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Market Assessment in Central Sulawesi, Indonesia

December 2018



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Report prepared by Saidamon Bodamaev and Dewi Fatmaningrum

Data collected in November 2018

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Acronyms

AHA	ASEAN Coordinating Centre for Humanitarian Assistance on disaster management
BNPB	<i>Badan Nasional Penanggulangan Bencana</i> (The National Disaster Management Authority)
BPS	<i>Badan Pusat Statistik</i> (Indonesia’s National Statistics Agency)
BRI	<i>Bank Rakyat Indonesia</i>
BULOG	<i>Badan Urusan Logistik</i> (The Board of Logistics)
Disperindag	<i>Dinas Perindustrian dan Perdagangan</i> (Provincial Office of Industry and Trade)
DTM	Displaced Tracking Matrix
FSP	Financial Service Providers
GRDP	Gross Regional Domestic Product
IDR	Indonesian Rupiah
LPG	Liquefied petroleum gas
MoA	Ministry of Agriculture
MoH	Ministry of Health
MoSA	Ministry of Social Affairs
Pertamina	<i>Perusahaan Pertambangan Minyak dan Gas Bumi Nasional</i> (Indonesia state-owned oil and natural gas corporation)
PKH	<i>Program Keluarga Harapan</i> (Family Hope Program)
Rastra	<i>Beras Sejahtera</i> (‘Prosperity Rice’, previously known as <i>Raskin</i> , rice for the poor)
TPI	<i>Tempat Pelelangan Ikan</i> (fish auction)
WFP	World Food Programme
WVI	<i>Wahana Visi Indonesia</i>

Key Highlights:

One and a half months after the series of earthquakes that struck Central Sulawesi on Friday, 28 September 2018, triggering a tsunami and liquefaction, most markets in Palu, Sigi and Donggala districts had resumed activity, with retail and wholesale traders selling a wide range of food and non-food items. Banks and other financial service infrastructures are established and functional in most areas.

Due to a decline in purchasing power, primarily due to the loss of jobs, livelihoods and displacement, the number of customers significantly decreased. Sixty one percent of interviewed traders in 23 assessed markets reported a decrease in the volume of sales.

For most basic food commodities, prices are stable at pre-earthquake levels. However, the earthquake resulted in severe damage to the poultry supply chain, affecting over 80 percent of chicken farmers. This, coupled with a reluctance of companies to invest in the sector, led to significant decline in market supply. The chicken price is 28 percent higher compared to the pre-earthquake period.

Lack of cement supplies from outside Central Sulawesi triggered a 16 percent increase in cement prices compared to pre-earthquake. To prevent further price surges the Government introduced measures to control cement prices in mid-November 2018.

The Market Assessment confirms that there is sufficient market capacity to provide essential items to meet current as well as increased demands.

Executive Summary

On Friday 28 September 2018 a series of earthquakes, the most powerful at a 7.5 magnitude, struck Central Sulawesi province, with its epicentre close to the provincial capital of Palu. The earthquake consequently triggered a tsunami striking the coastal areas in Palu and Donggala districts, liquefaction and landslides. Numerous casualties, displacements, and significant economic damage occurred, mainly in Sigi and Palu but also in Donggala and Parigi Moutong districts. The disaster impacted the agriculture land, irrigation systems, fisheries, horticulture and markets. Following the shock, many markets closed or operated at 50 percent capacity. Poor road conditions, damaged infrastructure and unavailability of transport temporarily hampered access to markets in most locations.

Markets are key to a resumption of livelihoods and it is important that they are accessible and linked to a functioning supply chain, to respond to the needs of the affected population and the returning community during the response and recovery phase. In November 2018 WFP Indonesia with local partners Oxfam and Wahana Visi Indonesia (WVI) conducted a joint market assessment in the Palu, Sigi, Donggala and Parigi Moutong districts of Central Sulawesi.

One and a half months following the earthquake markets in Palu, Sigi and Donggala districts are functioning well with a large presence of retail and wholesale traders selling a wide range of food commodities supplied from the province or delivered from the South Sulawesi or West

Sulawesi regions. Essential construction materials were also available in most markets in the three districts, except for cement.

In general, the roads, including those linking affected areas to each other as well as to other provinces in Sulawesi were in acceptable condition and able to facilitate the movement of commodities.

Banks and financial service infrastructures were already established in most locations and have returned to normal operations. Interviews confirmed that out of 164 interviewed traders, 106 traders (65 percent) had access to banking services and credit.

Despite this rapid return to commerce, the assessment team identified several challenges that may hamper the process of recovery, which require particular focus by national authorities, humanitarian and development partners.

The assessment revealed a significant decrease in the number of customers in the assessed markets. The underlying reasons were loss of employment and livelihoods and displacement. Lack of consumer demand was one of the main underlying factors for the reduction in number of traders, particularly in larger markets.

Despite growing signs of recovery, supplies of some items to remains challenging, for example for the chicken and cement. The absence of formal statements from the local government on safe zones for farming creates an impediment for investments in poultry sector. Although fish and fish products are available in most markets, the demand by customers significantly decreased in comparison with the pre-earthquake period, particularly in Palu, in part due to a belief that fish sourced from tsunami-affected areas had consumed human flesh and were therefore not safe for consumption. Fish prices dropped by about 11 percent since the disaster due to falling demand. Beef is not sold in 17 out of 23 surveyed markets due to stable high prices but low affordability by population.

Overall, the price of food commodities did not significantly change. BULOG interventions under the central government initiation of “Prosperity Rice” (*Beras Sejahtera/Rastra*) contribute in keeping rice prices stable. High prices for vegetable oil, initially caused by discontinuation of commercial cargo through the Pantoloan sea port in Palu during the first weeks following the disaster, have stabilized following resumption of deliveries. Around 60 percent of traders reported a decline in volume of sales compared to the pre-earthquake period, over 90 percent of interviewed traders expressed confidence that they could respond in case demand increased.

Recommendations:

Based on identified challenges and constraints the below recommendations are proposed:

- A two-layered approach is encouraged to mitigate any risk of increased food insecurity:
 - i. continuation of on-going Government assistance under “Prosperity Rice” (*Beras Sejahtera/Rastra*) and Family Hope Programme (PKH) and
 - ii. support for the resumption

of livelihoods of the affected population. This latest includes job creation, income generating interventions, and the provision of low-rate credit.

- Immediate support is required in livelihoods recovery and in re-establishing business for fishermen, particularly in Donggala and Palu districts. Additional efforts from the Government and partners are required to explain to sensitise communities that fish provided from affected areas is safe and fit for human consumption.
- Provincial and district authorities and policy makers were recommended to intensify the process of restoring previous capacities for chicken and egg producers. This includes establishment of safe zoning for poultry businesses, encouraging investment companies to re-invest and support farmers, and easing the accessibility of farmers to financial capital. Development of mid- to long- term plans to produce inputs for the poultry sector within the province is also important.
- Given the importance of reconstruction the Government should implement the decision to facilitate shipments of cement. The primary actions include using additional seaports, repair/replace the broken crane in Pantoloan seaport and/or provide an additional functional facility to receive cement supplies.
- The national social safety net programme under the PKH contributes to fulfilling basic needs. Additional efforts are needed by the Government and partners to target particularly vulnerable households to enhance purchasing capacities and the return of displaced populations. Encouraging financial service providers to provide credit needed to establish businesses will also facilitate the process.
- The following should be taken into consideration during implementation of cash transfer modalities/e-voucher use:
 - The local authorities need to be consulted based on their expertise of cash transfers under Government-led initiatives. The authorities can also serve as a coordination body for the transfers, regulating and monitoring the level of support provided per location.
 - In locations where cash transfers are planned and where financial institutions are not functional banks should be encouraged to establish temporary points to serve targeted populations in terms of providing required information, opening accounts and facilitating the receipt of small-scale credits.
- With the close cooperation with local authorities, cash for asset interventions are encouraged to bridge communities' asset creation and income generation activity.

1. Introduction

On 28 September 2018, a series of earthquakes, the most powerful at a 7.5 magnitude, struck Central Sulawesi province, with its epicenter close to the provincial capital of Palu. The earthquake consequently triggered a tsunami striking the coastal areas in Palu and Donggala districts, liquefaction and landslides. Numerous casualties, displacements, and significant economic damage occurred, mainly in Sigi and Palu but also in Donggala and Parigi Moutong districts. The disaster impacted the agriculture land, irrigation systems, fisheries, horticulture and markets. Immediately following the shock, many markets closed or operated at 50 percent capacity. Poor road conditions, damaged infrastructure and unavailability of transport temporarily hampered access to markets in most locations. The National Disaster Management Agency (BNPB) estimated the total cost of material damages at US\$910 million.¹

The earthquake and tsunami isolated large parts of the affected districts for several days. Electricity and telecommunications were cut. The airport runway and the seaport, which the region relied on for fuel supplies, were severely damaged. Landslides blocked sections of the main roads leading north from Makassar, east from Poso and south from Gorontalo.

The Ministry of Agriculture (MoA) reported that the planting areas in Central Sulawesi decreased by 50 percent compared to the pre-earthquake period. Approximately 10,000 hectares of agricultural land are threatened with no water supply due to severe damage to the Gumbasa main irrigation system in Central Sulawesi for the next planting season.

According to the Indonesia's National Statistics Agency (BPS) in October 2018 inflation in Palu City reached the highest rate in the last three years (2.27 percent month-to-month) and eight times higher than the national monthly inflation, at 0.28 percent. As stated by BPS, limited supplies of several commodities contributed to increased inflation since the production sector was not functioning and many areas were isolated leading to limited access to food and other basic needs.

One month after the disaster various reports by the Government and international agencies highlighted emerging signs of recovery, characterized by an increasing number of displaced people returning to their places of origin, reconstruction of damaged markets, shops and stalls as well improved management of household and community-owned storage facilities. These developments have the potential to gradually bolster market-reliant livelihoods.

As the Government and humanitarian actors scale-up their operations to support recovery efforts through various interventions, market analysis is important in responding to current and gradually increased demands, particularly for returnees.

WFP Indonesia, Oxfam and WVI (Wahana Visi Indonesia) conducted a market assessment in Central Sulawesi in November 2018 to obtain an overview of market functionality, dynamics and recovery with a focus on affected areas.

¹ Sources: AHA Centre: Situation Updates: <https://ahacentre.org/situation-updates>; Humanitarian Country Team Situation Reports: <https://bit.ly/2PCKvQj>

1.1. Objectives of the assessment

The main objective of the survey was to examine market functionality in affected areas in Central Sulawesi. The survey assessed market response to demand, access and resilience.

A secondary objective was to explore the prospect of implementing cash transfers in selected locations and guide food security sector partners with regards to population preferences, availability and accessibility of financial service providers in the affected areas.

Specifically, the market assessment aimed to:

- Analyse the current availability of staple food commodities (rice, cooking oil, chicken, eggs, fish, and beef), fuel (gasoline and cooking gas), and essential reconstruction materials (corrugated iron sheets, plywood and cement);
- Identify and describe the supply of essential food and NFI commodities and changes since the earthquake;
- Analyse market participation behaviours and preferences;
- Examine the current and pre-earthquake market infrastructure networks;
- Assess traders' ability to expand to meet anticipated increase in demand including returning populations;
- Describe relevant government policies and regulations impacting market functionality and prices;
- Analyse price trends of commonly consumed and used items (food and non-food) in different markets in affected areas.

