



EMERGENCY MARKET MAPPING AND ANALYSIS OF AGRICULTURAL LABOUR MARKET SYSTEMS

WESTERN BHAR EL GHAZAL AND WARRAP STATES

September 2013

1. Emergency context/Situation Analysis

BACKGROUND ON SOUTH SUDAN

Sudan is currently ranked 154 out of 169 in 2010 according to the UNDP Human Development Index¹. The poverty rate for southern Sudan is 50.6% meaning, one out of two people is unable to meet the basic minimum consumption bundle of food and non-food items valued at SDG 72.9 per person per month. Food is the main category in the bundle accounting for 79 % of the total expenditure. Out of this, cereals and bread account for 53.3% of the food expenditures. This high reliance on cereals increases vulnerability to crop failure and abnormal price movements.



Southern Sudan is well endowed with natural resources however, only 4% of arable land is cultivated, total livestock production is 20% of the potential, and fish production is only about 10% of the potential. These provide immense opportunities to enhance the overall economic and social well-being in southern Sudan. The exploitation of these resources is inhibited by structural factors including: limited infrastructure (roads, markets and social facilities), human capital, low integration and persistent insecurity.

The same ANLA report estimates that health and education accounts for 3 and 1 percent of the total consumption, respectively. This translates to an average expenditure of SDG 3 and SDG 1 per person/month and for the poor segment this is almost negligible. In South Sudan, Agriculture is mainly affected by pests and diseases, seed shortages, erratic rainfall, lack of tools, labour and insecurity. This is coupled with limited road infrastructure and the absence of credit and other input support services, improved technologies and low labour supply.

LIVELIHOOD ZONES

The areas of interest lie in two livelihood zones:

Western Flood Plains: this zone is agro-pastoral with major sources of income and food coming from crops, livestock and wild foods collection. Communities in the Western flood plains tend to cultivate a larger amount of land and have fewer cattle than communities in the Ironstone Plateau. Poorer households in both cases rely on wild foods collection, labour and petty trade as well as small scale agriculture predominantly for own consumption. Sorghum is the main crop cultivated. Gogrial East sits in this zone.

Ironstone Plateau: This zone is predominantly agricultural although significant income is also derived from wild products collection and sale. Poorer households also engage in labour, particularly for communities located in the nearby Green Belt. The main crop produced is sorghum which is mainly used for own consumption. Wau is located in this zone.

¹ ANLA 2010/2011

BACKGROUND ON WARRAP

According to the ANLA 2009-2010, Warrap State is located on the Ironstone Plateau in the south and in Western Flood Plains in the north. The state is endowed with vast and plentiful natural resources which include large amounts of land for use in agriculture and livestock production, as well as rivers for fisheries production. Like other states in South Sudan, Warrap State is gradually recovering from the impact of the civil war but peace is yet to be realized owing to insecurity stemming from the persistence of localized, inter-clan conflicts over pasture, land ownership and cattle rustling within the state, as well as in neighbouring Unity and Lakes states. The cost of this includes loss of human lives, internal displacement and the disruption of normal livelihood patterns for a significant number of households. Many rural villages lack physical roads infrastructure -leading to limited accessibility; have poor social facilities and lack basic services.

BACKGROUND ON WBG

According to the ANLA 2013 report, Western Bahr el Ghazal falls within the Ironstone Plateau with a portion of the southern and northern parts of the state falling within the Green Belt and Western Flood Plains livelihood zones. The state is divided into three counties Raja, Jur River and Wau. The state borders South Darfur and Northern Bahr el Ghazal to the North, Warrap to the East and Western Equatorial to the South and the Central African Republic to the west. Agriculture is considered as the livelihood activity for most households in the state followed by fishing, livestock production and honey collection. Sorghum is the main crop cultivated and consumed by majority of the population in the state followed by maize.

2. The EMMA

Rationale for the EMMA assessment

The lessons learned from the 2011 response to the drought in Horn of Africa as highlighted in 'A Dangerous Delay' and 'System Failure' paper showed the insufficiencies of emergency preparedness and alert mechanisms in slow onset crises, resulting in delayed and inadequate humanitarian interventions. While such delays had multi-faceted reasons and were context specific, a consortium comprising Oxfam GB (lead), Save the Children UK, Concern Worldwide and Oxfam Intermon identified three principle causes for delays in humanitarian response to slow onset emergencies:

Insufficient market systems analysis for preparedness and emergency response: market baselines are often non-existent and assessments are carried out too late when the response is being carried out.

Insufficient livelihood and response analysis: weakened by disconnect between crises calendars, early warning information, livelihood analysis and response analysis. Early warning information is often available but in many cases does not trigger an appropriate and timely response. Among the underlying causes are the weaknesses in livelihood and response analysis.

Insufficient institutional technical and operational capacity for timely response at scale: some progresses have been made through the institutionalisation of Cash Transfer Programming (CTP) but much work remains to be done to increase collaboration between technical and support teams in order to adopt the right modality and be prepared before an emergency hits. Precious time is still lost in designing usual activities, searching for delivery mechanisms, reaching internal agreements on processes, identifying and registering beneficiaries.

The consortium has implemented a 14 months project (September 1st 2012 – October 31st 2013) aimed at supporting more effective, timely and appropriate responses to slow onset recurrent crises through a comprehensive approach addressing these three key challenges. The project entitled '*Building institutional capacity for timely food security emergency response to slow onset crises at scale*' (later on referred to as the "ERC project" in this report) has been funded through ECHO's Enhanced Response Capacity (ERC) with co-funding from the partner agencies.

This EMMA also responds to Oxfam strategic objectives, namely Change Objective 2: "Women and men will be more resilient to the impacts of conflict and natural and human-made disasters due to an improved local

authority and agency response capacity, and through risk reduction strategies that result in an improved security and public health environment, enhanced food security and more sustainable livelihoods”, and its sub-objective 3: “Oxfam will strengthen its own capacity and those of local authorities, civil society organisations and communities to predict, prevent, mitigate and respond to crisis in a timely and qualitative fashion with WASH and food security interventions and conflict prevention and peace building efforts”.

This market baseline is also aimed at feeding into the contingency plan of Oxfam in South Sudan, and to complete the understanding of market functioning in emergencies after the EMMA that was conducted in 2012 which had a focus on sorghum. On top of that, it responds to Oxfam’s food security and livelihoods strategy in South Sudan that aims at integrating people’s capacity to produce food, add value along the value chain, and supply markets with the capacities of vulnerable and food insecure people to consume adequate quantity and quality of food.

The overarching goal of this market assessment is:

- To inform the contingency plan, preparedness plans and medium-term programming in South Sudan whilst ensuring coherence with long term work.

The objectives of the assessment are:

- To create a market baseline for the design of future integrated programmes in South Sudan to meet emergency and recovery needs, and strengthen livelihoods strategies on a short term.
- To inform response analysis and intervention strategy for Agriculture labour markets: identify appropriate intervention modalities (in-kind, cash, vouchers, fairs, market support, and advocacy) in order to meet women and men’s livelihoods needs and strategies in contexts of periodic disasters.
- To strengthen Oxfam and its stakeholders’ national capacity in market analysis and in its use in response analysis and DRR, preparedness and contingency planning.

