

Pre-Crisis Market Mapping Analysis

Market systems for Sorghum, Rice, and Pasta
Siti Zone, Somali Region
Ethiopia

November 2014



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This rapid market assessment would not have been possible without the financial support provided by ECHO, logistical and administrative support of the teams of Oxfam GB and Save the Children UK in Dire Dawa and Addis Ababa, and the excellent work of the assessment team:

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Section 1: Executive summary

1.1 Background

Oxfam GB (OGB), Save the Children UK (SCUK), and Concern Worldwide (CW) are jointly working on an initiative entitled ‘Reinforcing institutional capacity for timely food security emergency response to slow onset crises at scale’ funded through ECHO - ERC.

The ERC project came about from an observed failure in humanitarian responses to slow-onset crises coming from gaps in thinking, tools and methods, analytical and decision making processes and capacity in responding to slow-onset crises. These gaps have resulted in late and insufficient humanitarian interventions to crises, experienced in the response to the Horn of Africa drought in 2011. Delayed responses can put lives under enormous stress and significantly erode people’s livelihoods, reducing both their opportunities and their resilience to future shocks

The project was designed to enable early, appropriate and proportionate response design to meet both survival and livelihood protection needs through three principal components: improved livelihood and markets baseline data; better use and coordination of this data; and the enhanced capacity of staff to be able to operationalize markets and cash based programming.

As the overarching product of the ERC project, the consortium partners developed a Situation and Response Analysis Framework (SRAF) that enables practitioners to plan and respond early to slow-onset food crises by enabling the early prediction of shocks to household economy and markets.

The SRAF process relies on good quality livelihood and market baseline assessments. These baselines are then used in the SRAF to conduct a proper response analysis and develop a contingency plan. Critically, the SRAF process then needs to ensure context monitoring takes place and, in case of a shock or need, of conducting a situation analysis to assess the current situation and/or future expected outcomes.

During this assignment, OGB, SCUK, and CW were looking at testing the collection and cohesion of the baseline assessments and the use of this data in the SRAF process. To collect the required baseline information the two agencies planned to simultaneously implement a Rapid Household Economy Analysis (RHEA) and Pre-Crisis Market Mapping Analysis (PCMMA) in the Somali Region of Ethiopia.

OGB, SCUK, and CW wanted to better prepare for severe drought spells and speed up their responses in case the latter are needed. The rapid market assessment in Siti Zone was conducted to inform drought contingency planning and preparedness for the zone.

The following report presents the results of the PCMMA exercise conducted in Siti Zone.

1.2 Rational and methodology for the analysis

Rainfall patterns in Siti Zone are bimodal with the diraa rains expected in March – May and the karan rains in July – October. Rainfall is generally erratic and sparse with an average annual total rainfall of 500-700 mm. While both rainy seasons are important, failure of the diraa rains has a devastating effect on livestock because it follows the long dry jilaal season. Drought spells are the main hazard affecting the zone.

In 2011, the eastern Horn of Africa has experienced two consecutive poor rainy seasons caused by the La Nina effect, resulting in one of the driest years since 1950-1951 in many pastoral zones. The Somali region faced extreme food insecurity due to the prolonged lack of rainfall and many poor households had to sell more livestock than they usually do to generate cash income for food purchases. The drought spell continued through 2012 and parts of 2013.

The exercise took place in the Siti Zone of the Somali region and focused on the rural pastoralist communities whose livelihoods are regularly affected by cyclical drought spells and conflict over scarce resources. The zone was chosen because both OGB and SCUK are present and implementing programmes in the zone.

The crisis scenario selected for the rapid market assessment was a severe drought – and the reference year for comparison was the severe drought of 2011, during which both diraa and karan rains were very poor.

1.3 Critical markets and key analytical questions

The market assessment team analysed three critical market systems that play an important role in ensuring the survival of the rural pastoralist population in Siti Zone, notably the:

- Sorghum market system,
- Rice market system, and
- Pasta market system¹.

Sorghum, rice, and pasta are the common staple foods for the rural pastoralist population and the cheapest calories available. Together the products provided through the market systems cover almost 40% of an average poor rural pastoralist household's annual kilocalorie requirements.²

The assessment sought to understand and compare how the three market systems behave under normal circumstances, how they behave and under circumstances of severe drought, and determine whether they have the capacity to cover the respective food needs of the rural pastoralist communities in Siti Zone during a severe drought.

The purpose of the assessment was to determine the market systems' capacities to provide basic food products to the rural pastoralist communities during a severe drought and to judge what types of humanitarian responses might be required and feasible to ensure food security of these people during such a crisis situation.

To assess the questions the rapid market assessment compared the critical markets' performance during the normal year April 2013 – March 2014 with their performance during the severe drought of April 2011 – March 2012.

1.4 Main findings

According to the Central Statistical Agency's population projections for 2014, the estimated total rural population of Siti Zone is 467'451. The majority of these people are pastoralists and a minority are living sedentary lives in the rural areas. While pastoralists obtain their main-income

¹ In the local context the term pasta refers exclusively to spaghetti. Other pasta products like macaroni, penne etc. are not called pasta – they are summarized under the term macaroni.

² Source: HEA Baseline Storage Spreadsheet Siti Zone, 2014. Sugar is another important source of kilocalories for rural pastoralist households. The poor cover almost 20% of their annual kilocalorie requirements through sugar purchases.

and part of their food from their livestock, sedentary households have other food and income sources and thus other livelihoods. Unfortunately, the available data did not allow determining the percentage of people with a pastoral livelihood. Therefore, to determine the target population for the assessment, it was assumed that the entire rural population have pastoral livelihoods.

The RHEA mentioned earlier revealed that the rural pastoralist households distinguish 3 wealth groups: the poor, middle-income, and better-off households. The analysis showed that on average about 29% per cent of the rural pastoralists are considered to live in poor households, 48% in middle-income households, and 23% in better-of households.

The main staple foods consumed by rural pastoralist households are sorghum, rice, and pasta. An average rural pastoralist household of 7 people consumes 215 kilograms of sorghum, 250 kilograms of rice, and 78 kilograms of pasta. Together the three staples cover approximately 36% of the households' annual energy requirements.

An HEA based outcome analysis modelling a scenario replicating the drought of April 2011 – March 2012 revealed that such a drought would not lead to a survival deficit – a situation in which people would require aid to cover their basic staple food needs – but would result in a livelihood protection deficit – a situation in which households cannot afford many basic things they normally spend money on, including education, health, inputs for livestock production, and small quantities of clothes and non-staple foods. According to the outcome analysis, the drought scenario would result in a livelihood protection deficit of 1'385 ETB (about 70 USD)³ for poor households. Middle-income households and better-off households would not face a deficit.

The analysis suggests that there would be no gap for staple foods. Based on this result an assessment of the main staple food market systems would not have been necessary.

The rapid market assessments of the main staple food market systems were conducted because it was believed that a severe drought would lead to a survival deficit for vulnerable rural households. As the RHEA, upon which the above gap analysis is based, was conducted in parallel with the rapid market assessments, the respective results were not known at the time the critical markets for the assessment were selected.⁴ If the results had been known, the assessment team would have probably chosen different critical markets for its assessment.

The assessments of the staple markets revealed that the respective markets in Siti Zone are well integrated. In general market systems in the region benefit from the regions extensive livestock exports that generate vigorous exchange of goods and capital and anchor the entire Somali region to global markets.

The market actors of the different market systems behave competitively and profit margins at all levels of the market chains appear moderate. Even though the number of market actors is limited at several stages of the different market chains, there does not appear to be any stages at which market actors are in a position to exercise market power and influence prices to their advantage.

All market systems seem to have the capacity to meet the respective needs of the population in Siti Zone – even during a severe drought. None of the traders or consumers met during the assessment could point out a situation in which the availability of sorghum, rice, or pasta had been insufficient.

³ Average exchange rate for 2014 : 1 ETB = 0.0504 USD.

⁴ This underlines the usefulness of starting the SRAF process with a RHEA (or HEA) and then basing an eventual PCMM on the respective results.

All three market systems appear to have some potential to expand their supply: The demand for sorghum has experienced a reduction during the last couple of years and traders reported that they could very well increase supply to past levels. Commercial rice importers stated that they could easily double their imports without causing any price increases. The tax-exempt traders licensed by the government to provide affordable food products to the rural population of Siti Zone have not exhausted their quotas for rice and pasta and could increase the quantities imported by 65% and 35% respectively.

The local prices for rice and pasta in Siti zone depend on the world market prices that are reflected on the market in Djibouti as well as on transport costs. Transport costs are essentially dependent on fuel prices and fuel prices are determined on the world market, too. Because rice, pasta, and fuel prices are determined on the world market, market based food security responses in the form of cash or vouchers are unlikely to trigger significant price increases. Moreover, the government closely monitors food markets and will intervene in markets to keep prices low using tool such as import, export bans, and retail price ceilings for 18 basic food products.

All households met during the assessment reported to be able to access markets. A main concern regarding market access is transport costs. The more remote pastoralist households are, the higher the transport costs they face and, if they buy their food products locally, the higher food prices are. Nonetheless, even remote rural pastoralist households have market access and depend on markets to buy a significant proportion of their food.

In the Somali Region, PSNP distributes only food and conducts no cash transfers although the Government of Ethiopia (GoE) has sought a cash first principle in the delivery of assistance.⁵ This suggests that the GoE considers that markets in the Somali region do not have the capacity to cover the needs of the population. Nonetheless, rural pastoralist households appear to have a preference for cash assistance (the possibility to buy their own food) as opposed food assistance (in-kind food aid) if they are convinced that the amount received is sufficient to buy adequate food supplies. There appears to be the general impression that in-kind food assistance is more generous than cash assistance that is people fear that they will not be able to buy the same amount of food they would receive if they chose the in-kind distribution.

1.5 Response recommendations

The market systems for sorghum, rice, and pasta have the capacity to cover the needs of rural pastoralist households in normal times as well as in times of severe drought as past experiences have shown. A severe drought is more likely to create a demand side problem as vulnerable rural households experience income losses caused by the deterioration of the body conditions of their livestock. It is this loss of income that directly affects households' income and food production.

An outcome analysis based on a RHEA and a crisis scenario simulating the consequences of the last severe drought in April 2011–March 2012 suggests that even during a severe drought, all households would be able to be able to cover their food requirements by themselves. However, poor pastoralist households would face a livelihood protection deficit of 1'385 ETB.

The fact that the drought scenario does not lead to a survival deficit is likely to be at least partially linked to the fact that the GoE runs a very significant food aid programme in Siti Zone (PSNP and relief). The assessment revealed that the exact scope and functioning is little understood by

⁵ WFP (2013, p. 6).

OGB, SCUK and CW. It is therefore recommended that the three organisations should strive to understand the scope of the programme and its capacity to react to a crisis, like the drought mentioned earlier. This process should establish whether food security responses should be a part of drought contingency plans for Siti Zone.

Apart from Afar, Somali Region is the only region in Ethiopia where PSNP distributes only food. The present assessment suggests that cash based programming is a feasible alternative to in-kind distributions of food in Siti Zone. In this respect it would make sense to advocate for a policy change of the PSNP in Somali region and try to motivate the responsible authorities to some pilot projects in which PSNP starts to distribute cash. First trials could be done using a mixed approach (cash and in-kind).

When implementing cash transfers particular attention should be paid to the geographic location of the beneficiaries when determining the amount of the cash transfer, as households in remote rural areas face higher costs to procure food products than do households that are closer to the urban centres.

