1. INTRODUCTION
In Iraq, WFP provides life-saving assistance to refugees affected by the Syrian crisis and to internally displaced persons (IDPs).

In December 2016, 1.5 million Iraqis received WFP assistance, including 325,000 who were provided with cash-based transfers. Furthermore, in February 2017, WFP assisted 330,609 people with a combination of transfer modalities (199,349 people through unrestricted cash in urban areas and 141,178 through e-voucher in rural areas). Each beneficiary received IQD 20,000 (USD 17), which represents approximately USD 5.6 million injected into the local economy.

WFP CBT intervention was launched in February 2016 as a pilot project in the city of Akre (Duhok Governorate). Over the implementation period, WFP served 7,884 IDP and 861 refugee beneficiaries with cash and a total of USD 358,758 was distributed directly to IDP and refugee families. The plan is to expand the geographic coverage of the CBT programme within the country. This can be achieved if markets have adequate response capacity to supply needed food without compromising the local economy. Despite the growing interest for CBT in Iraq, there is little evidence on how markets will respond to a major influx of cash.

In the coming months, humanitarian needs in the country will likely increase, as people fleeing Mosul city will require immediate food assistance. WFP response remains flexible. Where market conditions are favorable, WFP will be providing CBT to food insecure people. This transition to CBT is one of the main recommendations of the 2016 Country Office Portfolio Evaluation report, due to its cost effectiveness and an overwhelming preference among stakeholders. By middle 2017, the Country Office should move from in-kind to the use of cash-based transfers wherever feasible. Market assessment is a prerequisite for determining whether CBT is feasible or not, hence the crucial need to analyze market conditions and to provide recommendations to inform evidence based decision-making.

This market study was carried out in East Mosul covering 10 markets from 26th February to 11th of March 2017.

2. OBJECTIVES
The purpose of this assessment was to understand the functionality of East Mosul markets to provide information to planners and policy makers on the possible mechanism of supporting affected population (IDPs) through market-based food assistance (cash/vouchers). The specific objectives of the assessment included:
- To understand the scale and stocking capacity of the traders to meet an increased demand;
- To assess the diversity of commodities in East Mosul market;
- To understand the supply routes to these market areas;
- To understand the constraints that traders encounter and their limitation on scaling up to meet any additional demand.

This study is a part of several market assessments that WFP will conduct in order to describe and analyze market functionality in several areas across the country.

3. METHODOLOGY
The assessment focused on retail and wholesale traders of food and non-food commodities in the survey area. Primary data was collected using a reduced version of the trader survey methodology developed by WFP. A trader survey consists of collecting and analyzing data from traders, then using the results to inform a response options analysis. Secondary data review was conducted to provide context and baseline for commodity prices, seasonality of pricing, availability of commodities and traders’ behaviour. Assessment reports by other agencies were also reviewed.

Given current time constraints aligned with insecurity situation, the study prioritized the main markets (see below map).

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1 Iraq Situation Report # 44 – 24 January 2016
2 WFP Cash for Food Pilot – Akre – CRS– September 2016
3 WFP, Market Analysis Tool - How to Conduct a Trader Survey?, VAM - Food Security Analysis, Rome, 2009

Photo: Commodities in East Mosul Shop/WFP
In those markets, 145 traders were interviewed using tablets (Open Data Kit “ODK”) and the traders interviewed were selected randomly. In addition to the trader questionnaires, discussions with key informants took place in each market to collect qualitative data.

Due to security limitations, WFP conducted the assessment in close collaboration with Islamic Relief Worldwide (IRW). The training of enumerators took two days plus a day of pilot data collection to test the tool before the fieldwork.