2. Methodology

To achieve the objectives of the assessment, a secondary data review was conducted to gain insight into the state of the markets, identify markets of interest and map the supply chains and trade flows for primary data collection. Existing price monitoring data for Palu City's main market were used to understand price trends and serve as a basis of comparison with findings from primary sources of information.

Primary data was collected from traders and market surveys for this assessment. Two survey questionnaires were administered: a trader questionnaire and a key informant questionnaire. The structured trader questionnaire was administered to selected retail and wholesale traders for an in-depth understanding of market structure and conduct in targeted areas. This included food availability and flows within the market. In each market, seven questionnaires were administered to traders (three wholesale and two retail for staple food items, one retail for fuel and one for essential shelter materials). Two key informants (market head/deputy head or a community representative/traditional leader) were also interviewed in each market.

Direct observations were also documented at each market visited, to enhance data collected from traders and key informants. Separate interviews and consultations were conducted with Provincial Government officials from Industry and Trade, BULOG, Social Affairs, Marine and Fisheries, and Plantation and Livestock Agency.

The assessment was conducted in 23 key markets across the four affected districts (see below attached Map on coverage (Annex I) and the list and locations of assessed markets (Annex II)).

3. Central Sulawesi Macro Food Supply, Policies and Regulations

3.1. Macro food supply

Sulawesi is one of the five major islands in Indonesia. It is divided into six provinces and 73 districts. As a Center for production and processing of national agricultural, plantation, fishery, oil and gas, and mining, the island has been designated as one of the economic corridors by the National authorities. Sulawesi has for the past decade emerged as one of the fastest-growing areas of the country.

Central Sulawesi with a population of about 2.9 million is divided into 12 districts with the capital in Palu city. Nearly 26 percent of Central Sulawesi is located 1,000 m above sea level with around 20 percent of the total area categorized as flat land.

Central Sulawesi has two seasonal rice harvests: the first between February and May in the rainy season, accounting for around 60 percent of production, and the second from July to September. Precipitation in the rainy season, from November to April, varies across the province and overall the region receives sufficient rainfall for agricultural practices. The mountainous part of the region receives rainfall of more than 2,500 mm per annum. Palu and its surrounding areas receive less rainfall (around 1,600 mm per annum). The coastal region around Palu with an average precipitation of only 600 mm per annum is one of the driest areas in Sulawesi.

Strong consumption growth in Central Sulawesi was amplified by significant investment in the last decade, contributing to a reduction in poverty. In 2017, nearly 14 percent of the population in Central Sulawesi lived below the poverty line; the poverty level remains higher than the national average of 10 percent.¹ Poorer segments of the population are overwhelmingly rural, employed informally in the agriculture sector.

In 2017, Central Sulawesi's economy expanded by 7.14 percent (9.98 percent in 2016), higher than the national economic growth of 5.07 percent. This was primarily linked to significant growth in the mining and processing sectors.²

The overall economic structure in Central Sulawesi is dominated by agriculture, contributing 29 percent to the Gross Regional Domestic Product (GRDP) in 2017. Agriculture absorbed more than 44 percent of the local labour force (608,746 people) in 2017³, either as small-scale farmers or wage labourers in plantations. Land is the most important asset for rural households with the main income source derived from crop production. Outside of agricultural the main activities, particularly in Palu city, are in secondary sectors (mining, manufacturing, construction, etc.) and tertiary sectors (trade, transport and communication, services, etc.).

¹ Indonesia's National Statistics Agency (*Badan Pusat Statistik*), 2017

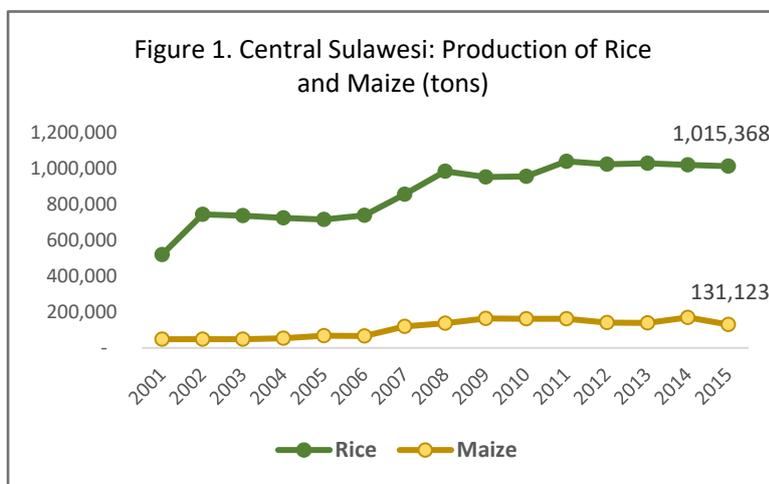
² <http://www.thejakartapost.com/news/2018/02/07/central-sulawesi-records-economic-growth-of-7-14-in-2017.html>

³ Data is provided by Central Sulawesi's Provincial Statistics Agency

Although access to public health and infrastructure has been steadily improving for the last decade in the province, lack of access to some basic services, including sanitation, safe water and health services is still impacting segments of the population.

Central Sulawesi is a rice-producing and rice-consuming province. As reported by the Provincial administration, thanks to expanding rice fields providing high yield rice varieties, fertilizers and improvement of irrigation systems, the province had a surplus of 300,000 tons of the staple food in 2017. This resulted in a considerable decrease of imports and supplies from other provinces. Considering availability of sufficient rice supplies for internal consumption, the Provincial Board of Logistics (BULOG)¹ also used stocks to provide rice to North Sulawesi and Gorontalo provinces.

According to data from the regional office of the Food Crop and Horticulture Service the province set a target of 1,239,263 tons of unhailed rice for the 2017-2018 harvesting season. Available information from the Central Sulawesi's Provincial Statistics Agency indicates



that in 2015 the province produced over one million tons of rice (Figure 1), with Parigi Moutong, Banggai, Sigi and Poso districts as the main producers.

In addition, the province produced significant amounts of chili, tomato, red and long beans, red onions and coconuts. Thanks to favourable climatic conditions, total production in 2017 of cocoa

and palm oil reached 134,000 tons and 243,300 tons in Central Sulawesi.

During dry seasons with delayed rains when stocks are limited, the gap is filled from South and West Sulawesi (Pinrang, Sidrap, Makassar districts).

Palu city was a main location for chicken farming prior to the earthquake, supplying its own markets as well as neighbouring markets in Sigi and Donggala districts.

Central Sulawesi in 2017 produced over 240,000 tons of palm oil; this is not enough to meet the population's demand for vegetable oil, so the remaining quantity is delivered to the province from North Sulawesi (Bitung), West Sulawesi (Mamuju) and Java island (through Surabaya sea port). Provinces in Java island also export fruits (apple, pear, lemon) to Central Sulawesi.

Central Sulawesi also produced 177,000 tons of fish and sea products², sufficient for its own consumption. Surplus fish and fish products were exported to Java and Kalimantan islands as well as to the international market. Some locations also receive a small quantity of fish from Mamuju, West Sulawesi province.

¹ BULOG is a state-owned public company in Indonesia engaged in food logistics. The business scope of the company includes logistics/warehousing, transportation businesses, trade in food commodities, etc. BULOG also maintains the Basic Purchase Price for grain, stabilizing prices, distributing rice to the poor (Rastra) and managing food stocks. More info at: <http://www.BULOG.co.id/bisniskomoditi.php>

² Indonesia's Ministry of Marine Affairs and Fisheries (<http://sidatik.kkp.go.id/publikasi>)

3.2. Government Policies and Regulations on Food Products (Special Focus on Rice)

In 2017, the Indonesian Ministry of Trade started implementing regulation 27/M-DAG/PER/5/2017 focused on food prices for nine products: rice, corn, soybean, sugar, cooking oil, shallots, beef, chicken and eggs. The regulation aimed to guarantee the availability and price stability of these products across the country.

To ensure availability and control prices the Central Sulawesi provincial BULOG intervenes in the rice market in two ways. Firstly, the agency distributes rice to vulnerable households. Secondly, it uses its reserves to purchase or sell rice to mitigate price fluctuations. During emergencies and lean months, the Government seeks to reduce price spikes in provincial markets by releasing its buffer stocks. When prices are low, BULOG intervenes primarily through rice purchases (20 percent broken) from millers.

The Central Sulawesi authorities also implement a general rice subsidy program targeting vulnerable households, providing them with 10 kilograms of rice per month. The program is significant, delivering rice to about 200,000 beneficiaries, roughly supplying around 10–20 percent of their needs depending on household size (Table 1).

Table 1. Number of beneficiaries for “Prosperity Rice” (*Beras Sejahtera/Rastra*) in affected districts

Province and District	Number of Beneficiaries
Central Sulawesi	201,623 ¹
Palu	12,478
Sigi	16,378
Donggala	24,380
Parigi Moutong	38,418

Source: Central Sulawesi Provincial Office of BULOG, 2018

4. Market Supply Chain and Trade Flow

The domestic supply chain for main food items in Central Sulawesi involves deliveries of these commodities from their original sources, inside or outside the province, until the customer receives the final product within the province. The assessment examined the effectiveness of the supply chain and trade flow for selected essential food and non-food items.²

Rice

The dominant marketing channel of rice is from farmers to the rice millers, traders/wholesalers and retailers (Figure 2). In Central Sulawesi the paddy-rice supply chain usually involves several intermediaries between farmers, markets and consumers. The standard supply chain for domestic consumption involves actors in the production, collection, milling, and retailing stages, each linked to other stages.

Normally farmers sell paddy to collector-traders or they may take their paddy directly to the mill that offers the best price, bypassing intermediaries. At times collectors lend money to farmers

¹ The data includes number of beneficiaries for all twelve districts of Central Sulawesi

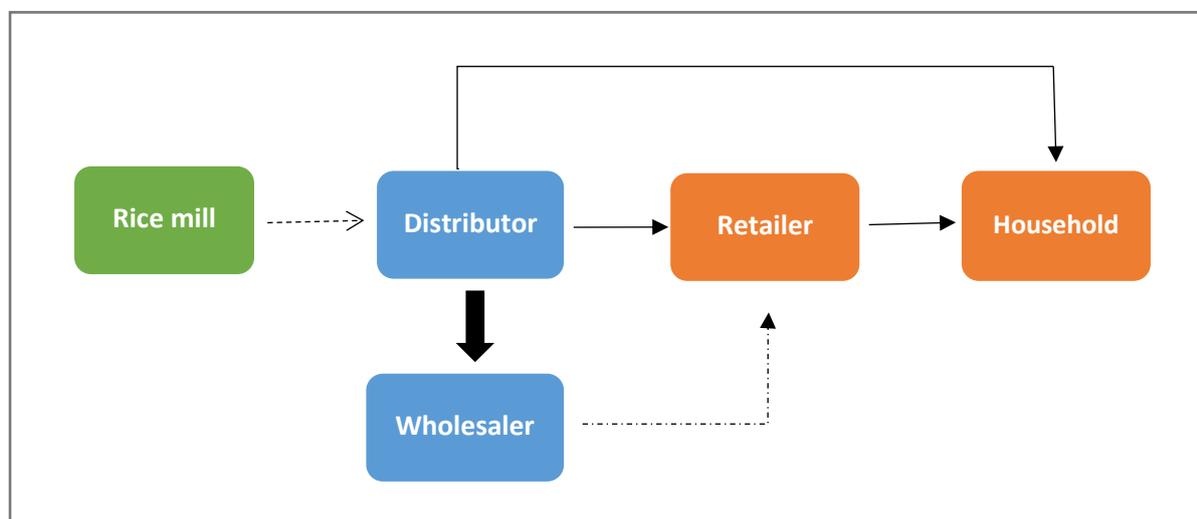
² For additional information on supply chain and trade flow of essential food and non-food items see Annex III and Annex IV.

for inputs or for consumption purposes, with repayment often in the form of “revenue-sharing” arrangements. Rural cooperatives (*Koperasi Unit Desa*) are also active in the marketing chain.

