



Food Security Monitoring Bulletin

INDONESIA

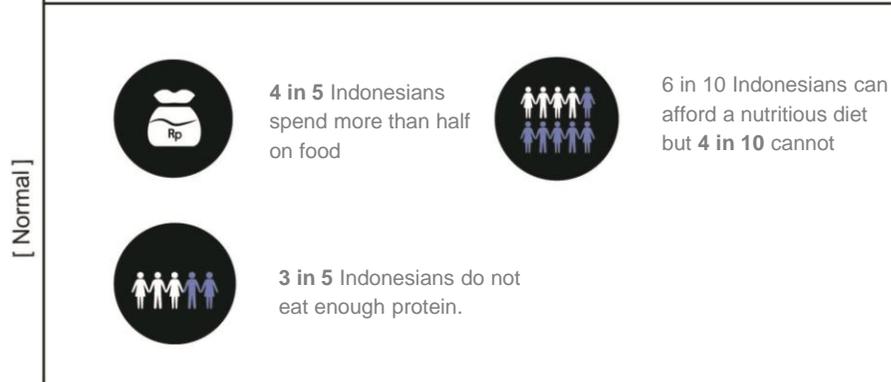
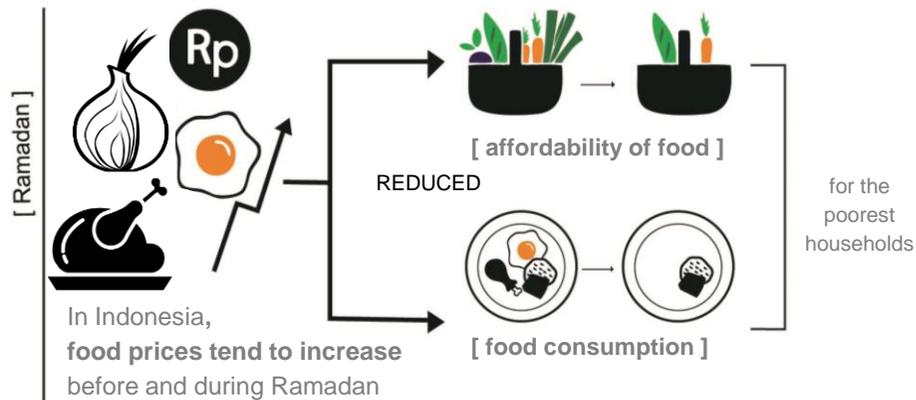
Special Focus: Food Affordability and Ramadan

Volume 6, April 2017



Summary

FOOD AFFORDABILITY AND RAMADAN



Recommendations

Food prices



Balance supply and demand through trade options



Incentives for production

Social protection schemes to ensure adequate access to food for the poorest households by:



Balanced food basket, with good sources of protein and micronutrients



Payment and food distribution before Ramadan

Disaster preparedness



April-June 2017: Prepare for weather extremes, floods, landslides during the transition to the dry season



Longer-term risk reduction [In flood- and landslide-prone areas]

Key messages

Summary

In Indonesia, food prices tend to rise before and during Ramadan, especially for chicken meat, eggs and onion, reflecting the increased seasonal demand during the fasting month.

Price fluctuations stress food and nutrition security of the most vulnerable households who spend a large proportion of their expenditures on food. At national level, 62 percent of Indonesian households can afford the least expensive nutritious diet, meaning that even without seasonal price increases, 4 out of 10 Indonesians cannot afford a balanced and nutritious food.

Price increase during the fasting month can affect affordability of nutritious foods such as eggs, and impact the already lower than recommended consumption of essential macro- and micro-nutrients.

After the longer and stronger rainy season, which resulted in a higher number of associated disasters, the dry season will start between April, and June for most of the country, and for almost half of Indonesia, the dry season will start later than normal. Given the weather forecast, no significant impact on agricultural production is expected.

Recommendations

Affordability

- To discourage price spikes of key food commodities such as chicken meat, eggs and onions during Ramadan, the Government should consider trade options to balance supply and demand before the fasting month, and consider proper incentives to increase the production of these commodities to put downward pressure in the longer term

Access to food for the most vulnerable households through the existing social protection schemes

- To mitigate the transfer of risk from food price increases on the poor households, payments or distribution of food through social protection schemes such as PKH and Rastra should be made before the fasting month
- To address the inadequate consumption of nutritious food, food basket should be balanced, providing commodities that are a good source of protein and essential micronutrients, such as eggs

Disaster preparedness and risk reduction

- Prepare for extreme weather, such as landslides, floods, hailstorms, strong winds or small tornadoes, during the transition from the rainy to the dry season (April-June 2017)
- Enhance disaster risk reduction activities in the flood- and landslide-prone areas to minimize the risk in the longer term

Introduction

This is the sixth of a series of monitoring bulletins on the impact of weather extremes on food security and seasonal topics related to food security in Indonesia . The previous bulletins are available online:

<http://bmkg.go.id/iklim/buletin-iklim.bmkg>

<https://www.wfp.org/content/indonesia-food-security-monitoring-2015>)

In the first section of this issue, current weather and disasters update is presented.

The next section then examines economic access to food, focusing on food prices during Ramadan, affordability of food in Indonesia, and trends in household food expenditure and consumption.

The last section presents the dry season forecast and the weather outlook for the next 3 months.

What's inside

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Part 1

Current weather and disaster update

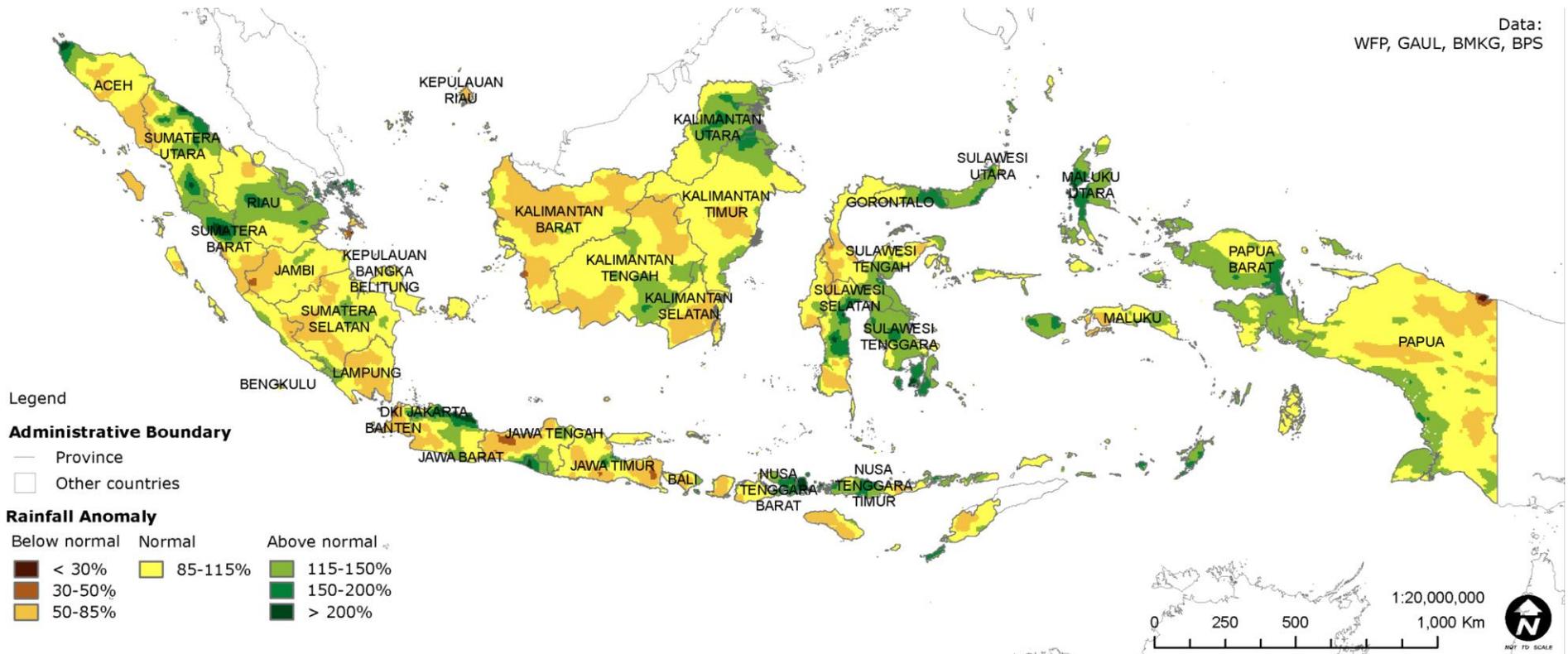
Most of Indonesia received normal rainfall levels in March, with some localized abnormally high rains.

