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## **Food and nutrition security in Nusa Tenggara Barat:**

Results from the 2017 Food and  
Nutrition Security Survey

## Food and nutrition security in Nusa Tenggara Barat: Results from the 2017 Food and Nutrition Security Survey

**Prepared by:**

Nicholas Minot  
Samson Dejene  
Rachel Huang  
International Food Policy Research Institute  
SNV

**Prepared for:**

Voice for Change Partnership (V4CP) Programme

April 2018

**Voice for Change Partnership**

This report is published by SNV and International Food Policy Research Institute (IFPRI) for Voice for Change Partnership (V4CP) programme. Through the 'Voice for Change Partnership' (V4CP) programme, SNV and IFPRI support CSOs to foster collaboration among relevant stakeholders, influence agenda-setting and hold the government and private sector accountable for their commitment and actions. We tackle two issues in Indonesia – food and nutrition security and water, sanitation and hygiene (WASH) – by also addressing gender balance and climate change mitigation

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## Abstract

Food security is defined as the ability of all people at all times to obtain enough safe food to meet the dietary requirements for a healthy, active life. This report describes the patterns in several food and nutrition security indicators and household experience with several safety-net programs in eastern Indonesia. The results are based on a survey of 800 households in two districts of Nusa Tenggara Barat (a companion report gives the results for three districts in Nusa Tenggara Timur). Almost one-third of the NTB households sampled experienced a hungry period of about three months, typically from January to March or April. Poor households are more likely to experience such a hungry period and have less diverse diets. The Raskin program is designed to address food security by providing 15 kg of rice per month to low-income households. Our results suggest that almost all households in our sample benefited from Raskin, but they received less than 6 kg/month on average, and many relatively well-off households obtain subsidized rice. Fewer households benefit from PKH, the conditional cash-transfer program, but it is better targeted at poor households and beneficiaries are quite satisfied with the program. BKM is a school scholarship program, but it is not well targeted: higher-income households are more likely to benefit than the poor. JAMKESMAS is a health insurance program designed for low-income households. Our results indicate that about half of the sample households benefited from it. It is relatively popular, but not well targeted. The report also examines the factors associated with underweight children under 5 years of age. About one-third of the children are underweight (as defined by the WHO). Being underweight has a statistically significant link with children born underweight, older children (3-4 years old), children born in a large household, poor households, and households using untreated drinking water. We draw a number of implications for policies and programs to improve food security and reduce child malnutrition.



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# 1. Introduction

## 1.1 Background

In partnership with the International Food Policy Research Institute, the Netherlands Ministry of Foreign Affairs and the Embassy of the Kingdom of the Netherlands, SNV launched in 2016 a five-year program entitled Voice for Change Partnership (V4C). The program is implemented in 6 countries: Burkina-Faso, Honduras, Ghana, Kenya, Rwanda and Indonesia. The program's main goal is to support progress in globally challenging topics related to the United Nations Sustainable Development Goals, with a specific focus on inclusion and equity issues. This goal is to be achieved by increasing the capacity of civil society organizations (CSOs) capacities to participate, contribute and influence strategic debates and policy-making processes.

The specific objectives of the Advocacy program are determined as follows:

- Increase CSOs capacities in leadership, advocacy, utilization of data and evidence, sector knowledge and business development
- Improve enabling environment in terms of improved policies, frameworks, regulations, budget allocation, services, inclusive business and accountability/collaborative mechanisms

The main areas of support to CSOs in the context of the Advocacy program are:

- To strengthening of CSO capacities
- To create and disseminate evidence
- To support advocacy plans and activities of CSOs

In Indonesia, the two topics that are being addressed through the program are Water, Sanitation and Hygiene (WASH) and Food and Nutrition Security (FNS).

The main outcome indicator in food and nutrition security sector is child stunting, defined as children under the age of five who are two standard deviations below the mean of a standard reference population. The stunting rate is 42% in Nusa Tenggara Barat and 55% in Nusa Tenggara Timur, compared to the national average of 37% (Riskesmas, 2013). Stunting is considered a good measure of chronic malnutrition, reflecting the cumulative effect of poor nutrition over a period of years. Stunting is caused by a combination of insufficient quantity and/or quality of food consumed and poor health. Inadequate diet can be the result of low income, high food prices, lack of access to markets, insufficient productive land, lack of access to agricultural inputs and technical assistance, insufficient crop diversification, and inadequate nutritional knowledge. It can take the form of insufficient quantity of staple foods needed for calories and/or lack of micronutrients due to lack of diet diversity. Malnutrition is also associated with health status and the ability to absorb nutrients consumed. Poor health may be caused by lack of access to clean water, poor sanitation, and lack of access to health care. When these problems are jointly addressed, it can substantially reduce (and ultimately eliminate) malnutrition problems in general and stunting in particular.

To answer those problems, the Government of Indonesia has committed to reduce the prevalence of stunting from 37% to 28% by the end of 2019 as part of the health development goals in the 2015-2019 Development Plan. In addition, Indonesia has joined and actively participates in SUN (Scaling-Up Nutrition) global commitment in reducing stunting. To successfully achieve the national goal, Provincial and District Governments need to implement and fund accordingly, food and nutrition security related policies and programs.

## 1.2 Objectives

To support *Strengthening of CSO capacities, and Evidence creation and dissemination*, SNV and IFPRI conducted a survey, called the Food and Nutrition Security (FNS) Survey, to collect evidence on food and nutrition security with focus on nutritional status and dietary practices of household, including access to safety net programs and other public services. The results from this study will be used as baseline data for the program and as evidence to help advocate for improved policies and programs in food security and nutrition.

This survey has three objectives:

1. To understand the current status of households in five districts of NTB and NTT regarding food security and nutrition indicators.
2. To examine the household and agricultural characteristics of households that are food insecure and/or malnourished, which may provide clues regarding the causal factors.
3. To study the effectiveness of existing safety net programs by gathering information on the goods and services delivered to households and household perceptions of these programs.

Section 2 describes the methods used to collect the survey data, while Section 3 describes some key results. Section 4 provides a summary of the results with some implications for the Voices for Change Project in NTB and NTT.



## 2. Design and methods

This section describes the questionnaires, the sampling, and the implementation of the 2017 Indonesia Food and Nutrition Security (FNS) Survey.

### 2.1 Questionnaire

The 2017 Indonesia FNS Survey collected primary data using a 12-page household questionnaire. The questionnaire was designed by IFPRI with substantial input from SNV staff in Indonesia. The questionnaire was designed to capture information on the following topics:

- Household member characteristics
- Assets and housing
- Water and sanitation
- Income sources
- Agricultural production and sales
- Food security
- Care and feeding of children
- Use of government services
- Child age and weight data collected from health cards

### 2.2 Sampling

The survey covered five districts in two provinces of eastern Indonesia: Lombok Utara and Lombok Timur districts in Nusa Tenggara Barat (NTB) and Flores Timur, Kota Kupang, and Manggarai in Nusa Tenggara Timur (NTT). Multi-stage stratified random sampling is used to select 20 villages per district and 20 households per village. This implies a sample of 400 households per district or 2,000 households in total. To select villages, we ranked them by distance and then use systematic

sampling across villages. This ensures that the sample contains a representative spread of villages from nearest to farthest.

Based on these considerations:

- 1) Within each sub-district, villages were sorted by distance to sub-district center.
- 2) Then we use systematic sampling to select 20 villages across the district. To take a simple example, if we want 20 villages out of 100, we pick a random number between 1 and 5 ( $100/20$ ) and then pick every fifth village after that one.

We selected 20 households from each village using systematic random sampling from a list of all households in the village.

### 2.3 Implementation

SNV hired five teams, each of which consisted of one supervisor, and 10 enumerators. All supervisors and enumerators were trained by IFPRI and SNV researchers over two days in August 2017. The training covered both the survey questionnaires and the use of mobile phones that would be used to record the data. The phones were loaded with SurveyCTO software and programmed to replicate the household questionnaire. A pre-survey test of the questionnaires and the mobile phones was carried out after the training and final adjustments made in the questionnaire design.

