



# MARKET-BASED DISASTER RISK REDUCTION

DRR and resilience planning in the food security and WaSH sectors in the districts of Murrumbala and Nicoadala, Zambezia, Mozambique

COSACA Joint Rapid Emergency Response

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# 1 INTRODUCTION, BACKGROUND AND OBJECTIVES

With some 2,515 kilometres of coastline, Mozambique is third on the list of African countries in terms of exposure to risks derived from a series of climate change-related hazards such as floods, hurricanes and drought. Drought occurs mainly in the south and central regions while floods affect the areas along the main river basins, low-lying coastal plains and areas with drainage issues, and the highest risk areas are the central and southern regions. Hurricanes affect the entire coastline. Since 2000, more than nine million Mozambicans have been affected by disasters caused by natural hazards.

The province of Zambezia is home to most of the Mozambican population as well as being one of the worst affected by disasters, including hurricanes, flooding and cholera epidemics. It is located in the coastal region, to the south of the central-west of the province of Nampula and the northeast of the province of Sofala, and has a population of 3,794,509 inhabitants. The provincial capital is Quelimane, 25 km from the mouth of the Rio dos Bons Sinais, between the Licungo and Zambezi rivers. Zambezia province covers an area of 103,127 km<sup>2</sup>, much of it drained by the Zambezi River. Much of the coastline consists of mangroves and there are extensive areas of inland forest.



Socio-economic and human development indicators are beneath the national average and Zambezia is classified as one of the country's poorest provinces in a country that is ranked 184<sup>th</sup> out of 187 on the HDI. More than 90% of the population is dependent on agriculture and fishing as their main sources of income. More than 70% of the population still lives below the poverty line. The agricultural products are rice, maize, cassava, cashew nuts, sugarcane, coconuts, citrus fruit, cotton and tea. Shrimp and subsistence fishing is particularly productive, and precious stones are mined in several areas.

Mortality and fertility rates are the highest in the country, while life expectancy, at 36, is also the lowest in the country. The illiteracy rate is 75% (women) and 42% (men), among the highest in the country. Zambezia is also seriously affected by HIV and AIDS, with a 12.6% prevalence rate. This humanitarian situation is combined with the fact that 76% of the population in Zambezia does not have access to or use of potable water and 92% does not have safe sanitation. Zambezia has the country's highest under-fives mortality rate.

The humanitarian and socio-economic situation, combined with its location, has made Zambezia vulnerable to floods and drought. The 2006-2007 rainy season caused severe flooding, displacing large numbers of people and affecting the general population's usual sources of income. This situation put a huge amount of pressure on food security and limited access to basic services such as education, asset creation and health care.

Zambezia is also one of the provinces historically affected by cholera. The cholera cases reported over the last few decades in Mozambique have been distributed all over the country. In the last ten years the number of cholera cases has fluctuated, but with a general downward trend from 2000 to 2007, while peaks were observed in 2008 and especially in 2009. In terms of the geographical distribution of cholera, the worst affected provinces have usually been Nampula, Tete, Sofala and Maputo city, but distribution patterns changed in 2009 and there was an unusually high incidence in Zambezia and Cabo Delgado.