After the longer and stronger 2016/2017 rainy season, rainfall has resumed its normal pattern, with some localized anomalies.

West Java, parts of the central Java, central parts of Sumatera, southern Kalimantan, eastern Nusa Tenggara Barat and Timur, and northern and southern parts of Sulawesi received double the normal rainfall.

Since July 2016, heavy rainfall has resulted in higher number of disasters such as floods and landslides, damaging nearly 4000 homes and killing 333 people.

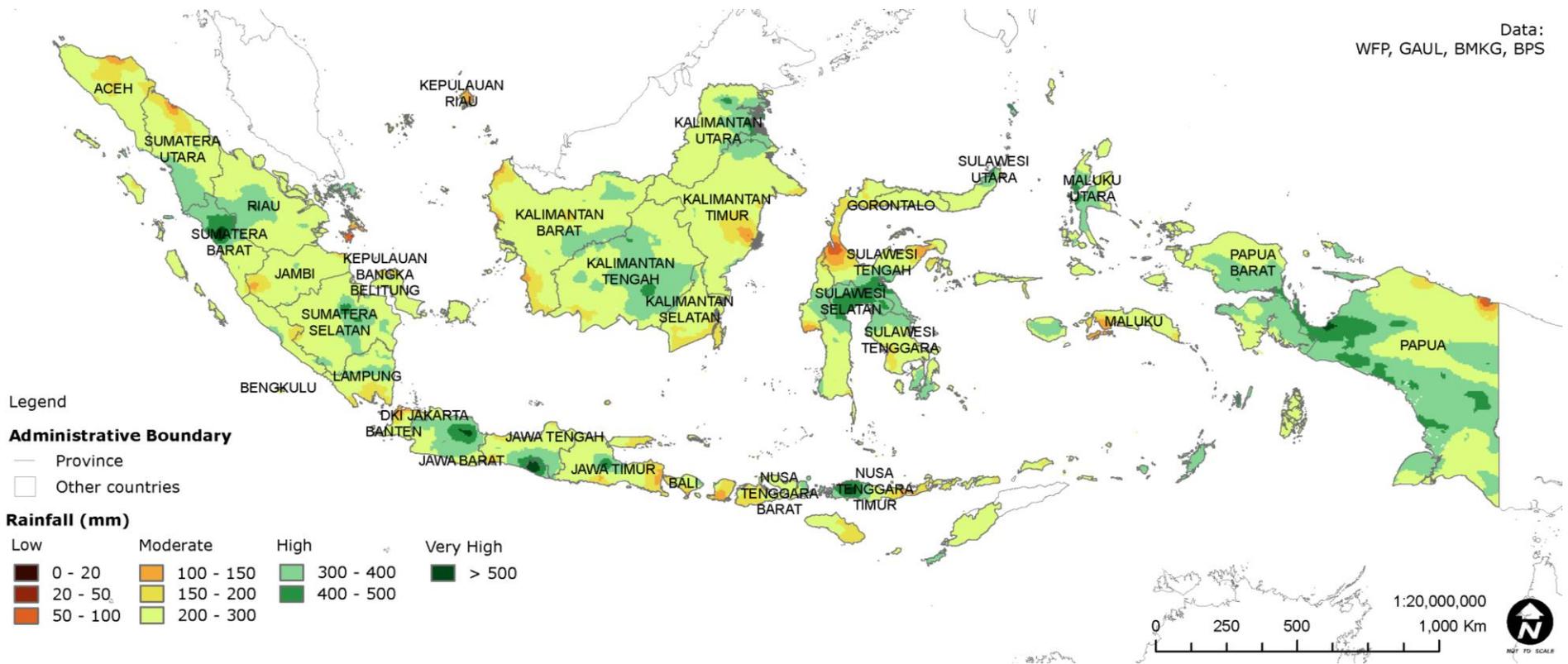
MONTHLY RAINFALL ANOMALY | Percent of Average, March 2017



Western and central parts of Java, part of Nusa Tenggara Timur, western Papua and western Sumatera received the highest amount of rainfall, above 500 mm. Rainfall levels were very high in southern parts of Sulawesi and central Kalimantan.

Riau Islands, parts of northern Sumatera and Nusa Tenggara Barat and central Sulawesi experienced very low monthly rainfall levels, below 100 mm.

MONTHLY RAINFALL , March 2017



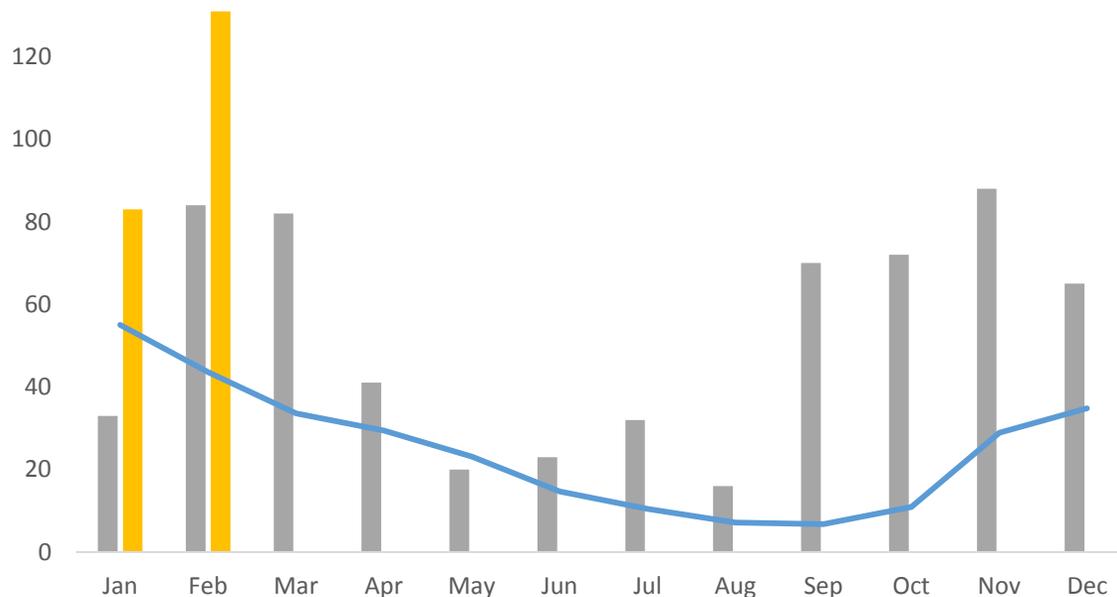
An unusually large number of floods and landslides affected Indonesia during the 2016/17 rainy season.