Traditional methods of distribution remain dominant in Central Sulawesi. Millers and traders supply wholesalers operating in larger markets. These, in turn, supply retailers and sometimes distribute to other districts or to neighbouring regions in North Sulawesi. Distribution patterns are standard across the province, with the source of supply being both milling companies and smaller mills. These millers typically complete the milling process by polishing to white finished rice.

The domestic channels also include the process of procurement and distribution of rice. Rice can be distributed to consumers either through centres serving targeted consumers, as is the case with the Rastra (*Beras Sejahtera*) program through BULOG, or through open market operations to stabilize prices.

Figure 2. Domestic Supply Chain for Rice, Central Sulawesi



Vegetable Oil

Based on data from the provincial statistics office in Central Sulawesi, the province produced 243,000 tons of palm oil in 2017. To cover demand for vegetable oil additional quantities need to be imported from other provinces.

The main supply of vegetable oil is North Sulawesi (through the Bitung sea port). Central Sulawesi also receives considerable quantities of vegetable oil through the sea port in Mamuju, West Sulawesi. Supplies in the form of packaged cooking oil are delivered mainly from Surabaya, Java island.

Chicken and Eggs

In 2017, the number of broiler chicken in Central Sulawesi was around 11.2 million with Palu breeding nearly 62 percent of the total quantity. Farmers and other population segments in Sigi district retain more laying chickens: 63 percent from a total of 2.1 million hens (Table 2).

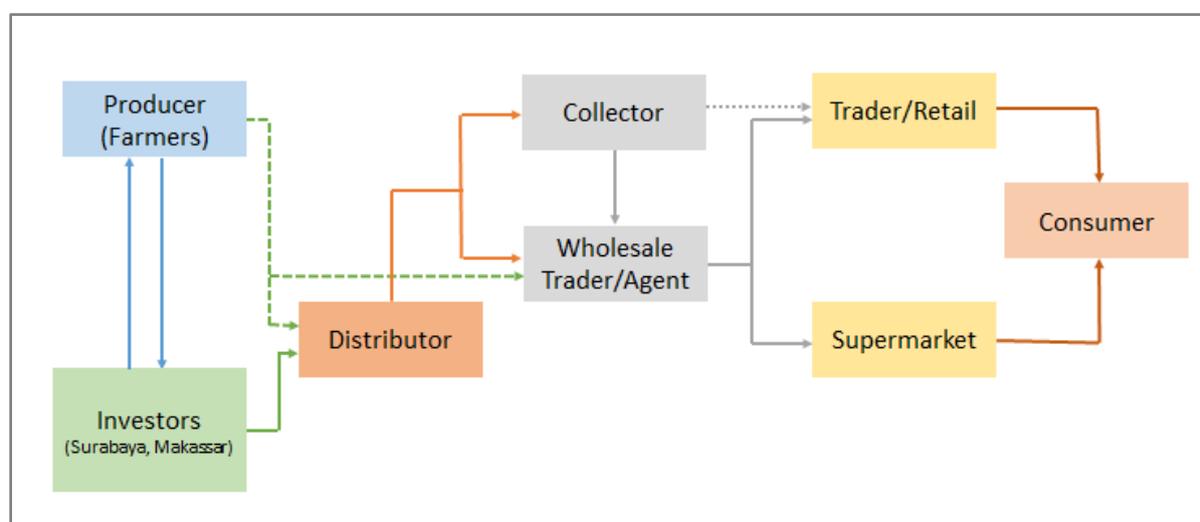
Table 2. Poultry Stocks in Central Sulawesi

Province/District	Broiler Chicken	Layer Chicken	Duck
Central Sulawesi Province ¹	11,176,659	2,081,518	792,560
Palu City	6,923,970	329,340	3,416
Donggala	672,000	115,813	15,508
Sigi	59,492	1,303,840	24,716
Parigi Moutong	18,898	18,898	49,094

Source: Central Sulawesi's Provincial Statistics Agency, 2018

Actors involved in the chicken market consist of investors (mainly from outside the province) farmers, distributors, collectors, wholesale and retail traders (Figure 3).

Figure 3. Domestic Supply Chain for Chicken, Central Sulawesi



In Central Sulawesi, the broiler and layer chicken farmers run the business of breeding and selling products in close corporation with integrated partner companies. The key feature of the chicken sector in Central Sulawesi, including the four affected by earthquake districts, is its dependency on receiving production inputs from large companies located in other provinces, especially from South Sulawesi and East Java. Only 10 percent of farmers in the province are independent farmers (*peternak mandiri*) and their production is not significant.

The chicken for consumption in Central Sulawesi is provided by local farmers and imported from Sidrap, South Sulawesi. Nine of ten chicken farmers, both for broiler and layer chicken in Palu, Sigi, Donggala, and Parigi Moutong are partner farmers (*peternak mitra*), meaning that these farmers are supported by investors such as JAPFA, Charoen Pokphand, etc. The contract between farmers and partner companies includes the price of harvested live chicken per kilogram, feed and medicine. Feed is an important factor for the production of broilers due to the impact in terms of nutrient content and quality. As there is a requirement for farmers to produce healthy chickens, farmers should follow the recommendation from the company to increase their income. Once the chicken is ready to harvest, the companies purchase the chicken

¹ The data for Central Sulawesi Province includes numbers for all twelve districts of the Province

and eggs and sell to wholesalers while farmers receive the profit margin from the price of the chicken, after operational cost deduction. The chicken and eggs are supplied to markets by the company or by wholesalers who purchase the products from the farmers and sell it to retailers.

BOX 1: The Impact of the Earthquake for Chicken Farmers

The earthquake affected nearly 80 percent of chicken farmers in Palu, Donggala and Sigi districts. Central Sulawesi's Provincial Agency for Plantation and Livestock (*Dinas Perkebunan dan Peternakan*) stated that 7,970 broilers and 190,300 layer chicken died in Palu, Sigi, and Donggala following the earthquake. This data was acquired from farmer groups in affected areas. Since there has not been a formal statement from the local government on which areas are safe for chicken farming most are reluctant to continue with their business, and this also impacts investments. Moreover, as most of these farmers operated in areas affected by liquefaction, they have not found a place to resume their trade. Another constraint is the lack of financial capital to procure inputs.

Given the length of harvesting time, particularly for egg-laying chicken (six months), it is predicted that the recovery of chicken farming industry will take at least a year. Although the broiler chicken only needs 30 days to be ready, the absence of clarity on farming safe zones will most likely delay the recovery time.

It is also important to note the need for farmers to acquire financial capital to resume operations. In 2017-2018 it is reported that the Bank Rakyat Indonesia (BRI) had provided around IDR 3 billion to the farmers. However, there has been a lack of access to credit since the disaster.

According to reports from Central Sulawesi, the highest consumption of chicken and meat are observed in Banggai and Morowali districts, rather than in Palu, Sigi, or Donggala. This is due to the presence in these districts of gas and mining companies that employ thousands of labourers.

Beef

In 2017, the number of cows reached about 353,000 and the number of buffalos reached nearly 3,900 in Central Sulawesi with Donggala, Sigi, Parigi Moutong and Palu accounting for 119,000 (34 percent of the total) of these livestock.

Central Sulawesi produces sufficient beef to cover own populations consumption needs. In addition, beef is exported to Kalimantan due to the high demand in the island. However, despite producing 5,207,468 kg¹ of beef in 2016 in Central Sulawesi, the consumption remained relatively low (3 kg/capita/year).

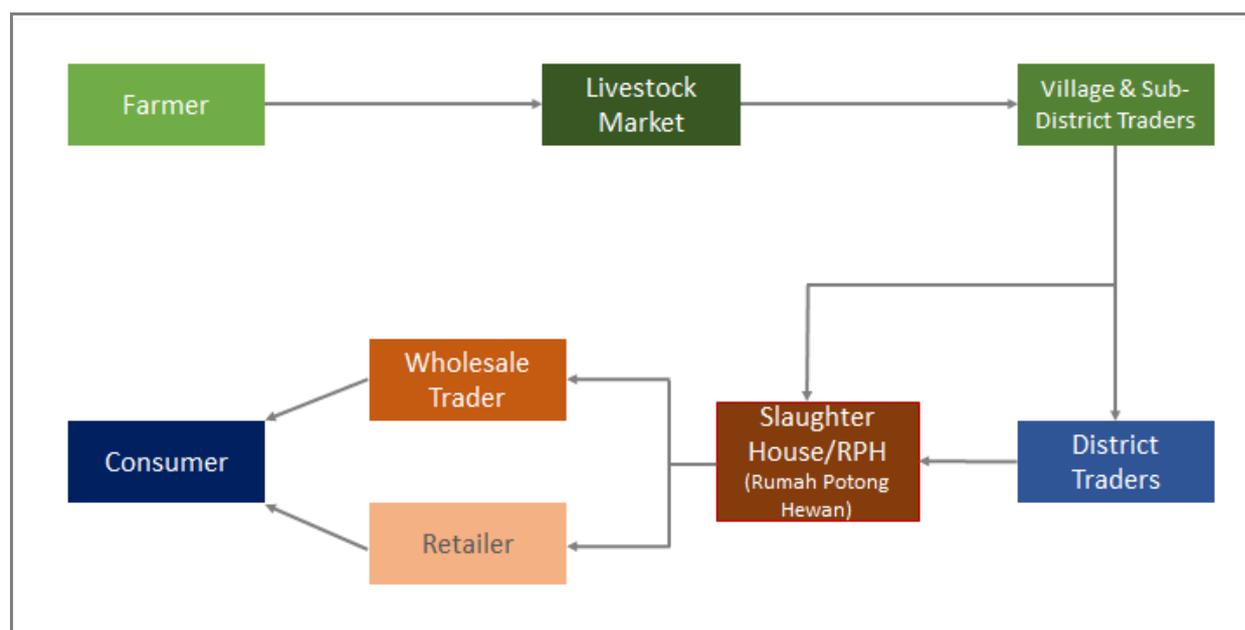
The supply of beef to markets significantly dropped following the disaster for first weeks due to loss of livestock, inaccessibility of many markets and damages to slaughtering houses (*rumah potong hewan*) in Jono Oge (Sigi), Tavanjuka (Palu) and Banawa (Donggala). The disaster resulted in total death of 275 livestock in 3 affected districts.² Within a month after the earthquake, the sector relatively recovered and prices for beef stabilised across all markets.

