million sheets) which matches normal demand.

Manufacturers of zinc sheeting are all reliant on imports, either of the finished product or of the rolls of steel and the zinc for galvanising. Thus exchange rate fluctuations and import duties etc. might have a significant impact on supply and price.

Secondary - Wholesaler / Retailer in large provincial town:
Every large town has a number of large builders’ merchants that buy zinc sheeting direct from the manufacturers, and use their own trucks to collect the supplies. They sell small amounts to the local retail market as well as bulk sales to the tertiary market.

Example of a Provincial Wholesaler - Grossista, Massinga, Gaza Province.
Purchases Zinc sheeting in Maputo (540km away) from manufacturer/importer. He uses own truck to transport stock purchased and it takes 3 day round trip (including loading/ unloading). The truck usually travels to Maputo empty.
Purchase price approx. 120 MZN per sheet from importer in Maputo. Sells Zinc sheets for 410 MZN per sheet.

Tertiary - Retailers
In remote districts the tertiary trade for zinc sheeting is limited to the larger trading centres – normally the district capital: such is the case for Tambara. Supplies are brought in from Grossistas in Guru and Chimoio by two retailers.
The following is an example from the largest zinc sheeting supplier in the district of Govuro, located in a small town on the main road, and supplying the rural market:

**Malobane, Govuro District, Inhambane.**
This shop sells about 2,000 zinc sheets per month, increasing to 3,000 per month after floods or cyclones, at a price of 420 MZN. Supplies are brought from Massinga or Xai-Xai, and there is stockholding of up to 4,000 sheets and lead time of 2 days from wholesaler. He retails at 460 MZN.

The following example, In District Capital of Govuro District, supplies the urban population:

The Nova Mambone shop sells approximately 500 sheets per month in a normal year, and 700 per month in a floods or cyclone year. Purchases are made directly from either Royal Steel or Safintra in Maputo. The purchase price is 270 MZN (This includes the transport cost), whereas the retail price is 320 MZN per sheet.

It is worth noting, that even a relatively small retailer of zinc sheets purchases direct from the manufacturers rather than from a secondary wholesaler, despite the distance from Maputo which leads to a 5 to 7 day restocking time.

### 6.4.2 Transportation

Like most movement of goods in Mozambique the system of 'purchaser collects' is used. This is a major constraint compared to normal distribution systems, resulting in inefficient logistics structures, with individual Grossistas (wholesalers) sending their own trucks to collect. This pattern is repeated through primary, secondary and tertiary markets, and is exacerbated by the extremely poor state of transport infrastructure - badly pot-holed roads; high import duties on vehicles resulting in an aged and unreliable transport fleet, long journey times and poor road network in rural areas. This combination means that while adequate imports of zinc sheeting are available, the distribution is expensive and limited.

Likewise, zinc sheets are very heavy in bulk, and the poor roads mean that limited numbers could be carried – e.g. 700 sheets on a 4 tonne truck suitable to access rural villages. Given that Government (INGC) standard distribution package is 12 sheets of zinc per household (or 24 if a large household) this means that it is difficult and expensive to carry the sheets by chapas or minibus if the distribution or purchase is not close to the home. In villages visited by the team in Govuro few zinc roofs were present, but villagers stated they would like to have zinc, but transport was too difficult and local bancas do not supply it.

Steel sheeting used to manufacture zinc panels is subject to international price fluctuations and exchange rate/inflationary changes. However, the greatest constraint is the 'last mile' transportation. It is difficult to carry zinc sheeting from a retailer to the village, which is one of the reasons why it has had limited uptake in the rural environment. Given the Mozambican system whereby the purchaser provides the transport it is difficult and expensive for a rural farmer to carry 12 sheets of zinc on a chapas in order to get it home without damage or injury.
Sales of zinc sheeting are overwhelmingly urban for several reasons; there is free roofing thatch available in the countryside at the right time of year; the cost of zinc sheeting is relatively high as a result of the long distance it has to travel on bad roads, almost quadrupling the original ex-factory price by the time it is sold to the end-user; it is difficult to carry - the sharp edges, fragile sheets and large size all combine to make it very difficult to carry on rural transport. As a result of the above in normal circumstances zinc roof sheets are relatively uncommon in the poor rural villages.