**Traders’ questionnaire**

Section 1: General characteristics of the trader  
Section 2: Supply chain, volumes and flows  
Section 3: Constraints and response capacity  
Section 4: Credit and stock strategy  
Section 5: Impact of insecurity  
Section 6: Open ended question  
Section 7: Observations by enumerators  
Section 8: Open-ended question

**Key informants’ questionnaires**

Section 1: General information  
Section 2: Market functionality  
Section 3: Supply chain and flows  
Section 4: Constraints and response capacity  
Section 5: Credit and prices  
Section 6: Communication  
Section 7: Observations by enumerators

**4. FOOD MARKETS IN IRAQ: A QUICK OVERVIEW**

The World Bank defines Iraq as an Upper middle-income economy with a Gross National Income (GNI) of USD 2,640 per capita. Iraq represents a large and growing food market, and imports roughly USD 16 billion in food and agricultural products annually. The Ministry of Trade (MOT) is responsible for 38 percent of these imports.

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4 Most of the information have been compiled from a wide range of reports from different Organizations and authors including the World Food Programme and World Bank (2004); the United States Department of Agriculture (2013); the World Bank and FAO (2012); OXFAM (2016); Jessica Powell Tibbets (2012) and the World Bank (2005 and 2015).

5 https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

6 Iraq-Retail-Foods-Annual-2012-Report.pdf
Cereals, dominated by wheat flour, are important in the Iraqi diet, accounting for about 60 percent of the average energy supply. Cereal (wheat and rice) availability for food use varied between 121 kg/capita/year and 191 kg/capita/year, according to FAO’s Food Balance Sheets available for several years. Iraq is highly dependent on food imports and, on average, about 70 percent of wheat and almost 90 percent of rice consumed is imported.

Iraq became a net importer of food in the early 1970s and imports about 70 percent of its food supply. To meet the wheat demand in Iraq, domestic wheat production averages one million tons per year while three million tons are imported. While reliable import data are often not available, main competitors in the agricultural sector include Turkey (fruits, vegetables, processed foods, wheat flour) and Iran (vegetables and fruits). Jordan and Syria also supply fruits and vegetables and serve as major transit routes for imported agricultural goods as well. Kuwait is also a transit route into Iraq, particularly for frozen poultry.

Insecurity, demographic growth, limited water supplies and periodic drought are the most important factors that could explain the inability of domestic agriculture to make a larger contribution to the overall supply of cereal.

Food ration given under the Public Distribution system (PDS) is the key determinant of market demand for cereals and some of the major non-cereals present in the average Iraqi diet. The PDS started as a programme to distribute domestically produced food when sanctions were imposed in 1990. Iraq’s PDS is the world’s largest public food distribution programme and Iraq’s largest governmental programme. The PDS is accessible to every resident of Iraq, foreign and Iraqi, rich and poor.

The source of a relatively large part of Iraq’s food grain market activities has been the PDS. The large scale of the programme has had a strong influence on food markets. Although the government does not directly set retail prices of any food products, the PDS depresses open market prices considerably below border prices by bringing large quantities of food into the market.

During the years of economic sanctions, all PDS ration goods were produced abroad and imported by the Ministry of Trade. In the past year, efforts have been made to use locally produced goods (especially Iraqi wheat) and utilize Iraqi import companies. These efforts have had mixed success due to problems with low product quality and insufficient capacity of import companies.

According to the Iraqi Chamber of Commerce, there are approximately 100,000 officially registered private food retailers in Iraq. However, it is worth noting that there are up to 200,000 unregistered small retailers. Retailers generally purchase most items from established wholesalers and from specific wholesale markets. Overall, sales among registered retailers have grown modestly by a few percentage points per year.

5. MAIN FINDINGS

5.1 General Characteristics of the Traders

According to the assessment findings, retail traders (74% interviewed traders) characterized East Mosul markets, whilst 25% specified wholesaling as their major activity. In general, 92% of the traders were exploring medium (68%) to small (24%), type of shops and can be considered as small to medium retail traders.

In all the markets, only males (100%) were engaged in trading. This is in line with the natural business structure in areas where males dominate businesses.
According to the respondents, trading was the main source of livelihood for all the traders and most traders mentioned that they started their businesses more than five years ago (52%). All traders in East Mosul market conduct their business throughout the week (five to seven days a week) and 64% of the traders employ other people in their business.

All the traders (Figure 2) sell at least four commodities with soap being the prominent product, traded by 98%, followed by pulses (97%), cereals (95%) and dairy products (84%). In addition, the respondents report cereal, pulses and dairy products as the three most important commodities in terms of quantity traded (Figure 3).