The data collection for the survey took place over 7-30 August 2017. The data collection exercise faced few logistical or administrative challenges.

In the end, the sample consisted of 2,000 households from 5 districts and 100 villages. About 88% of the households are from the original sample list, while 12% were households from a replacement list because of unavailability or refusal by the original households.





### 3. Results

In this section, we describe the some of the results of the 2017 Indonesia FNS Survey in Nusa Tenggara Barat (a separate report covers the results from Nusa Tenggara Timur). We describe the characteristics of the household, food consumption and food security, safety net programs, and factors associated with a household having underweight children.

#### 3.1 Household characteristics

Results in Table 1 show the characteristics of households in the two districts sampled in the Nusa Tenggara Barat province. The average age of the head of household is 45 years of age, with little variation across the two districts. The average household size in these two districts is 3.9, typically composed of two adults and one or two children. Less than one-third of households (29%) have children under 5 years of age. About 22% of the households are female headed, the proportion being slightly higher in Lombok Utara.

In our NTB households, 24% of the heads of household had no education, while 38% had some primary or completed primary school. The education levels in Lombok Utara are somewhat lower than in Lombok Timur. Furthermore, the education levels of the heads of households are slightly greater than those of the spouse of the head, but the difference is not large.

We calculated a wealth index based on the characteristics of the housing and ownership of selected consumer goods such as a radio, television, refrigerator, bicycle, motorbike, and car. Principal component analysis was used to combine these different indicators into one wealth index. We then classified households based on the quintile of the wealth index, so that for the full sample including both NTB and NTT, 20% of households will fall into each quintile. The results in Table 1 show that NTB households are over-represented in the 3<sup>rd</sup> and 4<sup>th</sup> quintile and under-represented in the poorest and richest quintile.



**Table 1 Household characteristics**

	District		Total	N	
	Lombok Utara	Lombok Timur			
Average age of the head of household	45	45	45	800	
Average number of household members	3.8	3.9	3.9	800	
Average number of household members by age category	0-5 years	0.4	0.4	0.4	
	6-15 years	0.8	0.8	0.8	
	16-59 years	2.3	2.4	2.4	
	60 years or more	0.3	0.3	0.3	
Households with children under 5 years of age (%)	27	31	29	232	
Gender of head of household	Male	77	80	79	628
	Female	23	20	22	172
Education of head of household	No education	31	17	24	191
	Some or complete primary school	35	41	38	305
	Some or complete junior high school	14	17	16	124
	Some senior high school or more	21	25	23	180
Education of spouse	No education	27	12	20	121
	Some or complete primary school	41	39	40	246
	Some or complete junior high school	17	23	20	125
	Some senior high school or more	15	25	20	125
Wealth quintile	Poorest	12	7	10	76
	2 <sup>nd</sup>	17	21	19	150
	3 <sup>rd</sup>	25	30	27	219
	4 <sup>th</sup>	28	28	28	226
	Wealthiest	18	14	16	129
Total	100	100	100	N=800	

Source: Food and Nutrition Security Survey 2017

Table 2 displays the characteristics of household facilities in Nusa Tenggara Barat. Across the two districts, almost all households (94%) have electricity, with little variation between the two districts.

An improved water source is defined as water that is piped into a dwelling, yard, or plot, a protected well in the dwelling or yard, a protected public well, rainwater, bottled, refill water, or a water tank (Torlesse et. al, 2016). The majority of households (60%) have improved drinking water, the proportion being somewhat higher in Lombok Utara (67%) than Lombok Timur (54%). On average, it takes households in Nusa Tenggara Barat 7 minutes to get to their water source, if the water source is not already inside their dwelling or yard. For households in Nusa Tenggara Barat that choose to partake in the treatment of their water, the most popular method is boiling (46%).

Improved sanitation facilities are defined as a private toilet with a septic tank, while unimproved toilet facilities include private toilets without septic tanks, shared toilets, and use of pits, rivers, lakes, or bush/ forested areas (WHO & UNICEF, 2015). About 60% of households in Nusa Tenggara Barat have improved toilet facilities, the proportion being quite similar in both districts.

As for household cooking fuel sources, the majority of households in Nusa Tenggara Barat use LPG/ Natural gas (59%) for cooking. However, more than one-third of households (39%) report using wood for cooking.

**Table 2 Household facility characteristics**

		District		Total	N
		Lombok Utara	Lombok Timur		
Household has electricity	Has electricity	95	93	94	751
Household source of drinking water	Unimproved	34	47	40	320
	Improved	67	54	60	480
Average amount of time (minutes) it takes to get to the water source (if source not in dwelling or yard)	Time in minutes	7	8	7	
Treatment of water	Boiling (%)	39.5	53.3	46.4	
	Bleach/Chlorine (%)	1.0	11.3	6.1	
	Strained through cloth (%)	2.0	0.0	1.0	
	Ceramic, sand, or other (%)	0.0	0.3	0.1	
	Solar disinfectant (%)	0.0	0.0	0.0	
	Other treatment (%)	1.0	0.3	0.6	
	No treatment (%)	20.0	20.3	20.1	
Type of household toilet facility	Private - with septic tank	59	61	60	476
	Private - without septic tank	10	10	10	76
	Shared/Public	12	13	12	99
	River/Stream/Creek/Beach	11	16	13	105
	Pit	0	0	0	1
	Yard/Bush/Forest	8	1	5	36
	Other (Specify)	2	0	1	7
Household toilet facility	Unimproved toilet facility	42	40	41	324
	Improved toilet facility	59	61	60	476
Household cooking fuel	Electricity	1	1	1	7
	LPG/Natural gas	58	59	59	468
	Kerosene	1	0	0	3
	Coal/Lignite	0	0	0	1
	Wood	41	37	39	310
	Other (Specify)	1	2	1	11
Total		100	100	100	N=800

Source: Food and Nutrition Security Survey 2017

### 3.2 Food security

According to the United Nations, food security is defined as a situation in which all people, at all times, have physical, social and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. Various indicators are used to measure food security at the household level including caloric intake, the duration of periods of food shortage, and diet diversity. Here, we focus on the self-reported of periods of food shortage. Households were asked whether they experienced a “hungry period” during the past 12 months, defined as “a time when a household does not have enough food because their own stores are depleted and they do not have enough money to buy food.” If they answered “yes”, they were asked the beginning and ending month of that period.

The results in Table 3 show 32% of the sample households in NTB region experienced a hungry period (almost half of the NTT sample reported a hungry period). The proportion of households experiencing a hungry period was higher in Lombok Utara (40%) compared to Lombok Timur (25%), suggesting a higher level of food security Lombok Timur. The table also shows the pattern by wealth quintile, where wealth was estimated based on housing characteristics and the ownership of consumer assets. The proportion of households experiencing a hungry period during the last year declines from almost 57% among the poorest quintile to just 12% among the wealthiest. The average duration of the hungry period is 2.5 months and does not vary systematically by district or by wealth quintile.

**Table 3 Percentage of households who experienced a hungry period and duration of hungry period**

	Share of Households (%)	Mean duration (months)
District		
Lombok Utara	39.8	2.4
Lombok Timur	25.0	2.6
Total	32.4	2.5
Wealth quintile		
Poorest	56.6	2.4
2 <sup>nd</sup>	51.3	2.5
3 <sup>rd</sup>	30.1	1.9
4 <sup>th</sup>	25.2	2.8
Wealthiest	12.4	3.0
Total	32.4	2.5
N=	800	259

Source: Food and Nutrition Security Survey 2017

Table 4 shows the duration of hungry period is 1-3 months for more than three-quarters of the households reporting a hungry period. Just 1% of the households in Lombok Timur have a hungry period lasting six months or more, while 8% of those in Lombok Utara do (see also Figure 1).