6.4.3 Capacity to respond to a disaster
Several wholesaler and retailers stated that in cyclone and flood season they increased their stock of zinc sheets, due to the increased demand as the rainy season leads people to repair leaking roofs etc. The fact that no trader said that the price of zinc sheeting rose during flood or cyclone (or periods of insecurity) demonstrates that supply is always able to meet demand, even in rural areas. While a large-scale cash distribution might increase demand traders are already anticipating such increases and provided the roads to Maputo and Beira are not entirely cut, supply at the secondary stage of the supply chain is likely be adequate and timely in all but the most catastrophic of scenarios. The tertiary stage is likely to be more affected in isolated areas due to the poor road conditions. Traders in Tambara reported that they never access credit for more than a week, and that most of their money is already tied up in stock – limiting the possibilities for purchasing more. There is also limited storage capacity.

6.4.4 Zinc sheet Prices
Ex Factory prices from Beira Port or Matoba per sheet do not vary with the onset of a natural disaster, but are dependent on the global price for steel and subject to exchange rate changes. The current price of a single sheet is 116 MZN. Retail Price from Secondary /Tertiary retailers in Provinces per sheet: 450MZN
The almost 400% increase in price along the market chain is attributable to the difficulties of transportation and the small-scale purchasing of retailers. Retailers in large provincial towns (example Sofema Limited, Maxixe, Gaza Province) typically hold stock of around 1,000 sheets, with a turnover of 3,000 sheets per month and a fortnight resupply time. They purchase direct from importers and sell retail or wholesale to smaller retailers in the surrounding area. Despite the large distances and poor transport in Mozambique the retailers in rural areas sell at comparable prices to the urban secondary wholesaler/retailers: In Govuro District of Inhambane Province a trader in Malobane retailing approximately 2,000 sheets of zinc per month buys at 420MZN and sells at 460MZN stock coming from the Massinga, Maxixe wholesalers. Likewise, in Tambara, Manica Province, Ndlulu Commercial, the largest trader in town, purchases wholesale from Chimoio and sells retail at approximately 50 MZN mark-up per sheet.

6.4.5 Humanitarian Zinc Sheet Standards in Mozambique
Even in villages where local thatch predominates, the availability of thatch immediately post-cyclone or flood will be limited, as these events happen at a time when dried grasses for thatching is not available for cutting and so National Institute of Disaster Management (INGC) has a standard issue of 12 sheets per household for shelter construction/rehabilitation.

6.4.6 Previous Government Shelter Assistance
In the past, the Government of Mozambique (GoM) has instigated Food For Work programmes to encourage people in the community to build houses for the most vulnerable households post-
disaster. According to respondents in Tambara, the GoM also had a programme, now finished, to provide the zinc, cement and labour costs when households manufactured a specific quantity of bricks to encourage construction of more permanent homes in villages. (Locally produced bricks cost 1 Metical per clay brick (according to one HH representative in Senhabuzwa Village, Chemba District)

In Govuro, villagers involved in interviews stated that the government had distributed zinc sheeting as a response to previous flood disasters. There were no distributions of shelter materials to HHs affected by the 2015 floods in Tambara.

6.4.7 Alternatives to CGI

The traditional roofing material is grass thatch that is available in abundance for free just before the rains to households with labour sufficient to harvests it. Thatches are usually replaced, at least in part, annually. A full thatch will take 20-30 bundles of grass at 30-40MZN each if it is purchased. Thatch is generally not available in significant quantities during the rainy season or the early part of the growing season. Some people have a cultural preference for grass roofs.