Iraq is an agricultural country\(^9\). Although a considerable portion of its agricultural lands are under irrigation, it still depends highly on rainfed agriculture for grain production and sheep herding. Rainfed agriculture is practiced in the northern parts where the mountains, foothills, and Jazeera desert are located.

During the survey, it was observed that only 24% of the traders sell locally produced foods. Out of 24% that sell locally produced products, (79%) purchase from local factories while (72%) obtain from own production and wholesaler at the local central market.

5.2 Supply Chain, Volumes and Flows

Iraq’s agriculture sector declined considerably during the last few decades due to lack of investment, isolation from the global economy and counterproductive agricultural policies. Iraq has been dependent on importing a significant portion of its food, with 89% of the traders (Figure 4) confirming that the most important commodities are mostly sourced from outside the country (Turkey, Iran, Syria, Jordan, and India). Traders reported sourcing the imported commodities mainly from wholesalers within the Governorate (38%) followed by wholesalers in Erbil (24%) and 20% personally importing.

Around 36% of traders reported serving between 50 and 100 customers the week before data collection and 30% of the traders served above 100 clients in the same period and the majority of traders (87%) reported that the number of customers served were higher compared to October last year. This was perhaps due to the continued influx of displaced communities running for safety to East Mosul driven by the ongoing fight in West Mosul. According to IOM, Between 17 October 2016 and 5 March 2017, accumulatively 270,780 people have been displaced across Mosul, of which 64,260 people have returned to their areas of origin.

Compared to March 2016, 73% of traders reported an increase in sales of more than 20% for their two main food commodities while only 2% reported the situation as stable (Figure 7).

Majority of the traders (69%) mentioned that prices are likely not to change as a result of the increase in demand by 50% in the coming six months while 15% of traders mentioned that prices are likely to increase.

When asked whether traders are in position to increase their supply to meet increased demand, majority of traders responded in the affirmative, with 97% of the traders indicating ability to absorb the increase in demand by 50%, while, 74% of the traders were confident in their ability to absorb the doubling of demand (100%).

In addition, the period of replenishment would be within a week for the majority of traders (87% of traders) followed by 5% who mentioned that they could replenish within a period of two weeks.

5.3 Constraints and Response Capacity
The Mosul crisis, which began in October 2016, has displaced numerous people. Displaced people from western Mosul have predominantly moved from neighbourhoods/ suburbs of the city to Hammam al Ali, where security screening is undertaken and after that, people are relocated to the emergency camps in Hammam al Ali, Hajj Ali and Qayyarah Airstrip. In addition, the ongoing crisis in West Mosul has become a setback for the flow of commodities within Kurdish Region slightly affecting the market functionality.

Consequently, insecurity is one of the major constraints affecting market functionality with 27% of the traders affected, followed by lack of own capital reported by 17% (Figure8).

Majority of the traders in East Mosul, do not have dedicated bank accounts for their businesses, only 3% of traders have a dedicated business bank account. Analysis of the relation between traders and customers indicates that 60% of the traders provide credit to their clients while on the contrary only a few traders (9%) purchase their stocks on credit. More than half of the traders (73%) were getting commodities on credit from individuals or moneylenders and the average repayment period of commodity credit was between one to two weeks.

During the survey, 14% of the traders reported not having any stocks (Figure 9). However, for the traders that had stock, a higher proportion of traders (76%) owned storage facilities of which 49% reported that the storage facilities are located in the market while 27% indicated that their storage facilities are located outside of the market area.
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Prices are fixed competitively based on costs on margins/based on wholesaler price (31%) although 20% of interviewed traders continue to determine their own prices. As a way of obtaining market prices, majority of the traders use mobile phones to obtain information on prices on a daily basis (39%) and several times during the day (22%) and 40% reported using that information to determine the selling price.