Section 2: Crisis scenario

2.1 Context and livelihoods

Siti Zone is composed of seven woredas: Hadigala, Shinile, Dambal, Ayesha, Erer, Afdem, and Meiso. Rainfall patterns are bimodal with the diraa rains expected in March – May and the karan rains in July – October. Rainfall is generally erratic and sparse with an average annual total rainfall of 500-700 mm. While both rainy seasons are important, failure of the diraa rains has devastating effect on livestock because it follows the long dry jilaal season.⁶ Drought spells are the main hazard affecting the zone and the area experienced an extended drought spell from 2011 to 2013.

The main sources of food for rural pastoralist households are purchases, own livestock products and food aid. Across different wealth groups, pastoral rural households cover 65–70% of their annual food needs through purchase. The main staple foods purchased by all wealth groups are, in order of importance, sorghum, rice, sugar, oil, and pasta.⁷ The market demand for food from rural populations in the Somali region ebbs during the rainy seasons, as pastoralists consume more animal products.⁸

Rural pastoral households are thus very dependent on markets and income to cover their food requirements. Their main income sources to cover the respective expenses are livestock sales, livestock product sales, and firewood and charcoal sales. The relative importance of these income sources varies significantly across wealth groups. Poor households obtain about half of their income from livestock sales and the other half through firewood and charcoal sales and typically do not sell livestock products. Middle households sell only little firewood and charcoal and get their income predominately through livestock and livestock products sales. Better-off households obtain their entire income from livestock and livestock product sales.

Livestock prices obtained by the pastoral households tend increase with wealth because wealthier households can afford to wait for the periods of highest demand and for their animals to reach a larger size. Livestock prices typically decrease during drought spells as the body condition deteriorates. Income is thus strongly affected by drought spells.

Milk is an important food source for the rural pastoralist communities and its importance increases with wealth. In a normal year livestock products can cover around 10% of a poor households annual kilocalorie requirements, and around 30% and 50% for middle and better off households respectively. Drought spells have a significant impact on milk production and thus on the food security of households.

2.2 Crisis scenario

The rapid market assessment in Siti Zone was conducted to inform drought contingency planning of the commissioning organisations working in the zone. OGB has been working closely with the pastoral community in Siti zone for 9 years through its country program, and since July

⁶ Oxfam GB, Save the Children UK, Concern Worldwide, Rapid HEA Assessment Report, Siti Zone, Somali Region, Ethiopia, November 2014.

⁷ The description of the livelihoods of the rural pastoral households is based on the findings of the rapid HEA conducted in parallel to the PCMMA. See Oxfam GB, Save the Children UK, Concern Worldwide, Rapid HEA Assessment Report, Siti Zone, Somali Region, Ethiopia, November 2014.

⁸ World Food Programme, Markets and Cash Transfers in Ethiopia, Insights from an Initial Assessment, January 2013.

2011 in response to the drought affecting the overall Horn of Africa. As the scale and intensity of the 2011 drought exceeded the coping capacity of the rural pastoralist communities OGB supported the communities through both WASH and EFSL interventions. To help the organisations to improve their preparedness for the recurrent droughts and allow them to react in a timely manner, the PCMMA team decided to select the severe drought of 2011 as the reference scenario.

The drought of 2011

“Over 2011, the eastern Horn of Africa has experienced two consecutive poor rainy seasons caused by the La Nina effect, resulting in one of the driest years since 1950-1951 in many pastoral zones. Crops have failed, substantial livestock mortality has occurred, and local cereal prices have risen sharply. Emergency levels of acute malnutrition have been widespread and it is estimated that more than 13 million people in the sub-region have been in need of immediate humanitarian assistance.

The Somali region (...) faced extreme food insecurity due to the prolonged lack of rainfall (...). Many poor households sold livestock (...) to generate cash income for food purchases.”

Oxfam GB, Emergency Market Mapping and Analysis Report, Shinile Zone, Ethiopia, February 2012.

The pastoralist households interviewed during the rapid HEA assessment conducted in November 2014 confirmed the poor rainfall performance during the period 2011–12 and mentioned that it led to excessive livestock deaths.⁹

Addressing food security in an area facing recurrent droughts raises two essential questions: (1) are the staple food markets able to cover the needs of the local population in situations of severe drought and (2) what is the best response option (cash, in-kind, or other market based interventions) if households are not able to cover their food needs on their own. The PCMMA assessment set out to answer these questions.

2.2 Market assessment methodology

The rapid market assessment used the PCMMA¹⁰ approach – a market assessment approach essentially based on the principles of Emergency Market Mapping Analysis¹¹ (EMMA). Like the EMMA approach, the PCMMA approach recognizes the centrality of market systems in sustaining people’s lives and livelihoods and intends to inform the response analysis of humanitarian organizations allowing them to design responses that are adapted to the functioning of local key market systems.

The PCMMA aims at providing field practitioners with a practical step-by-step process to plan, carry out, and update pre-crisis market mapping analyses. As the name points out, the analysis is conducted before a crisis hits. Its purpose is to inform better and market-adapted contingency and preparedness programme design and implementation as well as to allow the implementation of surveillance, early warning and monitoring and evaluation systems.

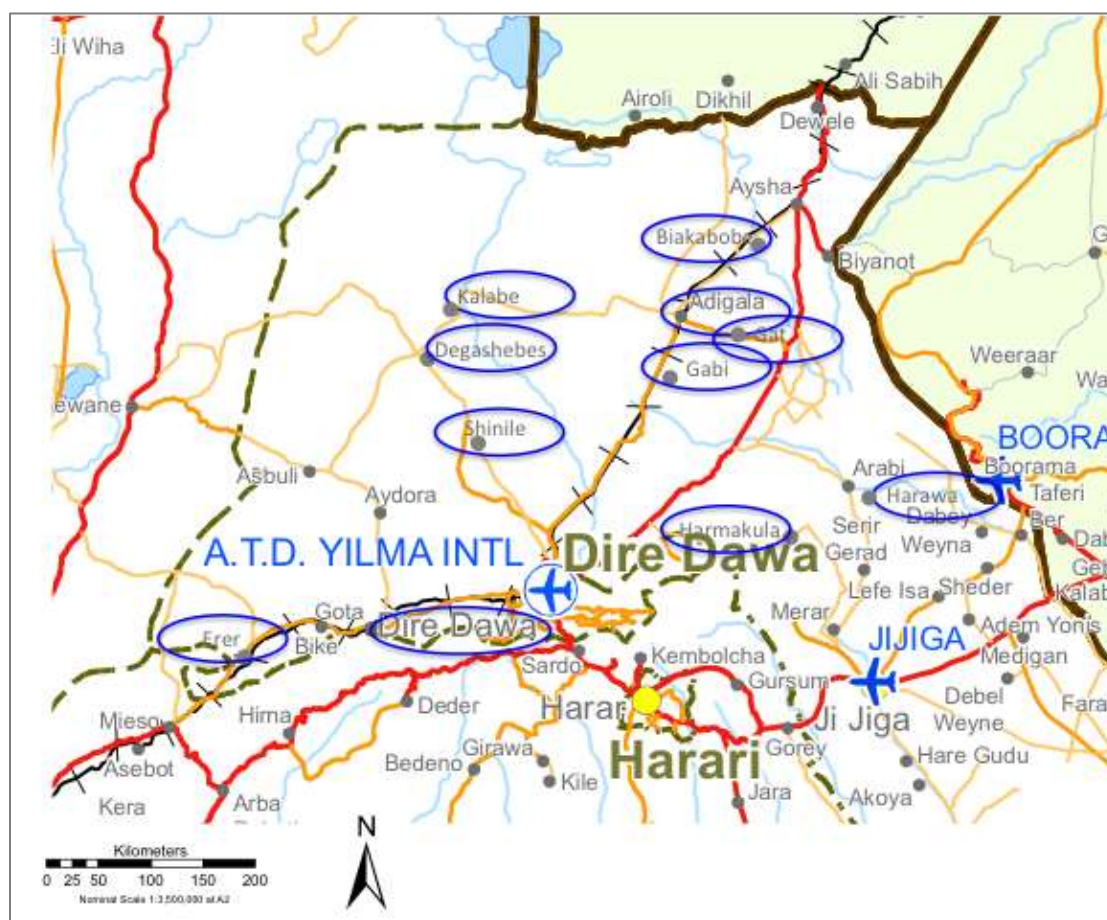
⁹ Oxfam GB, Emergency Market Mapping and Analysis Report, Shinile Zone, Ethiopia, February 2012.

¹⁰ See IRC & Oxfam GB, Pre-Crisis Market Mapping Analysis, Step-by-step guidance for practitioners, June 2014.

¹¹ See Albu, Emergency Market Mapping Analysis Toolkit, 2010.

The PCMMA approach has the concept of rapid and realistic ‘good enough’ analysis at its core. Using tools such as seasonal calendars and market system maps the approach combines the analysis of people’s uncovered needs (gap analysis) and the analysis of the market systems intending to cover these needs (market system analysis) to offer a systemic and comprehensive understanding of the capacity and constraints of critical market systems. Based on this analysis PCMMA offers response recommendations that detail how far the critical market systems analysed can help deliver humanitarian assistance and which areas of the market system may need additional support in this aid delivery. It can further suggest ways in which interventions may strengthen the market system in the long run.¹²

Map 1: *Siti Zone – Selection of locations visited during the assessment*



Source: Extract of the 2011 general logistics map of the Logcluster, www.logcluster.org.

The assessment was conducted over a period of 10 days in late October 2014 by a team of 9 people – the team leader and 8 team members. The team members had extensive experience in humanitarian assessments and programming but no previous experience in market assessment and analysis. They received a two-day classroom training to become familiar with the PCMMA approach and prepare them for the data collection. The training was followed by 5 days of data collection during which 4 assessment teams visited 13 locations¹³ and conducted well over 50 semi-structured interviews with consumers, traders, and key informants. The following map of

¹² See Powell & Brady, EMMA Review, February 2012.

¹³ The locations visited were: Bisle,, Biyaqabobe, Degashebes, Dire Dawa, Erer, Gabi, Gat, Hadigala, Harawa, Harmakula, Kalabe, Magalad, Shinile,

Siti Zone provides a rough picture of the geographic coverage of the assessment (encircled locations).¹⁴ Apart from Afdem and Meiso, all woredas of Siti Zone were visited.

To assess the functioning of the market systems in a normal year the assessment will refer to the latest consumption year, which lasted from April 2013 to March 2014. The use of the consumption year is to align the assessment with the rapid HEA that is being conducted simultaneously to assess the livelihoods of the rural pastoralists in Siti Zone.¹⁵ To assess the functioning of the market system during a severe drought the assessment will refer to the drought year of April 2011 – March 2012.

Section 3: Critical market systems

The assessment started out focusing on a single critical market system – the market system for sorghum. From a HEA assessment conducted in 2007 it was known that poor rural pastoralist households covered almost half of their annual food requirements through sorghum purchases. In terms of household food security sorghum thus seemed by far the most important food source. The PCMMA team thus decided to focus its attention on the sorghum market system.

It was only during the two-day classroom training of the PCMMA exercise that the team leader learned that Oxfam had conducted three EMMA in February 2012, following the 2011 drought. One EMMA focused on the market systems for sorghum and pasta, one on the water market system and one on the market system for goats and sheep.