6.4.8 Market Map for Zinc Floods Reference Year (2014)

6.4.9 Market map for Zinc sheets – Flood-affected (2015)

The market map shows that manufacturers are able to increase output sufficiently to meet higher levels of demand created by a cyclone or flood. The main issue is likely to be that the bad roads are blocked.
6.4.10 Overall findings – Zinc Sheeting

- National supply is robust and capacity to manufacture could be increased through domestic production or import, but it may take some time.
- Provincial stocks of finished goods are high and could absorb some increased demand.
- More locally, stocks are limited and supply could be constrained by road and transport limitations.
- People who already have zinc roofs normally require very little from the market as they are very durable.
- Demand for this commodity is generally low, particularly amongst the poorest of the poor who are usually targeted, as this commodity is perceived as expensive even though it is very durable, compared to the freely (subject to access to surplus household labour) and readily available alternative of using thatching grass.
- Immediately after a flood or cyclone there are likely to be very small stocks available at the district capital but roads are likely to be blocked in the short term at least.
- Village Bancas do not stock zinc sheeting – and transport is difficult because it is large, heavy and easily dented – thus making it unlikely that if humanitarian assistance were provided as a MPG, that it would be spent on this commodity.
- However, post-cyclone in urban and peri-urban areas zinc sheeting would be a likely choice for reconstruction should the beneficiary targeting in future include this demographic. In these areas a single cash transfer for 12 sheets in line with the shelter cluster standards, would seem appropriate.

6.5 Critical WASH/NFI Market – Multi-purpose Soap

Bar soap is used both to launder clothes and for personal hygiene. According to FGDs, it is the preferred cleaning material in rural Mozambique, and is available in most small bancas in rural areas as well as in urban retailers. Where people in poorer households are unable to buy bar soap
they may use ash, but soap is preferred where available. In order to encourage hygiene the government does not tax sales of soap. Most bar soap in Mozambique is made by large manufacturers rather than the small-scale production which is often found in other African countries.

6.5.1 Overview of the supply chain for Bar Soap from manufacture to consumer

The manufacturer to consumer pathway is relatively linear in Mozambique, since most bar soap is supplied by large-scale commercial companies. There are several large manufacturers of bar soap, mostly in urban industrial locations: Nampula (Gein Group: Samam), Maputo (Maeva), and other towns eg. Maxixe (Saboeira De Inhambane), plus imports from neighbouring countries (Sunny from South Africa). Production capacity is high, the Maeva Group, one of the larger manufacturers, alone has the capacity to produce over 73,000 MT per year and supplies a network of wholesalers (Grossistas) in Maputo, Matola, XaiXai, Maxixe, Beira, Chimoio and Tete. The Gein Group, based in Nampula has a soap production of 18,000 MT per year, which they claim represents 25% of the market share. Some factories use cotton production to supply the raw material for soap manufacture, so a reduction in cotton production might impact on availability of soap, although given the large quantity of soap produced in the region a shortfall could rapidly be filled by imports.

Secondary

All provincial Grossistas interviewed sold soap, dealing in boxes rather than individual bars. Boxes usually contain between 12 and 20 bars depending upon the manufacturer. In Mozambique transport of items to Grossistas is done by the purchaser rather than the supplier, so Grossistas tend to buy stocks of soap at the same time as other items, sending their own truck to collect a mixed load from one or more manufacturers or suppliers in a major city (Chimoio, are Nampula, Beira or Maputo).

Tertiary

Most general retailers interviewed stock soap and report consistent sales. Govuro District is on a main road, and urban retailers tend to purchase supplies directly from the manufacturers. Districts more distant from main roads like Nhacole retailer/ grossistas purchase soap and most of their stock from Grossistas in Chimoio. They purchase at about 30-35 MZN for a 500g bar and sell on at 35-40 MZN. They also sell in smaller bulk onwards to owners of bancas in the villages. Shopkeepers reported that while they had some ability to increase stock, it is limited by finance, as they do not have access to credit, or have never considered applying for credit, and this is often linked to liquidity – as they may be unable to restock only when they have achieved sufficient sales. Their storage and transport capacity is limited and used for all the different products stocked.