In 2016, Indonesia experienced 40 percent more floods than usual. In addition, number of landslides recorded in 2016 more than doubled compared to the 10-year average. Overall, the number of floods and landslides in 2016 consistently exceeded the 10-year average, especially during the rainy season, which was unusually strong and long.

Floods and landslides led to high infrastructure and human loss in 2016. 2881 houses were damaged and 147 people died or are missing due to floods. 1115 houses were damaged and 186 people died or are missing due to landslides.

Comparing landslides in 2016, 2017 and the 10-year average

LANDSLIDES, 10-YEAR AVERAGE compared to 2016 and 2017



Comparing floods in 2016, 2017 and the 10-year average

| | 10-year average | 2016 | 2017 |
|--------------|-----------------|------------|------|
| Jan | 112 | 70 | 105 |
| Feb | 73 | 152 | 140 |
| Mar | 57 | 104 | |
| Apr | 60 | 65 | |
| May | 41 | 52 | |
| Jun | 29 | 36 | |
| Jul | 24 | 41 | |
| Aug | 13 | 23 | |
| Sep | 16 | 50 | |
| Oct | 21 | 57 | |
| Nov | 39 | 75 | |
| Dec | 70 | 51 | |
| Total | 555 | 776 | |

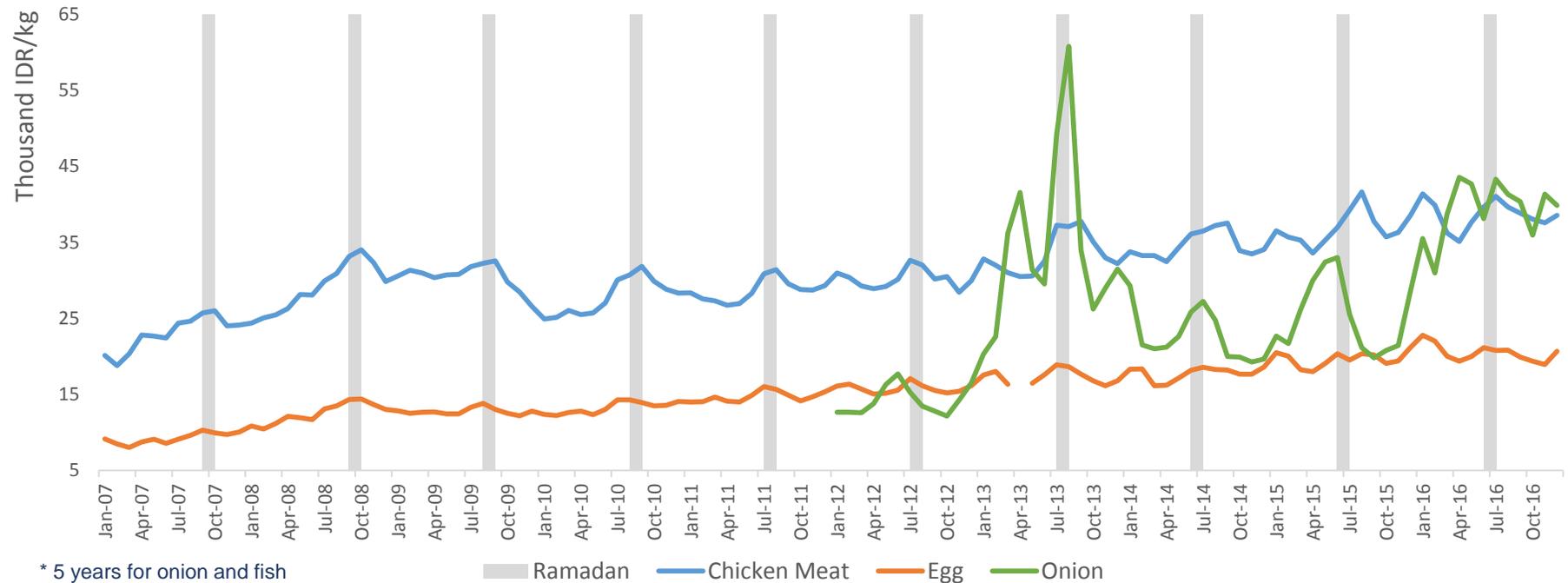
Part 2

Affordability of food and Ramadan

Food prices tend to increase before and during Ramadan, especially chicken meat, eggs and onion.

