Food and nutrition security in Nusa Tenggara Timur:

Results from the 2017 Food and Nutrition Security (FNS) survey

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

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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 1,200 households in Flores Timur, Manggarai, and Kupang in Nusa Tenggara Timur (a companion report gives the results for two districts in Nusa Tenggara Barat). Almost one-half of the NTT 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 over half the households in our NTT sample benefited from Raskin, but the quantity received was often greater or less than 15 kg/month. Furthermore, many relatively well-off households obtained 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 Sustainable Development Goals, with a specific focus on inclusion and equity issues. This goal is to be achieved by increasing 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:

- Strengthening of CSO capacities
- Evidence creation and dissemination
- Support to advocacy plans and activities of CSOs

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

The main issue in the food and nutrition security sector is the highly remaining numbers of stunting in Nusa Tenggara Timur 55% and Nusa Tenggara Barat 42% compared to national average of 37% (Riskesdas, 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 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 conducted the survey to collect evidence on food and nutrition security with focus on nutritional status and dietary practices of household, including access of community and services provision given by local government on basic health 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.

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 household 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 used 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 SNV/IFPRI 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 Timur (a separate report covers the results from Nusa Tenggara Barat). We describe the characteristics of the household, food consumption and food security, safety net programs, and factors associated with a household having underweight children.

Nusa Tenggara Timur (NTT) region is one of the two regions covered by the 2017 Food and Nutrition Security (FNS) Survey. This short report is to highlight some of the findings related to food shortage, access to government services and proportion of children under-weight in NTT. Subsequent reports will provide more detailed analyses of the survey data considering various issues (like child nutrition) and units of analysis.

3.1 Household characteristics

Household characteristics in the Nusa Tenggara Timur province are described in Table 1. The average age of the head of household is 49 years of age. On average, households in Nusa Tenggara Timur had 4.8 household members, with households in Manggarai being slightly larger than average and households in Flores Timur having slightly smaller households. The average household in Nusa Tenggara Timur consists of 2-3 adults (aged 16-59 years of age) and one adolescent (aged 6-15 years of age). The proportion of female-headed households is greatest in Flores Timur (24%) and lowest in Manggarai (15%).

The majority of heads of household and their spouses had some or a complete elementary school education in Nusa Tenggara Timur. The majority of head's and their spouses in Kota Kupang had at least some senior high school or post-secondary education (60-65%).

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, 20% of households will fall into each quintile. Manggarai and Flores Timur have a large share of households in the two poorest quintiles and relatively few households in the upper quintiles, reflecting a relatively poor population. In the city of Kupang, the pattern is reversed. Over half of Kupang households (57%) are in the wealthiest quintile.

Table 1 Households characteristics

		District			Total	N
		Flores Timur	Kota Kupang	Manggarai		
Average age of the head of household		51	50	47	49	
Average number of household members		4.5	5.0	5.1	4.8	
Average number of household members by age category	0-5 years	0.5	0.5	0.5	0.5	
	6-15 years	1.0	1.0	1.2	1.1	
	16-59 years	2.3	3.2	2.9	2.8	
	60 years or more	0.6	0.4	0.4	0.5	
Households with children under 5 years of age (%)		31	32	40	34	411
Gender of head of household (%)	Male	76	79	85	80	960
	Female	24	21	15	20	240
Education of head of household (%)	No education	7	3	10	7	79
	Some/complete primary	65	21	60	49	582
	Some/complete junior high	11	11	14	12	145
	At least some senior high	17	65	16	33	392
Education of spouse	No education	4	1	9	5	44
	Some/complete primary	62	21	65	50	456
	Some/complete junior high	17	18	12	16	143
	At least some senior high	17	60	13	29	267
Wealth quintile	Poorest	31	2	48	27	325
	2nd	30	6	27	21	249
	3rd	21	12	14	16	186
	4th	14	23	7	15	175
	Wealthiest	5	57	4	22	265
Total		100	100	100	100	N=1,200

Source: Food and Nutrition Security Survey 2017

The characteristics of household facilities in Nusa Tenggara Timur are outlined in Table 2. Almost all households in Kota Kupang have electricity (98%), while the proportion is smaller in Flores Timur (85%) and Manggarai (60%).

In our NTT sample, almost half of the households have an improved source of drinking water, 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 in Kota Kupang (81%) have access to improved water, but the share in Flores Timur and Manggarai is only about one-third. On average, households in Nusa Tenggara Timur had to travel 11 minutes on average to get to their water source if it was not already in their dwelling or yard. The travel time was longest in Manggarai (17 minutes).