Methodology

The EMMA toolkit² was adopted for this market assessment due to its simplicity, ready to use nature and it was the most appropriate tool to meet the objectives of this market assessment.

This market study was conducted by Oxfam; data were collected between the 2nd and 13th of September 2013 by two teams covering Western Bahr el Ghazal (Wau County) and Warrap (Gogrial East) states. The teams were composed of 14 people, one EMMA coordinator, one assistant Coordinator, two team leaders and 10 team members (Please see annex xx for list of the team members). Prior to the data collection, the 12 team members received training in the first steps of the EMMA process, which included the selection of critical markets. There was an additional one day for fieldwork preparation prior to travel to the field. In total 127 interviews were carried out in 10 days of fieldwork. The table below provides an overview of the amount of data collected.

Limitations:

- Team gender imbalance, with no woman among the two field teams. This is due to the fact that no female is currently employed among the local staff of Intermon Oxfam, its partners and none were sent by the Ministry of Agriculture for this exercise.
- The rains interrupted the movement to the field interfering with access to some target geographical areas
- Lack of key secondary information - the outdated HEA baseline and the fact that crop and food security assessments focus on main staple crops; have limited the extent of this study.

3. The target population and gap analysis

² Emergency Market Mapping and Analysis

Target population

The two areas of Gogrial East county in Warrap state and Wau county in Western Bahr el Ghazal were selected on the basis of:

- High vulnerability to natural hazards and exposure to conflicts;
- High malnutrition rates (7% for both states in 2012)³;
- High rate of food insecurity;
- Limited humanitarian assistance planned to date;
- Ongoing Oxfam FSL programmes

The target population are the people who are most affected by the drought, floods and insecurity and who then indulge in detrimental coping strategies to cope with the emergencies. This also includes the wealth groups who rely on agricultural labour as their main source of income and food. It is mainly composed of host communities in larger part, and returnees that are integrated within the local communities in the two counties. The target groups are composed by:

- Very poor and poor households;
- Small holder farmers;
- Vulnerable households with malnutrition cases and with very reduced purchase power

Given the population figures from the census and the percentage of poor and very poor households resulted from the focus group discussions, a rough estimate of the potential target group of food security and livelihoods interventions is shown in table 4.1.

Table 4.1: Population figures⁴ and target group

	Warrap	Gogrial East	WBG	Wau
Returnees 2010	439.413	3.349	22.982	14.897
Returnees 2011	13.116	1.570	31.956	23.665
Returnees 2012	19.271	8.195	10.998	6.817
Returnees 2013 ⁵	4.724	2.361	494	400
Total Returnees ⁶	153.923	22.284	126.184	55.310
IDP	44.784 ⁷	-	-	-
Total population	1.193.365	123.688	446.123	188.028
Total households⁸	209.362	21.700	78.267	32.987
% male ⁹		48%		53%
% female ¹⁰		52%		47%
Target population (persons)	924.858	95.858	343.515	144.782
Target population (households)	162.256	16.818	60.266	25.400

The following table depicts the key characteristics of the poor and very poor households as compared to the middle and better off.

Table 4.2: Characteristics of wealth groups

	Very Poor	Poor	Middle	Better Off
Warrap	No animals,	2-3 chicken, 1 to 5	10-20 cows, 5 to 50	more than 50 cows,

³ ANLA, 2013

⁴ ANLA, 2013

⁵ Data updated till 31st of July 2013

⁶ From 2007 to 2013

⁷ From Abyei

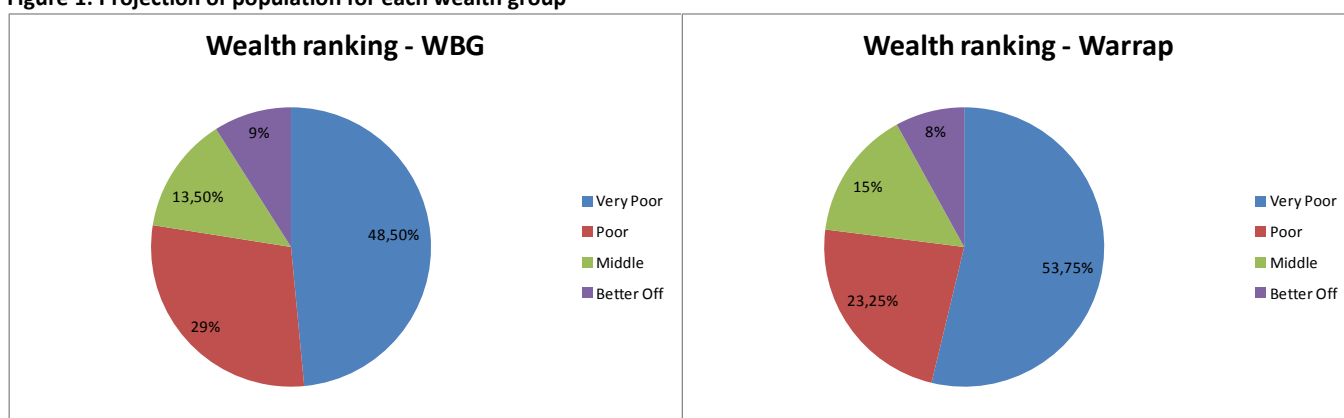
⁸ The ratio 5,70 is an estimate taken from the NBS, Census 2008

⁹ from Census NBS, 2008

¹⁰ from Census NBS, 2008

Gogrial East County	No crops, disabled, widows, working as labourers, depending on wild fruits and sale of firewood	cows, 1 feddan cultivated, casual labourers, 2-5 goats, working as labourers	goats, 2 to 5 feddan, consume their crops,	more than 50 goats, more than 5 feddans, consume their crop, sell the crop and sell livestock if necessary
WBG Wau County	No land, no animals no bicycle, poor housing, disabled. Receive aid from NGOs, sell wood, grass and charcoal, depend on kinship support	Small lands (less than 1,5 feddan), 1 bicycle, less than 4 chicken, max 3 -4 goats, poor housing. Working as labourers, sell charcoal, grass, fish and game meat, brew beer, and gather wild fruits	From 1 to 5 feddans, less than 10 goats, 15 chickens, Bicycle, house with brick walls. Sell goats if necessary, sell fish and game meat, gather wild fruits, sell the crop, engage with petty trade	> 10 feddans, bicycle and motorbike, more than 10 goats, 40 chickens, they employ workers, house with of iron sheet and bricks. Sell crop, trade fish and fruits, have shops

Figure 1: Projection of population for each wealth group



The data on food insecurity reveals that both areas have high percentage of households that are food insecure. The table below show the series from 2010.