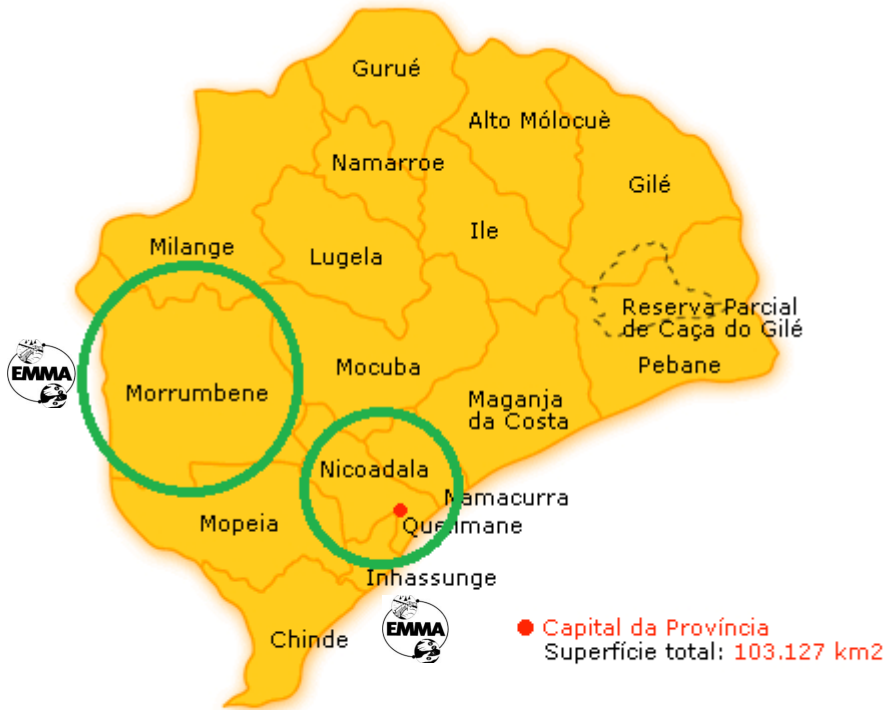
Oxfam has worked in Mozambique since 1991, executing both development and humanitarian programmes. At present, Oxfam is in a continuous process of training local partners by improving response capacities in the areas of Water, Sanitation, Hygiene and health promotion (WaSH) and Emergency Food Security and Livelihoods (EFSL) with the aim of fulfilling the response and recovery needs of the most vulnerable population affected by disasters.

This approach involves adopting technologies and approaches, such as innovative market-oriented interventions in emergency situations. Despite the existing potential, market-oriented programmes are undervalued in Mozambique. Key humanitarian actors often still use the adoption of aid in kind, even in situations where the markets could play an effective role in maximising the beneficiaries' preferences and boosting the local economy, using the inter-agency response in Gaza in 2013, where only aid in kind was used, as an example.

The current Emergency Market Mapping and Analysis (EMMA) study is aimed at analysing the critical items that are closely linked to Emergency Food Security and Livelihoods in Water, Sanitation and Hygiene in the province of Zambezia, an area that is cyclically affected by sudden hazards (i.e. hurricanes and flooding) and where Oxfam has recently implemented emergency WASH responses: to hurricanes in 2012 and to flooding in 2013. The conclusions and recommendations of the analyses were included in Oxfam's contingency planning and will be used for promotion purposes as a way of promoting more efficient and effective responses by the national institutions, as well as by international organisations.

Objectives:

- To develop a baseline for markets that are found to be critical (in EFSL as well as WaSH) with the aim of improving the preparedness capacities of Oxfam and its partners in the province of Zambezia (districts of Murrumbala and Nicoadala), by supporting the response and adaptation analysis of the interventions to the market realities (in kind, cash, vouchers, fairs, market support) in the emergency and recovery programmes;



- Provincial capital

Total area: 103,127 km<sup>2</sup>

- To strengthen Oxfam and other interested national parties' capacities for market analysis and its use in response, preparedness, and contingency planning and DRR analysis;
- To advocate with the key national interested parties for the effective use of market analysis and (in its case) for market-oriented programme execution in the response and recovery interventions.

## 2. CRITICAL MARKET SELECTION/RISK SCENARIO

In emergency situations the critical market systems are those which have played, are playing and will play a key role for ensuring survival and/or protecting the livelihoods of the target population. The analysis by the EMMA study participants established that the key critical markets in the districts of Murrumbidgee and Nicosia were as follows:

<i>Why the system is critical</i>	<i>Nature of the gap</i>	<i>MURR</i>	<i>NICOAD</i>
Supplies food or items needed for ensuring survival	Deficit between what the households have and what they need for achieving minimum standards for protecting life (c.f. Sphere)	Fish Bleach	Rice Bleach
Supplies inputs or goods for protecting the means of subsistence	Deficit in the inputs, goods or services that the families need in order to protect and sustain subsistence activities (for example, food production)	N/A	N/A
Provides income, salaries or access to the buyers	Loss of opportunities to sell labour, livestock, surplus produce, etc., which the families need in order to earn an essential minimum income	Sesame Maize	Sweet potato Cassava

SHOCK IN CRITICAL MARKET:



RISK SCENARIO

<b>Hazard</b>	<b>Season</b>	
Hurricanes	November - May	
Heavy rainfall	November - May	
Drought	June - October	

### 3. PRELIMINARY ANALYSIS

During the preliminary mapping exercise, the different EMMA team members spent some time researching aspects that include the roles played by women and men, protection problems, the relative importance of some of the less obvious services, regulations, trends and rules by organising discussion groups, consulting secondary sources and mapping exercises with key informants and experts.