The most common method of water treatment is boiling, practiced by 96.3% of the sample households in Nusa Tenggara Timur. About one third of households in Nusa Tenggara Timur use straining water through a cloth as a method of water treatment with 85% of households in Kota Kupang using this method in addition to boiling.

Most sample households in Nusa Tenggara Timur (63%) have improved sanitation, defined as private toilets with septic tanks (WHO & UNICEF,2015). The share varies from just 50% in Manggarai to 75% in Kota Kupang. However, 28% of households in Manggarai listed a pit, body of water, or open area as their household toilet facility.

As for household cooking fuel, two-thirds of households in Nusa Tenggara Timur use coal/lignite (66%), while most of the others use kerosene (31%). This pattern is in contrast to NTB, where most households use LPG/natural gas or wood.

Table 2 Household facility characteristics

		District			Total	N
		Flores Timur	Kota Kupang	Manggarai		
Household has electricity		85	98	60	81	975
Household source of drinking water	Unimproved	67	20	68	51	615
	Improved	34	81	32	49	585
Average time to get to water source	Time in minutes	7	10	17	11	
Treatment of water	Boiling (%)	99.0	90.3	99.8	96.3	
	Bleach/Chlorine (%)	6.3	0.5	1.5	2.8	
	Strained through cloth (%)	8.3	85.0	8.0	33.8	
	Ceramic, sand, (%)	0.0	0.5	0.0	0.2	
	Solar disinfectant (%)	0.0	2.5	0.0	0.8	
	Other treatment (%)	1.0	11.5	0.0	4.2	
	No treatment (%)	0.0	1.0	0.3	0.4	
Type of household toilet facility	Private with septic tank	65	75	50	63	757
	Private without septic tank	16	10	15	13	160
	Shared/Public	14	3	8	8	98
	River/Stream/Creek/ Beach	2	0	1	1	10
	Pit	0	13	12	8	98
	Yard/Bush/Forest	1	0	11	4	49
	Other (Specify)	3	0	4	2	28
Household toilet facility	Unimproved toilet facility	36	25	51	37	443
	Improved toilet facility	65	75	50	63	757
Household cooking fuel	Electricity	0	1	0	0	4
	LPG/Natural gas	0	7	1	3	31
	Kerosene	12	74	6	31	367
	Coal/Lignite	88	18	93	66	796
	Wood	0	0	0	0	1
	Other (Specify)	0	0	0	0	1
Total		100	100	100	100	N=1,200

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. There are many indicators which are used to measure food security at the household level, including caloric intake, the duration of periods of food shortage, and diet diversity. This section focuses on the duration of periods of food shortage and the coping mechanisms associated with these periods. Households were asked whether they experienced a "hungry period" during the past 12 months, which is defined as "a time when a household does not have enough money to buy food." If they responded "Yes", then they were asked the beginning and ending month of that period.

Results shown in Table 3 below, indicate that almost half (49%) the households in NTT region experienced a hungry period in the last 12 months, compared to less than one-third in our survey in NTB. Manggarai has the highest proportion of households who experienced a hungry period with 66% reporting, while Flores Timur and Kota Kupang reported 46% and 35% respectively.

The proportion of households experiencing a hungry period also varies by wealth quintile, ranging from 80% among the poorest households to just 14% among the richest. The duration of the hungry period shows only a weak negative relationship to wealth quintile.

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

District/City	Mean pct. of households	Mean duration (months)
Flores Timur	45.5	3.2
Kota Kupang	34.5	2.8
Manggarai	65.5	3.5
Total	48.5	3.3
Wealth quintile		
Poorest	80.0	3.3
2nd	55.8	3.5
3rd	43.0	3.3
4th	37.1	3.0
Wealthiest	14.3	2.3
Total	48.5	3.3
N=	1,200	582