Table 4.3: Percentage of food insecure households¹¹

	Severely food insecure				Moderately food insecure			
	2012	2011	2010	2009	2012	2011	2010	2009
Warrap	9%	5%	14.4%	23%	28%	38%	34%	25%
Gogrial East	<i>No data</i>	<i>No data</i>	<i>No data</i>	46%	<i>No data</i>	<i>No data</i>	<i>No data</i>	11%
WBG	19%	15%	6.5%	18%	34%	26%	20%	24%
Wau	<i>No data</i>	<i>No data</i>	<i>No data</i>	18%	<i>No data</i>	<i>No data</i>	<i>No data</i>	24%

¹¹ from ANLA reports, 2010-2013

Population profiling

The household economic profiling has been made adopting the variables of the HEA¹² (figure 2). The baseline was done in 2007 in Southern Sudan, and needs to be updated. The figures presented here have been gathered during the fieldwork. The methodology wants to compare key indicators during a reference year and the emergency year, to understand the behaviour of households, their adapting and coping mechanisms, and project the impact of and on markets. To understand the impact of shocks on households' purchasing power, it is useful to refer to a minimum commodity basket, which is a basic consumption bundle that is necessary for a healthy and active life and full participation in society (table 4.4).

Table 4.4: Cost of minimum commodity baskets¹³

	Minimum expenditure basket¹⁴		Minimum food basket		Minimum essential food basket	
	SSP	USD	SSP	USD	SSP	USD
South Sudan	1,398	440	1.186	373	1,112	350
Warrap	945	297	794	250	786	247
W. Bahr el Ghazal	1,275	401	1.133	356	861	271

To fulfil their daily energy requirements, households adopt different livelihoods strategies which may change seasonally (especially during the hunger gap) and in the emergency year, particularly for poorer households. The coping mechanisms differ according to the wealth group and to the geographical areas. In this case most of the coping mechanisms adopted are similar from area to area, and people result to consumption of wild fruits as the most common mechanism, as well as reduction of the food portion or the number of meals consumed. In emergency years, on top of these, migration with the family in search of casual labour is also undertaken.

¹² Household Economy Approach

¹³ South Sudan Minimum Commodity Basket, Aminata Bakouan, FAO, 2012

¹⁴ The minimum expenditure basket includes both food and non-food items.

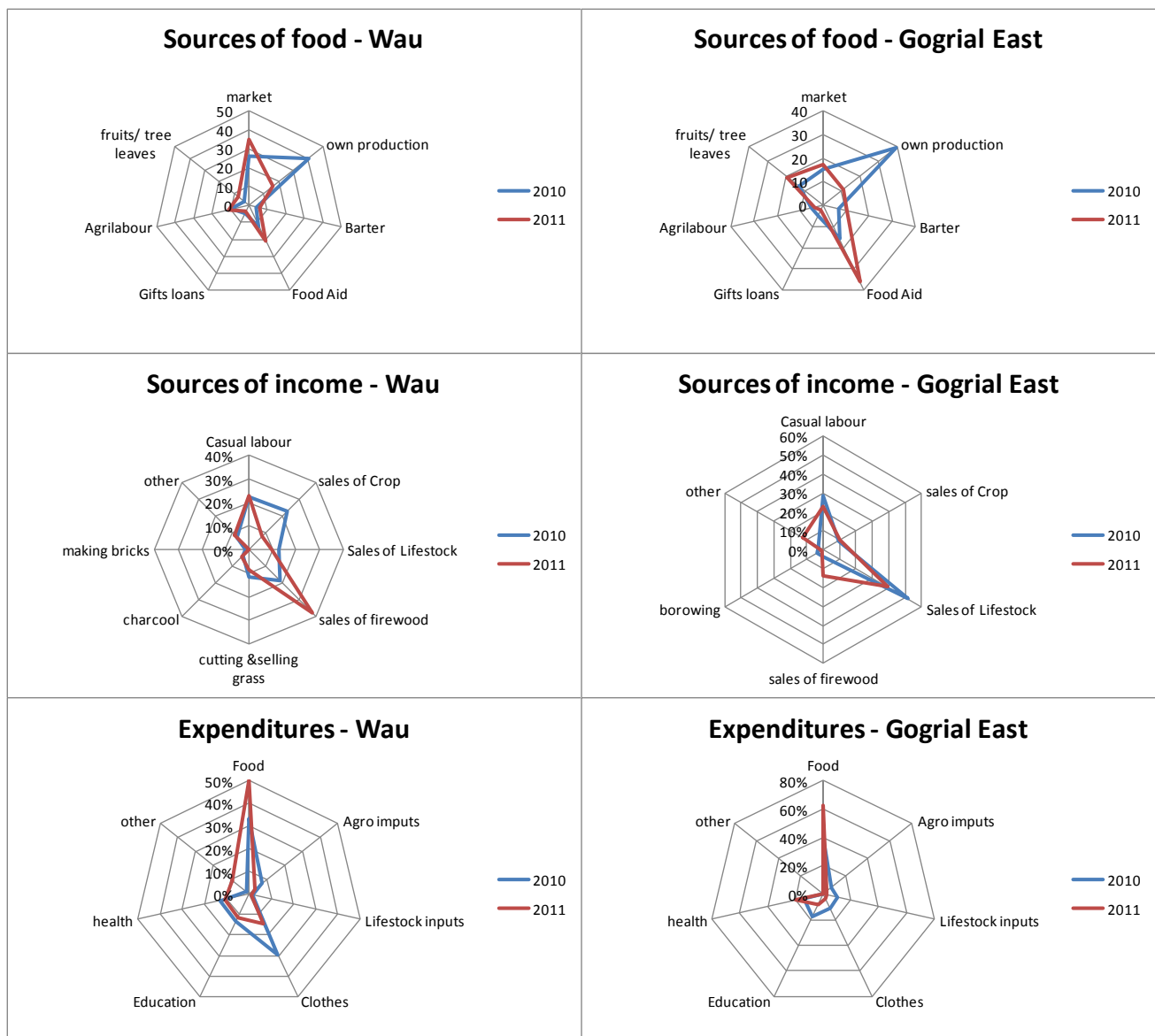


Figure 2: Households profiles in Wau and Gogrial East counties, during 2010 and 2011

4. CRITICAL MARKETS SYSTEMS

Selection of critical market

Agricultural labour was selected as a critical factor for cultivation in the cropping season (essential for medium term food security) and as one of the main sources of income and food for the poor and very poor members of the community and thus was considered as an income market system that provides jobs for the target population. The criteria used for selecting the agricultural labour as a critical market include:

- Most significant or urgently relevant market systems – agricultural labour is important to very poor and poor households as a major source of income which if affected by a shock reduces the ability of poor households to meet their immediate food and non-food needs.
- Most affected market system – the most common shocks within the two states are floods which take place every year, regular drought incidences and conflict either within the two states or in the neighbouring states. All these shocks impact negatively on agricultural labour.
- Seasonality and timing: agricultural labour as a source of income is seasonal and availability and accessibility of the labour varies according to the time of the year. Any associated response will also be dependent on the season as some responses are more or less flexible.