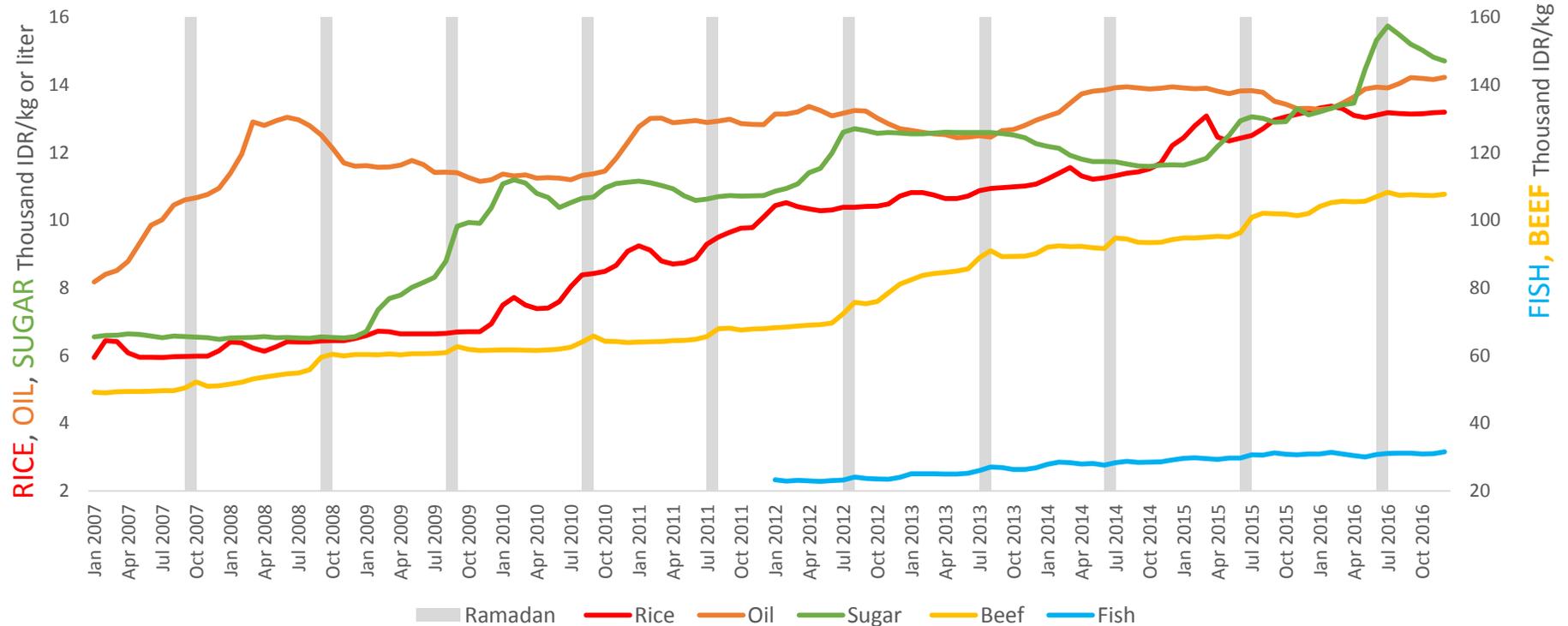
Food prices tend to rise before and during Ramadan, reflecting the increased seasonal demand during the fasting month. While retail prices of rice, cooking oil, sugar, fresh fish (mackerel) and beef meat can increase slightly around this time, prices of chicken meat, eggs and onion show more consistent and higher increases over the past 10 years*. In 2016, national retail prices of chicken meat rose by 12.9 percent and chicken egg prices by 9.2 percent in nominal terms, compared to the prices 3 months prior to Ramadan. This increase was consistent with the trend over the past 10 years. Prices of onion around Ramadan in 2016 show several increases, likely caused by other factors beyond the Ramadan-driven demand. However, in the past 5 years the rise in onion prices before Ramadan was more significant, ranging from around 10 to 50 percent in nominal terms, compared to the prices 3 months before Ramadan.

National retail prices of chicken meat and eggs, and onion during Ramadan



Increases in rice, cooking oil, fresh fish and sugar prices during Ramadan are not as consistent as they are for chicken meat, eggs and onion. In 2016, the 3-month increase (3 months prior to Ramadan) in beef prices was 1.5 percent in nominal terms, significantly lower compared to the price increases for chicken meat, eggs and onions in the same time period. In terms of consumption, Indonesians eat more fish (1.29 kg per person per month), chicken meat (0.48 kg per person per month) and eggs (0.47 kg per person per month), compared to beef meat (0.03 kg per person per month). Given the consumption habits of Indonesians (eating more fish, chicken and egg, than beef) and the price increases of eggs and chicken meat during Ramadan, affordability and consumption of these commodities can be affected, and can negatively impact food and nutrition security.

National retail prices of rice, sugar, cooking oil and beef meat and fish during Ramadan



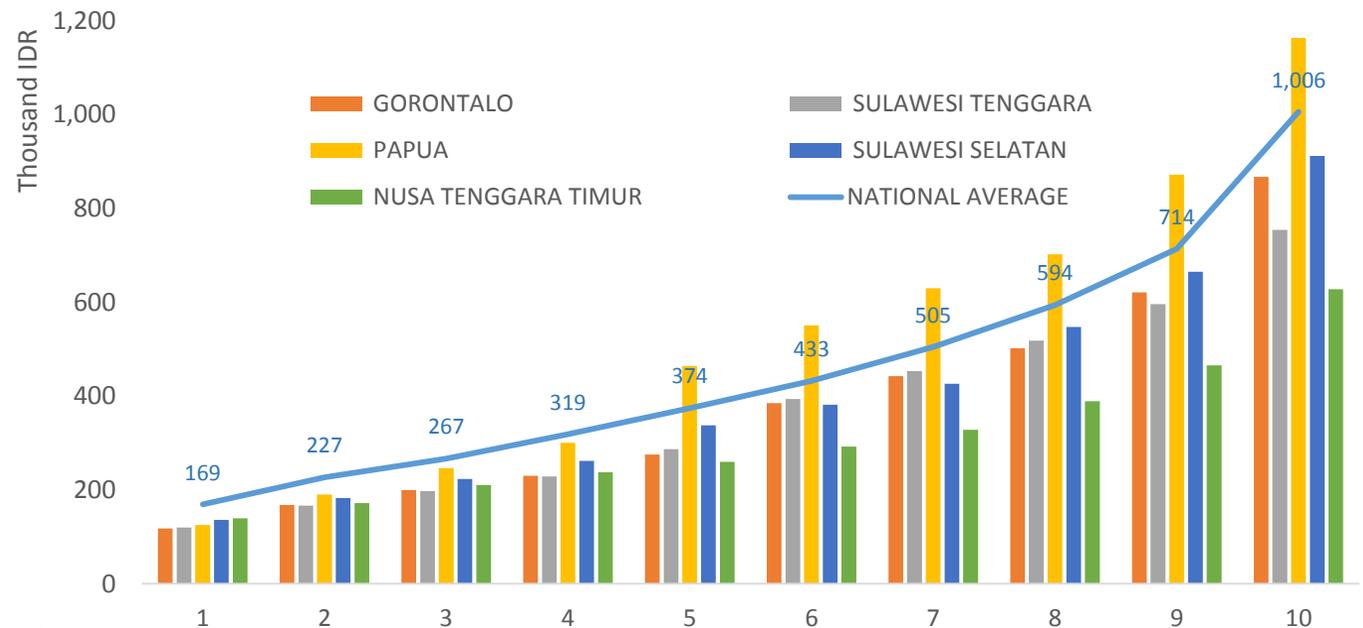
Food price increases can stress food and nutrition security of vulnerable households with high proportion of their total expenditure on food.

Food represents more than half of all expenditure for 4 in 5 (or 8 in 10) Indonesians as shown in the table below. For the poorest, represented in the first expenditure deciles, this proportion is 62.6 percent at national level. In nominal terms, these households spend around 3 times less on food than an average Indonesian household. Households with a large proportion of their expenditure on food are highly vulnerable to prices increases, which can result in negative food consumption or livelihood coping strategies.

Proportion of Monthly Per Capita Food Expenditure by Expenditure Decile at National Level

| Decile | Percentage |
|---------|------------|
| 1 | 62.6% |
| 2 | 61.5% |
| 3 | 60.6% |
| 4 | 60.1% |
| 5 | 58.8% |
| 6 | 57.7% |
| 7 | 55.7% |
| 8 | 52.9% |
| 9 | 48.6% |
| 10 | 33.9% |
| Average | 48.7% |

Monthly Food Expenditure Per Capita by Expenditure Decile* at National Level and in 5 selected provinces**



*One decile represents 10% of the population.