Actors involved in the beef livestock market consist of farmers, village traders, sub-district traders, feed lotters, slaughterers and beef retailers. The traded products are in the form of live cattle and beef. Live cattle are traded by farmers to slaughterers, while beef in the form of carcasses and meat cuts are traded by slaughterers to the meat retailers and then to the final consumers (Figure 4).

¹ Provinsi Sulawesi Tengah Dalam Angka, 2017

² Source: Central Sulawesi Provincial Agency for Plantation and Livestock, 2018

Figure 4. Domestic Cattle Trading System, Central Sulawesi



Cash is primarily used in the cattle market. The price of beef in the local markets is affected by the amount of beef production while beef production is determined by demand and the population of live cattle in the district.

Fish

Fish consumption in Central Sulawesi is 52.3 kg/capita/year, higher than the national average of 48 kg/capita/year. In mountainous areas people consume more freshwater fish. Since the supply of fish is abundant, Central Sulawesi can meet the demand of fish without having to import from other provinces. Production is relatively high all year except during the monsoon when the tide is high limiting access to the sea. When production is low and demand is high, particularly ahead of large religious holidays, the Central Sulawesi Provincial Office of Marine and Fisheries together with BULOG usually conducts market intervention allowing fish to be sold under market prices (IDR 15,000/kg compared to IDR 20,000/kg).

In response to the earthquake, the provincial government distributed 100 tons of fish acquired from South Sulawesi. In addition, the government also provided five motorcycles for small traders (*padola*) to facilitate selling and distributing fish to remote and difficult to access areas such as Kulawi sub-district in Sigi.

BOX 2. Fish Auction Centres in Central Sulawesi

Overall, the price of fish in Central Sulawesi are set by the market mechanism. Most fishermen have a contract with wholesalers who provide inputs such as vessels, nets, and fuel. Fish caught are first pooled at the fish auction centres or TPIs (*Tempat Pelelangan Ikan*). Although it is a fish auction, given that most fishermen already have a contract with wholesalers, the TPI functions as more of a 'warehouse' where fish is kept before being delivered to the market. Small traders and retailers can still buy fish at 4 TPIs in Central Sulawesi: Ogutua at Tolitoli, Labuan Bajo at Donggala, Paranggi at Parigi Moutong and Pagimana districts.

5. Market Assessment Findings

5.1. Markets and Traders Characteristics

There are 91 functional markets in 3 affected districts: 11 in Palu, 53 in Donggala and 27 in Sigi. The tsunami, the earthquake and liquefaction in September impacted their functionality. The majority ceased functioning or operated at half capacities following the earthquake.

Site visits to two markets - the Wani market in Donggala, and Ulujadi market in Palu indicated that both were fully destroyed by the earthquake and tsunami with over 100 traders in each market departing to other markets to sell their products or simply discontinuing their business. Residents of the locations surrounding Talise market in Palu also confirmed that they had to procure essential items from more distant markets as this market ceased operating.

One and a half months after the disaster most markets had started to recover with an increased presence of retail and wholesale traders and availability of a wide range of food and non-food items. From 22 markets assessed in Palu, Sigi and Donggala and one market in Parigi Moutong, seven markets operated daily, while the remaining 16 (70 percent) are open once or twice in a week.

Observations and interviews revealed that comparably smaller size markets in assessed districts were dominated by retail traders and that the number of wholesalers in most of these markets was low. Around 49 percent of traders sold goods in open-air stalls, while 26 percent sold in shops. One fifth of traders reported that their trading location has changed since the earthquake. Observations in several markets (Sambo, Tangarava, etc.) revealed that conditions of the main buildings in the market were not safe and traders needed to operate outside (around main roads, parking lots, etc.). Sigi district reported the highest number of traders moving to alternate locations.

Around 45 percent of traders owned their shops and remaining 55 percent rented their stores. Shop ownership was lowest among retailer-open air stalls compared to other types of traders. Fifty Seven percent of traders in the surveyed markets have been running their business for more than five years and nearly 33 percent have been in the business between one to five years. Sixty One percent of traders responded that they required trading licenses while more than 39 percent maintained that a trading license was not a requirement.

5.2. Availability of Food and Essential Non-Food Items in Markets

The assessment examined availability of essential food commodities (rice, chicken, eggs, cooking oil, and beef), fuel and non-food items for building/ restoring damaged shelters on selected markets. Information on availability per market geo-segment as well as markets that have worse availability compared to before the earthquake have also been assessed.

5.2.1. Food Commodity Availability

Overall, markets in the four affected districts have sufficient supplies of key food and non-food items. The increasing number of retail and wholesale traders over the past month and their ability to respond to demand for food and essential non-food items reflects an acceptable level of market recovery. In general, essential locally produced and imported staples were widely available in the assessed markets in all four districts. They had overcome the disruption of

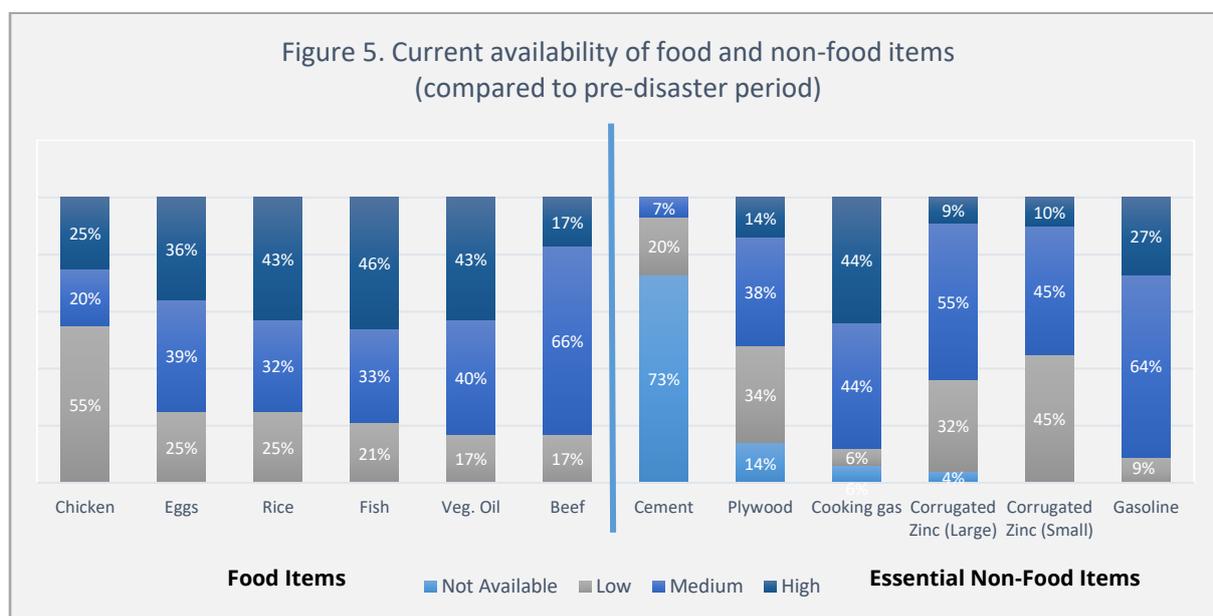
supplies that occurred when stocks available prior to the earthquake were exhausted within the following month.

At the time of the assessment, traders reported changes in the availability of a few key food commodities in the markets. It was observed that beef was only available in six markets out of the 22 markets assessed (Annex V), due to low demand from household with lower incomes. Fifty Five percent of traders also reported decreased availability of chicken due to limited supplies entering the markets. The main reason for limited supplies for chicken was the severe impact of the earthquake on the poultry infrastructure and significant decline in investment.

For other key food items (bean curd, fruits and vegetables, mung bean, red bean, sweet potato, and cassava), nearly 90 percent of key informants reported that they were available in the market in sufficient quantities.

5.2.2. Essential Non-Food Item Availability

In addition to staple food commodities, the availability of essential shelter materials was also assessed to determine the impact on reconstruction of damaged buildings and infrastructure. The assessment revealed that cement was not available in many markets, mostly in Palu and Donggala. Over 70 percent of interviewed traders reported limited stocks of cement. In general, for construction materials, plywood and corrugated zinc were also low in availability compared to before the earthquake, as reported by over 30 percent of traders who were interviewed (Figure 5).



Overall, information on availability of essential non-food items from the traders correlates with the same data received from key informants, where 80 percent and 73 percent of those interviewed confirmed that cement and plywood availability were in low supply. It was further verified that cement was only available in 17 percent of assessed markets.

5.3. Source of Supply

At the time of assessment, 53 percent of traders were reliant on deliveries from outside the district to purchase food commodities, while 36 percent of traders in markets relied on suppliers within the district where markets were located. Prior to the earthquake nearly 45 percent of traders received their supplies from inside the district. This number decreased by about 9 percent.

While rice and fish traders reported that 57 percent and 62 percent of suppliers had sufficient stocks, traders selling chicken and eggs indicated that around 80 percent and 57 percent of their regular suppliers, mainly in Palu and Sigi districts, have poor or only partially available stocks.

For construction materials, more than 60 percent of traders reported that they received the items from outside the district. For cooking gas, 44 percent of traders reported that their sources of supply were coming from within the district. Sixty percent of construction material traders reported that their cement suppliers did not have any stock to deliver to them, while 19 percent of plywood suppliers and 18 percent of corrugated zinc suppliers had insufficient stock.