Source: Food and Nutrition Security Survey 2017

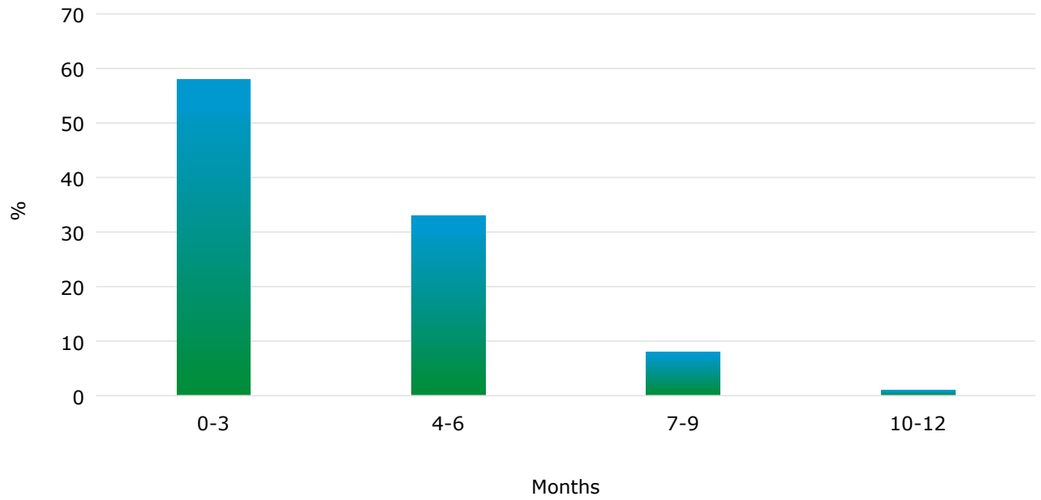
Table 4 shows the duration of hungry period is higher for districts with higher percentage of households who experienced a hungry period. Almost 85% of such households in Manggarai had hungry period which lasted more than a month (see also Figure 1).

Table 4 Percentage distribution of duration of hungry period (in months) by district

	District			Total
	Flores Timur	Kota Kupang	Manggarai	
Less than a month	1	3	2	2
1 month	30	46	13	26
2 months	12	12	23	17
3 months	14	8	13	12
4 months	18	7	24	18
5 months	14	10	10	11
6 months	5	4	3	4
7 months	1	3	5	3
8 months	1	5	2	2
9 months	1	3	3	2
10 months	1	0	0	0
11 months	3	0	1	1
Total	100	100	100	100
N=	182	138	262	582

Source: Food and Nutrition Security Survey 2017

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



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.

Of those households that experienced a hungry period in the last 12 months, 83% said they adapted by eating cheaper and less balanced meals, 75% borrowed money to buy food, 65% reduced the size of meals, and 61% said they borrowed or asked for food (see Table 5). These were the four most common coping mechanisms in all three districts.

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

	District			Total
	Flores Timur	Kota Kupang	Manggarai	
Eat cheaper, less balanced meals	93	82	78	83
Reduce size of meals	71	57	66	65
Skip meals	28	16	18	21
Go to bed hungry	11	6	3	6
Borrow/ask for food	69	27	73	61
Borrow money to buy food	67	59	88	75
Sell assets to buy food	26	12	10	16

Source: Food and Nutrition Security Survey 2017

Because diet diversity is an indicator of food security, the FNS Survey asked households which foods they had consumed within the past 7 days from a list of food types. As shown in Table 6, eating rice is very common in Nusa Tenggara Timur with 100% of the survey households reported eating rice at least once in the last 7 days. Eating fish/seafood and dark green leafy vegetables at least once in the last 7 days is reported by 84% and 80% of the households respectively. Maize is a common staple food in Flores Timur, but less so in Kota Kupang and Manggarai. Meat and dairy products are consumed less frequently in Nusa Tenggara Timur, which might be attributable to the higher costs of associated with these types of food. However, more than half of the households in Kota Kupang responded that they consumed meat and dairy products over the past 7 days.

We calculate a diet diversity index by counting the number of categories of food, counting all cereals as one category. The diet diversity index is much higher in Kupang (6.4) than in the two rural districts (3.7 in each).

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

	District			Total
	Flores Timur	Kota Kupang	Manggarai	
Rice	99	100	100	100
Maize	86	54	28	56
Sorghum & other cereals	1	5	0	2
Cassava & other white root crops	55	53	71	59
Dark green leafy vegetables	76	87	77	80
Orange & red vegetables & sweet potatoes	22	55	22	33
Papaya, mango, other orange fruit	30	51	19	33
Other fruit	24	45	19	29
Other vegetables	31	61	52	48
Pulses, nuts & seeds	26	64	39	43
Meat	20	54	31	35
Fish and seafood	91	90	70	84
Eggs	39	78	32	49
Milk and milk products	13	57	11	27
Diet diversity index	3.7	6.4	3.7	4.6

Source: Food and Nutrition Security Survey 2017

Table 7 shows the composition of the diet in NTT by wealth quintile. Similar percentages of households in poor and rich categories consumed rice and maize, but many more wealthy households than poor households consumed meat, eggs, and dairy products. Orange and red fruits and vegetables were also consumed more widely by wealthy households than by poor ones. Overall, the diet diversity index rises from 2.7 among the poorest households to 7.3 among the richest. This indicates that wealthy households have much more diverse diets than poor households do.