**Interview with Shopkeeper in Nova Mambone, Govuro, Inhambane**

In a normal year he would expect to sell about 600 bars of soap per month. During the last floods he sold approximately 200 bars per month - he put this down to people having had other priorities to spend their money on, but in fact that could also have been because NGO and INGC soap distributions also took place, which may impact on sales.)

He sources his soap are Maputo and Nampula, sending his own truck to collect stocks and paying 29 Meticals for a 500 gramme bar from Maputo, and 28 Meticals for a similar bar in Nampula. He sells for approx. 45 Meticals per bar.

He had concerns about inconsistent supplies based on the road conditions - the pot-holes in the National Road 1 are particularly bad in the Inhambane area, and one of his trucks broke down due to the poor road maintenance, and then, having been parked for the night some of the load was stolen.

---

**Local Stocks**

In Tambara and Govuro traders stock was generally never below about 1 months normal sales. Lead time for restocking, in whatever quantity they wanted was 1-3 days, except in the rainy season when it could easily be longer due to the poor roads. Whilst theoretically supplies could be increased to the peri-urban areas, the reality also depends on liquidity and storage capacity. Remote locations would be more likely to run out of supplies and be unable to restock quickly.

**6.5.2 Transportation**

Immediately post-flood or cyclone transport is unlikely to be possible due to road closures. Even during a normal rainy season many roads are impassable for periods, simply because there are damaged sections which become too muddy for vehicles to pass. Additionally, many villages are not served by the chapas transports, since these tend to follow main roads rather than small feeder tracks, here bicycles are the most common form of transport after walking and sometimes donkey or ox carts are used for goods. Distances of over 30km to the nearest town with shops are not uncommon for villagers in flood affected districts like Govuro.

**6.5.3 Humanitarian WASH Assistance and Standards**

The WASH Cluster in Mozambique has developed a standard Hygiene Kit (see below) which includes 3kg of Bar Soap per family for distribution in emergency response.

UNICEF informants opinions were that if people were short of cash they would be more likely to buy laundry soap rather than personal washing soap. However, based upon observations from previous floods, they would be more likely to buy water containers than any form of soap. At present the WASH cluster headed by UNICEF intends to provide Hygiene Kits including soap in case of an emergency, suppliers to assemble and deliver the kits have been identified and LTAs (Long term Agreements) have been made for 2,000 households for response purposes. One person in Tambara remembered receiving four bars of soap from Caritas after floods.

A multi-agency WASH assessment was conducted by Oxfam for the COSACA WASH sector in order to identify standardised hygiene kit contents based upon Oxfam's response to floods in Zambezia Province in 2015. Their FGD concluded that pre-emergency, all the women used soap for personal hygiene, and when soap was unavailable, ash. One of the main conclusions from this
assessment was the need to increase the quantity of soap in the hygiene kits. In emergencies households have other priorities for their money - soap purchase is reduced as almost all interviews found, although households recognise that soap is important – but food is more important though. The WASH standards in Sphere suggest the equivalent of approx. 1kg of bar soap per person for 2 months (Sphere separates laundry and personal soap, but bar soap is commonly used for both), the WASH sector Hygiene Kit is intended to contain 3kg of bar soap per household - thus covering a household of 6 persons for 1 month.

6.5.4 Demand for soap

In the two Districts selected for the Cyclone/Flood soap market assessment, the population is about 100,000 people in total. This would require 50,000 kg or 50 tonnes of soap per month in order to meet Sphere standards of 500g per person, per month. Since normal production can meet the total population requirement (there is not a shortfall in normal conditions) and there is surplus production capacity reported by soap manufacturers, any gap in soap provision in a crisis is due to the difficulty of transport and distribution, together with a possible reduction in spending on items perceived as non-essential, rather than to shortfalls of manufacture or to increased demand. Though beneficiaries highly value soap, demand was reported to drop in a crisis; most KII and FGD interviews showed a reduced spending on soap due to prioritisation of food over washing with soap. The rural population has a steady but low demand for bar soap, as evinced by the stock of soap held at all rural shops and kiosks. Focus Groups stated that an average rural household buys approx. 3 bars per month (about 0.75kg). However, in a crisis the demand falls due to the prioritisation of other items, most noticeably food, over hygiene. Arguably since informants all said that the reduction in spending on soap was due to prioritisation on essential items such as food, if all possible food needs were met the demand for soap would remain the same as in a non-crisis year. The WASH Cluster Hygiene Kit Survey carried out by Oxfam in 2017 found that in all groups surveyed soap was an appreciated item in the hygiene kits.