5.4. Prices: Before the Earthquake, Current and Projected Trends

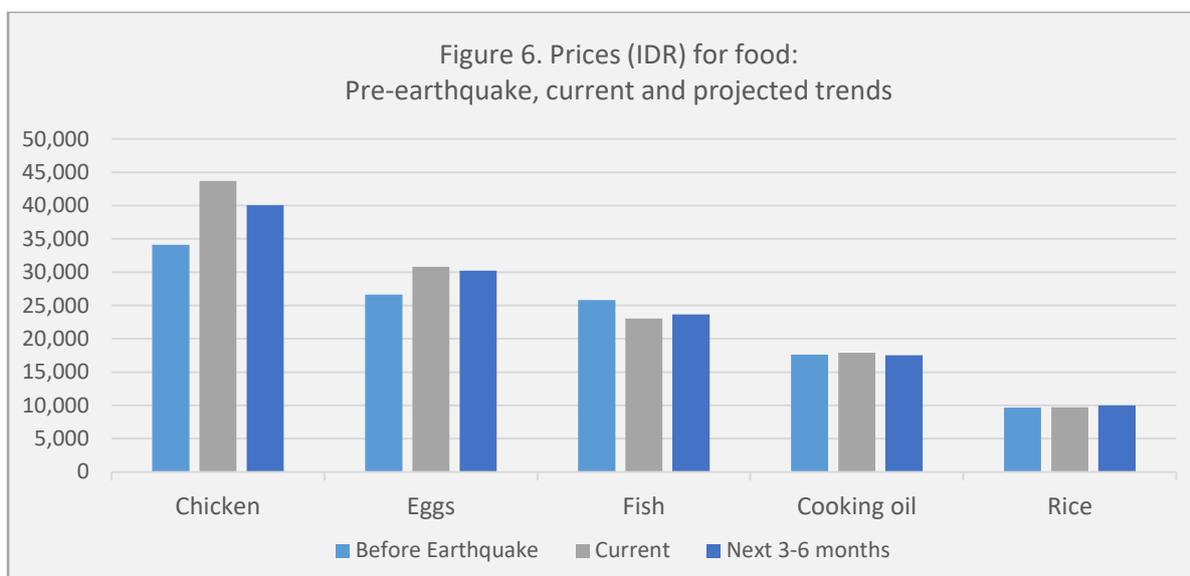
Central Sulawesi's Provincial Statistics Agency reported that immediately after the earthquakes limited supplies of several commodities to most markets and contributed to price hikes in several key items, for example the price of 3-kg liquefied petroleum gas (LPG) more than doubled to IDR 35,000 while the regular retail cost for this item was IDR 16,500.

Nonetheless, one and a half months following the earthquake, the price for most commodities in assessed markets stabilized, although remaining high for some food and non-food items. Currently, food commodities in most markets are traded based on prices fixed by wholesale traders or determined by each trader.

5.4.1. Food Prices: Pre-earthquake, Current and Projected Trends

BULOG's provision of rice to the most vulnerable households under the central government's "Prosperity Rice" (*Beras Sejahtera/Rastra*) programme helped keep rice prices stable at lower levels. In addition, considerable humanitarian aid from communities in other districts and provinces also contributed to stabilizing prices.

The average price for chicken has increased by 28 percent compared to the pre-earthquake period (Figure 6). The earthquake resulted in considerable destruction of the infrastructure and affected four of each five farmers in Palu, Donggala and Sigi districts. This, coupled with a reluctance of partner companies to invest resulted in significant decline in the supplies of the chicken in the markets, putting pressure on the prices.

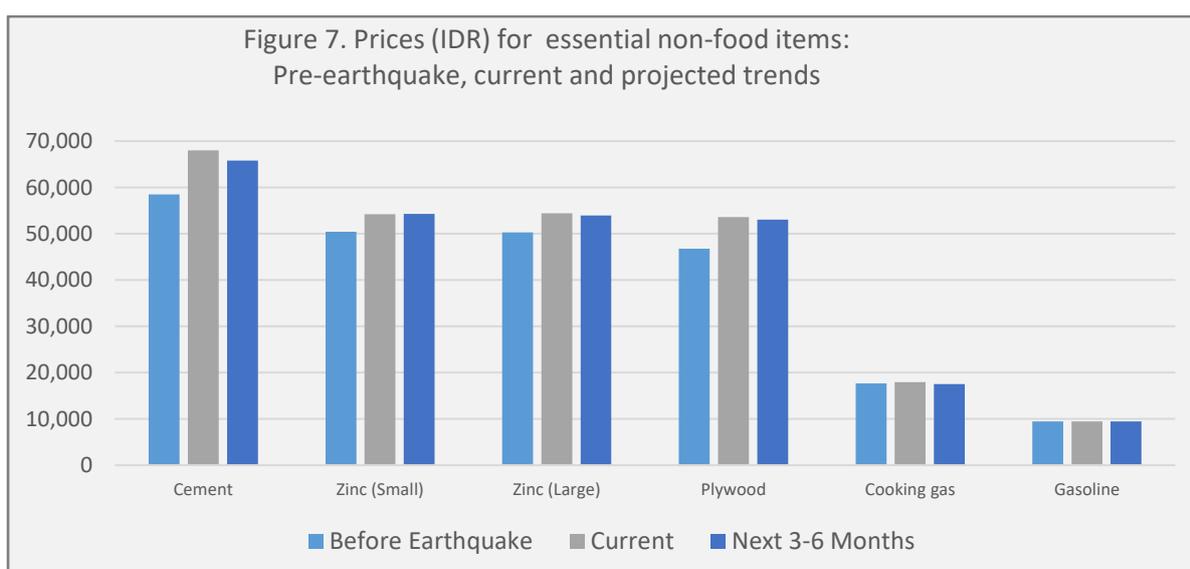


Damages to the poultry sector also affected regular supplies of eggs to the markets resulting in price increases. The price for eggs rose by about 15 percent since the earthquake. The demand for fish significantly decreased, particularly in Palu, due to belief that fish provided from tsunami affected areas consumed human flesh and thus is not safe for the consumption. Demand for fish led to prices falling about 11 percent lower compared to the pre-disaster period (Figure 6).

The forecast for the next 3-6 months according to traders interviewed was an overall improvement in the market capacity, with a decrease in the price of chicken and eggs due to increased local supply.

5.4.2. Non-Food Items: Pre-earthquake, Current and Projected Prices

The price data collected for essential non-food items indicated an increase for some commodities. Demand remains high due to limited or insufficient supplies, so average prices for cement increased by 16 percent compared to prior to the earthquake, while prices for plywood and corrugated iron sheets also rose by 8 percent for the both items respectively (Figure 7).



Shelter materials were mainly from nearby provinces, including South Sulawesi. The lack of cement in Palu was exacerbated by the damage to Pantoloan seaport, including a crane needed to offload the ships.

BOX 3. Government Intervention in Regulating the Cement Price

On the 17th of November 2018, the Provincial Industry and Trade Agency established the highest price for the cement sold in Palu, Sigi, and Donggala districts as the following (1 sac is equal to 50kg):

1. Tonasa @ IDR 65,000/sac; 2. Tiga Roda @ IDR 65,000/sac and 3. Bosowa @ IDR 68,000/sac.

Wholesalers across the three affected districts were instructed to sell cement in fixed prices. In cases where traders were found selling the item above these prices, the consumers can report them to the government with the receipt for further police investigation.

For the next three to six months, traders foresee a slight decrease in price for cement. This is primarily due to a decision by the local government to establish a price ceiling within the affected districts. The interviewed traders also believe that delivery of cement as well as other construction materials would improve considerably during coming months due to the reconstruction of damaged buildings and infrastructure.

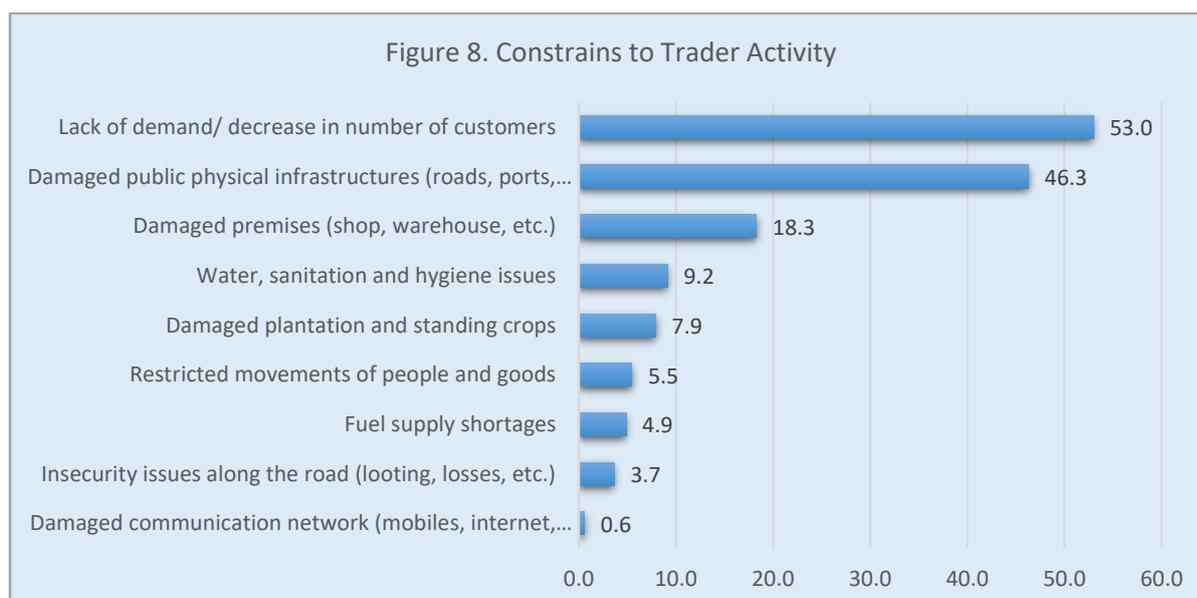
5.5. Constraints and Market Response Capacity

5.5.1. Constraints to Trade

The assessment examined the main constraints faced by the traders. The impact of the identified constraints was measured as severe, moderate and low.

The main constraints reported by the interviewed traders are related to reduced demand, fewer customers and damaged public physical infrastructure. Eighty-seven interviewed traders (53 percent) indicated that the decrease in number of customers was the main challenge and 55 percent categorized the level of impact as severe. The highest number of respondents highlighting this constraint as significant were in Palu, possibly due to high rate of displacement and low purchasing power of the population (Figure 8).

Damaged public physical infrastructure was considered to be a second major constraint to trading activity by 46 percent of interviewed traders, mostly in Sigi and Palu.



The impacts of the shock to the markets were indicated by 75 percent as partial while 6 percent of key informants stated that the markets were fully affected by the disaster.

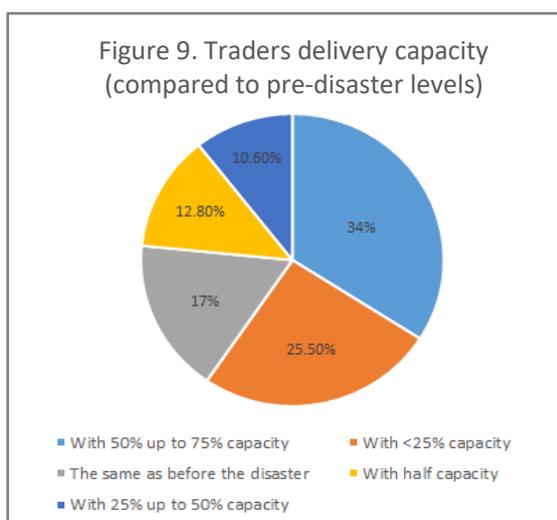
5.5.2. Market Response Capacity

Market response capacities were examined to ascertain how markets are responding to existing and gradually increased demands of the returning population.

To identify the challenges to sales expansion and response capacity, the assessment also reviewed key constraints preventing traders from doubling the quantities of key commodities sold in the market and identified these constraints as lack of capital (55 percent), lack of demand for the traded item (47 percent) and low supplies (37 percent). Most traders who cited lack of capital were in Sigi (45 percent) followed by Palu (30 percent). Lack of demand/ decrease of number of customers remains the main constraint for traders in Palu to double their operation. From a total of 76 interviewed traders indicating this as a main challenge, 50 percent were from Palu.