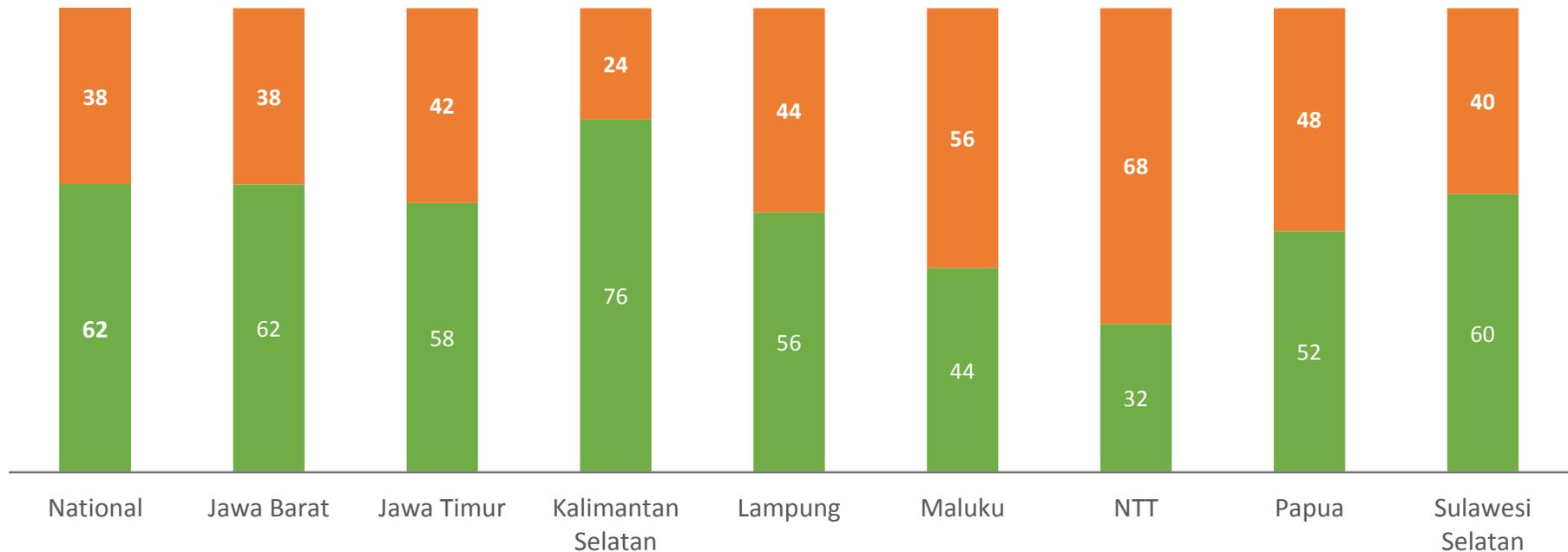
** The selected provinces are top 5 provinces with the lowest food expenditure in the first expenditure decile.

62 percent of Indonesian households can afford nutritious diet.

Household food expenditure in 2016 indicates that 62 percent of Indonesian households can afford to buy the least expensive nutritious diet from locally available commodities*, while more than one third (38%) cannot afford this diet.

While the nutritious food was found to be locally available, at national level, the most economically vulnerable households, represented in the first 3 expenditure deciles, cannot afford this nutritious diet. In NTT and Maluku, more than half of the population cannot afford this diet, as show on the graph below.

Percentage of Indonesian households that **CAN** and **CANNOT** afford a nutritious diet in selected provinces**



*This diet is defined as the least expensive diet consisting of locally available foods, includes the preferred staple food in Indonesia (rice), and meets the recommended intakes of nutrients.

**The provinces were selected for the joint BAPPENAS-WFP Cost of the Diet Study. Details of the study are presented in the Methodology section.

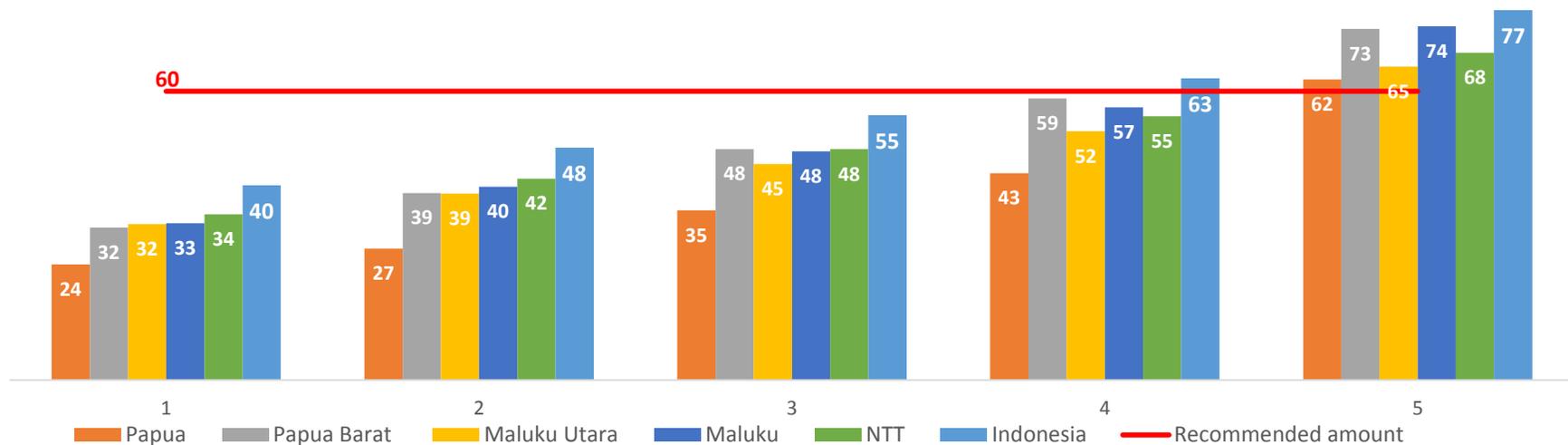
Price spikes affect food affordability and consumption, which is already lower than recommended.

At national level, 3 in 5 Indonesians normally consume less protein than required for a healthy diet. In addition, protein intake is even lower in 12 provinces, with 4 in 5 people not consuming enough protein.

Protein is an essential part of a healthy diet. For children, protein is critical for growth and development, while for adults it is essential for good health. Lack of protein can lead to stunting in children, and suppressed immune system and overall lower productivity in adults.

Increases in food prices tend to decrease the already low consumption of protein as people prioritize cheaper foods, stressing food and nutrition security of the vulnerable groups.

Daily Consumption of Protein (in grams) in Indonesia and 5 Selected Provinces* by Expenditure Quintile** compared to the Recommended Dietary Allowance*** for Adults/Day



*The selected provinces are top 5 provinces with the lowest protein consumption in the first expenditure quintile

** One expenditure quintile represents 20% of population

***Based on the Ministry of Health Guideline for Recommended Daily Allowance (2013), adults should consume around 60 grams of protein a day.

Eggs and fish are important and relatively inexpensive sources of protein and other essential micronutrients.