Because besides informing food security related contingency planning for Siti Zone, two other crucial reasons for conducting the PCMMA were to test the approach and strengthen the market assessment and analysis capacity of OGB, SCUK, and CW staff. Because of this the team leader decided to pursue the assessment and analysis of the sorghum market system as planned.

After the first day of data collection in the field, the PCMMA assessment teams gathered to discuss their findings. The discussions suggested that the importance of sorghum as the prime staple for poor pastoralist households had significantly declined. Interlocutors had mentioned that poor rural households increasingly shifted their consumption from sorghum to rice and pasta. One of the reasons put forward was that sorghum was typically consumed with milk and milk was in short supply as a consequence of the extended drought period 2011-13.

To make sure the assessment covered a relevant part of poor households' food purchases it was decided to extend it to the rice market system and the pasta market system. The PCMMA thus focused on three critical market systems:

- Sorghum market system,
- Rice market system, and
- Pasta market system.

¹⁴ Most of the locations visited were added to the map – their locations are thus to be considered approximate.

¹⁵ The consumption year for this pastoral livelihood zone begins in April with the start of peak milk production. The reference year selected for this assessment was the most recent full consumption year (April 2013 – March 2014). It was ranked as a fairly average year across the livelihood zone in relation to recent difficult years, with some variation from village to village, following several seasons of severe drought in 2011-12.

Regarding the pasta market system it must be noted that in the local context the term pasta refers exclusively to spaghetti. Other pasta products like macaroni, penne etc. are not entitled pasta – they are summarized under the term macaroni and are not covered here.

If poor households shifted their sorghum consumption from sorghum exclusively to rice and pasta, the three staples should still cover half of their annual food requirements. The RHEA conducted in parallel to the PCMMA revealed that the three staples cover almost 40% per cent of their annual food requirements – confirming the relative importance of the staples.

The key analytical questions guiding the assessment of the three market systems are:

- How do the market systems behave in normal year?
- How were the market systems affected by the severe drought of 2011?
- Do the market systems have the capacity to cover the respective needs of the pastoralist communities in Siti Zone during a severe drought?

To answer the questions the assessment compared the markets' performance during the normal year April 2013 – March 2014 with their performance during the severed drought of April 2011 – March 2012.

Section 4: Target population and gap analysis

4.1 Target population

Most of Siti Zone lies in the Pastoral Livelihood Zone – only a small part in the south lies in the Agro-Pastoral Livelihood Zone. According to the 2007 census, 86% (392'823 people) of the target area lives in the rural areas and 14% (64'263 people) in the urban centres.¹⁶

The vast majority of the people living in the rural areas have pastoralist livelihoods. The 2007 census states that of the 457'086 people living in Siti Zone 203'285 (44%) are to be considered as pure pastoralist households¹⁷ – meaning that they are wandering from place to place in search of grass and water for their animals. However, many of the households the census entitles "conventional households" also appear to have pastoral livelihoods. Based on the census data it is thus difficult to determine the number of people with pastoral livelihoods.

The RHEA, which forms the basis for the gap-analysis of this PCMMA focused exclusively on pastoral households. Rural households without livestock or with an unsustainable number of livestock (pastoral dropouts) were not considered in the RHEA.

Since the livelihoods of all rural households are interlinked the present assessment will consider the entire rural population of Siti Zone to determine its target population. For lack of a better alternative, the assessment thus assumes that the RHEA findings apply to the entire rural population (including those without livestock).¹⁸

¹⁶ Central Statistical Agency, 2007 Census for Somali Region, 2007, p. 7.

¹⁷ Ibid. p. 14.

¹⁸ As the RHEA suggests that pastoral dropouts actually have higher and less drought sensitive income than poor rural pastoralists, including former in the analysis means that a needs assessment in a drought crisis situation is likely to overestimate the number of vulnerable people. This approach is chosen because an inclusion error is preferable to an exclusion error.

According to the Central Statistical Agency's population projections for 2014, the estimated total population of Siti Zone is 546'168 people and 467'451 of them (86%) live in the rural areas.¹⁹ Table 1 illustrates the number of people per woreda and disaggregates them into wealth groups based on the wealth breakdown results of the RHEA.

Table 1: *Population of Siti Zone by wealth groups, estimates for 2014*

Woreda	Rural population	Poor	Middle	Better-off
Ayisha	59643	17372	28374	13897
Denbel	81639	23778	38838	19023
Shinile	98428	28668	46825	22935
Erer	77265	22504	36757	18003
Mulo	84030	24475	39975	19580
Afdem	66445	19353	31610	15482
Total Siti Zone	467450	136150	222379	108920
		29%	48%	23%

Sources: Central Statistical Agency & RHEA, own calculations.

The number of households per wealth group can be calculated based on the household sizes determined during the RHEA: poor and middle-income households had an average of 7 members and better-off households had an average of 8 members.

The RHEA reveals the consumption pattern of rural pastoralist households. Table 2 presents the quantities of sorghum, rice, and pasta consumed annually by households of three different wealth groups. The table also presents the consumption of an average household.

Table 2: *Annual sorghum, rice, and pasta consumption by wealth group, April 2013 – March 2014*

	Poor 30%		Middle 49%		Better off 21%		Average household
	Annual consumption (kg)	% of annual kcal needs	Annual consumption (kg)	% of annual kcal needs	Annual consumption (kg)	% of annual kcal needs	Annual consumption (kg)
Sorghum	180	12%	200	13%	300	17%	215
Rice	250	16%	250	16%	250	14%	250
Pasta	120	8%	60	4%	60	3%	78
Total		36%		33%		34%	

Source: RHEA (2014).

An average rural pastoralist household thus consumes about 215 kilograms of sorghum per year – or 18 kilograms per month. This value will be used later on to estimate the sorghum needs of the rural pastoralist population.

4.2 Gap analysis

Based on the results of the RHEA it is possible to calculate the effect of a drought scenario on the rural pastoralist population. Based on the livelihood information gathered during the RHEA assessment and some basic assumption on how people use their resources when facing a survival

¹⁹ Central Statistical Agency, Population Projection of Ethiopia for All Regions At Woreda Level from 2014-2017, August 2013.

or livelihood protection deficit²⁰, the spread-sheet allows determining the effect of a crisis-scenario.

For the purpose of this assessment a scenario replicating the severe drought of April 2011 – March 2012 was modelled to assess whether any of the wealth groups would face a deficit if a similar crisis were to occur in the future. The scenario can be summarized as follows:

- Reduced milk production (camel: 35%, cow: 5%, sheep: 2%)
- Reduced milk sales (camel: 35%, sheep: 2%)
- Reduced animal sales (camels: 63%, cattle: 57%, sheep & goats: 44%)
- Increased animal prices (camel: 125%, cattle: 109%; sheep & goats: 184%)
- Reduced revenue from camel rental (63%)
- Increased firewood price (108%)
- General price increase (140%)

It has to be noted that all percentages refer to the respective values of the baseline year of the RHEA, which was the consumption year April 2013 – March 2014.

The drought scenario produces a livelihood protection deficit of 1'385 ETB (about 70 USD) for poor households. That is, an average poor household lacks 1'385 ETB to cover its normal expenditures for salt, soap, batteries, grinding, jerry cans, education, health care, livestock drugs, and telephone communication. The middle-income households and the better-off households do not face a deficit. The target group for a drought intervention would thus be the 19'450 poor rural pastoralists households.

As there are an estimated number of 19'450 poor household in Siti Zone, the income-gap for the wealth group amounts to 26'938'250 ETB.²¹ This is the amount that would need to be transferred to poor households to make sure they can cover their livelihood protection expenditures.

As the drought scenario does not lead to a survival deficit for any of the wealth groups, there does not appear to be a need to support household's food security. Yet, in this respect it must be noted that all woredas in Siti Zone are included in the Government of Ethiopia's (GoE) Productive Safety Net Programme (PSNP) and receive significant quantities of food aid. In addition, some of the woredas benefit from regular GoE Emergency Relief contributions. The rural pastoralist communities thus depend to a significant extent on food aid. This was confirmed by the RHEA, which estimated the contribution of food aid to the annual food requirements of poor and middle-income households at almost 30%. Table 3 below gives an indication of the extent of the respective aid. To determine the true importance of the food aid it would be necessary to contact the authorities and ask them for the quantities of food distributed during the last few years. In order to determine the need to intervene in case of a crisis it is also necessary to inquire to what extent the GoE is able and willing to extend its support. Time constraints did not allow

²⁰ To determine respective deficits, HEA defines a survival and a livelihood protection threshold. The survival threshold represents the total income required to cover (a) 100% of minimum food energy needs (2100 kcals per person), plus (b) the costs associated with food preparation and consumption (i.e. salt, soap, kerosene and/or firewood for cooking and basic lighting), plus (c) any expenditure on water for human consumption. The livelihood protection threshold represents the total income required to sustain local livelihoods – i.e. total expenditure to: (a) ensure basic survival (see before), plus (b) maintain access to basic services (e.g. routine medical and schooling expenses), plus (c) sustain livelihoods in the medium to longer term (e.g. regular purchases of seeds, fertilizer, veterinary drugs, etc.), plus (d) achieve a minimum locally acceptable standard of living (e.g. purchase of basic clothing, coffee/tea, etc.).

²¹ The number of poor households is calculated by dividing the number of people in the poor wealth group (136'150) by the average household size for poor households (7).

the assessment team to look into these questions. However, a respective study is highly recommended before any intervention or contingency plan is devised.

Table 3: *Number of people receiving PSNP & relief support in Siti Zone, 2013*

Woreda	Total population	PSNP		Relief	
		Beneficiaries	Share	Beneficiaries	Share
Shinile	96785	37487	0.39	43809	0.45
Ayasha	58612	30616	0.52	11283	0.19
Afdem	94960	32624	0.34	0	0.00
Mieso	82595	28042	0.34	0	0.00
Erer	75974	32255	0.42	7960	0.10

Source: Save the Children, Grant Application Form, Share Ethiopia Programme, 2013.

Section 5: Market system maps and analysis

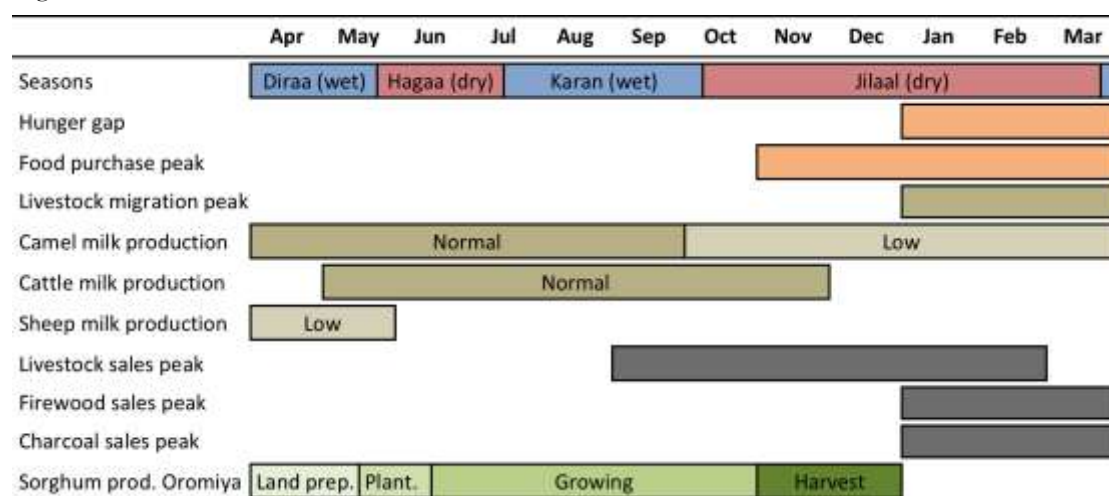
A key finding of the analysis was that all traders talked to during the assessment mentioned that the drought of April 2011 – March 2012 had not had a noticeable impact on their business. As will become clear in what follows, this means that there is no difference between how the critical market systems work in normal times and in time of severe drought. Thus, it was not necessary/possible to draw crisis maps for the market systems.