**Table 4 Distribution of households by duration of hungry period**

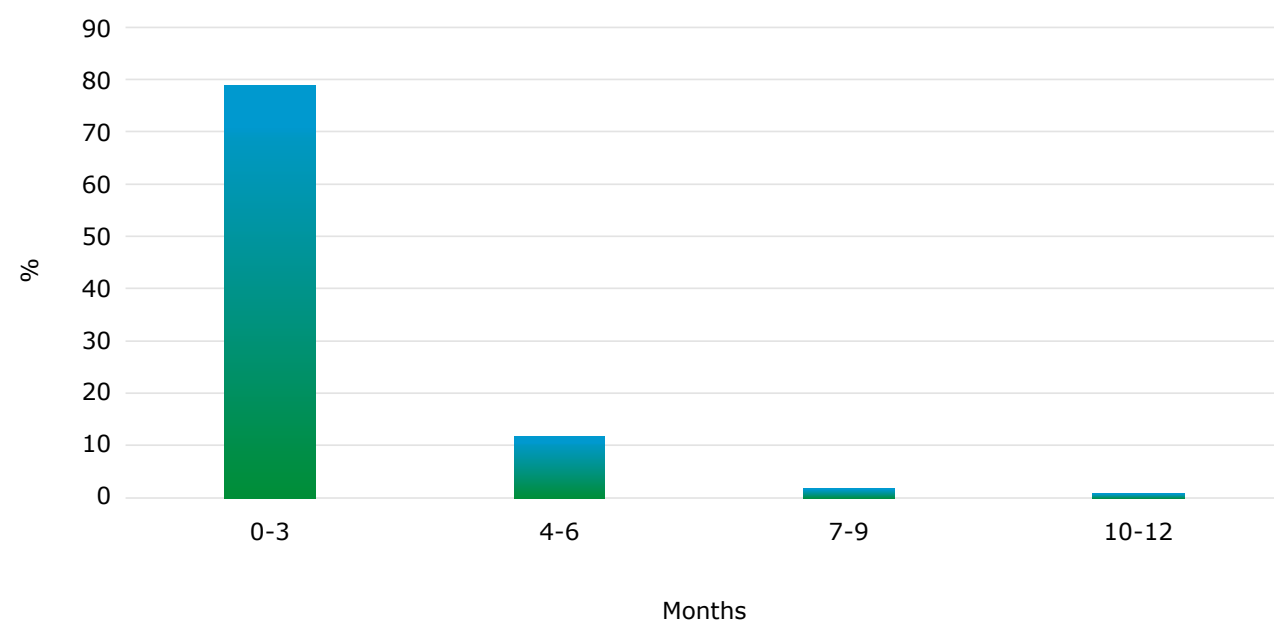
	District		Total
	Lombok Utara	Lombok Timur	
Less than a month	8	0	5
1 month	36	28	33
2 months	24	22	23
3 months	13	27	18
4 months	5	9	7
5 months	7	13	9
6 months	3	1	2
7 months	2	0	1
8 months	2	0	1
9 months	0	0	0
10 months	1	0	1
11 months	0	0	1
Total	100	100	100
N=	159	100	259

Source: Food and Nutrition Security Survey 2017



The most commonly reported month for the start of the hungry season was January, and the most commonly reported month for the end was March or April. Other households reported a hungry season lasting from May to August.

**Figure 1. Percentage distribution of duration of hungry period in Nusa Tenggara Barat region**



Source: Food and Nutrition Security Survey 2017

Households that experienced a hungry period in the last 12 months were asked how they coped with the food shortage. The most common responses in both districts (more than 80%) were that they would borrow money to buy food and borrow/ask for food as coping mechanisms during the hungry period. Other common responses, mentioned by at least 40% of households in each district, were that they would eat cheaper, less balanced meals and reduce the size of their meals. It was much less common that households reported they would skip meals (22% overall), sell assets to buy food (15%), and go to bed hungry (13%) (see Table 5).

**Table 5 Percentage of households using coping mechanisms during hungry period by district**

	District		Total
	Lombok Utara	Lombok Timur	
Eat cheaper, less balanced meals	48	55	50
Reduce size of meals	41	55	45
Skip meals	20	25	22
Go to bed hungry	16	5	13
Borrow/ask for food	80	84	81
Borrow money to buy food	85	83	84
Sell assets to buy food	14	19	15

Source: Food and Nutrition Security Survey 2017

As mentioned above, diet diversity is another indicator of food security. The FNS Survey asked whether or not the household had consumed each of a list of food types over the past seven days. Not surprisingly, rice was consumed by almost 100% of Nusa Tenggara Barat households in the past seven days. The other frequently consumed foods include dark green leafy vegetables (80% of households); pulses, nuts, and seed (70%); eggs (69%); and fish and seafood (67%). Meat and dairy products are consumed much less frequently, presumably due to the higher cost of these

types of food. Households in Lombok Timur consumed maize, other vegetables, pulses/nuts/seeds, and eggs more frequently than in those in Lombok Utara, while the reverse was true for dark green leafy vegetables, other fruit, and meat. Considering all the cereals to be one category, households consumed an average of 5.7 categories of food over the past seven days (see Table 6a).

**Table 6. Percentage of households consuming each food type in the past 7 days by district**

	District		Total
	Lombok Utara	Lombok Timur	
Rice	100	97	98
Maize	34	58	46
Sorghum & other cereals	3	2	3
Cassava & other white root crops	50	56	53
Dark green leafy vegetables	89	72	80
Orange & red vegetables	55	54	54
Papaya, mango, other orange fruit	64	50	57
Other fruit	65	48	57
Other vegetables	54	80	67
Pulses, nuts, & seeds	62	78	70
Meat	37	25	31
Fish and seafood	69	65	67
Eggs	60	78	69
Milk and milk products	20	13	16
Diet diversity index	5.7	5.6	5.7

Source: Food and Nutrition Security Survey 2017

Looking at the composition of the diet by wealth category, we see sharp differences. Rice and maize are consumed in similar proportions across wealth groups, but meat, fish and seafood, eggs, and dairy products are consumed by a much higher share of wealthy households than poorer ones. As a result, the diet diversity index rises from 4.6 among the poorest households to 7.1 among the wealthiest ones (see Table 6b).

**Table 7. Percentage of households consuming each food type in the past 7 days by district**

Variable	Wealth quintiles					Total
	Poorest	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	Wealthiest	
Rice	96	98	97	99	100	98
Maize	50	44	45	46	47	46
Sorghum & other cereals	1	1	1	3	8	3
Cassava & other root crops	59	56	52	55	47	53
Dark green leafy vegetables	83	85	77	77	85	80
Orange & red vegetables	51	51	47	56	67	54
Papaya & other orange fruit	45	52	52	58	75	57
Other fruit	46	45	52	64	71	57
Other vegetables	67	65	69	65	67	67
Pulses, nuts & seeds	63	66	66	73	80	70
Meat	12	19	23	36	60	31
Fish and seafood	51	55	64	71	84	67
Eggs	38	66	68	74	81	69
Milk and milk products	1	7	12	17	41	16
Diet diversity index	4.6	5.1	5.3	5.9	7.1	5.7