Key Analytical questions were formulated to specify the priority focus of the study and the specific programmatic questions to which the assessment is expected to answer.

Agricultural labour

1. How is the agricultural labour market influenced by shocks (such as drought, floods, conflict and insecurity) that affect agricultural production?
2. What are the constraints that poorest households find in accessing agricultural labour and while working and what could lift or reduce these constraints?
3. Which constraints do farmers face when hiring labour and what could prevent and mitigate these constraints?
4. What is the capacity of the agricultural labour market to cover the gap in Household income for poor and very poor household's in both baseline and emergency year?

For this EMMA, 2010 and 2011 were recognised as the baseline and emergency years respectively. 2010 was taken as the normal year; when there was normal to above normal rainfall, no floods and when there was no insecurity/conflict within the target counties and also when any conflict that happened outside of the counties did not impact on the lives and livelihoods of the people of Wau and Gogrial East counties. 2011 on the other hand represented the emergency year; when the populations were affected by drought, floods, and by insecurity/conflict. In this year, food insecurity resulted as a combination of factors namely: decrease of cereal production and high prices. 2011 also marked a sharp increase in the importance of markets as a source of food for poor and very poor households.

Three shocks were identified for their negative impact on the Food Security and Livelihoods situation of the population of Western Bharelghazal and Warrap states, these are: floods, drought and conflict/insecurity.

Year	Shock / Situation	WBG	Warrap
2010	Very good and timely rain	Very good harvest	Very good harvest
2011	Drought, conflict and tension over Abyei	Poor harvest	Poor harvest influx of displaced people
2012	Floods	Disrupted crops	Disrupted crops

Seasonal calendar

The following figure depicts the seasonal calendar for agricultural labour market systems for the two states of Warrap and WBG.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Land preparation												
Planting												
Weeding												
Harvesting												
Threshing												
Hunger gap												
Flood												
Rains												
Migration for work												
Agricultural Labour availability												

Agricultural labour seasonal calendar

Agricultural labour as a source of income for poor and very poor households, and as a means of production for farmers is seasonal. Availability and accessibility of agricultural labour varies throughout the year. In both states, normal rains are expected from April and farmers will start land preparation from as early as February at which point agricultural labour is available. Farmers in WBG and Warrap states cultivate different crops ranging from the staple sorghum to vegetables and the type of crop and size of land cultivated, determines the need for and the intensity of the labour required for each activity for example sorghum requires more work during planting compared to groundnuts. The main agricultural activities providing agricultural labour are: land preparation, fencing (in Warrap but not in Wau), planting, weeding and harvesting. Agricultural activities start in February and depending on the onset and cessation of rains and the time when farmers plant, goes on until the end of the year. Workers work for 5-6 hours per day and work for three to five days per week which is determined by the type of agricultural activity. The table below shows the number of people required per feddans per activity and the number of hours worked per day. In Warrap state agro-pastoralism is the main livelihood with households especially the better off and the middle keeping livestock. Activities related to livestock keeping provide very limited agricultural labour to workers since pastoralists will prefer to employ a relative to look after their animals and pay them in kind.

5. Market-system maps and analysis

Description of Market actors in Baseline year (2010/2011)

In the agricultural labour market system the target population are the poor and very poor households that rely on (actually or potentially) the agricultural labour market system to provide a significant percentage of their household income through the market chain. They are also referred to as workers. As seen above in the household profiling, agricultural labour is an important source of income for this group in both normal and emergency situations. The key actors in the agricultural labour market system are the workers who constitute labour supply and on the other side, the farmers who hire labour and exert a demand.

Workers: during the baseline year the poor and very poor engage in agricultural labour as a source of both food and income and also as a coping strategy. The middle and better off wealth groups have diversified livelihood options including livestock keeping and middle to large scale crop production. During normal times in Warrap state, Gogrial East County, most of the workers are from within the state while in Wau County almost half of all the workers come from outside the county and the state (Kuajok, Toch North in Warrap, Lakes and Jur County in WBG).

Labour demand: The other actors in the agricultural labour market are those that provide the labour opportunities also known as the producers.

Farmers: There are different types of farmers generally classified by their scale of production which is determined by the size of land cultivated and on the type of farming practised. It is not usual for small scale farmers to hire people to work on their farms but they rely on unpaid family work. On the other hand, middle scale farmers rely mostly on communal work leaving the larger scale producers as the ones who offer the most agricultural labour opportunities for the workers.

Characteristics	Small scale farmer	Middle Scale Farmer	Large scale farmer
% of all farmers per category	70%	25%	5%
Size of land	< 2 feddans	2- 10 feddans	>10 feddans
Mechanised or none mechanised farming	Use of hand tools	Use of tractors Use of ox ploughs	Use of tractors Use of ox ploughs

Ministry of Agriculture farms: the MOA has public demonstration farms that provide training to farmers on various agricultural techniques. 50 farmers per payam are selected by the chiefs per year; these farmers receive training and are expected to train other farmers in their geographical areas. These MOA farms provide agricultural labour opportunities for workers from within the area and reportedly pay better wages than the normal farmers.

Criteria for hiring workers: workers are hired based on their skills and availability of both labour opportunities and workers. In farms with mechanised farming some workers will be expected to know how to operate the ox-ploughs and the tractors. During a good year there is shortage of workers since they are also working on their own farms and do not require additional income from the agricultural labour or simply do not have time to work for others, unlike during emergencies when more vulnerable people search for labour as a coping strategy to compensate the loss in production and income. There is no direct discrimination for employment based on gender, however some work is more suitable for women like weeding compared to land preparation and planting. Also it is more difficult for women with small children to travel long distances in search of agricultural labour, practice which is common with the men. When the work is scarce, farmers choose stronger men.

Payment agreement: there is no set minimum wage for agricultural labour in the larger South Sudan and wage rates are usually an agreement between the farmer and the worker with the farmer having the upper hand (the farmer offers an amount and it is up to the worker to take it or not). Payment is set per amount of land covered and can either be done in cash or in kind for example one worker working on a piece of land size 10 by 10 foot is paid 5 SSP for planting while weeding the same amount of land costs 25 SSP and harvesting between 5-10 SSP. Depending on the time of the year, sometimes workers prefer to be paid in kind (through cooked food or uncooked food) this is most common during the hunger gap when the very poor and poor households prefer food to cash.

Agricultural activity	Cash payment per feddans per worker
Land preparation	30 SSP/feddan/ worker, 100 SSP/feddan
Fencing	70 SSP/ feddan/ worker
Planting	200 SSP/ feddans, 30 SSP/day, 150 SSP/ feddan
Weeding	150 SSP/ feddan or 2 malua of sorghum
Harvesting	40 SSP/ feddan. 75/feddan or 1 malua of sorghum

Table XXX: value of units of labour

Working conditions: The farmers provide accommodation for workers who come from far, some provide water and meals but other times this is included in the wages. Tools are either provided by the farmer or workers bring them.