Table 7. Percentage of households consuming each food type in the past 7 days by wealth category

Variable	Wealth quintile					
	Poorest	2nd	3rd	4th	Wealthiest	Total
Rice	99	99	100	100	100	100
Maize	57	59	60	56	49	56
Sorghum & other cereals	0	1	0	2	6	2
Cassava & other root crops	62	58	63	59	54	59
Dark green leafy vegetables	66	82	82	87	90	80
Orange & red vegetables	10	23	30	39	68	33
Papaya & other orange fruit	16	24	29	37	63	33
Other fruit	12	22	26	37	55	29
Other vegetables	37	40	46	51	69	48
Pulses, nuts & seeds	19	37	39	59	69	43
Meat	14	29	34	34	69	35
Fish and seafood	68	82	89	94	93	84
Eggs	21	35	48	69	87	49
Milk and milk products	3	8	24	34	70	27
	2.7	3.8	4.5	5.4	7.3	4.6

Source: Food and Nutrition Security Survey 2017

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. One of the largest rice subsidy programs in the world, it was designed to deliver 15kg of rice per month to poor households at a highly subsidized price. The FNS Survey asks several questions about household participation in the program and their perceptions of the program. More than half of households in Nusa Tenggara Timur (57%), receive subsidized rice. In Flores Timur, 83% of households reported receiving Raskin rice, while the shares in Manggarai and Kota Kupang were 61% and 27% respectively. Households in Flores Timur generally received less than 15 kg/month, while those in Kupang and Manggarai receive more (see Table 7).

The Raskin program is relatively well targeted in that the share of households participating is much higher for the poorest households (79%) than for the richest (14%). Nonetheless, there do seem to be a fair number of households with above-average wealth that receive rice under the program (see Table 8).

Table 8. Share of households receiving rice under Raskin and quantity received

District/City	Share of households receiving (%)	Average quantity received (kg/month)
Flores Timur	83.0	9.7
Kota Kupang	26.5	20.3
Manggarai	60.5	22.2
Total	56.7	15.8
Wealth quintiles		
Poorest	79.4	15.1
2nd	71.5	16.2
3rd	65.6	16.3
4th	48.0	16.5
Wealthiest	14.3	15.6
Total	56.7	15.8

Source: Food and Nutrition Security Survey 2017

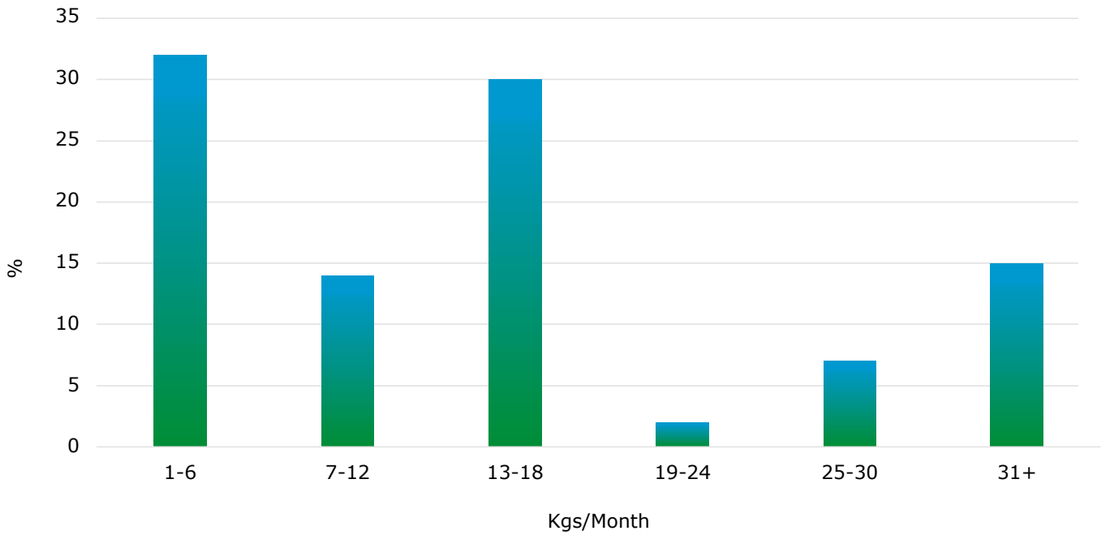
Table 9 shows that few households in Flores Timur receive the full 15 kg ration each month, with 65% of subsidized rice recipients in Flores Timur receiving less than 7 kgs/month. 72% of households in Manggarai and 94% of households in Kota Kupang get more than 12 kgs/month (see also Figure 2).