There was a significant reduction in number of traders observed in the 23 assessed markets. This is particularly true for larger markets with over 75 traders selling food and non-food items prior to the earthquake. Twenty two percent of interviewed traders reported that their numbers had reduced since the earthquake.

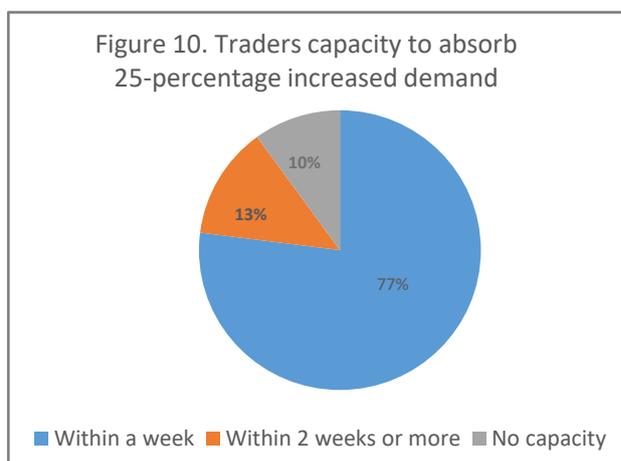
Around 81 percent of key informants confirmed this information, indicating the decline in number of traders in the markets, mostly in Sigi and Palu. Another 11 percent of informants stated that the number of traders remained the same as before the shock and 8 percent stated that the number of traders increased, possibly because of movement of customers and traders.



Seventeen percent of key informants reported that market capacity was the same as prior to the earthquake while 47 percent of interviewed key informants reported that the markets functioned at half capacity. Within one to one and half month following the earthquake most traders could maintain adequate stock levels and were confident that they had capacity to expand up to a quarter of their current sale volumes (Figure 9).

In terms of delivery capacity, 43 percent of traders responded that their delivery capacities are at over 75 percent capacity. Another 15 percent were now operating at less than 75 percent of their previous capacity; 26 percent of interviewed traders can deliver less than half of their previous volumes.

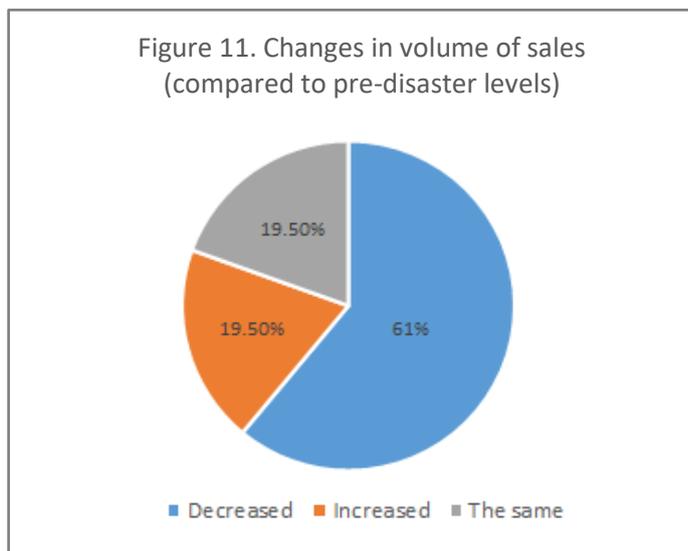
If demand increases by 25 percent or more, 77 percent of traders said they would be able to deliver adequate quantities of goods within a week, while 13 percent were confident that they will be able to restock within two weeks or a month (Figure 10).



5.5.2.1 Sales Volume

Specific questions on sales volumes identified changes since the earthquake and their expectation on stock recovery time.

Sixty one percent of interviewed traders reported a decrease in sales volume following the earthquake while the remaining reported no changes or an increased sales volume. Among the traders reporting a decrease in sales, 49 percent indicated a decrease of 21-49 percent while

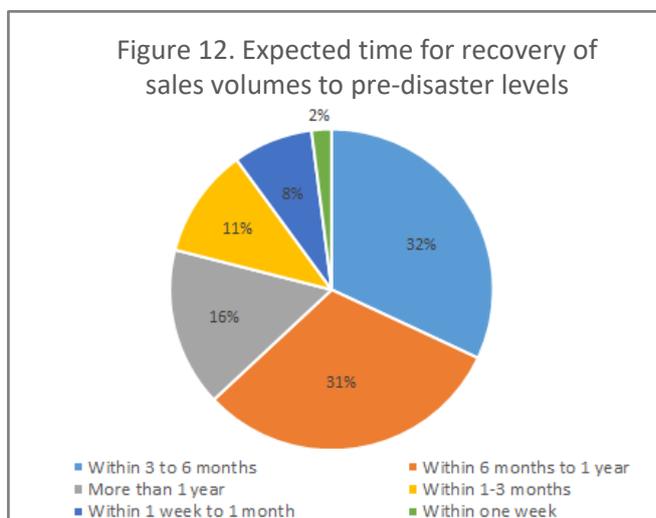


the other 26 percent reported a decrease of more than 50 percent (Figure 11). The sales volume significantly decreased in Palu and Sigi, where 40 percent and 34 percent of traders respectively indicated a decline in sales. In Sigi, 46 percent of traders reporting less sales mentioned a significant decline-over 50 percent.

While demand for staple food commodities has decreased across most of the markets in the three districts, 19 percent of traders reported the sales remained the same as before the

earthquake or had increased.

With regards to when the sales volume would reach normal levels, 32 percent of interviewed traders reported that it would take three to six months, while another 31 percent expect to recover to pre-earthquake capacity within six to twelve months (Figure 12).

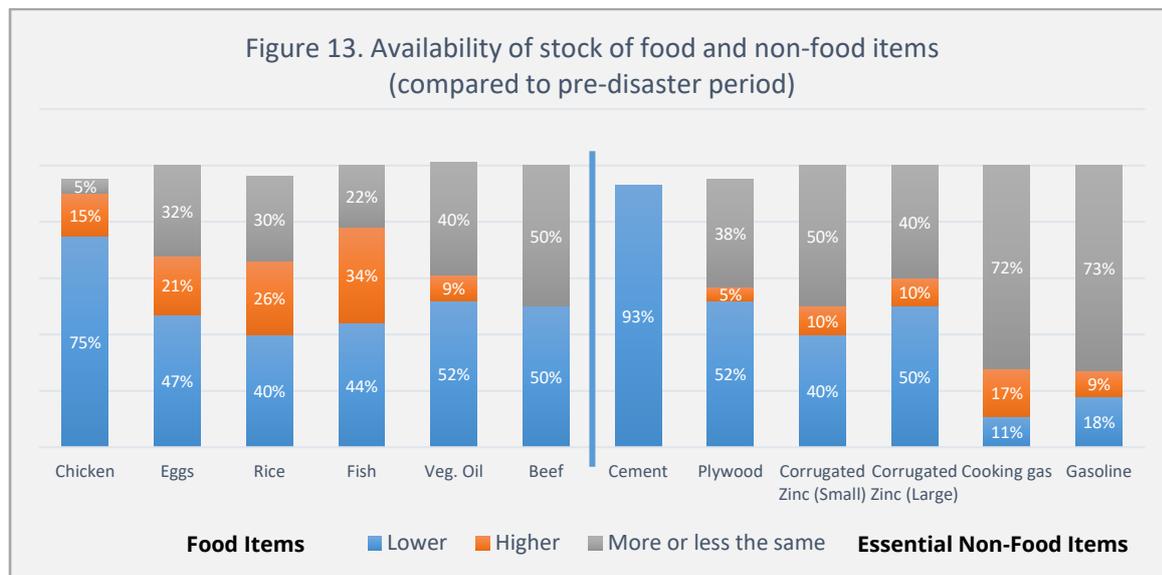


5.5.2.2 Stocks

Most traders reported they have sufficient stocks to meet the existing demands of customers. Following the earthquake 40 percent of traders experienced stock depletion but two to three weeks later improved road access and transportation services allowed traders to deliver required stocks to meet existing demands. Twenty two percent indicated that they ran out of stocks only once following the shock.

In terms of available stocks during the assessment, although most of traders reported having sufficient stocks to meet existing demands, 75 percent of interviewed reported that their current stocks of chicken were lower than before the shock (Figure 13). This was followed by vegetable oil (52 percent) and eggs (47 percent). Most traders were confident that they would have sufficient stocks for at least one week for other key food items.

Ninety six percent of interviewed traders indicated they had enough stocks of rice, 69 percent that they had sufficient stocks of vegetable oil, and 46 percent that they had sufficient stocks of eggs for one week.



In terms of current stock levels compared to before the earthquake, 93 percent of traders indicated that stock of cement was significantly lower. Stock of other construction material was also lower, with more than 40 percent of traders reporting lower levels compared to before the earthquake. This differed markedly from items such as cooking gas and gasoline where traders stated that they still had the same stock compared to before the earthquake.

Around 80 percent of interviewed traders indicated that they did not have sufficient stock of cement for the coming days (Figure 14). Plywood and corrugated iron sheet stocks were sufficient for at least one week.



5.6. Access to Markets

5.6.1. Distance to Markets

On average, most traders and customers travel short to medium distances to the nearest market in assessed locations. Nearly half of interviewed key informants reported that the distance of the market from the surrounding villages was up to two kilometres, while another 21 percent indicated 2 to 5 kilometres.

Observations revealed that residents in several villages had to travel more than 10 kilometres to access markets with availability of all needed items in Tampil Karya, Batusuya and Malonda markets in Donggala district. Malonda and Masomba are larger markets in Donggala and Palu districts that also serve retailers from outside the districts who purchase food items from wholesalers.

About 11 percent of the interviewed key informants reported the long distance as one of the reasons for the limited physical access to the market, 4 percent stated that the distance from the village to market to purchase food is from 7 km to 10 km.

Females were reported to be the main family member traveling the distance and purchasing food from the market. Around 77 percent of interviewed traders also reported that their main customers were female.

Regarding the transportation costs for traveling to the markets, the clear majority of traders (73 percent) believe that these have returned to normal levels, while for some areas, mainly in Palu, the costs remain slightly higher.

5.6.2 Market Road Network

Various factors ranging from damaged market buildings to poor road infrastructure and lack of transportation facilities temporarily hampered access to the markets in most locations.

However, with interventions from Government and humanitarian actors most roads to the markets were rehabilitated and regularly monitored. During the assessment period markets were accessible, although roads to a few markets needed additional repair. From the key informants' perspective, road conditions to the market were acceptable and functioning by 49 percent and 47 percent respectively, while only 4 percent reported that the roads were in a bad condition, mainly in Palu and Sigi.

The interviewed informants in Petobo, Talise, Sambo, Baru Biromaru markets in Palu and Sigi indicated the poor road conditions as one of the reasons for the deterioration of the physical access of traders and population to the markets. Subsequently, 81 percent of interviewed market officials and community representatives confirmed that the market location had not changed, with 19 percent noting a change in location.

The impacts of the shock to the markets were indicated by 75 percent of key informants as partial while 6 percent stated that the markets were significantly impacted by the disaster. Talise market was reported by key informants as severely damaged and Ulujadi and Wani markets were reported as destroyed and not functional.