Market constraints in the baseline year

The following is an overview of the key constraints faced by both the workers and the farmers in accessing agricultural labour and workers respectively during the baseline year:

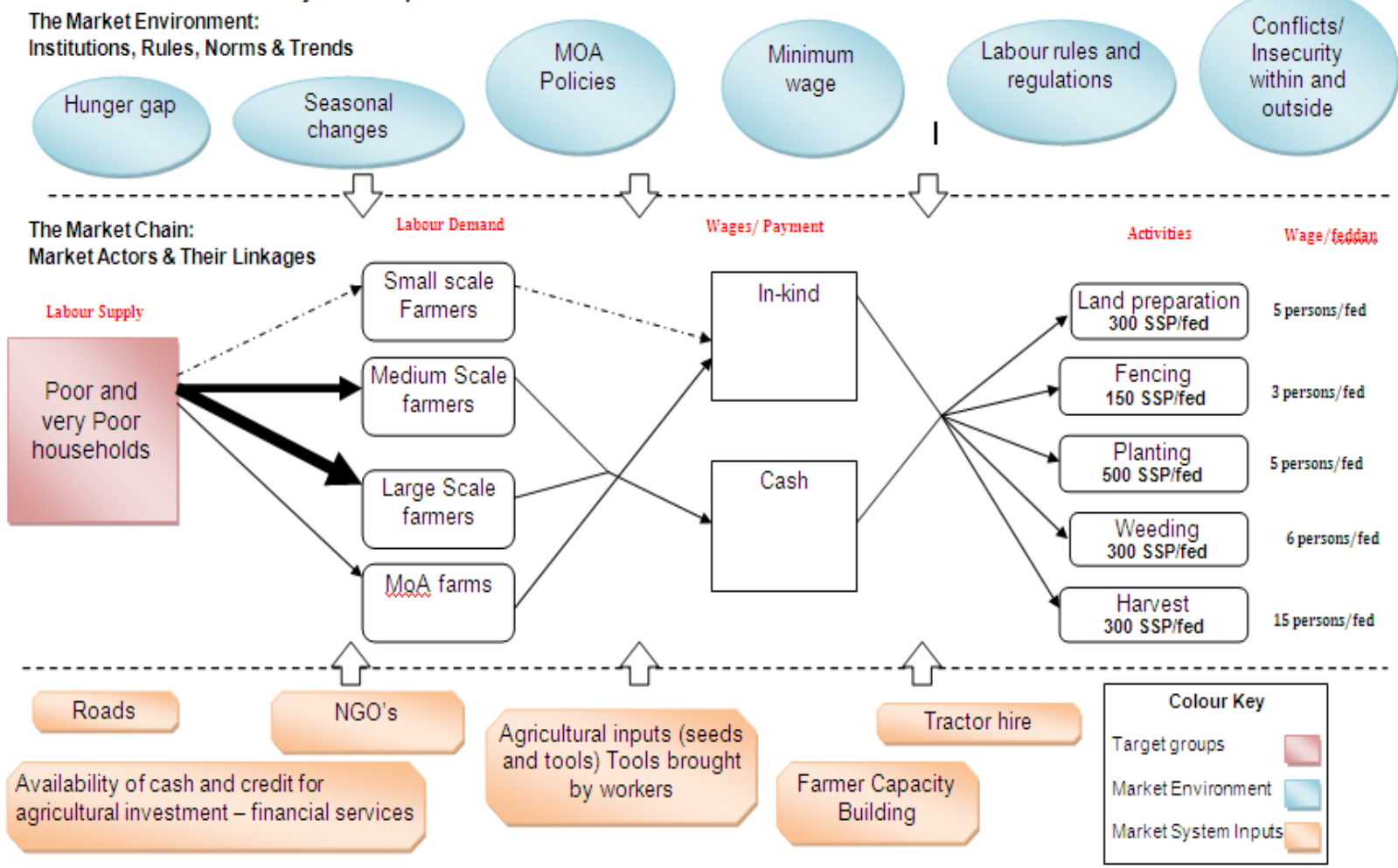
Constraints experienced by farmers in hiring workers during the baseline year:

- Poor supply of agricultural labour since most of the workers work on their own farms
- High wages due to decreased supply of the agricultural labour
- There are very few skilled labourers able to operate the tractors and to plough using ox-ploughs.
- Constraints in accessing inputs and services: financial constraints; fuel for tractors in Warrap State has to come from Wau; ox-plough is very expensive and not easily available on the market as well as the spare parts; high prices of tools

Constraints experienced by workers during the baseline year:

- Lack of tools for some of the workers
- Wages are too low compared to the workload
- Language barrier for workers coming from other states to Wau county

Baseline Market-system Map – AGRICULTURAL LABOUR MARKET



Market environment in the baseline year

The market environment is concerned with issues and trends that have significant influence on the market space in which different market actors operate. This environment is shaped by various policies, regulations, social and business practices and trends. These include:

Seasonal factors: different agricultural activities have diverse labour needs which depend on the seasonality of the agriculture (land preparation, planting, weeding, fencing, harvesting etc) and on the type of crop under production. These activities depend on the onset of the rains (in April/May) and their intensity, allowing the farmers to forecast the yields and consequently the need for labour. The meteorological variability determines availability and accessibility of labour opportunities and the terms of payment, making this source of income and food for household's seasonal dependent.

Climatic factors: Events linked to meteorological factors, like dry spell, heavy rains, and delayed rainfall, that may eventually result under some circumstances in drought or floods, also influence the productivity and the consequent request for labour. These factors need also to be taken into account to determine availability and accessibility of labour opportunities and the terms of payment.

Conflict and insecurity: In 2011 conflict in Unity state for grazing lands led to influx of people in Warrap State, increasing competition for labour. Tensions between Gogrial East and Est led to migration of people leading to influx of IDPs.

South Sudan labour laws: The South Sudan government has written a labour's act which is currently in parliament waiting to be passed into a bill. In the meantime, they are still using the Khartoum labour act of 1997. In effects there are currently no labour laws and regulations especially on agricultural labour and wage rates, conditions of working are a negotiation between the farmer and the worker. This weakness in the basic rules and institutions (needed to help the market system work effectively) leads to have an advantage by the farmers, who have an upper hand, hiring and in the determination of wage rates, on the workers and finally to exploitation. In normal times especially for the small scale and middle scale farmers, agricultural activities are accomplished through communal work. This arrangement is not discussed in detail in this report because they do not directly provide income, although there is an opportunity cost, as well as benefit, to participating or not participating in these non-wage agreements.