In every household interview in Govuro the proportion of funds spent on bar soap was reduced in ‘bad years’ compared to the baseline year. Households interviewed gave various percentages of income spent on soap, between 6% and 19% in baseline years, but most selecting around 8% or 9%. This then dropped when asked about ‘bad years’ generally a reduction of between 2 and 10 percent. The reason given was always that food was the priority. In these circumstances it can be assumed that ash is used in place of soap, since this was a finding of the WASH hygiene kit survey. In Tambara, however, people reported households always using 3 bars of soap per month - if they could get it even during the floods (they often purchase in their villages from bancas that have limited supplies that reportedly ran out).

FGDs reported that if sufficient cash was given as assistance to purchase food and soap then they would buy it, but priority would be given to food. Some also preferred distributions to cash because it was easier to access most of the items they wanted.

6.5.5 Soap Rapid Onset Reference Year 2014

63 OXFAM/COSACA/Unicef Hygiene Kit Survey, Maputo 12 Feb 2017
65 OXFAM/COSACA/Unicef Hygiene Kit Survey, Maputo 12 Feb 2017
6.5.6 Soap Rapid Onset crises map – Flood 2015

6.5.7 Overall findings on Soap
- National production is high and there is capacity to increase volume domestically or through imports
- Wholesalers at large provincial trading centres have large stocks and can normally (in a normal year) restock with 1-2 days unless there are road blockages in the rainy season
Immediately after a flood or cyclone, village shops may be unable to resupply quickly due to flooding. Time for restocking will depend upon severity of the crisis, how long it takes for flood water to drain or bridges to be re-opened.

Demand may fall as people prioritise food over soap during a crisis.

In some areas, soap was one of the restricted items available for purchase at voucher fairs, but the assessment team was not privy to monitoring data on voucher use, so preferences are not known.

Soap is a priority item for the WASH cluster and may be distributed as part of a WASH response, although the quantities are unlikely to cause much impact on the overall market.

Soap is readily available at the wholesale level, does not require special storage or transport and is a relatively cheap item, so it can be expected that supply will resume as the normal market activities restart following a crisis, provided that there is access for restocking that there is cash in the population to purchase.

Soap is usually stocked at the rural level in bancas or kiosk shops, which are accessible to most members of the rural community, even those who are not able to afford a full 250g bar and instead buy cut sections of bars. Therefore, the market is able to supply bar soap to meet demand except in the most immediate aftermath of a flood or cyclone when the transport infrastructure may be damaged. This market assessment found that households with limited incomes will prioritise food over soap, so short term or low value cash transfers may not ensure soap consumption reaches normal levels. The WASH cluster should identify whether increased hygiene promotion to encourage use of MPG to purchase soap, or direct provision of soap would be the solution.

7 Conclusions

Conclusions
In rural areas the roads are particularly limited, leaving small farmers isolated and locked into a cycle of poverty that limits their access to markets and income due the complex interplay of limited production possibilities of small land holdings and receiving poor prices. This in turn affects their demand for agricultural inputs such as fertilizers, pesticides and improved seeds, water management/irrigation and mechanization and importantly lack of good quality safe storage to reduce post-harvest losses. This ultimately limits yields (average maize yield per hectare is less than 1MT) and increases post-harvest losses leaving them less resilient and more prone to droughts and floods. It also provides limited incentives to produce and conserve enough for own consumption or save or sell any surplus to help meet other needs or save for ‘crisis’ times. Low disposable household income equates to low purchasing that limits demand for goods and services from the market and ultimately restricts the pull factors required to entice the market into remote rural areas. Poor road related infrastructures further constrain entrepreneurs’ willingness to set up businesses and supply remote rural areas.