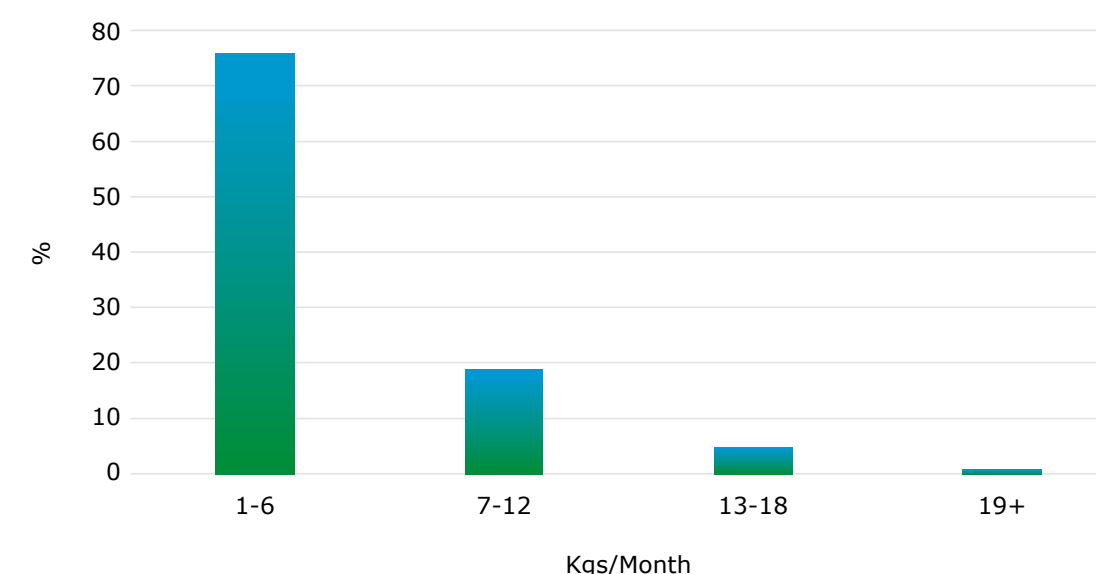


### 3.3 Experience with the Raskin program

The Beras untuk Rakyat Miskin (Food for the Poor) program, known as Raskin, was introduced in 1998 as an emergency food security program in response to the Asian financial crisis. It is designed to deliver 15 kg of rice per month to poor households at a highly subsidized price. It is one of the largest rice subsidy programs in the world. The FNS Survey asks several questions about household participation in the program and their perceptions of the program. About 90% of sample households in Nusa Tenggara Barat receive subsidized rice, the percentage being quite similar in Lombok Utara and Lombok Timur. However, the average quantity received by recipients was less than half the 15 kg intended by the program (see Table 8).

Although intended for low-income households, Table 8 indicates that a large share of wealth households also received subsidized rice under the Raskin program. Even among the wealthiest 20% of households, three-quarters of them receive subsidized rice. The quantities received are around 5-6 kg/month, significantly less than the intended quantities. Households in Lombok Timur receive smaller allocations on average (4.2 kg/month) than those in Lombok Utara (7.1 kg/month).

**Figure 2. Percentage distribution of amount of subsidized rice received by households in Nusa Tenggara Barat region**



Source: Food and Nutrition Security Survey 2017

There are substantial differences in how much household pay for the rice under the Raskin program. Table 10 shows the 52% of subsidized rice recipients in Lombok Timur paid less than 10,000 Indonesian rupiah (IDR) per month, while 85% of households in Lombok Utara paid more than 10,000 IDR/month (see also Figure 3).

**Table 8 Percentage of households receiving rice under Raskin and quantity received**

District/City	Share of household benefiting	Quantity of rice received
	(%)	(kg/month)
Lombok Utara	88.5	7.1
Lombok Timur	91.3	4.2
Total	89.9	5.6
Wealth quintile		
Poorest	84.2	6.0
2 <sup>nd</sup>	96.0	5.4
3 <sup>rd</sup>	96.8	5.7
4 <sup>th</sup>	89.8	5.9
Wealthiest	74.4	4.9
Total	89.9	5.6

Source: Food and Nutrition Security Survey 2017

Although a large percentage of household participate in Raskin, Table 9 shows that few households receive the full 15 kg ration each month. Over three-quarters of the NTB households receive 6 kg or less per month, while another 19% receive 7-12 kg per month. For example, 96% of the Raskin recipients receive 6 kg/month or less. In contrast, almost half of the households in Lombok Utara receive more than 6 kg/month (see also Figure 2).

**Table 9 Distribution of households by the quantity of rice received under Raskin**

Amount in kg/month	District/City		
	Lombok Utara	Lombok Timur	Total
1-6	54	96	76
7-12	36	3	19
13-18	9	1	5
19-24	0	0	0
25-30	1	0	0
Total	100	100	100
N=	354	365	719

Source: Food and Nutrition Security Survey 2017

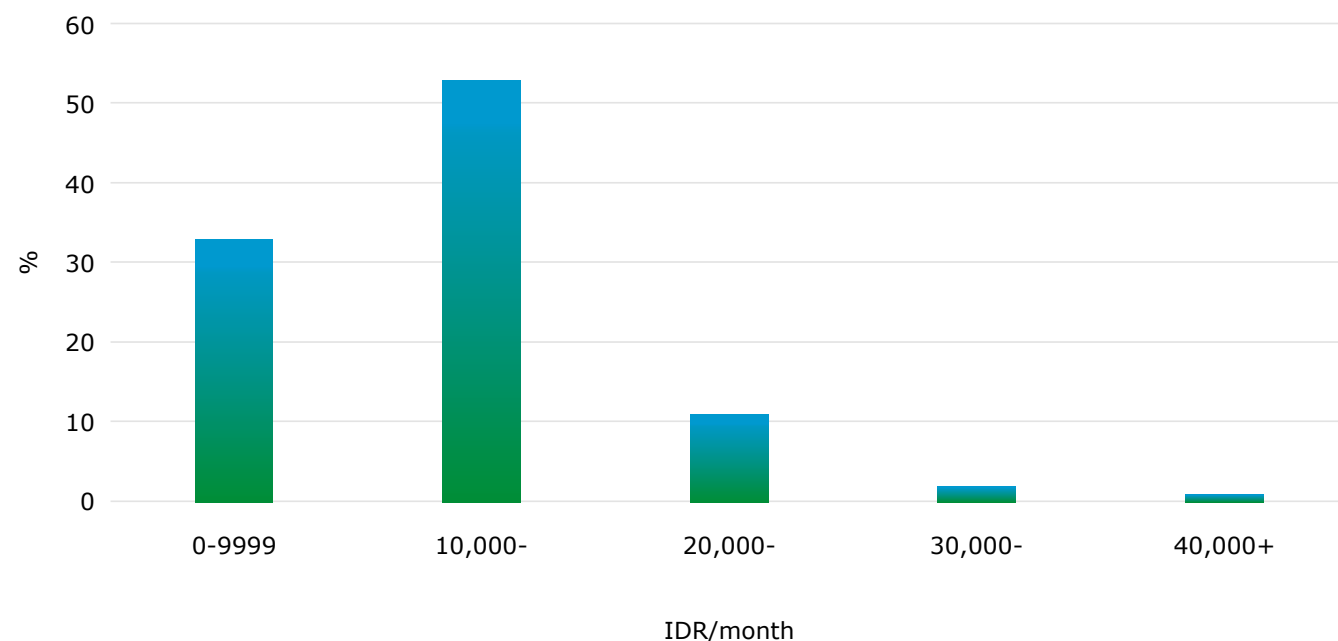
**Table 10 Amount households paid for rice under Raskin program**

IDR per month	District/City		
	Lombok Utara	Lombok Timur	Total
0-9,999	15	52	33
10,000-19,999	59	47	53
20,000-29,999	21	1	11
30,000-39,999	4	0	2
40,000-49,999	0	0	0
50,000+	1	0	1
Total	100	100	100
N=	354	362	716

Source: Food and Nutrition Security Survey 2017



**Figure 3. Amount households paid for subsidized rice in Nusa Tenggara Barat region**



Source: Food and Nutrition Security Survey 2017

Households were also asked about their level of satisfaction with the Raskin program on a 5-point scale ranging from very satisfied to very dissatisfied. About 48% of households in Nusa Tenggara Barat reported that they are satisfied or very satisfied with the Raskin program. In contrast, just 7% report being very dissatisfied and another 16% somewhat dissatisfied. The level of satisfaction was similar among NTB and NTT households (see Table 11).