Infrastructure, inputs, services in the baseline year

This section is concerned with the various forms of infrastructure, inputs and services that support the agricultural labour market systems overall functioning and these include:

Agricultural inputs: including seeds and tools required by the farmers to support production. Workers either bring their own tools to work in the farmers' land or the farmers provide them with theirs. There are also non-governmental organisations and the UN - FAO who provide inputs to farmers. Some farmers, mostly the middle and better off, also sell off livelihood assets like cattle to buy ox-ploughs (750 SSP – 800 SSP) for farming. Farmers also rely on seeds from their own production but also purchase seeds from the market. In some areas like Liethom tractors can be rented for 120 SSP from the county agricultural department, and ox ploughs can also be hired at 150 SSP per day (this is especially for Gogrial East). In Wau County each payam can count on one tractor which farmers can hire at 100 SSP per feddans including fuel. Manure from cattle is a constraint for soil fertility mainly in zones where maize is cultivated and where there are few cattle (such as Wau).

Financial services: Credit and cash facilities for the farmers to improve their production including transportation to the markets are very limited. The only financial institution in both states is the agricultural bank which does not provide any financial support to farmers.

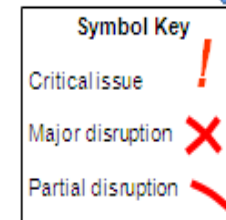
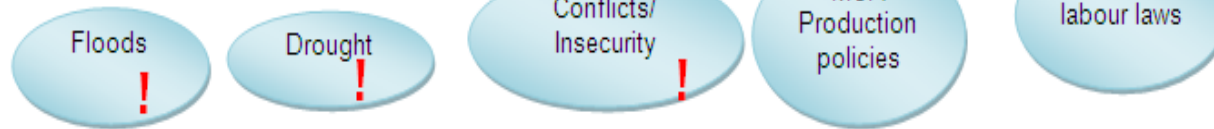
Roads: Most of the transportation in WBG and Warrap states is through roads as it is the most accessible and affordable for traders and also for vulnerable households compared to air travel.

However, rains hamper road network in both states and during the rainy season prices of food and non food commodities including seeds and tools increases.

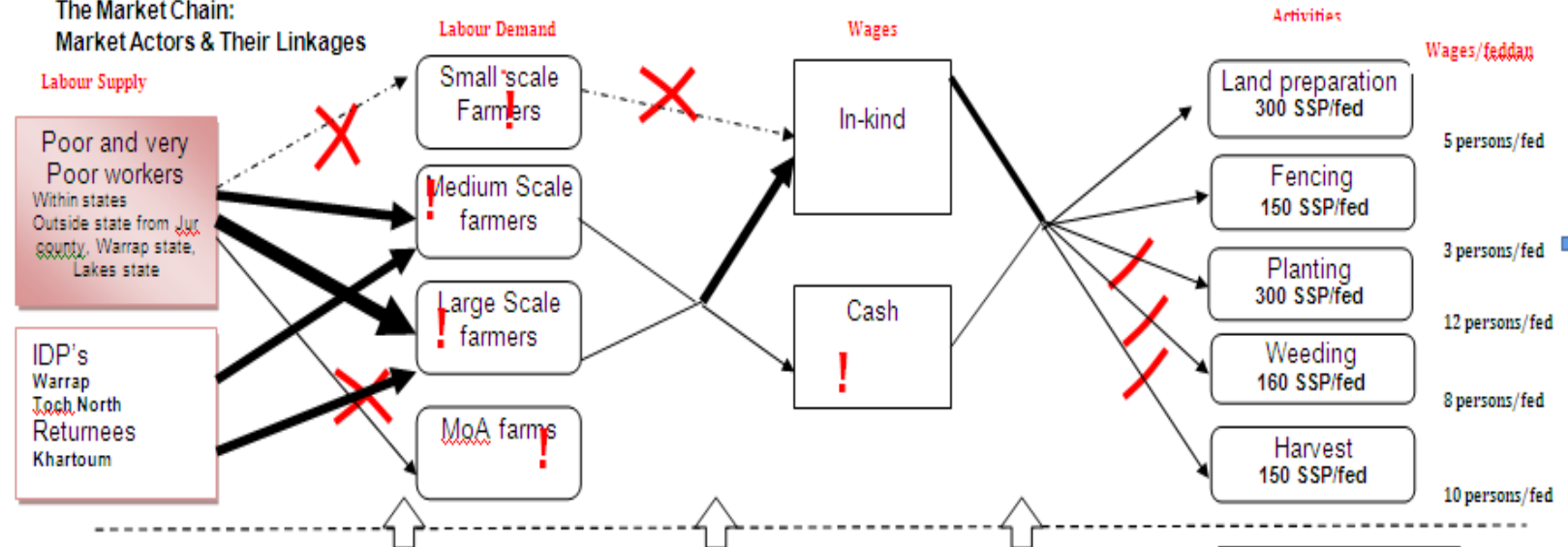
Agriculture Extension services: The capacity of farmers to improve their production and productivity is important for the agricultural labour market system. The capacity of farmers determines the amount of land they are able to cultivate and which tools and technology in use (hand tools, animal draught power, or mechanised farming) and thus the availability of agricultural labour opportunities for workers. The better the capacities of the farmer the more land they cultivate on and the more the labour supply from his/her farm.

Emergency Market-system Map – AGRICULTURAL LABOUR MARKET

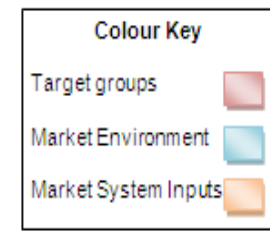
The Market Environment:
Institutions, Rules, Norms & Trends



The Market Chain:
Market Actors & Their Linkages



Key Infrastructure, Inputs and Market-Support Services



Impact of the Agricultural labour market in the Emergency year

As outlined in the section on gap analysis (table XX), during the baseline year a gap existed regarding the ability of vulnerable households to meet their income needs for their minimum food and non food needs 602 SSP per household per month in both states. In comparison, during the emergency year vulnerable households in both states faced an increased deficit (698 SSP in Gogrial East and 727 SSP in Wau) in their ability to cover their household food and non-food needs. During the baseline year, farmers worked on their own farms and only the very poor and poor who have little capacity to farm sought labour opportunities as a source of household income. This changed in the following year during the crisis when more people looked for, and engaged in agricultural labour as a way to cope with reduced agricultural production from their own fields. In normal times, people also work for fewer hours as compared to during emergencies when the need for income from agricultural labour is higher, and thus, if work is available, the workers prefer to work longer and earn more. In normal times workers come from within the two states while in emergencies they also come from neighbouring counties like Jur County and many people from Gogrial East go to Wau.

As shown on the emergency map above, floods, drought and insecurity are critical issues that affect the agricultural labour market system. When they do happen, the demand for agricultural labour by farmers and the supply by workers is negatively impacted upon.

South Sudan is endowed with natural resources (land and water) and has a high potential in agricultural production and thus great chances of enhancing the capacity of agricultural labour market system to contribute to sustainable and stable household income. Drought, floods and conflict affect significantly the agricultural labour market reducing the potential of this market to contribute to poor and very poor household's income. At the time of emergencies, most of the labour opportunities are available from the large scale famers only as the middle scale farmer's work on their own farms as opposed to during normal times when they employ labourers to work on their land.