They also analysed the power of the actors/institutions/services/policies etc. that could have an impact/play a positive role in generating resilience among the target population.

The teams also developed:

- (a) Pre-disaster situation maps (basal) and emergency situation (in the same season, for direct comparison)
- (b) Considerations on the seasons/months in which the type of disaster put forward for the scenario is most common, given that it could affect a range of aspects: livelihood related activities, prices, market access, etc.
- (c) In-depth development of the critical questions: Who (or what) could (or should) play a critical role in supplying the selected critical markets that are affected by disasters and in mitigating their impact?

### 4. INFORMATION GATHERING AND FINAL MAPPING/ANALYSIS OF THE GAPS AND FINAL ANALYSIS OF THE MARKETS

During this phase we proceeded to:

- (a) Interview the traders/key informants/communities/service providers on their opinion on potential actions for increasing resilience, mitigating impact and on the repercussions they would have.
- (b) Analyse the seasonal analysis framework, given that the seasonal differences are significant, not just due to possible changes in price and the availability of goods and some services, but because access to markets could change significantly from one season to another.
- (c) Develop the market mapping system; provisional maps and projection maps for critical periods

[For more information see annexed section 8]

# 5. RESPONSE RECOMMENDATIONS

DRR RECOMMENDATIONS FOR MURRUMBALA:



DRR RECOMMENDATIONS FOR NICOADALA:



RESPONSE RECOMMENDATIONS FOR MURRUMBALA:



RESPONSE RECOMMENDATIONS FOR NICOADALA:



[FOR RESPONSE RECOMENDATION CLICK HERE](#)

[FOR MARKET MAPS MURRUMBALA CLICK HERE](#)

[FOR MARKET MAPS NICOADALA CLICK HERE](#)





# 6. MONITORING INDICATORS

DRR RECOMMENDATIONS FOR MURRUMBALA [MEL MATRIX]:



# 7. CONCLUSIONS

1. In the course of the research we were able to show how the humanitarian action system based on distributions in kind has had, has and will have (if it continues) a very negative effect on small-scale farmers, as they, as a result of the impact of the hazard, experience a strong devaluation of the products that could be placed on the market. This system also perpetuates paternalistic relationships, undermines people's dignity and has been shown to be incapable of adapting to the needs (in quality as well as quantity) of the most vulnerable families.

2. In the process of evaluating the timeline of all the humanitarian responses, the difficulties experienced by the most vulnerable groups (women, children, elderly) in accessing humanitarian responses, for reasons of discrimination against a particular group as well as for geographical reasons (the most remote communities have not received the same attention as the ones nearer the power centres) have also been noted. This situation appears as an essential pillar of Oxfam's advocacy strategy in Mozambique.

3. Throughout the training process, the way in which the participants from the participating institutions have taken on the competencies that were proposed could be appreciated, in the area of response mechanisms based on cash transfers as well as the development of market based response strategies and Disaster Risk Reduction.

4. The existence of minimal technological installations in the areas of intervention demonstrates the possibility that, in a timeframe of two years or less, humanitarian interventions could be carried out with technological support, with credit cards as well as mobile phones.

5. Based on the response situation-framework, rooted basically in food distribution, and based on the calendar of disasters that have occurred in Zambezia province, the most appropriate response model for hydro-meteorological-type hazards (floods and hurricanes) is outlined as a combination of work actions (geared at rehabilitation of basic infrastructure for the operation of the market that is usually not repaired for the community and that the State does not repair or takes a long time to do so) for money, complemented by unconditional cash transfer actions for especially vulnerable groups. This intervention must be complemented by market support actions (small/medium scale producers or distributors), especially in the bleach market.