**Table 11 Percentage of households satisfied with the Raskin program by district**

	District		Total
	Lombok Utara	Lombok Timur	
Very satisfied	26	31	29
Somewhat satisfied	21	17	19
Indifferent/neutral	30	28	29
Somewhat dissatisfied	17	16	16
Very dissatisfied	6	8	7
Total	100	100	100
N=	354	365	719

Source: Food and Nutrition Security Survey 2017

The 23% of households who reported that they were dissatisfied or very dissatisfied with the Raskin program were asked what aspects of the program they disliked. Respondents were allowed to give more than one response. A large majority (84%) reported that the rice provided is not of good quality, while 73% of them mentioned that it was sometimes less than 15 kg was provided, and about half said the rice was not available every month. The problem of rice not being available every month was much more common in Lombok Utara (66% of dissatisfied households) than in Lombok Timur (38%). Having to travel too far to pick up the rice was not a commonly reported problem (7%) (see Table 12).

**Table 12 Sources of dissatisfaction with the Raskin program (% of households)**

	District		Total
	Lombok Utara	Lombok Timur	
The rice is not available every month	66	38	52
Sometimes less than 15 kg is provided	70	76	73
The rice provided is not good quality	84	85	84
I need to travel too far to pick up the rice	6	8	7
Others	1	1	1

Source: Food and Nutrition Security Survey 2017

### 3.4 Experience with the PKH program

The Program Keluarga Harapan (PKH) is a conditional cash-transfer program targeted at poor households in selected regions of the country, provided that the households comply with certain conditions, including attending pre-natal clinics, having their children vaccinated, and sending their children to school. Their income must also be below the poverty line, though this is approximated by housing and asset indicators. Only 14% of the sample households in Nusa Tenggara Barat received assistance under the PKH program. The proportion is somewhat higher in Lombok Utara (18% of households) than in Lombok Timur (10%), which is understandable given that Lombok Utara is poorer and more food insecure. On the other hand, the average amount received was higher in Lombok Timur than in Lombok Utara (see Table 13).

The PKH program appears to be well targeted at poor households in NTB given that the share of households benefiting from the program declines from 26% among the poorest group to just 3% among the wealthiest (see Table 13).

**Table 13 Share of households receiving assistance under the PKH program and amount received**

District/City	Share of households benefiting	Average amount received
	(%)	(IDR/month)
Lombok Utara	18	192,279
Lombok Timur	10	301,937
Total	14	231,443
Wealth quintile		
Poorest	26	209,958
2 <sup>nd</sup>	17	234,613
3 <sup>rd</sup>	15	247,434
4 <sup>th</sup>	14	220,702
Wealthiest	3	283,333
Total	14	231,443

Source: Food and Nutrition Security Survey 2017

Table 14 shows the 79% of households in Lombok Timur received between IDR 100,000 and 500,000 per month. The per household monthly payments appear to be larger in Lombok Timur than in Lombok Utara (see also Figure 4).

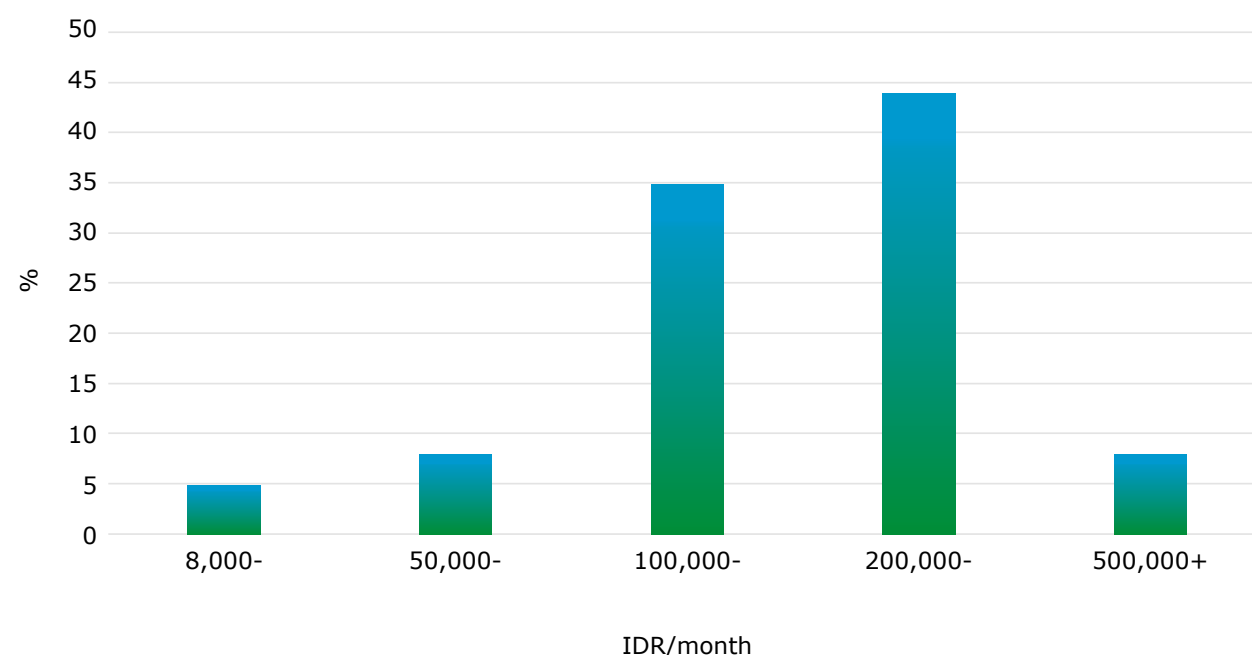


**Table 14 Amount households paid for PKH program each month by district**

IDP per month	District		Total
	Lombok Utara	Lombok Timur	
8,000-49,999	6	5	5
50,000-99,999	5	13	8
100,000-199,999	51	5	35
200,000-499,999	35	60	44
500000+	3	17	8
Total	100	100	100
N=	72	40	112

Source: Food and Nutrition Security Survey 2017

**Figure 4. Amount beneficiary households received from the PKH program in Nusa Tenggara Barat region**



Source: Food and Nutrition Security Survey 2017

Around 84% of NTB households receiving the PKH benefit in cash, while 7% of the survey households received it as a bank transfer. The proportion of beneficiary households receiving benefits in cash was over 80% in both districts (see Table 15).

**Table 15 Method of receiving benefits under the PKH program**

	District		Total
	Lombok Utara	Lombok Timur	
Cash	82	88	84
Bank transfer	7	7	7
Other	11	5	9
Total	100	100	100
N=	73	40	113

Source: Food and Nutrition Security Survey 2017

The level of satisfaction with the PKH program in NTB is relatively high, with half of the recipients saying they were "very satisfied" and almost three-quarters saying they were "very satisfied" or "somewhat satisfied" (see Table 16). The main reason for dissatisfaction was that the transfer was not made available every month. Others would prefer a cash transfer rather than a bank transfer or complained that less than the full amount was transferred.

**Table 16 Satisfaction with PKH program by district**

	District		Total
	Lombok Utara	Lombok Timur	
Very satisfied	48	53	50
Somewhat satisfied	21	28	23
Indifferent/neutral	16	13	15
Somewhat dissatisfied	10	8	9
Very dissatisfied	5	0	4
Total	100	100	100
N=	73	40	113

Source: Food and Nutrition Security Survey 2017

### 3.5 Experience with the BKM program

Bantuan Khusus Murid (BKM) is a government program started in 2001-02 that provides scholarships at the primary and secondary level for students from low-income households. The results of the FNS Survey (see Table 17) show that 14% of the sample households in Nusa Tenggara Barat reported that their children benefited from BKM. The proportion of households who have their children benefiting from BKM is approximately the same in the two districts covered by the survey.

The results in the lower part of Table 17 suggest that the benefits of the BKM program are not targeted at lower-income households. In fact, a larger share of wealthy household (16%) are beneficiaries compared to the poorest households, of which just 9% are beneficiaries.