During emergencies, poor and very poor workers generally ask for in kind in order to feed their families. They prefer to be paid in kind because then food prices in the market are high and unaffordable and at times markets are also inaccessible.

Floods

Floods have a negative effect on agricultural labour since they destroy crops in the field affecting production. Land preparation and planting are not affected as they happen before the onset of the rains, while activities like weeding and harvesting are downsized, decreasing the labour opportunities available for the vulnerable households.

Conflict

Conflict outside the area: the influx of IDPs leads to an increase of available workers which in turn increases competition for the labour opportunities. For example in 2010 the wages for working on a 10x10 feet piece of land was 10 SSP while in 2011, after the influx of IDPs due to conflict from surrounding states and counties, and in combination with other climatic factors reduced to 5 SSP.

Conflict within the county: mainly in Gogrial East, it leads to a decrease in workers as people migrate off the county to escape the conflict, and there are fewer workers to hire. On the other hand in some cases when there is internal conflict, farmers also move abandoning their farms.

Drought

Drought affects agricultural labour under two circumstances: first of all many vulnerable households turn to labour as their farming is affected, raising the supply of workers and the competition. On the other hand, labour from land preparation and planting are not affected by drought, since these activities happen before the rains come. However, when rains fail fewer crops will germinate and thus less weeding activity and fewer workers needed for harvesting. The overall result is that there

will be more workers competing for less labour opportunities. This significantly reduces the percentage of income that an household can get from agricultural labour that is the main source of income for the vulnerable poor and very poor households.

In 2010, for example, farmers paid 200 SSP per feddan for land preparation, which reduced to 150 SSP per feddans in 2011 during the period of rain shortage. During emergencies there are also more workers who come from outside the state and county increasing the competition among workers leading to further reduction in the wage rate. Also at this time, farmers exert a selection on the workers, preferring those who seem to be physically stronger, and in general men. In addition, in times of crisis due to reduced income sources, farmers have less cash to pay workers and some end up selling their food stocks and/or livestock to keep their investment in farming and ensure their land is cultivated. As seen in both market maps, during both the normal times and emergencies farmers have the most market power in the agricultural labour market system as they decide who to hire, they determine the wage rates and even the duration of work for the workers. Workers especially the vulnerable poor and very poor household's have no choice but to take what the farmers give, as they are pushed by dire needs.

6. Comparing the gap in needs with the market capacity

Gap analysis

The gap analysis (in particular the household income shortfall) for the agricultural labour market system was calculated from the household profiles that were established during the assessment.

- The team measured the household shortfall in income on the basis of current household income (including contribution from agricultural labour) compared to the cost of minimum commodity basket¹⁵ (1.275 SSP for Wau state and 945 SSP for Warrap state).
- During the baseline year in Wau County the total household income from all sources was 673 SSP giving a household income gap of 602 SSP, while for Gogrial East County, the household income was 343 SSP also giving a gap of 602 SSP.
- This means that even during the normal times there is a gap in household income which households attempt to fill using various coping strategies like sale of charcoal and firewood and sale of livelihood assets like surplus crop produce and livestock.
- This household income gap is widened during the emergency year when the options of sources of income are reduced or the income from each source is significantly diminished.
- Unlike the middle and better off households who dispose off their livelihood assets like livestock and surplus food from their own production, very poor and poor households are the most affected as they have few if any livelihood assets and have limited coping strategies at this time.
- During emergencies due to the reduced household income, this household gap increases to 698 SSP for Gogrial east and to 727 SSP for Wau County and the duration of the increased gap is dependent on the type of shock but will last a period of between 3 to 6 months.

Table xxxx Agricultural labour household gap analysis

Total pop. (HH)	No. HH (Poor and V. Poor)	Cost of MFB	HH income (Poor and V. Poor)	HH shortfall	Gap (SSP)	Gap (months)	Total SSP	Total EUR

¹⁵ South Sudan Minimum Commodity Basket, Aminata Bakouan, FAO, 2012

Gogrial East	21.700	16.818	794	247	547	9.199.173	3	27.597.518	6.814.202
Wau	32.987	25.400	1.133	548	585	14.858.994	3	44.576.982	11.006.662
Total	54.687	42.217			1.132	24.058.167		72.174.500	17.820.864

As seen above there is a gap in household income in both the baseline and emergency years for the poor and very poor households whose main source of income is agricultural labour. Two questions arise from this analysis:

1. Can the agriculture labour market system stretch to fill part of this gap, or to at least cover the minimum food basket (see table below), during both the baseline year and the emergency year?
2. Is there need to explore other diversified and sustainable sources of food and income to ensure households are able to meet their minimum food basket?

Table XX: Cost of minimum commodity baskets (values of the 2012)¹⁶

State	Minimum Expenditure Basket		Minimum Food Basket		Minimum Essential Food Basket	
	SSP	USD	SSP	USD	SSP	USD
South Sudan	1 398	440	1 186	373	1 112	350
Warrap	945	297	794	250	786	247
W. Bahr Al Ghazal	1 275	401	1 133	356	861	271

Please note that this EMMA does not consider income contribution from other sources of food like the volume of aid delivered by WFP, or any agricultural and livestock production for own consumption and other sources (NOUF, fish etc) that still constitute a large part of the household food sources.

The HEA baseline needs to be updated to provide such information that was beyond the scope of this EMMA. The EMMA only considers the very poor and the poor as the target population.

Capacity of the agricultural labour market to cover the gap in Household income for poor and very poor household's in both baseline and emergency year

- The agricultural labour market system seems to have a limited capacity to cover the gap in household income in its current status both in the baseline and emergency years. It is evident that even during the baseline year the contribution of agricultural labour to the total household income is inadequate.
- In normal times, access to and availability of agricultural labour is determined by the amount of land cultivated which depends on the capacity of farmers to cultivate. Land in South Sudan is available and farmers can cultivate in as much land as they want as long as they can afford the agricultural inputs (seeds and tools) including cost of hiring labour.
- As seen in the market maps, agricultural inputs are a critical issue when it comes to production, farmers either purchase their seeds from the market or they use seeds from

¹⁶ Aminata Bakouan Traoré, FAO, (2012). The Value of Cash Benefits in South Sudan

their harvest, tools are accessed through the markets and in some regions they are distributed by the UN including NGO's. More than 50% of farmers in South Sudan still use hand held tools for planting which limits the total area cultivated. The middle and large scale farmers also use ox-ploughs for cultivation mainly in Warrap state while large scale farmers use tractors. Tractors are available for hire but the poor and very poor households can barely meet their immediate food and non food needs leave alone get money for tractor hire.

- It is evident that even during the baseline year, farmers have limited capacity to employ many workers and pay them good wages.
- This situation deteriorates during emergencies with fewer workers accessing the limited agricultural labour opportunities; the wages also reduce decreasing the total contribution of agricultural labour to the household income, creating a bigger gap in household income.
- The prevailing market environment is limited and not conducive for an expansion and improvement of the agricultural labour market system and the crucial elements in infrastructure, inputs and services, required for this market system to prevail and not working well during both baseline and emergency years.
- The two market actors: the different categories of farmers and workers interact at different levels with the farmers carrying the market power.
- Under these circumstances, the capacity of the agricultural labour market system is limited in meeting the gap in household income for the poor and very poor households.