Eggs are an important source of protein, vitamin A, water soluble B-group vitamins, vitamin B12 and iron. A single chicken egg has around 7 grams of protein or around 12 percent of the recommended dietary allowance (RDA) for adults, contains 9 percent of the recommended daily iron intake, 21 percent of Vitamin A and 46 percent of Vitamin B12 intake.

Vitamin B12 and iron, which are mainly contributed by animal-sourced foods, were found to be the most difficult and expensive to meet for the Indonesian household.

When comparing the nutrient composition and price of chicken and duck eggs, beef and chicken meat and fish, chicken eggs and fish are the least expensive commodities and provide significant portion of the recommended protein intake. Compared to fish, chicken provides more micronutrients essential for a balanced diet and good health.

The expected increase in prices of chicken eggs and meat during Ramadan can make these important sources of protein and micronutrients less affordable, further decrease consumption of protein, and thus stress the food and nutrition security of the vulnerable groups.

Comparing nutrition value and cost of animal source foods

| | Piece | Grams | Energy | Protein | Iron | Vit A | Vit B12 | Cost per 1 piece (IDR) |
|------------------------------|----------------|-------|---|---------|------|-------|---------|------------------------|
| | | | % of Recommended Dietary Allowance for Adults | | | | | |
| Beef meat | 1 medium piece | 35 | 4 | 15 | 3 | 0 | 28 | 3,740 |
| Chicken egg | 1 piece | 55 | 4 | 12 | 9 | 21 | 46 | 1,361 |
| Duck egg | 1 piece | 50 | 4 | 10 | 15 | 20 | 113 | 1,608 |
| Chicken meat | 1 medium piece | 50 | 6 | 22 | 4 | 3 | 4 | 1,471 |
| Fresh fish (mackerel) | 1 medium piece | 50 | 2 | 18 | 2 | 4 | 23 | 1,084 |

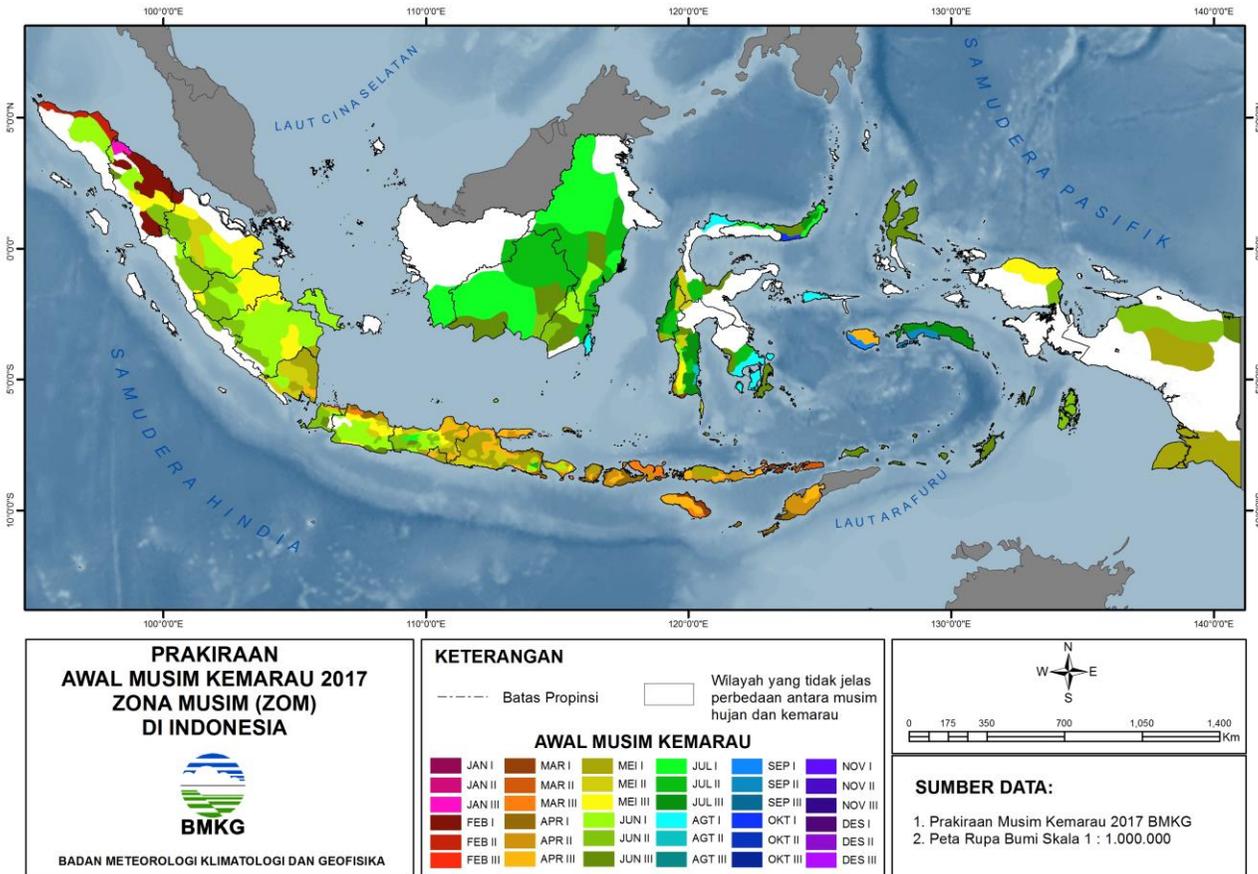
*Cost is derived from household expenditure from Susenas, March 2016.

Part 3

Weather outlook April-June 2017

The dry season is expected to start later than normal for half of Indonesia.

- For most of the country, the dry season should start in April (22 percent of Indonesia), May (32 percent) and June (27 percent)
- 35 percent of the country will start the dry season as usual, while 46 percent later than normal and around 18 percent earlier
- During the transition from the rainy to the dry season, weather extremes such as heavy rains, hailstorms, strong winds and associated disasters, especially landslides and floods, are expected.



Precipitation during the dry season is expected to be normal for most of the country, slightly below-normal in western Indonesia, with isolated above-normal conditions.