Table 1 below shows the price of commodities in Mosul and Erbil during the period of the data collection and in February through mVAM data collection. There is no difference of price between the two locations (East Mosul and Erbil). This can be justified by wholesalers having the same source of commodities, which is Turkey and very good road network connecting the source to the market. During the assessment, traders mentioned that price of the main commodities are stable compared October of 2016 (before Mosul operation) except for kerosene that is much higher compared to current Erbil price. This can be linked to high demand due to unstable Government power supply system.

Comparing the East Mosul prices collected during assessment and collected remotely through mVAM in February, reduction of sugar and onion prices can be observed. This is in line with Mosul mVAM report\textsuperscript{11} where it was mentioned that differences in prices between Governorate (Ninewa) and Mosul was less in February than in January and prices are returning to normal, confirming a trend that has been seen earlier in other liberated areas.

Table 1: Average price of commodities in February and March 2017 (Iraqi Dinar (IQD)).

<table>
<thead>
<tr>
<th>Commodities/Unit</th>
<th>Average Price in March 2017</th>
<th>Price in April 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>East Mosul</td>
<td>Erbil</td>
</tr>
<tr>
<td>Salt (IQD/KG)</td>
<td>750</td>
<td>750</td>
</tr>
<tr>
<td>Oil (IQD/L)</td>
<td>1,500 - 1,750</td>
<td>300 - 2,000</td>
</tr>
<tr>
<td>Wheat Flour (IQD/KG)</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>Hours Beans (IQD/KG)</td>
<td>2,500</td>
<td>2,000</td>
</tr>
<tr>
<td>Rice (IQD/KG)</td>
<td>1,500</td>
<td>1,500</td>
</tr>
<tr>
<td>Sugar (IQD/KG)</td>
<td>1,000</td>
<td>1,250</td>
</tr>
<tr>
<td>Chickpeas (IQD/KG)</td>
<td>3,000-4,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Bulgur wheat (IQD/KG)</td>
<td>1,000</td>
<td>1,500</td>
</tr>
<tr>
<td>White beans (IQD/KG)</td>
<td>2,000</td>
<td>2,500</td>
</tr>
<tr>
<td>Potatoes (IQD/KG)</td>
<td>500</td>
<td>750</td>
</tr>
<tr>
<td>Tomato (IQD/KG)</td>
<td>500</td>
<td>750</td>
</tr>
<tr>
<td>Cucumber (IQD/KG)</td>
<td>750</td>
<td>1,000</td>
</tr>
<tr>
<td>Onion (IQD/KG)</td>
<td>500</td>
<td>750-1,000</td>
</tr>
<tr>
<td>Kerosene (IQD/L)</td>
<td>750</td>
<td>200</td>
</tr>
</tbody>
</table>

5.5 Impact of Insecurity

Three years of continuous conflict and economic stagnation have impacted nearly every aspect of Iraqi society. Poverty rates in Kurdistan have doubled and unemployment has trebled in many communities\textsuperscript{12}. Payrolls for government employees have been cut or delayed. Agricultural production has declined by 40 per cent, undermining the country’s food sufficiency and hundreds of thousands of people have been forced to migrate to urban areas for jobs and support. This has negatively impacted the flow of commodities to the markets.

During the assessment, 31% of the traders reported that the current security situation in their localities and surrounding areas impact their businesses negatively. The two major impediments being: too many check points (reported by 37% of traders) and an increase in transportation costs (reported by 29% of the traders).

\textsuperscript{11} mVAM_Mosul Flash Update #4_Feb2017
\textsuperscript{12} IRAQ Advance Executive Summary – Iraq 2017 Humanitarian Response Plan (HRP)
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5.6 Market Integration

Markets are integrated if food flows between one location to another without prohibitive transaction costs. Food will flow from surplus to deficit areas and imports will flow from port and border areas into the hinterland.

Markets are considered integrated when commodity prices among different locations move in similar patterns. Difference between prices is explained by the transfer and transaction costs.

In a normal environment, high prices in deficit areas provide the incentive for traders to bring food from surplus to deficit areas, making food available.

Market integration\(^\text{13}\) can be analyzed by calculating simple correlation coefficients or plot price series in a graph to check co-movement. If prices co-move, markets may be integrated. However, high correlation coefficients or price co-movement can be a result of other factors, like a steady increase in all prices, rather than market integration. Checking for outliers - caused by a specific phenomenon in one market e.g. - and stability of price series overtime is needed.