In a normal year poor smallholders purchase very little, relying on their subsistence farms to produce most of their food needs and undertaking a variety of activities to make a few basic purchases locally at the village bancas or occasional visits to larger retail centres in the geographic area. Disposable income is limited, consequently the local rural markets are underdeveloped.

---

66 E.g. metal containers
Many rural areas have hardly any access to markets since where rural transport does exist (the *chapas* light trucks or pick-ups carrying passengers and goods) these travel between district capitals and larger towns, not often to isolated villages and are relatively expensive. People rarely travel to markets that are over 20km distant, except by walking or, in rare cases, by bicycle. Some villages but not all, have small kiosk shops, selling mostly soap, biscuits, rice and soft-drinks, plus, in many cases, beer. The team also heard reports of *chapas* being used as mobile shops. Small rural traders interviewed expressed an interest in cash programmes as they recognised the potential for increased business, but none said they would be willing to increase stock until demand changed. Normally retail and wholesale businesses liquidity and stocks depend on reinvestment of profits, although occasionally credit was available from suppliers further up the market supply chain for short periods of less than one month. A few business owners, and smallholder farmers mentioned borrowing from family members and using informal loan systems. Bank coverage is poor and access to the formal banking system is limited and was not a source of credit to any of the downstream market actors interviewed.

In conclusion, in some of the more rural districts studied, even in normal conditions, market access is limited and this is not expected to change in the post-emergency scenarios considered. Hence it is clear that in the COSACA rural districts studied markets are considered too weak and not sufficiently accessible for the types of vulnerable groups targeted.

**Key findings on maize meal**

- At a national level, even in the baseline year of 2013/14, domestic supply is buoyed up by imports, particularly in the southern deficit region of Mozambique, from the Southern Africa region, specifically South Africa and Zambia – there are considerable opportunities for expanding imports during crisis times as the price is usually high as droughts tend to be regional in nature.
- The market for maize is fragmented due to the huge land area served by a very limited and poor quality road network, limited and expensive transport, and the location of production areas and imports often being distant from the areas of demand. This results in some rural locations within the country having good availability and lower prices, and other locations where availability is constrained and prices are consequently higher.
- The Northern region of the country, as well as northern districts of Tete Province together with southern districts Manica Province are traditionally surplus producers of maize, and maize is also imported from Zambia and South Africa through the Maputo, Tete and Zambezia regions. However, transport and road links are poor, maize is often traded across borders rather than transported internally.
- In 2016-2017 many households in the assessed areas received vouchers for fairs where maize meal was one of the products available, as this is a staple food. This cash transfer addition to household stores is reported to have reduced the degree to which beneficiary households had to resort to their usual drought coping strategies.
- Effective demand for maize meal was supported by the provision of vouchers, but it is not clear how much demand would be created if multipurpose cash grants (MPG) were given, as people may opt to buy grain or substitutes.

---

67 increased recourse to other activities such as casual labour, harvesting and consumption of forestry products, wild foods and potentially other more corrosive coping strategies.
It is not clear that, in a situation where multipurpose cash grants (MPG) was given that supply would easily be met either, as traders might not be prepared to risk stocking up generally (and in some situations travelling closer to beneficiaries), not just for maize, but also for other substitute staples and other goods without the level of certainty provided by a voucher fair scheme.