However, with improvements in the three layers of the market system (market environment, market chain and market infrastructure) the agricultural labour market system does have the capacity to meet the gap in household income of the vulnerable households.

Ground nut Market system Gap analysis

7. Main conclusions and recommendations

Key Analytical Questions

How is the agricultural labour market influenced by shocks (such as drought, floods, conflict and insecurity) that affect agricultural production?

- Shocks lead to an increased deficit in household income by vulnerable households (698 SSP in Gogrial East and 727 SSP in Wau) in their ability to cover their household food and non-food needs.
- During drought there are more people looking for agricultural labour opportunities as a way to cope with reduced agricultural production from their own fields leading to increased competition resulting in reduced wages.
- Floods, drought and insecurity negatively affect (reduce) the demand for agricultural labour by farmers.
- Floods have a negative effect on agricultural labour since they destroy crops in the field affecting production. Land preparation and planting are not affected as they happen before the onset of the rains, while activities like weeding and harvesting are downsized, decreasing the labour opportunities available for the vulnerable households.
- Conflict outside the area: the influx of IDPs leads to an increase of available workers which in turn increases competition for the labour opportunities. For example in 2010 the wages for working on a 10x10 feet piece of land was 10 SSP while in 2011, after the influx of IDPs due to conflict from surrounding states and counties, and in combination with other climatic factors reduced to 5 SSP.

- Conflict within the county: mainly in Gogrial East, it leads to a decrease in workers as people migrate off the county to escape the conflict, and there are fewer workers to hire. On the other hand in some cases when there is internal conflict, farmers also move abandoning their farms.

What are the constraints that poorest households find in accessing agricultural labour and while working and what could lift or reduce these constraints?

- Long distance travelled to get work especially during the emergency year
- Low wages during emergency year
- Language barrier when they move to new areas
- Work competition with influx of IDPs, returnees
- Transport costs to find work

Which constraints do farmers face when hiring labour and what could prevent and mitigate these constraints?

- Lack of skilled personnel e.g workers with knowledge to use ox plough
- Lack of agricultural inputs
- Financial constraints to pay the workers and to purchase agricultural inputs
- A drop in income and assets, meaning that many farmers do not have the cash to buy seeds and other inputs and are therefore unlikely to hire as many workers as usual

What is the capacity of the agricultural labour market to cover the gap in Household income for poor and very poor household's in both baseline and emergency year? Increasing agricultural production, Provision of seeds and tools, Train workers – capacity building

- The agricultural labour market system seems to have a limited capacity to cover the gap in household income in its current status both in the baseline and emergency years.
- In normal times, access to and availability of agricultural labour is determined by the amount of land cultivated which depends on the capacity of farmers to cultivate.
- Land in South Sudan is available and farmers can cultivate in as much land as they want as long as they can afford the agricultural inputs (seeds and tools) including cost of hiring labour.
- The prevailing market environment is limited and not conducive for an expansion and improvement of the agricultural labour market system and the crucial elements in infrastructure, inputs and services, required for this market system to prevail and not working well during both baseline and emergency years.
- The two market actors: the different categories of farmers and workers interact at different levels with the farmers carrying the market power. Under these circumstances, the capacity of the agricultural labour market system is limited in meeting the gap in household income for the poor and very poor households.
- However, with improvements in the three layers of the market system (market environment, market chain and market infrastructure) the agricultural labour market system does have the capacity to meet the gap in household income of the vulnerable households.

Agricultural Labour Response Options

Suggestions to cover the gap in household income for poor and very poor households could be twofold: a) to increase the contribution of income or food from agricultural labour to the total household income to cover the gap; b) to support vulnerable households in diversifying their household incomes sources to meet the gap in total income during both the baseline and emergency year. It will be important to focus on the critical issues at the three layers of the market map and identify which areas can be improved and by whom.

RESPONSE ANALYSIS	
Requirements for the response	Opportunities
a) Increase contribution of income or food from agricultural labour to the total household income to cover the gap	Increasing the capacity of farmers to recruit workers both during baseline and emergency years. This capacity can be sustained during the emergency years through ad hoc safety net and subsidy schemes. The outcome would be to foster aggregated food security of the area, and supply to markets, as well as the food security at household level for the most vulnerable.
b) Support vulnerable households in diversifying their household incomes sources to meet the gap in total income during both the baseline and emergency year	Medium to long term actions to be addressed as part of the livelihood and building resilience programmes. Mainly focusing on women, this strategy is addressing the low added value of the product, and it is market oriented.

Response options

- a) To increase the contribution of income or food from agricultural labour to the total household income to cover the gap

To improve production by farmers:

- Access to financial services
- Access to agricultural inputs (seeds and tools)
- Provide ox-ploughs or tractors to farmers unions to support in production

To improve the Agricultural labour market environment:

- Advocacy for regulation of labour laws
- Disaster risk reduction to prevent and mitigate shocks like drought, floods and conflict
- Setting and enforcement of minimum wages for agricultural labour
- Establishment of agricultural workers union to protect the rights of agricultural labourers

To improve availability of agricultural labour opportunities:

- Improve agricultural production through expansion of cultivated land by skilled and better off farmers

To improve accessibility of agricultural labour opportunities:

- Training in agricultural techniques like ox plough and tractor operation making workers more marketable
- Subsidised wages
- Cash or Food for assets in private farms
- Cash or food for community works

- b) To support vulnerable households in diversifying their household incomes to meet the gap in total income during both the baseline and emergency year:

- Income generating activities

- Value chain, adding value to raw agricultural products

Response recommendations

Given the complexity of the agricultural labour system and the high variability among states, and even counties, and the character often personal of the negotiation of the daily wage, it is difficult to address the problem with few recommendations. A big part of the work should be done during the preparedness phase, to understand the ratio of people that rely with a major part on labour as main source of food or income. To do that the Household Economy Analysis baseline should be updated (the latest is as of 2007), as one of the first measures.

Another activity is to monitor constantly the price of the food baskets, and use it as reference for the definition of an eventual cash transfer, as FAO did in 2012¹⁷.

The main operational recommendation is to support work in the farms, through cash or food for assets schemes. This way during the emergency the food production would be sustained as well as the overall agricultural sector, triggering positive knock-on effects on market prices.

The sector can also be supported through the provision of seeds and tools (that every one or two years need to be replaced), through direct distribution or local fairs, involving farmers and blacksmiths.

Cash or food transfers should be decided on the basis of the functionality of the markets and the capacity to supply food (see EMMA on sorghum, 2012), as well as on preference of the beneficiaries.

The other options foreseen in the document refer to medium and longer term programmes aimed to improve and stabilize agricultural production, and are not part of possible emergency response, while, instead, of mitigation measures within DRR programmes.

END

¹⁷ Ibid.