5.1 Seasonal calendar

Below seasonal calendar presents the most important seasonal aspects regarding the food security situation of the rural pastoralist population in Siti Zone. It first presents the two rainy seasons and the two dry seasons that determine the livelihoods of the pastoralists and their livestock and it points out that the period in which food security is most difficult to attain is from January to March (hunger gap).

Food purchases peak during the jilaal dry season. This period coincides with the peak of livestock sales, indicating that the pastoralists have to sell their animals in order to buy food. Firewood and charcoal sales peak during the hunger gap indicating that they are a coping strategy for households who do not possess enough livestock to cover all their food expenditures.

Figure 1: *Seasonal calendar Siti Zone*



Source: Own compilation.

Finally, the calendar shows the seasonality of the sorghum production in Oromiya – the main source for sorghum consumed in Siti Zone. It can be noted, that the harvest time just precedes the hunger gap. That is, sorghum is harvested just before the pastoralist households enter the hunger gap. It can thus be expected that sorghum availability is sufficient during the most difficult period of the pastoralist year.

5.2 Red sorghum market system

The following describes the red sorghum market system. Red sorghum is the preferred sorghum variety of rural pastoralists in Siti Zone. It is cheaper than white sorghum, which appears to be mostly consumed by urban households in Dire Dawa.

The explanations start out with a short description of the different market actors. Then follows a description of rules, norms and trends that make up and define the environment in which the market actors operate. Last but not least follows a description of the key infrastructure and the support services of the market system.

The numbers of actors, trade volumes, and prices mentioned in the market maps are to be interpreted with caution. The assessment did not conduct a representative quantitative assessment and the stated values should therefore be taken as rough indicators. P symbolizes the price in Ethiopian Birr (ETB), N the number of respective market actors, and V the volume of sorghum in quintals (1 quintal = 100 kg) each of the market actors trades during an average month of an average year. The weight of the arrows gives an indication of the relative importance of commodity flows.

5.2.1 Market actors

Farmers: The left side of the market system map presents the farmers producing the sorghum that ends up in Siti Zone. Most of the sorghum consumed in Siti Zone stems from farmers in Assabot, Gelemso, and Bedessa and smaller amounts come from farmers in Jijiga and Holega, Bale, and Humera. In the majority of cases collectors buy the sorghum from the farmers and bring it to Dire Dawa. In some rural areas of Siti Zone that are close to the highlands, farmers sell their sorghum directly to rural pastoralists. Typically the farmers come to close by pastoralist communities and urban centers (e.g. Erer) to sell or exchange part of their production. In December 2013, the farm-gate price for one quintal of sorghum was between 400 and 500 ETB.

Collectors: Collectors bring most of the sorghum consumed in Siti Zone from the production areas to the consumers. The collectors in Asabot and Gelemso are said to bring the largest quantities. Other collectors come from close by Jijiga and from as far as Addis Ababa and Adama. Although, their numbers are limited, they are said to behave in a competitive way and wholesalers and retailers buying from them reported that their margins are moderate. Most collectors have warehouses in the source areas and regularly bring sorghum to Dire Dawa to sell according to the local demand. Many of them also have mills and are said to retail sorghum in the source areas. Collectors typically bring a few hundred quintals of sorghum per month to Dire Dawa.

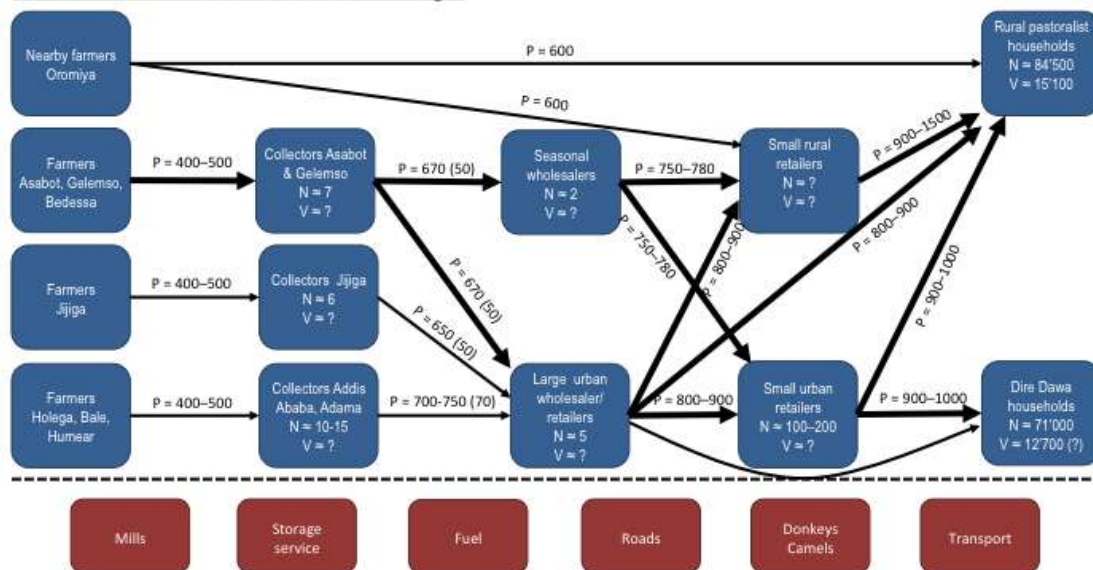
Seasonal wholesalers: In Dire Dawa there are two seasonal wholesalers who engage in the sorghum trade after harvest time, when supply and demand are high. Once supply in the source areas decreases, the two wholesalers disappear from the sorghum market and engage in other trade activities. Their presence indicates the openness of the market – traders seem to be able to enter the market without problems.

Figure 2: Red sorghum market system

The market environment: institutions, rules, norms & trends



The market chain: market actors & their linkages



Key infrastructure & market support services

Large urban wholesaler/retailers: A few large wholesalers characterize the sorghum market in Dire Dawa. These wholesaler buy large quantities of sorghum directly from the collectors and sell smaller quantities on to rural local urban retailers as well as to rural pastoralist and urban households. Sometimes large wholesalers buy directly from the farmers in the source areas indicating that they do not have to go through the collectors. The margins of the large urban wholesalers are moderate. The fact that the number of large urban wholesalers has ben reduced as a consequence of a general decrease in demand over the past few years suggests high competition and low profit margins. Some of the large wholesalers own mills and provide milling services to their clients. Some even offer storage services in their warehouse: they allow households and retailers to procure larger quantities and store them in their facilities without a charge. In Dire Dawa sorghum is available throughout the year – traders mentioned that they had never faced a situation in which they had not been able to satisfy the local demand – not even during the drought April 2011 – March 2012. Large wholesalers/retailers typically pay their sorghum in cash and only provide credit to regular, well-known customers.

Small urban retailers: The small urban retailers buy their sorghum by quintal from the seasonal and large urban wholesalers. They add a small margin and sell it small quantities to the local urban population. At times they also sell entire bags (1 quintal) to rural pastoralist households. Most small urban retailers do not have mills and can thus not provide milling services to their customers. The small urban retailers only give credit to their regular customers. However, they only give small amounts and require repayment before the next purchase.

Urban households: The sorghum market system also has to cover the sorghum need of the urban population of some 71'000 households (Dire Dawa). However, no information could be found on the sorghum consumption of the urban population. Assuming they consume the same

quantity as rural pastoralist households, the monthly sorghum needs would amount to roughly 12'700 quintals. That is, the monthly sorghum demand rural and urban population would amount to 27'800 quintals. The sorghum market system appears to be able to cover the local demand for sorghum in both normal and in severe drought years. Urban households typically buy small quantities of sorghum at a time (a few kilograms) for immediate consumption. They have the sorghum milled on the spot and return for more once they have consumed it.

Small rural retailers: The small urban retailers buy their sorghum by quintal from the seasonal and large urban wholesalers. They add a small margin and sell it small quantities to the population in their village. In many rural villages sorghum is not sold as small retailers consider the business to be unprofitable (it takes them a long time to sell one quintal of sorghum and the small profit margins do not make it worth stocking the product). Small rural retailers only give credit to well-known customers. Since the last severe drought some of the small retailers appear to have significantly reduced their credit lines as customers faced more and more problems to repay their debts.

Rural pastoralist households: There are an estimated 84'500 rural pastoralist households in Siti Zone. As presented in Table 2, an average rural pastoralist household consumes about 215 kilograms of sorghum per year. That means that the 84'500 rural pastoralist households consume about 15'100 quintals of sorghum per month. Rural households typically go to the urban centres or in larger villages to buy sorghum. They buy by the quintal – usually one bag. They consume larger quantities of sorghum during the two rainy seasons when milk is more available. During severe droughts households who can afford it reduce their sorghum consumption, as sorghum is typically consumed with milk and the latter gets very scarce during severe droughts. Poor households, however, continue to consume sorghum, as it is significantly cheaper than rice and pasta. Milling sorghum costs around 40 ETB/quintal if a mill is available in the location. This is not always the case. If there is no mill in the location the household resides, the latter typically has its sorghum milled in the location he purchases it. Households not able to buy sorghum in their locations will go to the nearest urban centre to buy sorghum and transport it to their villages using their own animals (donkeys), public transport, or private transport services. In some rural areas, households reported that traders stop to sell sorghum during the jilaal dry season as many of the pastoralist households migrate to other regions and sorghum sales become less profitable. They also reported that they were severely cash constrained during the jilaal season making it difficult for them to purchase food.

5.2.2 Market environment

Ministry of Trade and Transport: The ministry is reported to watch the food market and said to intervene in markets to keep prices low if need be. “As food s food costs spiraled in Ethiopia in early 2011, the Federal Ministry of Trade set retail price ceilings for 18 basic food products, and implemented direct sales of cooking oil and sugar.”²² The assessment team however has not heard of any controlling interventions regarding the sorghum price and the price developments do not reveal any form of strict price controls (see Graph 1).

PSNP & Relief: The GoE runs its PSNP programme in Somali Zone and all of the woredas of Siti Zone are benefiting.

²² WFP, Markets and Cash Transfers in Ethiopia: Insights from an Initial Assessment, January 2013.

As opposed to other regions, the PSNP distributes only food and conducts no cash transfers although the Government of Ethiopia (GoE) has sought a cash first principle in the delivery of assistance.²³ This suggests that the GoE considers that markets in the Somali region do not have the capacity to cover the needs of the population. The quantities of food delivered through the PSNP programme are significant and definitely require further investigation. Although PSNP assistance is supposed to go to the vulnerable households of the rural communities, in practice the assistance appears to be distributed to all members of the consumers – it is thus strongly diluted. The GoE also has a relief programme that has been distributing significant quantities of food aid to rural communities in the woredas Hadigala and Dembel. Some traders mentioned they appreciated the PSNP programme as it allowed poorer customers to repay their debts by selling part of the assistance they received. None of the traders met mentioned a negative impact of the PSNP programme on their business. Some traders are reported to engage in the buying and selling of food aid. Time constraints did not allow the assessment team to investigate the details of mentioned food aid. As it is clear that the number of beneficiaries (Table 3) and the quantities distributed are significant, it is strongly suggested that the subject is further investigated. If the government is able and willing to scale up its assistance in the case of a drought, it may not even be necessary for other organisations to intervene.