**Table 17 Percentage of households with children benefiting from BKM**

District	Share of households benefiting (%)
Lombok Utara	14
Lombok Timur	15
Total	14
Wealth quintile	800
Poorest	9
2nd	14
3rd	15
4th	15
Wealthiest	16
Total	14
N=	800

Source: Food and Nutrition Security Survey 2017



### 3.6 Experience with the JAMKESMAS program

JAMKESMAS (an abbreviation for Jaminan Kesehatan Masyarakat) is a government-run health insurance scheme covering more than 70 million low-income people in Indonesia. More than half of the sample households (around 53%) in Nusa Tenggara Barat said they benefited from JAMKESMAS. The two districts the study covered, Lombok Utara and Lombok Timur, have 58% and 49% of households benefiting from JAMKESMAS, respectively (see Table 18).

The lower portion of the table shows the share of households benefiting from the program by wealth category. Across the five categories, the proportion varies between 50% and 57% with no real pattern. This suggests that the program is not targeted at low-income households in the areas of NTB that were included in our survey.

**Table 18 Percentage households who benefit from JAMKESMAS**

	Share of households benefiting (%)
District	(%)
Lombok Utara	58
Lombok Timur	49
Total	53
Wealth quintile	800
Poorest	51
2nd	57
3rd	54
4th	52
Wealthiest	50
Total	53
N=	800

Results in Table 19 show that 58% NTB households are very satisfied with the JAMKESMAS program, while an additional 13% somewhat satisfied. Only 3% of them mentioned any dissatisfaction with the program.

**Table 19. Satisfaction with the JAMKESMAS program by district**

	District		Total
	Lombok Utara	Lombok Timur	
Very satisfied	58	59	58
Somewhat satisfied	15	10	13
Indifferent/neutral	23	28	26
Somewhat dissatisfied	3	1	2
Very dissatisfied	1	2	1
Total	100	100	100
N=	230	194	424

Source: Food and Nutrition Security Survey 2017

The small proportion of NTB households who reported being dissatisfied with the JAMKESMAS program were asked about what aspects contributed to their dissatisfaction. The two main aspects were not covering all health services and health services being not good enough with 28% and 31% of the respondents reporting (See Table 20).

**Table 20. Aspects of the JAMKESMAS program that households are dissatisfied with by district (in %)**

	District		Total
	Lombok Utara	Lombok Timur	
It does not cover all health services	43	10	28
It costs too much money	20	5	13
The health services are not good	35	25	31
It is too complicated	24	18	21
Others	2	4	3

Source: Food and Nutrition Security Survey 2017

### 3.7 Access to health care

An important factor in food and nutrition security is access to health care. Households with high-quality and affordable health care are more likely to get nutrition information and treatment for nutrition-related problems. According to our survey, households in Nusa Tenggara Barat should reach nearest community prenatal care is about 7 minutes using the normal mode of transportation. Similarly, village post, sub-district health post and district health clinic take about 13, 34, 50 minutes respectively. In general, households in Lombok Timur were somewhat closer to their health facilities than those in Lombok Utara (see Table 21).

**Table 21 Travel time to health care providers by normal mode of transportation (minutes)**

	District		Total
	Lombok Utara	Lombok Timur	
Nearest community prenatal care	9	5	7
Nearest village post	14	12	13
Nearest sub-district health post	47	21	34
Nearest district health clinic	54	46	50

Source: Food and Nutrition Security Survey 2017

Table 22 shows that the nearest community prenatal care is visited on average 4 times in the past 12 months in Nusa Tenggara Barat, while village health post and sub-district health post are each visited 2 times in the past 12 months.

**Table 22 Frequency of visiting each type of health facility by district (visits/year)**

	District		Total
	Lombok Utara	Lombok Timur	
Community prenatal care	3.4	5.3	4.3
Village health post	1.4	1.7	1.6
Sub-district health post	2.3	2.0	2.1

Source: Food and Nutrition Security Survey 2017

The frequency of attending different types of health facilities in the two districts of NTB does not seem to vary much by wealth category, as shown below.



**Table 23 Frequency of visiting each type of health facility by wealth category (visits/year)**

Variable	Wealth quintile					Total
	Poorest	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	Wealthiest	
Community prenatal care	3.2	4.1	4.2	4.4	5.4	4.3
Village health post	1.5	1.7	1.7	1.4	1.6	1.6
Sub-district health post	1.6	2.9	2.1	2.1	1.9	2.1

Source: Food and Nutrition Security Survey 2017

Nusa Tenggara Barat almost no complaint about services regarding both village health post and sub-district health post with less than 5% of them with any complaints (see Table 24 and Table 25).

**Table 24 Percentage of households with complaints about services in nearest village health post**

	District		Total
	Lombok Utara	Lombok Timur	
Nurse or doctor was absent when you went there	3	1	2
Nurse or doctor was too busy to help when you went there	1	1	1
Health post did not have medicine needed	3	3	3
Others	1	1	1

Source: Food and Nutrition Security Survey 2017

**Table 25 Percentage of households with complaints about services in nearest sub-district health post**

	District		Total
	Lombok Utara	Lombok Timur	
Nurse or doctor was absent when you went there	3	1	2
Nurse or doctor was too busy to help when you went there	4	2	3
Health post did not have medicine your household	3	4	3
Other aspects of the program	1	2	1

Source: Food and Nutrition Security Survey 2017

### 3.8 Factors associated with the share of underweight children

Being underweight is one of the main indicators of child malnutrition (others being stunting and wasting). The World Health Organization (WHO) has identified a database of age, height, and weight information for a large set of healthy, well-nourished children. This is used as a reference population for studies of child nutrition. Underweight is defined by the WHO as being two standard deviations below the median in weight for a given age in the WHO reference population (WHO-UNICEF, 2009).

The FNS Survey did not measure the weight and height of children in the sample households. Instead, it collected age and weight information recorded on health cards by the staff at the local health posts. Across the 2,000 households in the sample, there were 727 children under the age of 5, of which 639 had usable age and weight information on their health cards (221 from NTB and 418 from NTT). Because of the relatively small sample of children available for analysis, we combined the NTB and NTT data for analysis of patterns in the prevalence of underweight children.

Table 26 shows how the share of children that are underweight varies depending on the characteristics of the child and household. The first column of figures gives the percentage of children in each category (e.g. the percentage of children that are male), while the second column gives the percentage of children in that category that are underweight (e.g. the percentage of males that are underweight).

The results show that 34% of the children in the sampled households for which data were available were underweight, defined as two standard deviations below the median in weight-for-age of the WHO reference population. The proportion of underweight children was somewhat higher in NTB (35.7%) than in NTT (32.5%). Although NTT is more disadvantaged than NTB according to a number of indicators, one-third of the NTT sample lives in Kupang, an urban area, whereas the NTB sample is rural. Across districts, the share of underweight children ranges from almost 41% in Lombok Utara to less than 25% in Kupang.

There is very little difference in the underweight percentage by the sex of the child, but there is a pattern by age. The proportion of children who are underweight rises from 20% among those less than a year old to 45% among those 4 years old. This is a relatively common pattern in nutrition studies, reflecting the cumulative effect of food insecurity on body weight (see Table 26).

The prevalence of underweight children is lower in households where the mother has more education. It is 29% for children of mothers with at least some senior high school, compared to almost 36% for others. This may reflect the value of education in child rearing practices and/or the fact that households with more educated mothers tend to have higher incomes.

If we group the households into five equal-sized categories by wealth, we can see the strong inverse relationship between wealth and underweight rate. Among the poorest two quintiles, the underweight rate is 37% and 41%, but it falls to just 24% in the richest quintile. Wealthy households tend to have a higher income, allowing them to purchase more and higher quality food, as well as safe water, sanitation, and health care, which improve nutrition (see Table 26).