5.7. Access to Financial Services

To understand the feasibility of implementing market-based interventions, the most appropriate transfer modalities, or mix of modalities to deliver support to vulnerable people in affected districts, selected traders, key informants and community representatives were asked separate questions on availability of financial services providers in the locations and the degree of accessibility of population to these services. The interviews revealed that 65 percent of traders (106 out of 164 traders) had access to financial service providers including banks and other financial cooperation and loan/credit agencies.

The nearest financial service providers according to 87 percent of interviewed respondents was the bank, with around one to three kilometres in most locations. Eleven percent of those interviewed indicated that the Post office was the nearest financial service provider.

As for modality of support, around 68 percent of interviewed key informants stated a preference for cash assistance over in-kind support. Accessibility to financial service providers for cash service was confirmed by a vast majority of the key informants. This is a significantly different finding to other Joint Needs Assessments in which displaced people noted a strong preference for in-kind, rather than cash or voucher-based assistance.

It worth noting that no interviewed market official or community representative indicated a preference for using vouchers as a transfer modality.

6. Conclusions and Recommendations

Overall, one and a half months following the earthquake markets in Palu, Sigi and Donggala districts are functioning well with a large presence of retail and wholesale traders selling a wide range of food commodities supplied from the province or delivered from the South Sulawesi or West Sulawesi regions.

In general, the roads, including those linking affected areas to each other as well as to other provinces in Sulawesi were in acceptable condition and able to facilitate the movement of commodities. Banks and financial service infrastructures were already established in most locations and have returned to normal operations.

Despite this notable improvement, the assessment team identified several challenges that may hamper the process of recovery, which require particular focus by national authorities, humanitarian and development partners.

The assessment revealed a significant decrease in the number of customers in the assessed markets. The underlying reasons were loss of employment and livelihoods and displacement. Lack of consumer demand was one of the main underlying factors for the reduction in number of traders, particularly in larger markets.

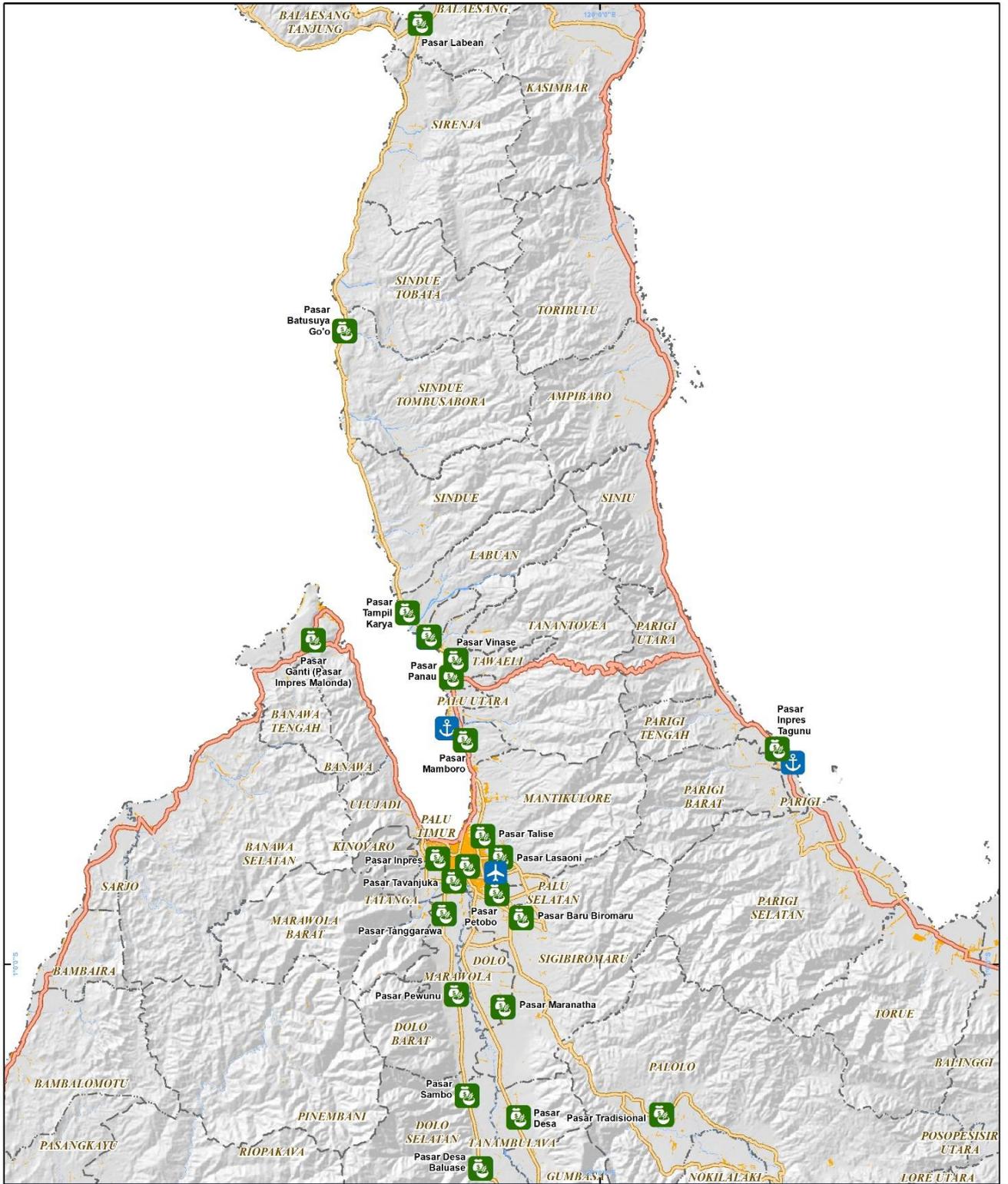
Despite growing signs of recovery, supplies of some items, for instance the chicken and cement, remains challenging. Although fish and fish products are available in most markets, the demand by customers significantly decreased, particularly in Palu, in part due to a belief that fish sourced from tsunami-affected areas had consumed human flesh and were therefore not safe for consumption.

Overall, the price of food commodities did not significantly change. However, prices for chicken and construction materials, particularly cement, have been steadily rising due to high demands but insufficient supplies entering markets.

Based on identified findings the below recommendations are proposed:

- Continuation of on-going Government assistance and support for the resumption of livelihoods of the affected population through job creation activities, income generating interventions, etc. and the provision of low-rate credit is encouraged to mitigate any risk of increased food insecurity.
- Immediate support is required in livelihoods recovery and in re-establishing business for fishermen in affected districts. Additional efforts from the Government and partners are required to explain to sensitise communities that fish provided from affected areas is safe and fit for human consumption.
- Provincial and district authorities and policy makers were recommended to intensify the process of re-establishing previous capacities for chicken and egg producers. This includes establishment of safe zoning for poultry businesses, encouraging investment companies to re-invest and support farmers, and easing the accessibility of farmers to financial capital. Development of mid- to long- term plans to produce inputs for the poultry sector within the province is also important.
- Given the importance of reconstruction the Government should implement the decision on facilitating cement supplies shipments. The primary actions include using additional seaports, repair/replace the broken crane in Pantoloan seaport and/or provide an additional functional facility to receive cement supplies.
- Additional efforts are needed by the Government and partners to target through the national social safety net programmes more vulnerable households in order to enhance purchasing capacities. Encouraging financial service providers to provide low credit ratings as needed to establish businesses will also facilitate the process.
- The existing markets supply chain and traders' capacity in providing essential food commodities and non-food items to the population and the absorption capacity of the local markets to respond to the increased demand provides sufficient basis for implementation of cash transfers programmes by the Government, humanitarian and development partners. The following should be taken into consideration during implementation of cash transfer modalities/e-voucher use:
 - The local authorities need to be consulted based on their expertise of cash transfers under Government-led initiatives. The authorities can also serve as a coordination body for the transfers, regulating and monitoring the level of support per location.
 - In locations where cash transfers are planned and where financial institutions are not functional banks should be encouraged to establish temporary points to serve targeted populations in terms of providing required information, opening accounts and facilitating the receipt of small-scale credits.
- Cash for asset interventions are encouraged in order to bridge asset creation and income generation activity and enhance purchasing capacities.


Central Sulawesi: Palu, Sigi, Donggala, Parigi Moutong Districts
 Market Assessment Coverage, November 2018



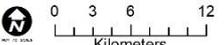
Legend

- District
- Sub-District
- Highway
- Primary Road
- Secondary Road
- Port
- Airport HUB
- Market



Date Created: 26 Nov 2018
 Contact: wfp.indonesia@wfp.org
 Website: www.wfp.org/countries/indonesia
 Document Name: Market_Shortlist
 Map and data source(s): WFP, GAUL, USGS, OSM
 Kementan, BIG

Nominal Scale at A3 paper size: 1:350,000



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 Kilometers

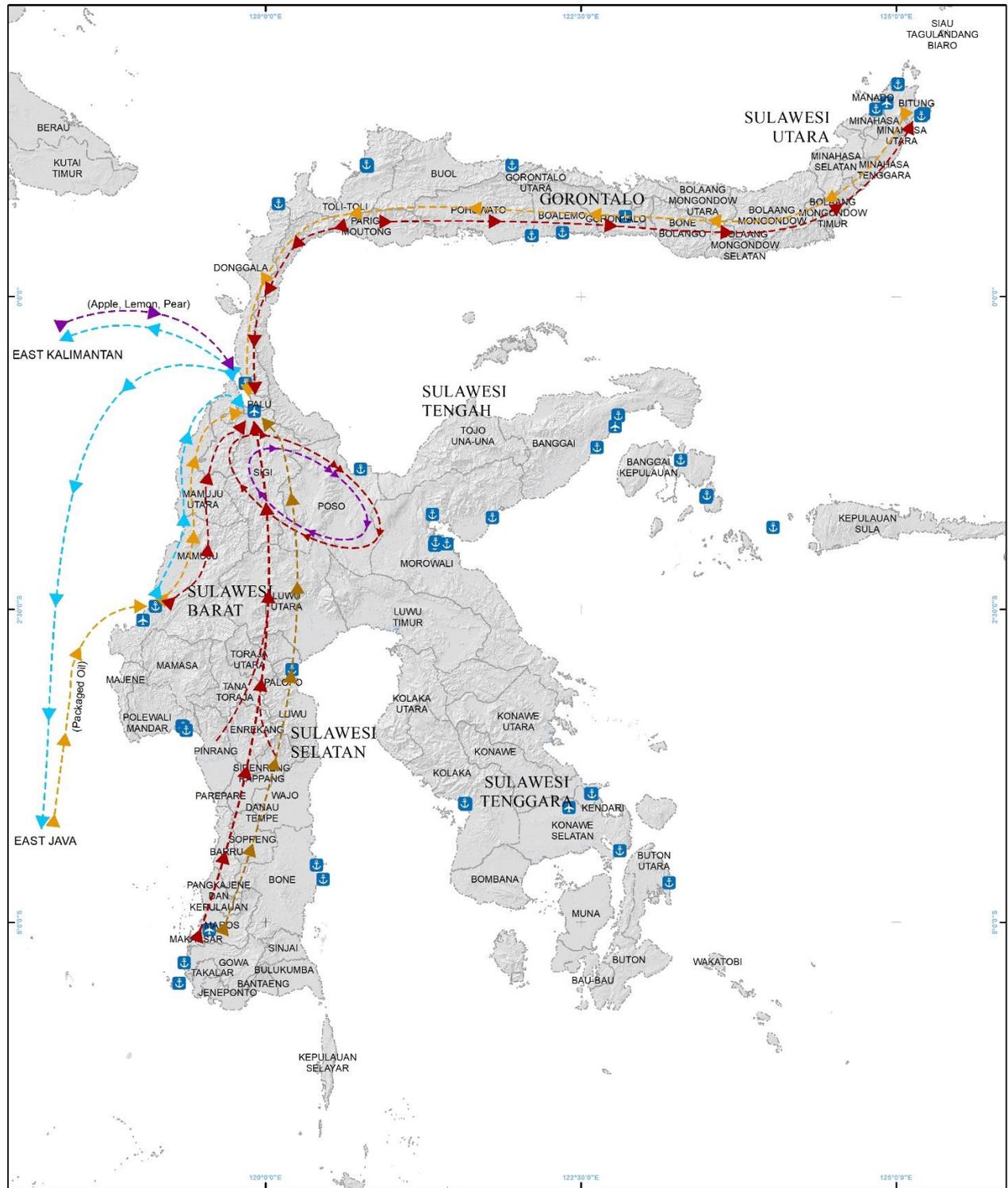
Spatial Reference: The boundaries and names on this map do not imply official endorsement or acceptance by the United Nations.
 CCS WGS 1984.