Revenue Office: Larger traders require licenses and are taxed. This however does not appear to be a significant obstacle for people who intend to enter the market or a significant burden for the traders doing business. The assessment therefore did not spend time to gather the details on the respective regulations and cost.

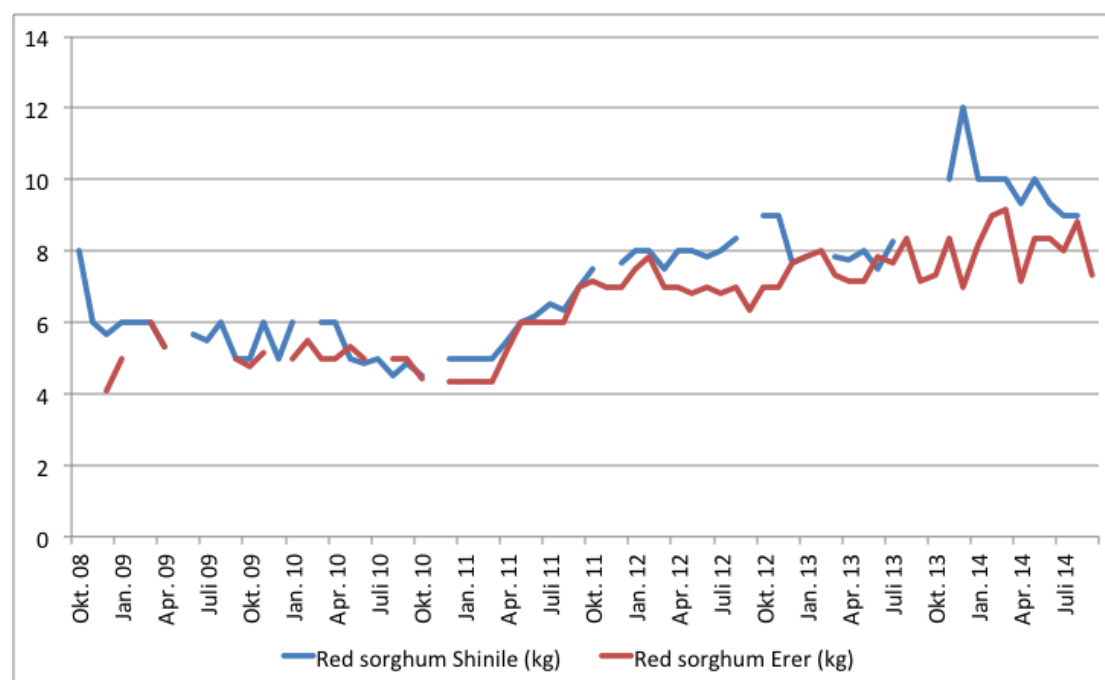
No consumer cooperation: Consumers do not appear to coordinate their purchases although there appears to be a potential gain in doing so: Coordinating their purchases consumers might be able to get better prices for sorghum (buying larger quantities directly from wholesalers) and better deals on transport (making it worth to hire transport). Although some households confirmed that there might be respective potential, they said that such cooperation was difficult. The reason put forward was that households would typically buy products whenever money was available and that money availability would not necessarily coincide between households.

Small retailer cooperation: Smaller retailers in rural areas appear to coordinate their purchases in the urban centers benefiting from better prices and transport conditions. This cooperation is mostly observed in the more remote areas.

Sorghum retail prices: Graph 1 shows how the retail prices for red sorghum developed since October 2008. The graph shows that prices increased noticeably since the severe drought experienced in the consumption year April 2011 – March 2012. However, the graph also suggests that prices dropped sharply from October 2008 to January 2009. Based on the graph it is not possible to say whether it is the drought that has caused the price increase. It is also possible that 2009 and 2010 were very good years for sorghum production causing prices to drop. Note in this respect that the sorghum harvest in the region takes place in November and December (see Figure 1).

²³ WFP (2013, p. 6).

Graph 1: Retail prices for 1kg of red sorghum in Shinile and Erer, 2008 – 2014



Source: CSA, own calculations.

Graph 1 does indicate that Shinile and Erer have roughly the same red sorghum prices and prices appear to move more or less in parallel. It must be noted, that most of the sorghum sold in Erer comes from the nearby production sites in the Oromiya highlands and not from the Dire Dawa as is the case for Shinile.

5.2.3 Market infrastructure and support services

Mills: Larger sorghum traders in Dire Dawa own their own sorghum mills and offer milling services to their customers at the going rate of 40 ETB/quintal. Mills are readily available and affordable in the urban centers. In the rural areas this is not always the case, while some villages have their own mills, the households in other villages have to travel to get their sorghum milled. This means additional costs for remote rural households.

Storage facilities: Some of the sorghum traders in Dire Dawa offer their customers free storage if they purchase larger quantities. This allows customers to buy sorghum by the quintal. The traders benefit by selling larger quantities and obtaining the milling business of these customers.

Fuel: Fuel is essential for transport provider and the traders operating sorghum mills and fuel price hikes are likely to show an immediate impact on the costs of the respective services.

Roads: The road system is poor. There are few roads and they are generally of poor quality. This is likely to have a significant impact on transport availability and costs. Yet roads seem to be passable throughout the year and there were no reports of seasonal disruptions.

Donkeys & camels: Households owning donkeys and or camels often transport their sorghum purchases themselves. They consider the transport “free of charge”. This transport means is widely used suggesting that animal health is an important issue with respect to market access.

Transport: Prices for motorized transport depend on the transport means and distance – for example: private transport from Dire Dawa to Shinile was reported to be around 20 ETB/quintal while transport from Dire Dawa to Ayshia was 140 ETB/quintal. Often loading and unloading costs need to be added – these costs seem to vary between 3 and 5 ETB per bag. Transport and transport costs are a serious issue for rural pastoralist households in remote areas. The further households are located from the urban centers the more time consuming or costly transport becomes.

Railroad: The GoE is currently re-establishing the railroad between Addis Ababa and Djibouti. The works are supposed to be finalized in 2015. This may lead to significantly lower transport costs for all kinds of products – whether this will be the case for sorghum remains to be seen.

5.3 Rice market system

The following describes the rice market system. Rice is the second most preferred staple of rural pastoralists in Siti Zone. It is significantly more expensive than sorghum but people seem to appreciate it because of its easy preparation. Throughout the last few years rice consumption has gone up at the expense of sorghum. This tendency appears to have been stronger in the urban than in the rural settings. Some of the interlocutors met that sorghum consumption had gone down as a consequence of the recurrent droughts and their negative impact on milk production: Because pastoralists would typically prepare their sorghum with milk, the drought related decrease in milk production had them to substitute sorghum with rice which could be prepared without milk. This, however, could not be confirmed.

This section is organized in the same way as the section on the sorghum market system. It starts out with a short description of the different market actors, followed by a description of rules, norms and trends that make up and define the environment in which the market actors operate and a description of the key infrastructure and the support services of the market system. This follows the structure and logic of the market map.

As before the numbers of actors, trade volumes, and prices mentioned in the market maps are to be interpreted with caution and should be taken as rough indicators rather than exact values. P symbolizes the price in ETB, N the number of respective market actors, and V the volume of rice in quintals (1 quintal = 100 kg) each of the market actors trades during an average month of an average year.

5.3.1 Market actors

Wholesaler in Djibouti: The left side of the market system map presents the wholesalers in Djibouti. Rice traders in Dire Dawa reported that there are a large number of wholesalers selling rice (they could not estimate their number) and that they were behaving competitively. The wholesaler procure their rice in India and Pakistan. Sales are conducted in US dollars (USD). According to the WFP, “access to foreign exchange remains a major constraint in that region – in fact, traders have come up with imaginative solutions around this problem, such as resorting to barter, or to a howalla system to exchange birr for dollars, as well as other informal mechanisms”²⁴. At the time of the assessment the price for 1 ton of rice was between 500 and 505 USD corresponding to around 1’000 ETB per quintal. The wholesalers are said to be able to respond to any demand of Dire Dawa based rice traders. It takes 10 – 15 days between placing the order per phone and the delivery of the rice in Dire Dawa. Sales are typically conducted in cash and credit is not given.

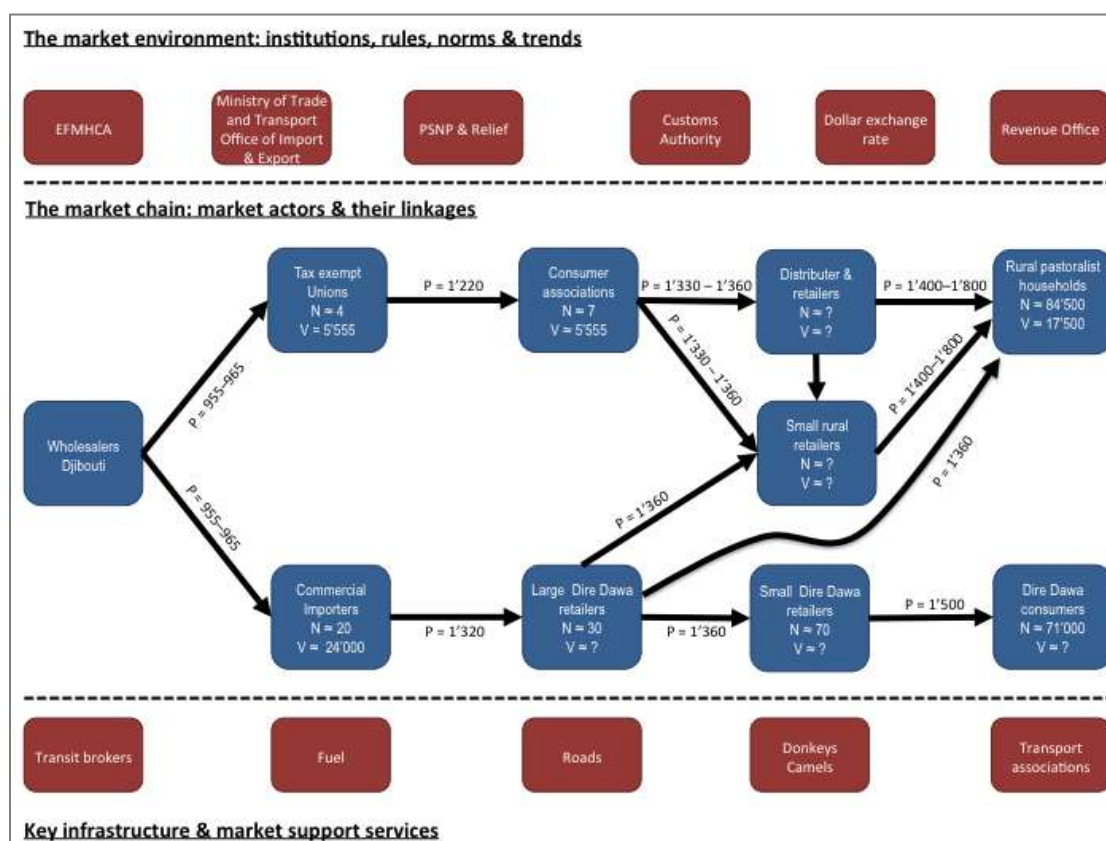
Tax-exempt unions: There are 3 tax-exempt unions that go by the names, Tewekel, Lebu, and Wadejir and one individual – Abdi Gibril – who all the privilege to import sugar, rice, wheat flour, pasta, and vegetable oil duty free. All four tax-exempt importers have the same monthly quotas. They can import: 3’965 quintals of rice, 1’485 quintals of pasta, 4’900 quintals of sugar, and 11’894 jerry cans (20 liters) of vegetable oil. The traders appear to go to Djibouti themselves

²⁴ WFP, Markets and Cash Transfers in Ethiopia: Insights from an Initial Assessment, January 2013, p. 25.

and organize transport themselves. The goods they import can only be sold in Siti Zone. The potential tax-exempt monthly rice imports for Siti Zone thus amount to 15'860 quintals. Yet, traders only see m to use a small part of their quotas. Data from the customs authorities for July to August 2014 reveal that these importers only imported 16'665 of the potential 47'580 quintals²⁵; that is, only 35% of the potential imports were actually brought into Siti Zone. It has to be noted that the importers can carry over eventual unused quota-balances. Sales are typically conducted in cash.