6. After analysing a large number of critical markets (up to seven) impacted by

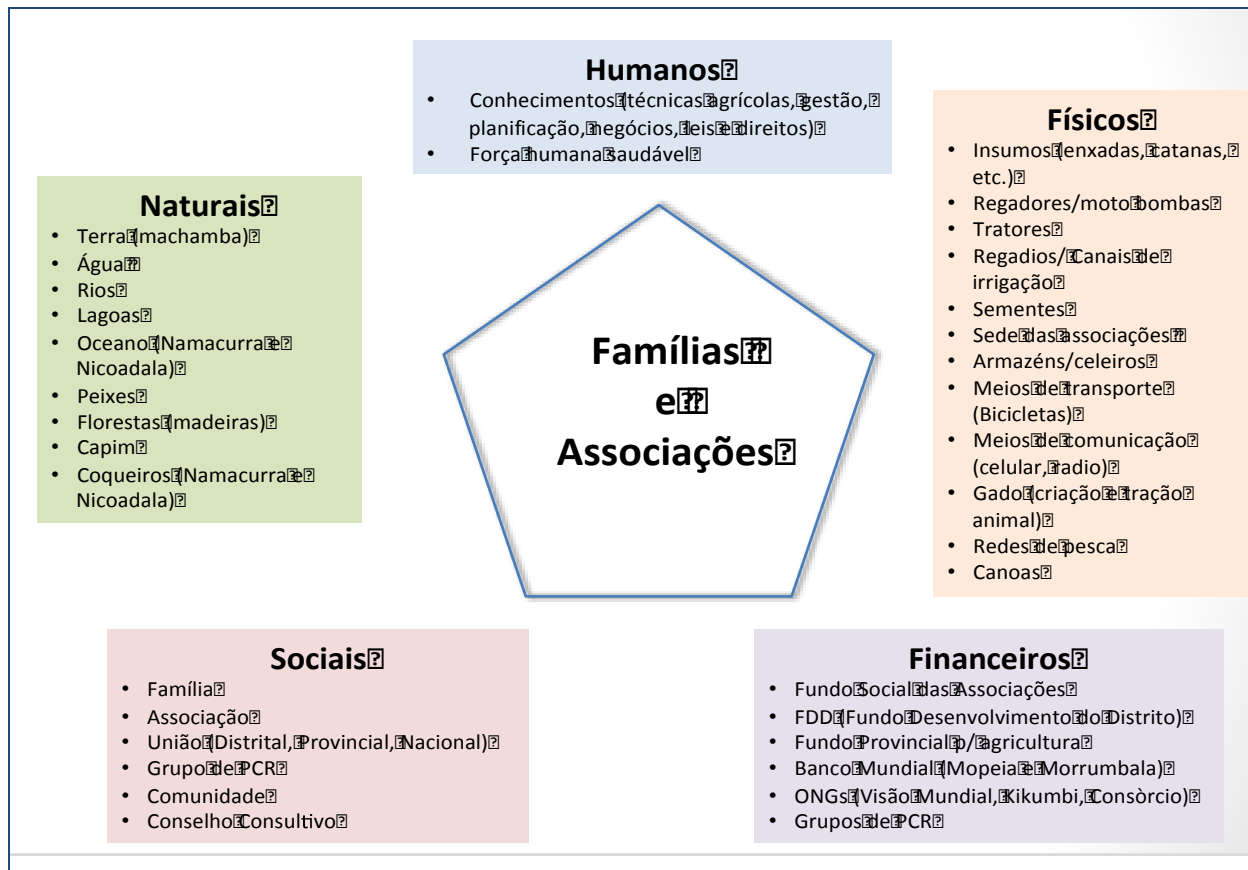
three hazard types (floods, hurricanes and drought) the bleach market emerged as the critical market in which Oxfam can contribute its maximum added value, in response actions as well as through DRR. In a complementary way, given the high level of importance for the food security of fish (Murrumbala) and rice (Nicoadala), they should also be incorporated into Oxfam's strategic work in Mozambique.

7. Given the high value of sesame for export, and its storage capacity, this crop is key for ensuring food security for the most vulnerable people, and should therefore be considered as a key strategy in the area of DRR with an EFSL approach.