Key findings on Certified Maize seed
- Though aware of certified seed and its potential yield benefits, more than 90% of small farmers continue to use own or informally available grain seed. Demand is hampered by the lack of local access to agro-dealers (some of the districts assessed were more than 100Km from the nearest dealer).
- The typical farm-gate price for maize grain (informal seeds) in September 2016 was 5-7MZN per kg., whereas the cost of OPV certified seed was 90-100/kg and hybrids were 140-150/kg and the seeding rate for a hectare of land is 25kg.
- There is a substantial deficit/shortfall in the supply of domestically produced certified seed that cannot be increased in the short term, and can not be adequately met by imports.
- Programmes that provide free or subsidized seeds are reportedly purchasing about a third of all the national supply – which, though ensuring demand from targeted beneficiaries in areas where they are operating, is also limiting the available supply to other farmers who may or are reported to wish to purchase certified seed.
- Some stakeholders reported that the high demand from agencies with seed programmes, is limiting the effective demand from farmers who are used to receiving seeds for free, or at subsidised rates. Seed programmes may thus reduce beneficiaries’ willingness to purchase seeds at full price in the future as they have become accustomed to unrealistically low prices.

Key findings on Nhemba (cowpeas)
- The drought tolerance, soil fertility and nutritional properties of nhemba are well understood and appreciated, so it is grown mostly as a fall-back for household food security rather than for preference.
- Those growing Nhemba/Cowpeas do not interact with the market system as either producers for the main market system supply chain, or as consumers from the supply chain, as they consume own production.
- In the areas assessed, cowpeas are not grown as a commercial crop, although they are grown by most households, thus it is not an important income stream for the targeted poorer households of interest to the assessment. It is, however, recognised that in other areas (like Nampula) cowpeas have better marketing opportunities, although market demand overall is very low, and appears to be predominantly for export and the preparation of Bhadjias (fried snacks).
- Pre and post-harvest losses due to pests specific to the nhemba bean limit household demand as well as trader’s willingness to stock them.
- When people purchase beans or legumes, cowpeas are not the preferred choice - with their own money people report buying sugar beans, i.e. households in the areas assessed will consume their own crop but are very unlikely to purchase nhemba from the market.

Key findings – Zinc Sheeting
National supply is robust and capacity to manufacture could be increased through domestic production or import, but this may take some time.

Zinc Sheeting is a shelter item distributed by the Government INGC and by IOM as a 12 sheet shelter package for crisis response.

Provincial stocks of finished goods are high and could absorb some increased demand.

Demand for zinc sheeting is generally low, particularly amongst the poorest of the poor who are usually targeted, as this commodity is perceived as expensive even though it is very durable, compared to the freely (subject to access to surplus household labour) and readily available alternative of using thatching grass.

Village Bancas do not stock zinc sheeting – and transport is difficult because it is large, heavy and easily dented – thus making it unlikely that if humanitarian assistance were provided as a multi-purpose grant (MPG), that it would be spent on this commodity.

However, post-cyclone in urban and peri-urban areas zinc sheeting was reportedly a desirable choice for reconstruction should the beneficiary targeting include this demographic. In these areas a single cash transfer for 12 sheets in line with the shelter cluster standards, would seem appropriate.

**Key findings on Soap**

- National production is high and there is capacity to increase volume domestically or through imports or as small income generating opportunities.
- Wholesalers at large provincial trading centres have large stocks and can normally restock quickly within 1-2 days unless there are road blockages in the rainy season or due to cyclones or flooding.
- Immediately after a crisis, village shops may be unable to re-supply quickly due to reduced transport after cyclones and flooding further affecting already poor roads. Soap is usually stocked at the rural level in bancas or kiosk shops, which are accessible to most members of the rural community, even those who are not able to afford a full 250g bar and instead buy cut sections of bars. During a crisis demand may fall as people may prioritise basic staple food items over soap.
- Soap is readily available at the wholesale level and does not require special storage or transport and is a relatively cheap item and is reportedly readily re-stocked and supply resumed as soon as the normal market activities restart following a crisis, provided that there is road access to more remote villages and there is sufficient cash in the target population’s pockets to meet food needs and soap purchase needs.
- Soap is a priority item for the WASH cluster and may be distributed as part of a WASH response, although the quantities are unlikely to cause much impact on the overall market.