Consumer associations: The tax-exempt unions are made up of consumer associations. And each of these consumer associations has an exclusive woreda in which it can sell the tax-exempt products. Tewekel union consists of three consumer associations that can sell in Shinile, Erer, and Hadigala respectively; Lebuh union consists of two consumer associations that can sell in Dembel and Aishya respectively; and Wadejir union consists of two consumer associations that can sell in Afdem and Meiso respectively. The individual – Abdi Gibril – can sell in all Siti Zone. The consumer associations buy the products from their union at prices that are regulated by the authorities.

Figure 3: *Rice market system*



Distributor & retailers: These are larger traders who buy rice and other products wholesale from the consumer associations and sell it on in smaller quantities to the small retail stores and directly to consumers. The price they pay to the consumer associations includes loading, transport, and unloading costs. The traders' buying price therefore depends on their geographic loca-

²⁵ The customs authority could not provide more data on short notice. However, time series of import statistics are available and should be collected at some later time. The data can provide some indication on the extent and fluctuation of staple imports allowing conclusions about the respective market capacities.

tion. They will typically sell quantities of no less than one bag of rice (25 kg) adding a small profit margin to their buying price. The traders communicate with the consumer associations on the local rice needs. They may give credit to local retailers and consumers but only if they are well known customers.

Small rural retailers: The small retailers sell small quantities rice directly to households. While local households often buy by the kilogram, rural pastoralists that live outside of the villages typically buy rice by the bag. The profit margins of the small rural retailers appear to be low and they have to make their profit by maximising the quantities they sell. Most of the small rural retailers contacted mentioned that they could buy sufficient quantities of rice from the distributors. Small rural retailers only give credit to well-known customers. Since the last severe drought some of the small retailers appear to have significantly reduced their credit lines as customers faced more and more problems to repay their debts. Most small rural retailers are themselves cash constrained and can only procure small quantities of products.

Rural pastoralist households: As presented in Table 2, an average rural pastoralist household consumes about 250 kilograms of sorghum per year, meaning the 84'500 rural pastoralist households living in Siti Zone consume about 17'500 quintals of rice per month. During the months of July, August, and September the tax-exempt traders brought in about 5'555 quintals of rice per month – only about one third of the estimated monthly demand (17'500 quintals). The rest of the rice rural pastoralist households buy is thus most likely commercially imported rice. Different buying behaviours are observed: some households opt for frequent purchases of small quantities, others buy their rice by the bag (25kg) from local rural retailers, and some buy their rice by the bag (25kg) from urban retailers. The main determining factors appear to be proximity to the respective retailers, availability of transport means, and purchasing power. Often different purchasing strategies are practiced in parallel.

Commercial rice importers: Commercial rice importers can import as much rice as they want as long as they pay the 5% federal import duty and a 3% withholding tax – the latter is reimbursed once the trader declares his income to the tax authorities. The price advantage of the tax-exempt importers is thus only 5%. According to commercial rice importers this amount is negligible. The fact that they import and sell significantly more rice than the tax-exempt traders seems to underline this statement. There are around 20 commercial rice importers in Dire Dawa that provide Siti Zone (and possibly other zones) with rice. They basically import one quality of rice (red rice) and the minimum quantity they sell is 5 quintals.²⁶ Consequently, they almost exclusively sell to large retailers based in Dire Dawa. The commercial importers reported the market to be very competitive and margins to be moderate (a rough estimation revealed a margin of approximately 15%). A group of importers reported that their net profit per quintal of rice was 25 ETB. Importers may give credit to well known customers for a few days but do not give credit over longer periods.

Large Dire Dawa retailers: These traders buy the rice from the importers and sell it on to the smaller retailers in Dire Dawa as well as to rural traders and rural pastoralist households that come to Dire Dawa to buy rice. They mostly sell entire bags but may also sell by the kilogram. There are an estimated 30 of these larger retailers. They typically sell a large variety of food and non-food products and they appear to behave very competitively.

²⁶ Some importers also import small quantities of high quality basmati rice. This rice is significantly more expensive than the standard rice that is being imported and only bought by better-off households and restaurants.

Small Dire Dawa retailers: These traders sell quantities of one bag of rice and less and their margins are small. Their customers are mostly local urban households covering their daily rice needs. There are an estimate 70 small retailers in Dire Dawa. They typically sell a large variety of food and non-food products. They may give credit to their well-known customers. Yet, they only give small amounts.

5.3.2 Market environment

EFMHCA: The Ethiopian Food, Medicine & Health Care Administration inspects the storage facilities of traders that want to engage in the food sector. The respective yearly licensing cost is a negligible 102 ETB. The EFMHCA has a registry with all food importers and the products they are licensed for. This is an interesting source of information to identify the main actors in the business. However, it must be noted that many of the traders register for a variety of products without importing all of them.

Ministry of Trade and Transport: “In Somali region, since 2011, government-issued licenses are necessary to import sugar, rice, wheat flour, pasta and vegetable oil duty free from Somalia and Djibouti. The licensing system allows the government to monitor the traders who benefit from duty exemptions and manage the availability of imported food in import-dependent Somali region.”²⁷ The system is intended to promote food security in the Somali region. A commercial import license costs a negligible 102 ETB per year. As indicated earlier, traders benefiting from the tax-exemptions have assigned woredas in which they can sell the tax-exempt products. The prices traders can charge are regulated by the authorities and have to be posted in the shops. As customs authority data for the months July, August, and September 2014 shows, the tax-exempt used only about one third of their quotas. The import statistics for commercial rice imports that were available for January to October 2014 reveal average monthly imports of around 24’000 quintals. The fact that the quotas are not fully used indicates that the tax-exempt imports and the commercial imports are sufficient to cover the needs in Siti Zone and Dire Dawa. It also points out that the tax exemption does not provide the tax-exempt traders with an enormous advantage over commercial rice importers (the customs tax amounts to about 90 ETB per 25kg-bag of rice). The ministry controls prices of both the tax-exempt traders and the commercial traders. A commercial trader reported the current government-authorized price for a 25kg-bag to be 1’400 ETB and continued pointing out that the current selling price was at 1’320 ETB. The trader mentioned that traders who would increase the price above the going market price would not sell any rice indicating a competitive market.

PSNP & Relief: As for the sorghum market system, the government food aid provided by the GoE through the PSNP and their relief programme has to be accounted for. For details see sorghum market system.

Customs authority: The customs authority supervises all imports and keeps statistics on all officially imported products. They are a useful source to obtain a rough idea about the markets capacity to supply the local population with imported goods. The local authorities said that rice was mostly imported through the two official channels – tax-exempt imports and commercial imports – and that the low taxation level was unlikely to make smuggling profitable.

Revenue office: Traders are taxed on their profits but none of the traders met mentioned taxation as an issue. The system was not investigated in detail.

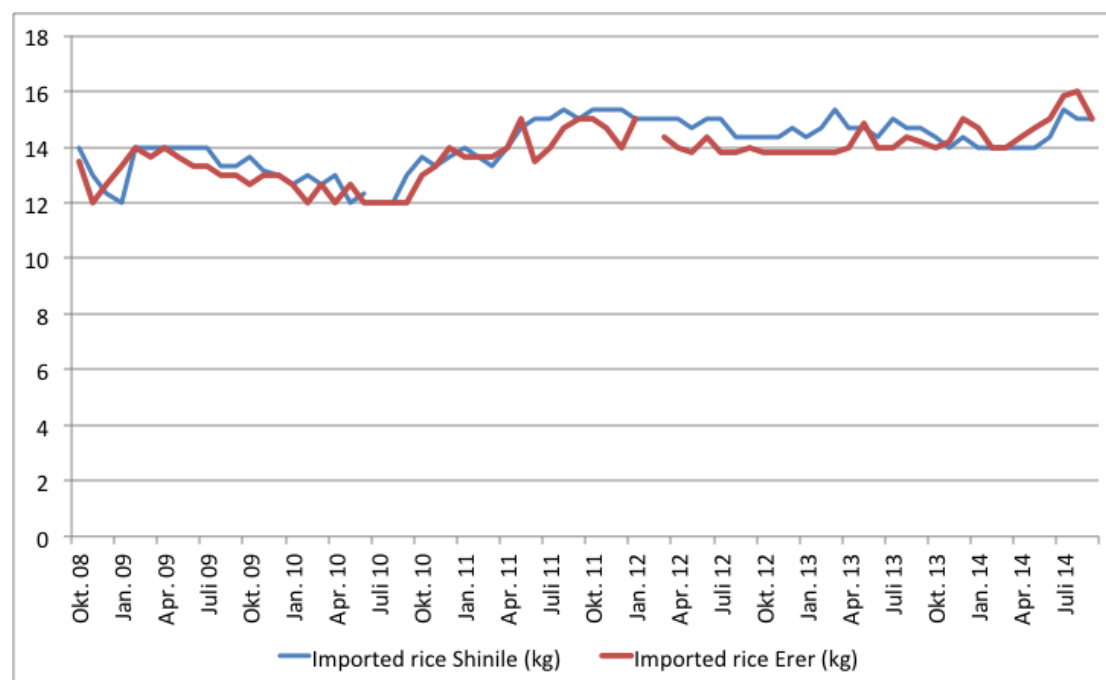
²⁷ WFP, Markets and Cash Transfers in Ethiopia: Insights from an Initial Assessment, January 2013, p. 26.

Dollar exchange rate: The exchange ETB/USD exchange rate is a major price determinant for rice. As all rice purchases are conducted in USD, changes in the ETB/USD exchange rate have a direct impact on the price the importers pay for the rice. The price paid in Djibouti is determined on the world market. Exchange rate changes are reported to be the main reason for local price changes.

Rice retail prices: Graph 2 shows how the retail prices for rice developed since October 2008.

The graph shows that prices level for imported rice increased since the drought experienced in the consumption year April 2011 – March 2012. Yet, it must be noted that the price for rice is determined on the world market, that the GoE closely monitors staple prices and intervenes if need be, and that the rice market in Siti Zone can be considered as competitive. It is thus likely that the price increase is linked to international price developments. While the price for 1 kilogram of rice used to fluctuate between 12 and 14 ETB from October 2008 to April 2011, it has been fluctuation between 14 and 16 ETB since.

Graph 2: Retail prices for 1kg of rice in Shinile and Erer, 2008 – 2014



Source: CSA, own calculations.