8. Although the participants (male and female) have shown a high level of competence when it comes to acquiring skills based on market-based humanitarian actions, it is essential to continue with training in this area, especially the configuration of responses that, as well as taking into account the principle of doing no harm, should include gender aspects.

# 8. ANNEXES

## 8.1 RESOURCE PENTAGONS



Natural	Human	Physical
<ul style="list-style-type: none"> <li>• Land (plot)</li> <li>• Water</li> <li>• Rivers</li> <li>• Lakes</li> <li>• Ocean (Namacurra and Nicoadala)</li> <li>• Fish</li> <li>• Forests (wood)</li> <li>• Hay</li> <li>• Coconut palms (Namacurra and Nicoadala)</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge (farming techniques, management, planning, business, laws and rights)</li> <li>• Healthy human resources</li> </ul>	<ul style="list-style-type: none"> <li>• Inputs (hoes, machetes, etc.)</li> <li>• Watering devices, motor pumps</li> <li>• Irrigation/irrigation canals</li> <li>• Seeds</li> <li>• Association headquarters</li> <li>• Warehouses, grain stores</li> <li>• Modes of transport (bicycles)</li> <li>• Communications media (mobile phone, radio)</li> <li>• Cattle (animal breeding and traction)</li> </ul>

		<ul style="list-style-type: none"> <li>Fishing nets</li> <li>Canoes</li> </ul>
	<b>Families and associates</b>	
<b>Social</b> <ul style="list-style-type: none"> <li>Family</li> <li>Associations</li> <li>Units (District, Provincial, National)</li> <li>PCR Group</li> <li>Community</li> <li>Consultative council</li> </ul>		<b>Financial</b> <ul style="list-style-type: none"> <li>Associations' social fund</li> <li>FDD District Development Fund</li> <li>Provincial Fund for agriculture</li> <li>World Bank (Mopeia and Morrumbala)</li> <li>NGOs (World Vision, Kikumbi, Consortium)</li> <li>PCR (credit and savings) Groups</li> </ul>

## 8.2 SEASONAL CALENDAR

### 8.2.1 SEASONAL CALENDAR FOR MURRUMBALA

	Rainy					Dry					
SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
<b>Maize</b>											
Clearing											
	Planting										
		Ploughing									
						Harvest					
						Sale					
		Higher price					Lower price				

<b>Fish</b>											
										Acquisition of inputs	
Catching fish											
Sale of fish											
Drying the fish									Drying the fish		
Fumigation											
Lower price									No-catch period		
									Higher price		

<b>Sesame</b>											
Clearing											
	Planting										
		Ploughing									
						Harvest					
						Sale					
		Higher price					Lower price				

<b>Bleach</b>											
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Regular bleach distribution							Regular bleach distribution
Intensive bleach distribution							

8.2.1 SEASONAL CALENDAR NICOADALA

	Rainy						Dry				
SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
<b>ARROZ</b>											
Clearing											
			Planting								
				Ploughing/transplanting							
							Harvest				
	Higher price								Lower price		
Hunger											

<b>CASSAVA</b>											
Higher commercial volume						Lower commercial volume					
High prices						Low prices					
High level of employment growth						Low level of employment growth					

<b>Sweet potato</b>											
			Acquisition of inputs								
Soil prep			Soil preparation								Soil prep
Planting			Planting								Planting
	Ploughing				Ploughing						
							Harvest and storage				
							Sale of sweet potatoes				

<b>Bleach</b>											
Regular bleach distribution							Regular bleach distribution				
Intensive bleach distribution											

### 8.3 DOWNLOADABLE FILES (ONLY AVAILABLE IN PORTUGUESE)

#### EMMA MURRUMBALA AND NICOADALA FILE

Includes files: 0.ToR, 1. Seasonal calendar, 2. Support documents EMMA, 3. Support documents, 4. EMMA Murrumbala, 5. EMMA Nicoadala, 6. Market Maps, 7. Communications

Link for download [here](#)

If you have any problems downloading, please contact [carenas@oxfamintermon.org](mailto:carenas@oxfamintermon.org)

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