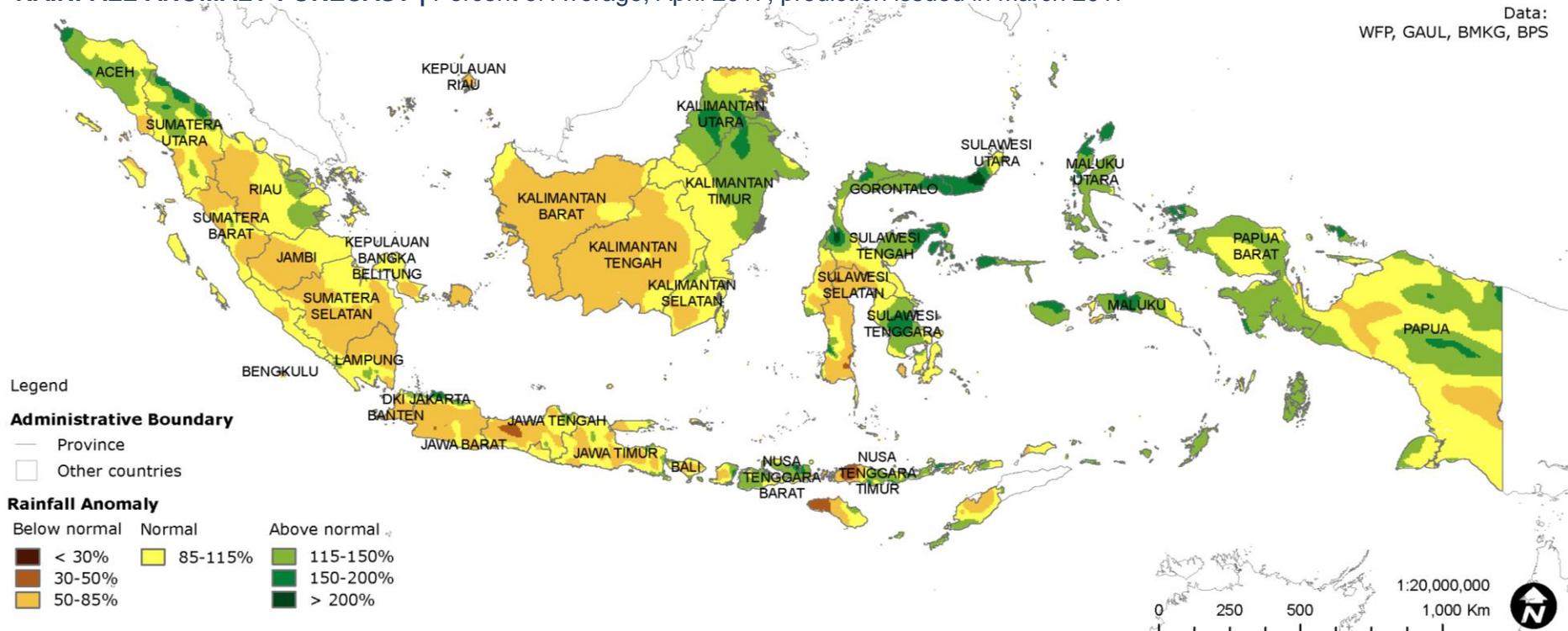
The dry season rainfall levels:

- Normal rains are expected in 58 percent of Indonesia, below-normal in around 22 percent and above-normal in 19 percent of the country.

Rainfall forecast for April shows:

- Monthly rainfall levels across most of Sumatera, Kalimantan, Sulawesi and Maluku are expected to reach around 200-300 mm. Parts of central and northern Kalimantan and central Sulawesi can receive up to 400mm. Java island is predicated to receive 150-200 mm of precipitation, with localized higher rainfall reaching 400 mm in parts of West and Central Java. 100-150 mm of rains is predicted for NTT and NTB. Papua should received the highest rainfall levels, between 200 to 500 mm.

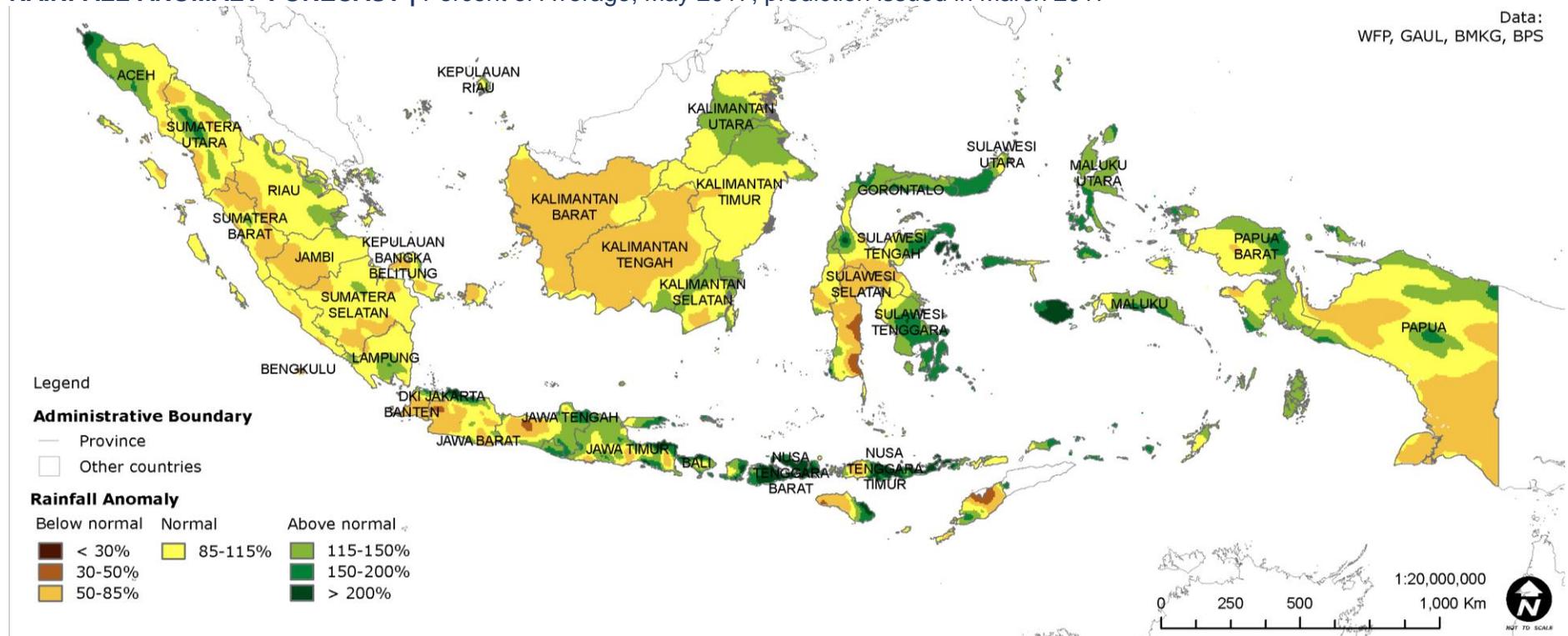
RAINFALL ANOMALY FORECAST | Percent of Average, April 2017, prediction issued in March 2017



Rainfall levels are predicted to decrease in May across most of the country, in line with the dry season forecast.

- In terms of actual rainfall levels, lowest precipitation is predicted for NTT, NTB and eastern Java, with 50-100 mm of monthly rains. 100 mm of rainfall is expected for most of Sumatera with, localized lower rains in the southern and central-west parts. Southern parts of Kalimantan should receive around 200 mm, while central and northern around 300 mm. Rainfall across Sulawesi Selatan, Maluku and Papua is expected to be the highest, between 300-400 mm a month. Central and northern Sulawesi will however have lower rains, around 150 mm.
- In terms of rainfall anomaly, or change compared to the long-term average, slightly below-normal rains are predicted for the western parts of the country, while above-normal for the eastern parts of Indonesia, as detailed on the map below.