Rice prices in Shinile and Erer are roughly the same and show a very similar pattern indicating integrated markets.

Transport costs: The costs of transport vary widely between different location and they appear to be the main reason for price differences between localities. The main determinant of transport costs is remoteness.

5.3.3. Market infrastructure and support services

Transit brokers: Rice importers typically do their business through transit brokers. The Djibouti wholesalers have a Djibouti transit broker and the Dire Dawa based importers have an Ethiopian transit broker. The two brokers take care of the administrative procedures in the respective countries and make sure all procedures are followed, they facilitate the money transfer, and they orga-

nize transportation. Each party pays its transit broker. The system seems to run smoothly and restocking times are said to take 10 to 15 days. However, as Djibouti is only two days away, there is certainly potential to speed up deliveries if need be.

Fuel: Rice is transported by truck from Djibouti to Dire Dawa and fuel costs are another crucial determinant of the local rice price. Fuel price hikes are likely to show an immediate impact on the rice price paid in Dire Dawa.

Roads: The road system between Djibouti and Dire Dawa is said to be fair and is said to be passable throughout the year. There were no reports of disruptions.

Donkeys & camels: Some households go to the urban areas to buy rice using their own animals for transport meaning that animal health and availability is an important factor for market access.

Transport associations: Truck operators are organized in transport associations. The associations are said to facilitate transport in the region. In normal times trucks from Djibouti are not allowed to enter Ethiopia. Only if there is a risk of short supplies is this restriction temporarily restricted to prevent food shortages meaning there is an expandability of transport capacities.

5.4 Pasta market system

The following describes the pasta market system. Pasta is the third most preferred staple of rural pastoralists in Siti Zone. As rice, pasta is significantly more expensive than sorghum but people seem to appreciate it because of its easy preparation. Although pasta is said to have become more popular with the rural pastoralists the households met during the assessment also indicated that they tended to replace it with sorghum or rice if the money got tight. The annual pasta consumption of an average household is significantly below its sorghum and rice consumption (see Table 2).

This section is organized in the same way as the section on the sorghum and rice market system. It starts out with a short description of the different market actors, followed by a description of environment of the market system and a description of its key infrastructure and the support services.

As before the numbers of actors, trade volumes, and prices mentioned in the market maps are to be interpreted with caution and should be taken as rough indicators rather than exact values. P symbolizes the price in ETB, N the number of respective market actors, and V the volume of 10-kg pasta-boxes each of the market actors trades during an average month of an average year. The clandestine nature of the contraband market chain made it impossible to estimate the number of respective market actors.

5.4.1 Market actors

Wholesaler in Djibouti: The wholesalers in Djibouti sell imported pasta around 6.8 USD (130 ETB). There appear to be many wholesalers selling pasta and the market is said to be competitive. Sales are conducted in USD, settled in cash, and no credit not given. Access to foreign exchange is a constraint for pasta imports, too (see rice market system).

Tax-exempt unions: The actors are the same as in the rice market system and their behaviour in the pasta market system is no different from their behaviour in the rice market system (see section 5.3.1). Their potential tax-exempt monthly pasta imports for Siti Zone amount to about 5'944 quintals. Yet, appear to use only part of their quotas. Data from the customs authorities for

July to August 2014 reveal that these importers only imported 3'785 of the potential 5'944 quintals; that is, only 64% of the potential imports were actually brought into Siti Zone.

Consumer associations: The actors and their behaviour are the same as described in the rice market system (see section 5.3.1).

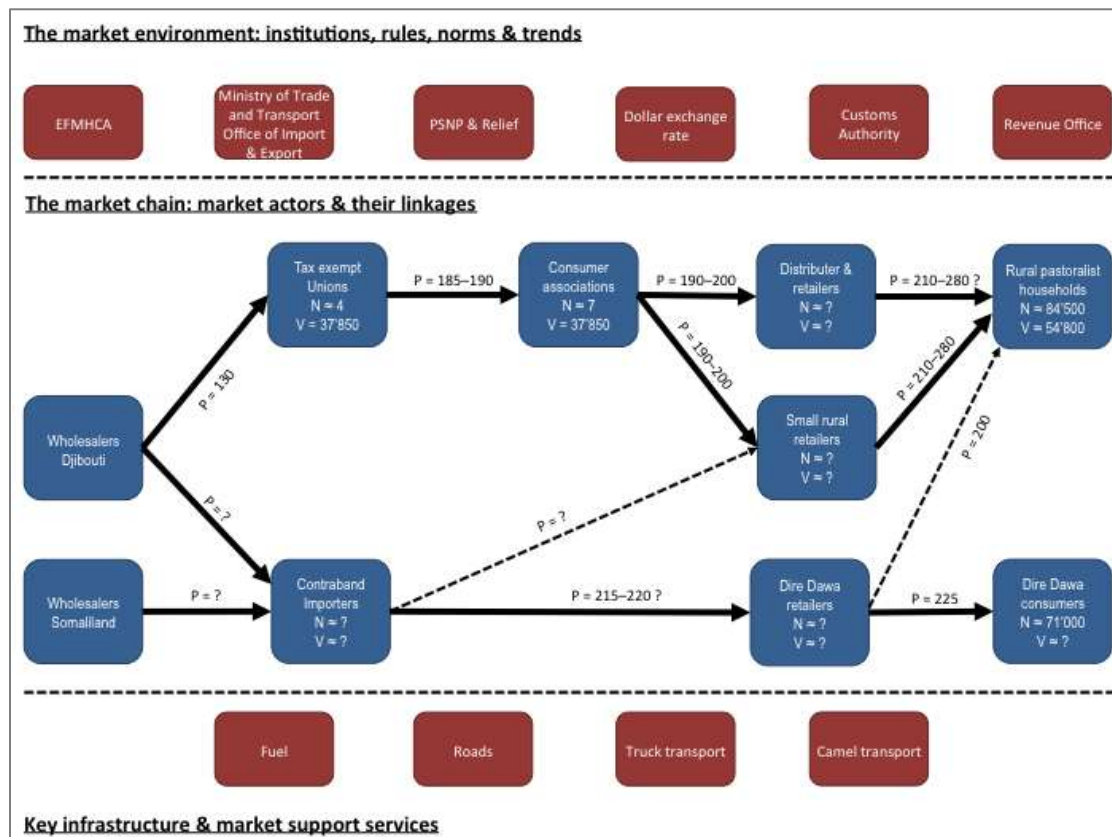
Distributor & retailers: The actors and their behaviour are the same as described in the rice market system (see section 5.3.1).

Small rural retailers: The actors and their behaviour are the same as described in the rice market system (see section 5.3.1).

Rural pastoralist households: According to Table 2, the estimated 84'500 rural pastoralist households in Siti Zone consume about 54'800 10kg-boxes of pasta per month.

The import statistics of the customs authorities reveal that during the months of July, August, and September the tax-exempt traders brought in about 37'850 boxes of pasta per month – about two thirds of the estimated monthly demand (54'800 boxes). However, because the quotas allow the tax-exempt traders to import 59'432 boxes of pasta per month and unused quota-balances can be carried over the arrangement allows sufficient imports to cover the entire demand of the rural pastoralist population. It is likely that demand during the months of July, August, and September – the karan rainy season – is low as milk is readily available and sorghum is consumed in larger quantities. It is recommended to re-contact the customs authorities and ask them for a complete time series of import data to be able to properly estimate annual imports. It is unlikely that rural pastoralists buy significant quantities of contraband pasta (therefore the respective trade flows are indicated as dashed lines).

Figure 4: *Pasta market system*



Wholesalers from Somaliland: The main source of contraband pasta is said to be Somaliland. However, during the assessment it could not be established what type and quantities of pasta are imported.

Contraband pasta importers: Pasta is readily available in Dire Dawa. However, the customs authorities reported that there were no commercial imports of pasta and that pasta was only imported through the tax-exempt system. Because the pasta imported through the tax-exempt system can only be sold in the rural areas of Siti Zone, it is certain that the pasta sold in Dire Dawa is contraband. It is either smuggled from Djibouti or Somaliland or redirected from Siti Zone (tax-exempt pasta). According to the customs authorities most of the contraband pasta is coming in from Djibouti and Somaliland. The fact that the tax-exempt quotas for pasta are not always fully used supports this theory. The customs authorities also reported that they regularly catch smugglers bringing in pasta and other products and confiscate their merchandise. The reason pasta is an attractive product to smuggle is the fact that it is highly taxed. While custom duties on rice amount to 5% the total duties on pasta are in the range of 60% (35% import duties, 15% VAT, 10% surtax, and 3% withholding tax).

Dire Dawa retailers: Most Dire Dawa retailers dealing in food products sell pasta. They either sell it by the box (10 kg) or by package (500 gr). Their customers are mostly urban households who are said to consume more pasta than the rural pastoralists. Most of the retailers met during the assessment did not want to talk about their pasta providers. While visiting a small retail store one of the assessment teams witnessed a individual passing by and offering the shopkeeper a sample of pasta for testing mentioning that he would come by the next day and take his order if he liked it. One of the traders mentioned that individuals from the rural areas also came to Dire Dawa to sell one or two boxes of pasta at a time. It is apparent that the high duties on pasta provide an incentive for smuggling. The extent to which illegal pasta is brought to the market is hard to assess – the customs authorities themselves were not able to provide an estimate.

5.4.2 Market environment

EFMHCA: The EFMHCA inspects the storage facilities of traders that want to engage in the food sector and provides respective annual licenses (102 ETB). Their registry mentions several traders that are licensed to import pasta. However, when the assessment team contacted these traders, none of them reported to actually import pasta.

Ministry of Trade and Transport: The ministry regulates the tax-exempt imports of pasta and monitors the respective rice as it does for rice. Its functions are the same as those noted in the rice market system section.

PSNP & Relief: As for the sorghum and rice market system, the government food aid provided by the GoE through the PSNP and their relief programme has to be accounted for. For details see sorghum market system.

Customs authority: The customs authority supervises all imports and keeps statistics on all officially imported products. They reported that pasta was only imported through the tax-exempt system and that there were no commercial pasta imports. The high taxation of pasta is said to cause significant smuggling.

Revenue office: The actor and his behaviour are the same as described in the rice market system (see section 5.3.2).

Dollar exchange rate: The exchange ETB/USD exchange rate is a major price determinant for pasta, too. Pasta purchases in both in Djibouti and Somaliland are conducted in USD and

changes in the ETB/USD exchange rate have a direct impact on the price the importers pay for the rice.

5.4.3. Market infrastructure and support services

Fuel: Rice is transported by truck from Djibouti to Dire Dawa and fuel costs are another crucial determinant of the local rice price. Fuel price hikes are likely to show an immediate impact on the rice price paid in Dire Dawa.

Roads: The road system between Djibouti and Dire Dawa is said to be fair and is said to be passable throughout the year. There were no reports of disruptions.

Truck transport: Some of the pasta that is illegally entering the region is definitely coming by truck. The customs authorities reported that they regularly confiscated truckloads of smuggled pasta. The perpetrators have to go before a judge – but according to one informant there are hardly any convictions, instead the perpetrators are said to be set free and get back their merchandise.

Camel transport: Part of the smuggled is said to come in by camel via the camel routes. This information could not be verified.

Local pasta factory: There is one factory producing macaroni in Dire Dawa. However, its entire production is sold in the area of Addis Ababa. The factory is said to have been unable to compete with the contraband pasta in the Somali region.