**Market Response to Cash-based Interventions**

Subsistence smallholders targeted by COSACA in the past, make few market purchases of staple foods in years when their own harvest meets household needs. The limited transport services are considered beyond the means of beneficiaries as expensive (costing 10 - 100 MZN each way to the district capital) and only a small percentage of poor people have their own means of transport. When NGOs carry out distributions or hold voucher fairs these are characterised by the event being brought to the village, or at least to a convenient nearby location (in some cases during the COSACA drought response the beneficiary villagers were provided with transport to get them to the

---

68 Reportedly up to a maximum 2 weeks for cyclone and a month for floods.
trade-fair events). As a result, when asked in focus group discussions (FGD) which type of assistance would be preferred in future, many of those who do not have any easy means of transport and are distant from commercial centres reported that they preferred the voucher fairs or distribution, since the ease of access to these events was a major part of their success. National stakeholders also indicated that there were now reports that traders were showing considerably more readiness to take part in voucher fairs and take temporary markets closer to beneficiaries in order to supply needs.

The voucher fairs used a very limited number of vendors, and whilst those selected made large profits, this did reduce the potential positive effects of the multiplier effect within the affected districts themselves, as supplies, and in many cases, suppliers came from other areas. The voucher fairs also gave the few selected vendors some certainty about the level of demand and nature of items that would be selected by the beneficiaries. This removed the element of risk in building up stocks for potential demand in an open marketplace, while at the same time removing the constraints of access to the markets.

It is clear that, even if a suitable delivery mechanism for a multi-purpose grant (MPG) could be found for the targeted beneficiaries in most remote areas of Govuro, Chicualacuala, Chemba, Tambara and Changara, that beneficiaries would have to spend a lot of time, and disproportionate amount of their transfer on transport, thus affecting the efficiency and effectiveness of such a transfer. At the same time, it is not clear that the free market, within a reasonable distance would consistently be able to provide the range of cross sector goods and services, that might be included in a typical minimum expenditure basket, when it has been calculated, at a reasonable price. In these areas vouchers fairs with a larger number of vendors of various sizes offering an unrestricted range of goods are recommended.

Urban areas are suitable for MPGs, if acceptable delivery mechanisms are available. Rural areas with regular transport links might be suitable for MPGs if an area-specific transport top-up was added to the value.

8 Recommendations

The provision of response recommendations was not included within the scope of this rapid pre-crisis market assessment, however the following summary recommendations have been included:

**Direct Market response recommendations**

- Calculate a minimum expenditure basket that encompasses cross sector needs. MPG might be considered in Urban and peri-urban areas where a suitable delivery mechanism can be found.
- Post-cyclone or flood, in urban and peri-urban areas only, zinc sheeting was reported to be a desirable choice for reconstruction should the beneficiary targeting include this demographic.
- In remote areas voucher fairs have reportedly been proved very successful in the past. These could be adapted to meet cross sector basic needs – by increasing the variety of goods available in line with a MEB An increase in the number of local vendors should be prioritised, with an effort to include small traders whose business might otherwise be adversely affected

---

69 shelter, food & nutrition, transport, WaSH, health, livelihood and non-food needs in line with SPHERE standards.
• Alongside other varied market support activities until markets become more established in more remote areas.
• Including ‘top-up’ amounts for the cost of transport to access and transport purchased goods in cash, voucher or multi-purpose programmes, and ensuring beneficiaries are made well aware of this ‘transport ‘top up’ would be relevant in more remote locations.
• Work with government to harmonise transfers to the long term, predictable social safety net system to make it shock responsive.
• Price monitoring of key commodities especially in tertiary markets within targeted geographic areas

Other response recommendations

• Continue to support sustainable rural livelihoods.
• Improve HH and village level storage facilities to reduce post-harvest losses
• Advocate for Improved rural transport and road networks and maintenance. Consider working with District Authorities to rehabilitate known seasonal road blockages (possibly though cash for work)
• Identify those likely target communities least well served by transport and traders and assess blockages and market support needs and investigate appropriate market support interventions.
• **Provide support to transporters so they can further develop transportation services offered to market actors and consumers**
• Consider ways of improving access to credit for transporters and market traders where assessed relevant.

70 Specifically to improve access to credit