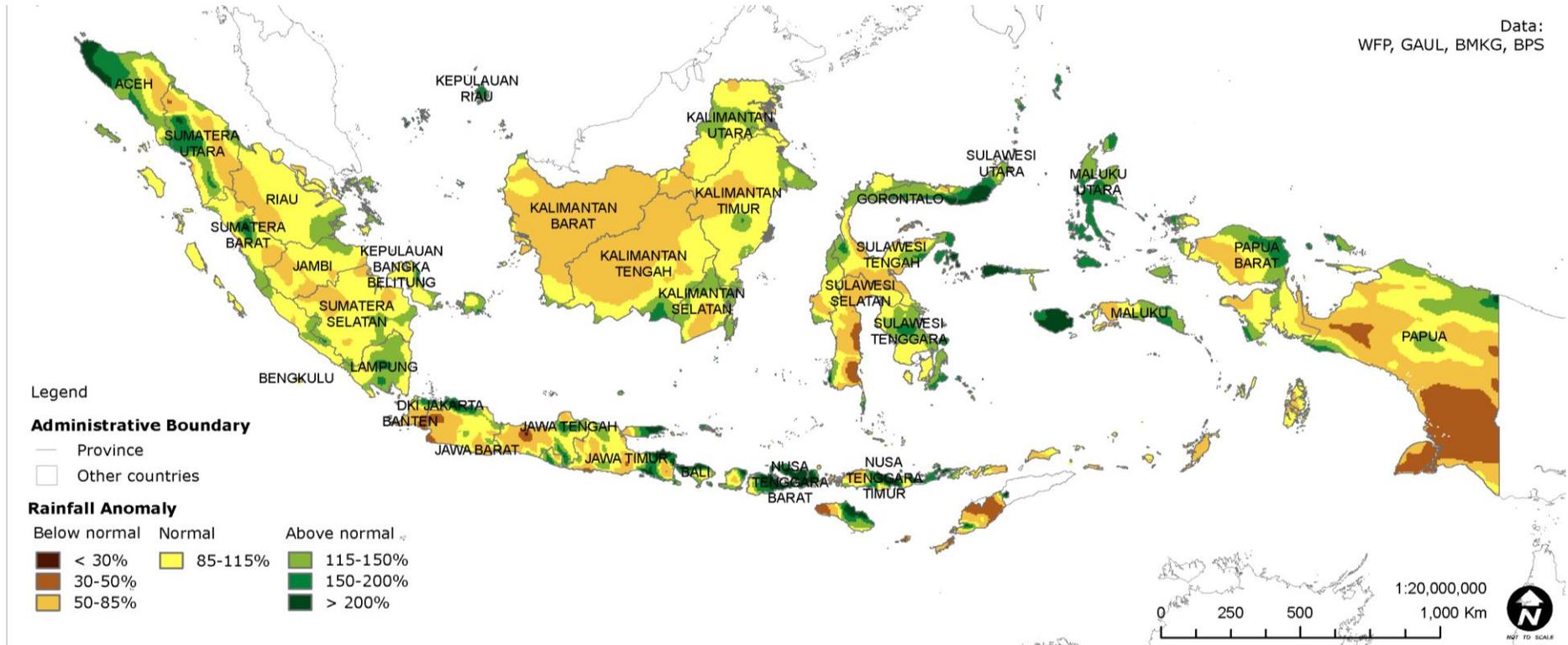
RAINFALL ANOMALY FORECAST | Percent of Average, May 2017, prediction issued in March 2017



Precipitation will further decrease throughout June.

- A combination of mainly normal to slightly-below normal rains, with isolated above-normal rains is expected as shown on the map below.
- The lowest precipitation levels are predicted for NTT and NTB, with 15-50 mm or monthly rains. Easter part of Java is expected to receive between 25-75 mm of rains, while central and wester Java around 100-150 mm a month. Sumatera should receive around 100 mm of monthly rainfall, and Kalimantan mainly 200- 250 mm, with localized higher rains (300 mm) in the northern part. Up to 400 mm of monthly rainfall is predicted for most of Maluku and western parts of Papua, while precipitation in eastern part of Papua should be lower, around 100 mm.

RAINFALL ANOMALY FORECAST | Percent of Average, Jun 2017, prediction issued in March 2017



Methodology

Rainfall anomaly is a measure of lack or excess rainfall in a period compared to the average.

Rainfall anomaly for March 2016 is derived from BMKG. Rainfall anomaly forecast for April- May- June 2017 uses BMKG prediction data.

Assessment of flood and landslide events and their impact is a trend analysis, comparing long-term averages with the current situation. The analysis is based on the data from the National Disaster Management Agency (BNPB).

The trend analysis of prices increases for chicken meat, eggs, fresh fish (mackerel), beef, oil and sugar uses the monthly nominal retail prices of these commodities at national level collected by the National Statistic Agency (BPS). Prices of onion use the Ministry of Trade data. The analysis assesses the increase in retail prices during Ramadan, from the first day of Ramadan until Idul Fitri, in nominal terms.

Household expenditure and consumption trends are based on the March 2016 National Socioeconomic Survey data from the National Statistics Agency (Susenas-BPS). The total sample of the March 2016 Susenas was 300,000 households across Indonesia.

The affordability analysis is based on the results of the Cost of Diet Study, a joint BAPPENAS-WFP study intended to inform the design of the Rastra transformation programme. The study uses the Cost of the Diet method and software to better understand the extent to which poverty affects the ability to meet nutrient requirements in Indonesia. Using the Susenas data for the household expenditure on food commodities and a primary data on the retail prices of fortified foods collected in 8 provinces, the overall cost of local foods that are needed to provide a typical family with their average needs for energy and their recommended intakes of protein, fat and micronutrients is calculated.

This package is defined as a staple-adjusted nutritious diet- the least expensive diet that meets the individual specific WHO/FAO recommended intakes of energy, fat, protein, 9 vitamins and 4 minerals. This diet also includes the preferred staple food in Indonesia- rice, and assumes that the child aged 12-23 months is receiving the recommended portion of breast milk per day. A staple-adjusted nutritious diet was calculated for a household of 4 people of the following composition: child aged 12-23 months, adolescent girl aged 15-16 years, woman aged 30-59 years, 55 Kg, moderately active and lactating, and a man aged 30-59 years, 62 Kg and moderately active.

Based on the Susenas and primary data on food prices, the cost of the diet was adjusted for each of the 8 provinces where the primary data was collected. To calculate the affordability of this diet, its monthly cost was compared to the actual average monthly household expenditure on food.

Contributors

This bulletin is produced by a technical working group led by the Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG) and consisting of the Ministry of Agriculture (Food Security Agency, Food Crops Department, Indonesian Agency for Agricultural Research and Development, Information and Data Center, Horticulture Department), the National Institute of Aeronautics and Space (LAPAN), National Disaster Management Authority (BNPB) and the Central Bureau of Statistics (BPS).

The bulletin is directed by Professor Rizaldi Boer of the Bogor Agricultural University (IPB). The World Food Programme and Food and Agriculture Organization of the United Nations provide technical support, including the generation of maps and data analysis.

All content within this bulletin is based upon the most current available data. Weather conditions are a dynamic situation, hence the current realities may differ from what is depicted in this document.



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