Section 6: Markets capacities versus the gap in needs

We have already mentioned that the assessment revealed that the severe drought did not appear to have a significant impact on the actors of the three staple food market systems analysed. Consequently, the last section gave a description of how the markets systems behave in normal times and did not produce any crisis market maps. The question whether the market systems have the capacity to cover the needs of the rural pastoralist communities in times of a severe drought can nonetheless be analysed. The purpose of analysing this question is to determine whether direct assistance is required and, if so, whether it should take the form of food aid, cash, vouchers – or a combination. As the Situation & Response Analysis Framework²⁸ points out, seven basic questions can help to identify the most appropriate response to the crisis. The respective questions are

1. Are markets well integrated?
2. Are markets competitive?
3. Does demand significantly exceed “normal” volumes of supply?
4. Can supply expand to meet demand?
5. Is there a risk of “external” price inflation?
6. Do households have access to markets?
7. Do households have a preference for food, cash or a combination?

The following tries to answer these questions regarding the functioning and the capacity of the assessed market systems based on the finding of the assessment.

²⁸ OGB, SCUK, CW, Situation & Response Analysis Framework, Version 1.0, p. 26.

6.1 Functioning of the markets

6.1.1 Markets integration

There was not enough time to gather enough price data to assess market integration between the sources of the assessed products (Oromiya for sorghum, and Djibouti for rice and pasta). Yet, the discussions with traders provided a consistent answer: price differences appear to be mainly caused by transport and transport related costs as well as exchange rate changes for rice and pasta.

Traders from the rural areas come to the urban centres to purchase supplies for their shops. They did not report any movement restrictions and reported that they could find all the supplies they wanted. None of the traders met reported to have met bottlenecks at any time. Consequently, trade flows are steady.

People as well as traders react to price changes. If local prices are perceived as too high, households start to move to the urban centres to procure food products. Some households buy their food products in the rural villages while other similar households go to the urban centres to do so. This indicates that the price differences between the rural areas and the urban centres are largely determined by transport costs. If the price differences between the rural areas and the urban centres were much larger than the transport costs, people would have a strong incentive to go to the urban centres to buy their food products and it is likely that the majority of households would do so. This was confirmed during some of the household discussions.

Against this background the markets in Siti Zone appear to be well integrated. WFP comes to the same conclusion.²⁹ The organisation points out that the regions extensive livestock exports generate vigorous exchange of goods and capital and anchor the entire Somali region to global markets. This is said to be particularly true for the northern Zones of the Region – and thus Siti Zone. According to WFP the livestock trade helps to generate the foreign exchange to buy staple foods and, consequently, many staple food importers appear to be livestock exporters, too.

Although the government severely taxes the import of pasta, illegal trade seems to bring in enough pasta to cover the needs of the people in Siti Zone. Prices for pasta from the different sources appear to be homogeneous, that is, contraband pasta is sold at the same price as pasta imported through the tax-exemption system. This indicates, that pasta prices could be significantly lower if the government decided to abolish the excessive taxation of pasta.

6.1.2 Competitiveness of markets

All market actors reported the market systems to be competitive and profit margins to be moderate. Rural consumers seem to share this assessment. Even though the number of market actors is limited at several stages of the different market chains, there does not appear to be any stage at which market actors are in apposition to exercise market power and influence prices to their advantage.

In the sorghum market chain several traders appear to have left the market system because trading sorghum did not appear to be profitable enough. This appears to confirm low profit margins and competitive behaviour among actors.

²⁹ See WFP, Markets and Cash Transfers in Ethiopia: Insights from an Initial Assessment, January 2013, pp. 14.

Rice traders explained that they could not raise rice price cap of 1'400 ETB per quintal set by the authorities because they would not sell any rice at this price. The market price for a quintal of rice was 1'320 ETB at the time of the assessment allowing traders, according to their own estimation, a net profit of 25 ETB per quintal.

6.1.3 Supply versus demand

The sorghum market system appears to be able to cover the current demand with ease. Many of the traders met reported that the demand had been declining and that they would be happy and able to sell more; the present market assessment suggests that supply is able to meet the demand in Siti Zone. The quotas for monthly rice imports are almost sufficient to cover the rice demand identified by the RHEA and the commercial rice importers import by far enough to cover the uncovered demand; and the quotas for pasta are sufficient to cover the respective demand identified by the RHEA.

6.1.4 Expandability of supply

The sorghum market system appears to be able to deal if demand increases. Although the trader met during the assessment reported that sorghum consumption had decreased during the past few years, he also said that they were confident that they could scale up supply if demand would rise again. They said that farmers in the producing areas were producing sufficient quantities to do so.

The sorghum market system shows seasonal variations: Supply is highest immediately after the harvesting period in November – December and prices are said to be lowest during this period. A visual analysis of sorghum retail prices however did not support this claim and did not reveal a strong seasonal pattern. Different sources suggest that the sorghum market system is not able to respond to large increases in demand. However, as demand of sorghum appears to have gone down during the past few years it is also not sure how realistic large increases in demand are. It appears reasonable to assume that the market system is able to continue to satisfy the current local demand and probably even an increase in demand to its past extent. Nonetheless, if market based responses were planned, they should account for the seasonality of the sorghum market.

The rice market system does not show any seasonality. Commercial rice importers reported stable supplies and said they could easily increase their orders if demand would increase without any consequences on the price they would have to pay. WFP came to the same conclusion.³⁰ Moreover, they add that the commodities traded on a market heavily impact its capacity to handle increased demand. This is notably said to be the case in markets where imported rice tends to account for the bulk of supply, as is the case in the well-integrated markets of northern Somali Region.

As the market assessment further revealed, tax-exempt rice imports can be increased by around 65% within the existing quotas and there is no indication that the tax-exempt would face any restriction in doing so if demand increased.

While it is hard to say whether illegal pasta imports could rapidly adjust to a significant increase in demand, it can be said that the tax-exempt imports could be easily increased by almost 35% – presumably with no impact on prices.

In summary, it can be assumed that markets are sufficiently able to react to increases in demand.

³⁰ See WFP, *Markets and Cash Transfers in Ethiopia: Insights from an Initial Assessment*, January 2013, pp. 23.

6.1.5 Risk of inflation

The local prices for rice and pasta in city zone depend on the world market that are reflected on the market in Djibouti as well as on the transport costs which are essentially dependent on fuel prices. If world market prices of fuel prices increase this have an impact on the local prices in Siti Zone.

A market based food security response in the form of cash or vouchers however is unlikely to trigger significant price increases as traders across the board reported that they had never experienced supply bottlenecks that had led to price increases – even during the severe drought of April 2011 – March 2012.

“(T)he government closely monitors food markets and will intervene in markets to keep prices low. Import and export bans have been in place at various times in past years. As food costs spiralled in Ethiopia in early 2011, the Federal Ministry of Trade set retail price ceilings for 18 basic food products, and implemented direct sales of cooking oil and sugar. As of 2012 price ceilings remain in place for sugar, vegetable oil and imported wheat.”³¹ This illustrates that the government is willing to go far to keep food prices under control.

6.1.6 Households’ access to markets

In principal, all households met during the assessment reported to be able to access markets. One main concern regarding market access is transport costs. The more remote pastoralist households are, the higher the transport costs they face; and, if they buy their food products locally the higher the food prices they face. Nonetheless, even remote rural pastoralist households have market access and depend on it to buy a significant part of their food.

The assessment suggests that all households in Siti zone have market access and use it to cover a large part o their essential food needs. However, depending on their geographic location, households face different circumstances and costs to access markets. This should be taken into account if ever a market-based response to support rural pastoralist households in Siti zone is planned.

6.1.7 Household preference regarding cash or in-kind

Households had mixed feelings regarding cash or in-kind. During the assessment households were asked whether they would prefer cash or in-kind assistance if an assistance programme were to be implemented in their region. Many households’ initial response was in-kind. When asked why they replied that this would guarantee that they would obtain a sufficient quantity of food. Households obviously feared that the potential cash amounts distributed would not suffice to buy the same quantity of food. Once the assessment team had explained that the amount would be adapted to the local situation and set in order to allow households to buy the same food basket, as they would receive if they selected the in-kind option most households changed their mind and opted for the cash assistance.

Some households appeared to have different concern but they were not willing to elaborate them. The assessment team got the impression that there was a fear that cash assistance could lead to problems with the households that would not be included in the assistance programme. However, no specific respective information could be obtained.

³¹ WFP, Markets and Cash Transfers in Ethiopia: Insights from an Initial Assessment, January 2013, pp. 12.

In summary, households would prefer to possibility to buy food to in-kind assistance but they are concerned whether the cash amount will be adequate to buy sufficient food supplies.

6.2 The gap in needs

According to the outcome analysis conducted based on the results of the RHEA, a severe drought results in a livelihood protection deficit of 1'385 ETB for poor households. Middle-income households and the better-off households do not face a deficit. There is no gap for staple foods. Based on this result an assessment of the main staple food market systems would not have been necessary.

Section 7: Main conclusions recommendations

The market systems for sorghum, rice, and pasta have the capacity to cover the needs of rural pastoralist households in normal times as well as in times of severe drought as past experiences have shown.

A severe drought is more likely to create a demand side problem as vulnerable rural households experience income losses caused by the deterioration of the body conditions of their livestock and expenditure increases due to the decrease in milk yields and animal products (milk needs to be replaced by other food sources).

If such a crisis would lead to a survival deficit and require food aid, the assessment results indicate that this aid could be provided through cash transfers. There are no apparent circumstances indicating that a cash response would generate and problems.

An outcome analysis based on a RHEA and a crisis scenario simulating the consequences of the last severe drought in April 2011–March 2012 however showed that such a crisis would not cause a survival deficit meaning that all households of all wealth groups would be able to cover their food requirements by themselves. However, the analysis did reveal that the crisis would cause a livelihood protection deficit for poor households.

A livelihood protection deficit represents a serious situation whereby households cannot afford many basic things that they spent money on in the reference year, including education, health, inputs for livestock production, and small quantities of clothes and non-staple foods. The mentioned drought scenario leads to a livelihood protection deficit of 1'385 ETB.

The fact that the drought scenario does not lead to a livelihood protection deficit is likely to be at least partially linked to the fact that the GoE runs a very significant food aid programme in Siti Zone (PSNP and relief). As Table 2 points out, that in 2013 the caseload of PSNP beneficiaries in Siti Zone amounted to 161'024 beneficiaries (almost 40% of the total population). In addition, the GoE ran relief operations providing food aid in Shinile, Aishya, and Erer for another 63'052 beneficiaries (27% of the total population of these three woredas).

The assessment revealed that the exact scope and functioning is little understood by OGB, SCUK and CW. It is therefore recommended that the three organisations gather the information necessary to understand the real scope of the programme and its capacity to react to crisis like the drought mentioned earlier. This will allow the organisations to establish if it is at all necessary to develop a food security contingency plan for severe droughts in Siti Zone.

Apart from Afar, Somali Region is the only region in Ethiopia where PSNP distributes only food. The present assessment suggests that cash based programming is a feasible alternative to in-kind distributions of food in Siti Zone. OGB, SCUK, and CW could contact the authorities and advocate for pilot projects in which PSNP starts to distribute cash. First trials could be done using a mixed approach (cash and in-kind). During the trials a adequate monitoring system should be developed and put in place to monitor how the market systems react to the cash injection.

As the assessment points out, particular attention should be paid to the geographic location of the beneficiaries when the amount of the cash transfer is determined, as households in remote rural areas face higher costs to procure food products than do households that are closer to the urban centres.