**Table 26. Proportion of children who are underweight for various categories**

Factors	% of children	% underweight children
Total	100.0	34.1
Province	Nusa Tenggara Barat	34.6
	Nusa Tenggara Timur	65.4
District	Lombok Utara – NTB	17.2
	Lombok Timur – NTB	17.4
	Flores Timur – NTT	23.0
	Kota Kupang – NTT	19.6
	Manggarai – NTT	22.8
Sex	Male	49.5
	Female	50.5
Age (years)	0	14.6
	1	21.4
	2	26.1
	3	21.9
	4	16.0
Child birth weight	2.5kg or more	72.3
	<2.5kg	26.4
Education of mother	Junior high or less	68.7
	At least some senior high	31.3
Wealth quintile	Poorest	21.6
	2 <sup>nd</sup>	18.9
	3 <sup>rd</sup>	19.6
	4 <sup>th</sup>	20.0
	Wealthiest	19.9
Sanitation	Unimproved	40.8
	Improved	59.2
Water source	Unimproved	50.5
	Improved	49.5
Water treatment	Untreated	18.3
	Treated	81.7
Number of ANC visits	<4 visits	5.8
	>=4 visits	92.5
Doctor/midwife/nurse provided ANC care	No	1.6
	Yes	98.4
Mother received iron supplements during pregnancy	No	2.7
	Yes	97.3
Mother received tetanus shot during pregnancy	No	9.7
	Yes	90.3
Child ever breastfed?	No	2.7
	Yes	97.3

Factors	% of children	% underweight children
When breastfeeding began	Within the first hour	74.6
	Within the first day	16.7
	Within one week or more	5.9
Duration of exclusive breastfeeding	0-5 months	18.9
	6 months or more	79.3
Child had diarrhea in past two weeks?	No	79.8
	Yes	20.2
Anything done to treat diarrhea?	Nothing done	0.9
	Something done	19.2

Source: Food and Nutrition Security Survey 2017

Somewhat surprisingly, the prevalence of underweight children is somewhat higher among those with improved sanitation, defined as a private toilet with septic tank. On the other hand, access to safe water and treatment of drinking water (usually by boiling) are both associated with lower rates of underweight children, as expected.

Table 26 also shows that the following factors are associated with lower risk of children being underweight: the mother attending at least four ante-natal clinic visits, the mother receiving iron supplements, starting breastfeeding immediately after birth, the child not having diarrhea in the recent past, and being born at a normal birth weight (above 2.5 kg). On the other hand, the mother getting a tetanus shot, having diarrhea treated, breastfeeding, and duration of exclusive breastfeeding either had no effect or the opposite effect from what was expected. In the case of “ever breastfed”, the result is contrary but very few children are not breastfed (2.7%), so the sample (17 children) is too small to generate a reliable estimate of underweight.

Table 27 gives the results of a logit regression analysis of the risk factors associated with underweight children. Regression analysis generates an equation that best-describes the relationship between a dependent variable (e.g. underweight) and multiple independent variables (e.g. the factors listed below). A logit regression is used when the dependent variable is binary, such as whether or not a child is underweight.

While the earlier results in Table 26 examine the relationship between underweight and each factor separately, the regression results Table 27 considers all factors simultaneously. The *marginal effect* tells us the “effect” of each independent variable on the probability of a child being underweight *holding other factors constant*. The *p-value* indicates the probability that this result could have occurred if, in fact, there were no relationship. A *p-value* less than 0.05 indicates that the likelihood is less than 5%, and this is usually the threshold for considering a coefficient statistically significant. The *Wald p-value* is used in the case where there are more than two categories in the variable, such as age and wealth.

The difference in underweight between NTT and NTB is not statistically significant. In other words, after taking into account differences in wealth of the household, education of the mother, and so on, there is no significant difference between the underweight rates in the two provinces.



Similarly, the gender of the child has no effect on the risk of underweight, according to our analysis. On the other hand, the age of the child (within the range 0-5 years) is a statistically significant factor, according to the Wald test. The marginal effects tell us that, holding other factors constant, one-year-olds have an underweight rate 8 percentage points higher than children in their first year. Similarly, the percentage underweight for 4-years-olds is 29 percentage points higher than for infants in their first year.

Birth weight is a strong predictor of underweight. In other words, a baby that is born weighing less than 2.5 kg has a significantly increased chance of being underweight later. The marginal effect is 0.15, meaning that, everything else being equal, weighing less than 2.5 kg at birth increases the probability of the child later being underweight by 15 percentage points (see Table 27).

The education of the mother is not statistically significant after taking into account differences wealth and other factors. It is likely that the differences in Table 26 reflected the correlation between education and wealth.

Households with more than four members are at significantly greater risk of having underweight children. The marginal effect indicates that the proportion of children that are underweight is 9 percentage points higher in the larger families compared to smaller ones, holding other factors constant (see Table 27).

The wealth of a household (estimated by housing characteristics and ownership of selected consumer goods) is a strong predictor of the risk of underweight children. According to the marginal effects, the underweight rate among the wealthiest quintile is 20 percentage points lower than it is among the poorest quintile. Presumably, this reflects the ability of wealthier households to purchase more food (in both quantity and quality) and cover expenses related to safe water, sanitation, and health care.

Improved sanitation is not a statistically significant factor at the conventional 5% level. It is weakly significant (meaning significant at the 10% level) but the wrong sign. We are inclined to believe the international evidence of the positive contribution of sanitation over this weakly contrary finding (see Table 27).

Having access to a safe source of water is not statistically significant, meaning it is not a predictor of underweight risk. However, if the household treats water, this is significantly associated with lower risk of underweight children. The marginal effect suggests that it reduces the risk of children being underweight by 19 percentage points.

Neither of the two breastfeeding variables nor the diarrhea variable were found to be statistically significant predictors of underweight status. Almost three-quarters of mothers start breastfeeding within an hour of birth and more than three-quarters continue for the recommended six months, so the number of mothers who do not follow the guidelines is relatively small. This reduces our ability to accurately measure the impact of good breastfeeding practices (see Table 27).

In summary, our analysis finds the following are risk factors for underweight children: low birth weight, age of the child (the prevalence grows over the first five years), large households, poverty, and lack of water treatment. It is likely that other factors would become statistically significant if the analysis were carried out with a larger sample of children.

**Table 27. Factors associated with the risk of child underweight**

		Odds Ratio	Marginal effects	p-value	Wald test p-value
Province	Nusa Tenggara Barat (NTB)	1			
	Nusa Tenggara Timur (NTT)	0.978		0.936	
Gender	Male	1			
	Female	0.958		0.816	
Age (years)	0	1			
	1	1.584	0.080	0.213	
	2	2.830***	0.208	0.003	
	3	2.044**	0.133	0.047	
	4	3.979***	0.291	0.000	0.001***
Birth weight	2.5kg or more	1			
	<2.5kg	1.920***	0.150	0.001	
Education of mother	Junior high or less	1			
	At least some senior high	1.049		0.833	
Household size	<4	1			
	> 4	1.527**	0.092	0.041	
Wealth quintile	Poorest	1			
	2 <sup>nd</sup>	1.099	0.023	0.745	
	3 <sup>rd</sup>	0.731	-0.072	0.321	
	4 <sup>th</sup>	0.711	-0.078	0.328	
	Wealthiest	0.375**	-0.201	0.012	0.047**
Sanitation	Unimproved	1			
	Improved	1.442*	0.080	0.088	
Water treatment	Untreated	1			
	Treated	0.443***	-0.191	0.007	
Water source	Unimproved	1			
	Improved	1.039		0.861	
Time it took to commence breastfeeding	Within the first hour	1			
	Within the first day	1.283		0.306	
	Within one week or more	0.993		0.985	0.586
Duration of breastfeeding	0-5 months	1			
	6 months or more	0.757		0.268	
Child had diarrhea in the past two weeks	No	1			
	Yes	0.934		0.772	
	Constant	0.392**		0.039	
	Observations	603			

Source: Food and Nutrition Security Survey 2017







## 4. Summary and conclusions

This report describes the results of a survey carried out by SNV with technical support from the International Food Policy Research Institute (IFPRI). The questionnaire covered food security, water, sanitation, and safety net programs, as well as a range of household characteristics. The survey used a stratified random of 2,000 households, composed of 400 households in each of five districts in Nusa Tenggara Barat (NTB) and Nusa Tenggara Timur (NTT). Here, we focus on the results from NTB, except in the analysis of underweight children where we combine NTB and NTT samples.