The market integration analysis requires regular collection of price data to build a long trend. Due the conflict, countries like Iraq face huge challenges in collecting and storing data on a regular basis hence, they lack a longer series of dataset. This major constraint is illustrated by missing data in price series.

In this section, market integration analysis has been performed using correlation coefficients in order to measure linear association between two series. In addition, to overcome the challenge of missing data, the analysis was done based on suggestions made by Edirisinghe (2004), of grouping governorates into eight clusters\(^\text{14}\) where Mosul is part of Cluster 2:

- Cluster 1: Sulaimania, Erbil and Dahuk
- Cluster 2: Ninewa (Mosul) and Tamim (Kirkuk)
- Cluster 3: Salal Al Din and Diyala
- Cluster 4: Baghdad
- Cluster 5: Babil, Wasit, Qadisya and ThiQar
- Cluster 6: Muthana, Basra, Missan and Najaf
- Cluster 7: Anbar
- Cluster 8: Karbala

This analysis was done using data from January 2013 to December 2016.

Results suggest that in terms of rice, Cluster 2, where Mosul markets are located, is well integrated with Cluster 1 and Cluster 8 (Karbala). For wheat flower markets, Cluster 2 is well integrated with Cluster 3.

The integration between Cluster 1 (Erbil is part of this cluster) and Cluster 2 (Mosul is part of this cluster) can justify the similarity of the prices reported above in both locations. Market integration in Iraq should be analysed in a broader context by taking into consideration the potential impact that State intervention might have on food availability, especially through the PDS.

<table>
<thead>
<tr>
<th></th>
<th>Rice</th>
<th>Wheat flour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster 1</td>
<td>0.843</td>
<td>-0.680</td>
</tr>
<tr>
<td>Cluster 2</td>
<td>0.522</td>
<td>0.883</td>
</tr>
<tr>
<td>Cluster 3</td>
<td>0.044</td>
<td>-0.036</td>
</tr>
<tr>
<td>Cluster 4</td>
<td>0.018</td>
<td>0.001</td>
</tr>
<tr>
<td>Cluster 5</td>
<td>0.749</td>
<td>0.170</td>
</tr>
<tr>
<td>Cluster 6</td>
<td>-0.260</td>
<td></td>
</tr>
<tr>
<td>Cluster 8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. CONCLUSIONS AND RECOMMENDATIONS FOR INTERVENTIONS

Markets in East Mosul, had diverse food commodities, which were readily available at acceptable prices at the
time of the assessment. There is adequate and stable amount of main food commodities in order to cover
increased demand without increasing the price. This is in line with the observation made by the enumerators
during the visit/data collection.

Traders have enough capacity to absorb the increase of demand by 100% and restock can be achieved in a
short period of time (week). Prices are fixed competitively based on costs or margins although few traders
continue to determine their own price without consultation.

Based on the above findings, the cash based transfer programme would be feasible due to the capacity and the
functionality of the markets. However, given the current context, the response should be flexible and should
enable an immediate shift when the security situation worsens.

There is need for continued monitoring of the markets on regular bases covering main markets of East Mosul
as a follow-up on food availability, food commodity prices and market functionality in the locations where CBTs
will be implemented.

From a market perspective, mid and long term CBT programming should be reassessed if the transfer modality
of public distribution system (PDS) is shifted to cash. This major paradigm shift could have a significant impact
on markets; thus, requiring an in-depth update of food market analysis.

Finally, Iraq is covered by very good road network linking the main markets across the country with the supply
source. Based on this, most of the markets in Iraq have more or less the same characteristics; with good supply
of the commodities. Therefore, the security situation should be the main short-term parameter for decisions
regarding CBT intervention.

This assessment will be complemented by the monthly market price bulletin produced by WFP Iraq available
at https://www.wfp.org/content/iraq-market-monitor-report-2017 and mVAM reports
(http://vam.wfp.org/sites/mvam_monitoring/iraq.html). For more Iraq market assessment report, visit