Annex II. Market Assessment in Central Sulawesi: List and Locations of assessed Markets

No	District	Sub-District	Market Name	Days Market Open
1	Sigi	Dolo Barat	Pewunu	Thursday
2	Sigi	Dolo Selatan	Baluase	Wednesday
3	Sigi	Dolo Selatan	Sambo	Saturday
4	Sigi	Marawola	Tangarava	Wednesday
5	Sigi	Palolo	Traditional Makmur	Thursday
6	Sigi	Sigi Biromaru	Baru Biromaru/ Ranggalalo	Thursday & Sunday
7	Sigi	Sigi Biromaru	Maranatha	Saturday
8	Sigi	Tanambulava	Sibalaya	Sunday
9	Palu	Mantikulore	Lasoani	Wednesday & Saturday
10	Palu	Mantikulore	Talise	Friday
11	Palu	Palu Barat	Inpres Manonda	Daily
12	Palu	Palu Selatan	Petobo/Bulili	Tuesday & Thursday
13	Palu	Palu Selatan	Masomba	Daily
14	Palu	Tatanga	Tavanjuka	Daily
15	Palu	Palu Utara	Mamboro	Thursday-Sunday
16	Palu	Tawaeli	Panau	Daily
17	Palu	Tawaeli	Baia/Vinase	Tuesday-Friday
18	Donggala	Banawa and Banawa Selatan	Malonda	Daily
19	Donggala	Sinduel Tambusambora	Batusuya	Friday
20	Donggala	Tanatovea	Wani	Daily
21	Donggala	Labuan	Tampil Karya	Thursday & Sunday
22	Donggala	Balaesang	Labean	Monday
23	Parigi Moutong	Parigi	Tagunu	Daily

Annex III. Central Sulawesi Food Production and Trade Flow Map

WFP
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Sulawesi, Indonesia
Central Sulawesi Food Production & Supply Flow Map



- Legend**
- - - District
 - - - Sub-District
 - Highway
 - Primary Road
 - Secondary Road
 - ⚓ Port
 - ✈ Airport HUB
- Infrastructure**
- ➔ Rice
 - ➔ Cooking Oil
 - ➔ Fruits & Vegetables
 - ➔ Fish
 - ➔ Eggs



Nominal Scale at A3 paper size:
1:3,000,000

Date Created: 27 Nov 2018
 Contact: wfp.indonesia@wfp.org
 Website: www.wfp.org/countries/indonesia
 Document Name: Market_Flow

Map and data source(s): WFP, GAUL, USGS, OSM, Kemenhub, BIG

Spatial Reference: GCS WGS 1984.

The boundaries and names and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

0 25 50 100
Kilometers

Annex IV. Supply Chain and Trade Flow of Essential Food and Non-Food Items, Central Sulawesi

Commodity	Produced in Central Sulawesi	Additional supplies delivered		Surplus sent to:	Degree of damage by earthquake	Remarks
		From:	Volumes			
Rice	Yes (Sigi-Napu, Poso, Palolo, Parigi Moutong)	South Sulawesi District	Main	North Sulawesi and Gorontalo mainly from Parigi Moutong district	Moderately/ In process of full recovery	Supply chain and trade flow was temporary hampered after the shock. The Government used reserves/ buffer stocks (<i>Cadangan Beras Pemerintah</i>) to provide rice to displaced and affected families and temporary supplied markets with rice to stabilise prices.
		West Sulawesi	Secondary			
Beef	Yes	South Sulawesi (Mamuju)	Secondary	N/A	Moderately/ In process of recovery	Supply chain and trade flow was temporary hampered after the shock. Presently, mostly recovered. Price hikes occur prior to religious celebrations.
Vegetable oil	Yes (mainly palm oil)	North Sulawesi (Bitung)	Main	N/A	Moderately/ In process of recovery	Supply chain and flow of trade was temporary hampered after the shock due to damaged roads, infrastructure and temporary cease of use of Pantoloan sea port for commercial use. The Government used reserves to supply markets in Palu.
		West Sulawesi	Secondary			
		Java Island/Surabaya, packaged cooking oil	Main			
Chicken and Eggs	Yes (mainly Palu, Sigi)	South Sulawesi (Makasar)	Main	N/A	Severely/ Delay in process of recovery	Supply chain and flow of trade was severely affected and deliveries within the province hampered due to damages in farms and destructions in infrastructure. Currently, main supplies are delivered from South Sulawesi province.
Fruits and vegetables	Yes (Sigi, Donggala, Parigi Moutong)	Java Island (fruits as apple, pear, lemon etc.)	Main	N/A	Moderately/ In process of recovery	Supply chain and flow of trade was temporary hampered due to shock. Mostly recovered.
Fish	Yes (Donggala, Parigi Moutong, Poso)	West Sulawesi (Mamuju, L. uwuk Banggai)	Small	Kalimantan, Java Islands and abroad	Moderately/ In process of recovery	Supply chain and flow of trade was temporary hampered due to shock. Fish from Palu and Donggala have small demand. Higher demand for fish from Parigi Moutong and Poso.
Gasoline and cooking gas	No	All supplies of provided by Pertamina from South Sulawesi and other Provinces	Main	N/A	Moderately/ In process of full recovery	Supply chain and flow of trade was temporary hampered due to earthquake. Following the shock Pertamina massively distributed cooking gas (3kg LPG) to traders from Makassar and Balikpapan. All distributors in Palu, Donggala and Sigi resumed their operation to full capacity. This resulted in stable supply and prices in markets.
Shelter materials	No	South Sulawesi (Makasar)	Main	N/A	Moderately/ severely for cement In process of recovery.	Supply chain and flow of trade was moderately to severely affected and deliveries hampered by earthquake; supplies significantly decreased, hardly meeting increased demands. Flow of cement limited due to damages in Pantoloan seaport, main delivery point for the cement.
		West Sulawesi (Mamuju)	Main			

Source: Central Sulawesi Provincial Perindag (Industry and Trade) in Palu, Bulog and Dinsos (Provincial Office for Social Affairs)

Annex V. Availability of main Food and Non-food items in assessed Markets of Central Sulawesi

No	District/City	Market Name	Food Commodities						Fuel		Essential Shelter Materials			
			Rice	V. Oil	Chicken	Eggs	Fish	Beef	Cooking Gas	Gasoline	Zinc (Large)	Zinc (Small)	Plywood/Triplex	Cement
1	Sigi	Pewunu	V	V	V	V	V	-	V	V	V	V	V	-
2	Sigi	Baluase	V	V	-	V	V	-	V	V	V	-	V	-
3	Sigi	Sambo	V	V	-	V	V	-	V	V	V	V	V	-
4	Sigi	Tangarava	V	V	-	V	V	-	V	V	V	-	V	V
5	Sigi	Traditional Makmur	V	V	V	V	V	-	V	V	-	-	V	-
6	Sigi	Baru Biromaru/Ranggalalo	V	V	V	V	V	V	-	V	V	-	V	-
7	Sigi	Maranatha	V	V	V	V	V	-	V	V	V	V	V	-
8	Sigi	Sibalaya	V	V	V	V	V	-	V	V	V	-	V	-
9	Palu	Lasoani	V	V	V	V	V	-	V	V	V	-	V	V
10	Palu	Talise	V	V	-	V	V	-	V	V	V	V	V	-
11	Palu	Inpres Manonda	V	V	V	V	V	V	V	V	V		V	-
12	Palu	Petobo/Bulili	V	V	V	V	V	-	-	V	V	V	-	-
13	Palu	Masomba	V	V	V	V	V	V	V	V	V	V	V	-
14	Palu	Tavanjuka	V	V	V	V	V	-	V	V	V	-	V	-
15	Palu	Mamboro	V	V	V	V	V	-	V	V	V	-	V	V
16	Palu	Panau	V	V	V	V	V	-	V	V	V	-	V	-
17	Palu	Baia/Vinase	V	V	V	V	V	-	V	V	-	-	-	-
18	Donggala	Malonda	V	V	V	V	V	V	V	V	V	V	V	V
19	Donggala	Batusuya	V	V	V	V	V	-	V	V	V	-	V	-
20	Donggala	Wani	V	V	V	V	V	-	V	V	V	V	-	-
21	Donggala	Tampil Karya	V	V	V	V	V	V	V	V	V	V	-	-
22	Donggala	Labean	V	V	V	V	V	-	V	V	V	V	-	-
23	Parigi Moutong	Tagunu	V	V	V	V	V	V	V	V	V	V	V	-
Legend														
	V	Available												
	-	Not available												

Annex VI. Number of beneficiaries for “Prosperity Rice” (Rastra) and Family Hope Programme (PKH)

Province and district	Number of beneficiaries for <i>Rastra</i>	Number of beneficiaries for PKH ¹
Central Sulawesi ²	201,623	153,603
Palu	12,478	9,853
Sigi	16,378	12,004
Donggala	24,380	19,995
Parigi Moutong	38,418	-

Source: Central Sulawesi Provincial office of BULOG and Central Sulawesi Provincial office of Social Affairs, 2018

¹ PKH (*Program Keluarga Harapan*/ Family Hope Programme), is a cash transfer programme that targets the poorest 10 percent of the population. It is paid quarterly to households in return for pregnant and breastfeeding women and children under five using health services and children attending school, and totals IDR 1.89m/year (~\$126/year).

² The data for Central Sulawesi Province includes numbers for all twelve districts of the Province

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