### 4.1 Summary

One common indicator of food security is the share of households experiencing a hungry period over the past 12 months, where a hungry period is defined as a time when the household was unable to obtain enough food from its own production or from purchases. Across the NTB households in the survey, about one-third of them reported having experienced a hungry period in the past 12 months (compared to about one-half in NTT). The percentage experiencing a hungry season was higher in Lombok Utara than in Lombok Timur. The duration of the hungry period averaged 3 months, typically from January to March or April. The most common methods of coping with the hungry period were eating cheaper, less balanced meals, borrowing money to buy food, and reducing the size of meals.

Another widely-used indicator of food security is diet diversity. Food secure households are better able to grow or purchase a wide range of different types of food, while food insecure household typically consume the staple crop and a few other food types. In our survey, almost all household consumed rice, fish, and leafy vegetables. Meat, eggs, and dairy products were consumed by a much smaller percentage of households.

The RASKIN program distributes rice at subsidized prices to low-income households. Almost 90% of the households sampled in NTB received RASKIN rice. Although each household is supposed to receive 15 kg per month, the quantity was often much smaller in both NTB districts. The level of satisfaction with the RASKIN program was modest: 29% were “very satisfied” and another 19% were “somewhat satisfied.” The two most common complaints about the program were the low quality of the rice (reported by 84% of households) and the fact that the rice is not available every month (reported by 73%).

The PKH is a conditional cash-transfer program available to poor households in selected regions of the country. Just 14% of the households surveyed in NTB received transfers from this program, though the percentage was higher in Lombok Utara than in Lombok Timur. In both districts, a large majority of households received the assistance in cash (84%) rather than as a bank transfer. The level of satisfaction was quite high, with almost three-quarters of beneficiaries saying they were “very satisfied” or “somewhat satisfied.”

BKM is a school scholarship program for children from low-income households. In our survey, 14% of the households in NTB had children benefiting from this program. The program is not well targeted, however, with wealthy households being more likely to benefit than poor households.

JAMKESMAS is a government health insurance scheme covering more than 70 million low-income people. About 53% of the NTB households in our sample benefited from the program, the proportion being higher in Lombok Utara than Lombok Timur. This program is well targeted and quite popular, with over 70% of the respondents saying they were “very satisfied” or “somewhat satisfied.” The main complaint about the program is that it does not cover all health services.

On average, community prenatal care units and village health posts are, on average, about 10 minutes from the house by the normal mode of transport, while sub-district health posts are 30 minutes away, and district health clinics are almost an hour away. The most common complaint about health clinics was that it did not have the needed medicine.

The survey collected the weight and age information for 639 children less than 5 years old in NTB and NTT. The information was recorded on health cards kept in the home but based on measurements at a health clinic. We examined the factors associated with a child being underweight, meaning less than 2 standard deviations below the median weight-for-age for a reference population. About one-third of the children under 5 years old are considered underweight, the percentage being lowest in Kupang and highest in Lombok Utara. Child underweight is more common in older children (aged 4-5), children born underweight, when the mother has a lower educational level, in large households, and among poor households.

We also used logit regression analysis to estimate the relationship between a child being underweight and the same child and household characteristics. Risk factors with a statistically significant association with underweight children include being born underweight, being an older child, being part of a larger household, being poor, and not treating drinking water.

### 4.2 Implications

Based on the results of the FNS Survey, we can identify a number of implications for the efforts by the SNV Voices for Change Project and the government of Indonesia to improve food and nutrition security.

Income growth is necessary component for any strategy to improve food and nutrition security. The FNS surveys shows strong associations between wealth and 1) lower risk of experiencing seasonal food insecurity, 2) shortened periods of seasonal food insecurity, 3) higher diet diversity, and 4) lower risk of underweight children. This implies the need to promote programs and policies that help poor households raise income, whether through agriculture, business, or wage employment.

The positive link between income and various indicators of food and nutrition security also strengthens the case for social safety net programs such as PKH to supplement the income of poor and vulnerable households. Reducing stunting and underweight can have long-term effects on school performance, health, and earnings as adults (WHO, 2014). For this reason, reducing child malnutrition is considered a good investment of public resources (Hoddinott et al., 2013).

Our results indicate that almost one-third of NTB households sampled experience a hungry period when access to food is reduced, requiring a change in diet at the least. The most common timing for the hungry period is between January and March or April. This suggests that social safety net programs may wish to focus on seasonal food insecurity during this period. Given that the timing varies across households, an even better option would be to give beneficiaries the option of concentrating the benefits in certain months.

The FNS Survey indicates that many of the sampled households were not receiving the full ration of 15 kg per month. On average, the NTB households in the survey received less than 6 kg per month. Clearly, it is important to examine the reasons for this short-fall and address the problem.

The survey also found that the Raskin program was not very well targeted at low-income households. Some 14% of the poorest households were not receiving subsidized rice under the Raskin program but three-quarters of those in the wealthiest category were. Even without additional resources, it should be possible to increase the rice allocation to poor households by reducing allocations to households that are not in need. The Raskin program could consider adopting the targeting methods used by the PKH program.

The main complaint among Raskin beneficiaries was that quality of the rice was low. It is understandable that the government wishes to keep the cost of the program down, and indeed the use of less desirable grains can create a form of self-targeting, where higher-income households opt out of participating. However, it would be worth verifying that the rice does not pose a health risk to beneficiaries.

The PKH conditional cash transfer program is the most effectively targeted of the four safety net programs considered. It also receives the highest satisfaction ratings by beneficiaries. Furthermore, by distributing money (in cash or by bank transfer), the administrative costs are probably low. In light of this, it is worth considering expanding the PKH, which currently covers less than 15% of NTB households. One option would be to gradually phase out the Raskin program and reallocate the resources to the PKH program.

The BKM (school scholarship) and JAMKESMAS (health insurance) programs are said to help low-income households cover education and health care costs. Our results indicate that wealthy households are just as likely to benefit as poor households from these programs in NTB. In fact, wealthy households are more likely to benefit from the BKM program than poor households. If better targeted at low-income households, these programs could either reduce the overall cost or provide greater benefits to households in need.

Efforts to improve health clinics should focus on village health posts, rather than sub-district health clinics and district clinics. The FNS Survey suggests that these are much more widely used by low-income households. Higher-income households are more likely to visit sub-district and district clinics.

The government should promote ante-natal clinic visits and nutrition supplements, particularly for at-risk mothers (young, old, multiple-birth, poor, less educated). International experience suggests that these contribute to fetal health and reduce underweight births (WHO, 2015). The FNS Survey confirms that underweight births are a significant risk factor for underweight children.

The government should continue to support access to family planning. The FNS Survey confirms that large households are a significant risk factor for underweight children, even after controlling for wealth and other factors.

The government should promote investments to expand access to safe water. In our analysis, not treating drinking water (such as boiling) was a significant risk factor for underweight children. This suggests that untreated drinking water is not always safe.

The Ministry of Health should continue promoting breastfeeding starting as soon as feasible after birth and continuing for six months before introducing complementary foods. The FNS Survey was not able to confirm the link between these practices and good nutrition outcomes mainly because of the success of the MoH in promoting breastfeeding: over 97% breastfeed, 91% start on the first day, and 79% continue for six months. Because the proportion not following these guidelines is small, it is more difficult to estimate their effect on underweight prevalence.

Given the priority given to reducing stunting by the government, the Ministry of Health should consider gathering height information on children under the age of five during clinic visits. This would allow village health workers to identify cases of stunting and take remedial measures. It would also allow the MoH to gather high-resolution data on the prevalence of stunting and monitor the rate over time, thus facilitating effort to reach the 2025 target for child stunting.





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