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

Amount in kg/month	District			Total
	Flores Timur	Kota Kupang	Manggarai	
1-6	65	2	2	32
7-12	8	4	26	14
13-18	12	76	33	30
19-24	1	0	5	2
25-30	5	0	13	7
31+	9	18	21	15
Total	100	100	100	100
N=	332	106	242	680

Source: Food and Nutrition Security Survey 2017

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



Source: Food and Nutrition Security Survey 2017

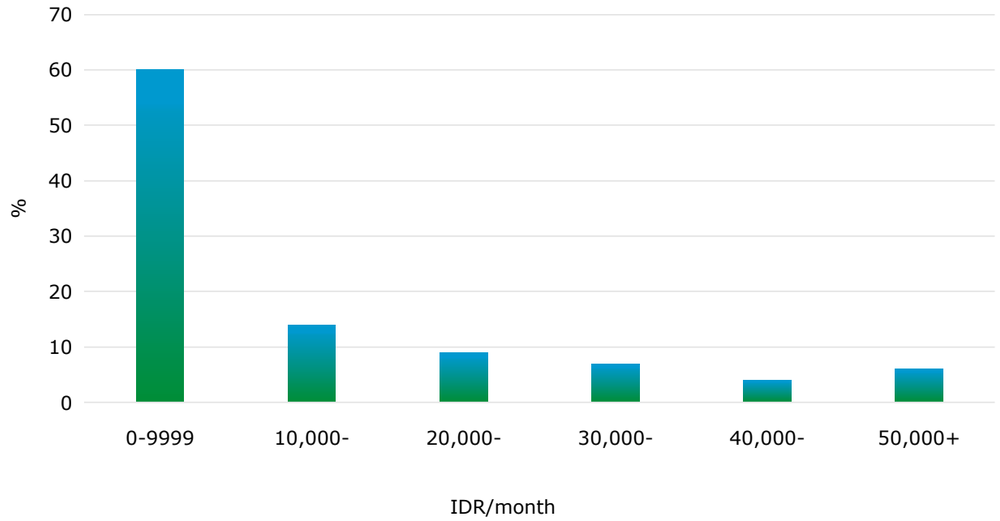
Table 10 shows the 95% of subsidized rice recipients in Kota Kupang and 67% of subsidized rice recipients in Flores Timur paid less than 10,000 IDR/month, while 69% of households in Manggarai paid more than 10,000 IDR/month (see also Figure 3).

Table 10 Amount households paid for rice under Raskin program

IDR per month	District			Total
	Flores Timur	Kota Kupang	Manggarai	
0-9999	67	95	31	60
10000-	14	4	18	14
20000-	6	0	18	9
30000-	10	0	7	7
40000-	0	1	11	4
50000+	3	0	15	6
Total	100	100	100	100
N=	332	106	214	652

Source: Food and Nutrition Security Survey 2017

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



Source: Food and Nutrition Security Survey 2017

In the FNS Survey, households were asked about their level of satisfaction with the Raskin program on a 5-point scale ranging from very satisfied to very dissatisfied. Results in Table 11 show that around 79% of the respondents in Nusa Tenggara Timur are satisfied with RASKIN program. Only 11% of the survey households reported being dissatisfied with program, while the rest are neutral. Almost all surveyed households in Manggarai reported that they are satisfied with the RASKIN program with 84% and 7% of them reported being very satisfied and somewhat satisfied respectively. Out of the three districts, Flores Timur has the highest proportion of dissatisfied households with around 20% reporting being dissatisfied with the RASKIN program.

Table 11 Percentage of households satisfied with the RASKIN program by district

	District			Total
	Flores Timur	Kota Kupang	Manggarai	
Very satisfied	12	66	84	46
Somewhat satisfied	55	22	7	33
Indifferent/neutral	13	7	5	10
Somewhat dissatisfied	20	2	2	10
Very dissatisfied	0	3	2	1
Total	100	100	100	100
N=	332	106	242	680

Source: Food and Nutrition Security Survey 2017

Respondents that said they were not “very satisfied” with the Raskin program were asked about the reasons for their dissatisfaction. Results in Table 12 show that 93% of the respondents in Nusa Tenggara Timur indicated that the reason for their dissatisfaction with the program was that the distributed rice is not of good quality. The second important aspect mentioned for being dissatisfied with the program was the unavailability of rice for every month with 63% of the respondents reporting.

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

IDR per month	District			Total
	Flores Timur	Kota Kupang	Manggarai	
The rice is not available every month	61	67	72	63
Sometimes less than 15 kg is provided	24	25	36	26
The rice provided is not good quality	95	94	77	93
I need to travel too far to pick up the rice	8	6	18	9
Others	0	6	5	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 available to poor households in selected regions of the country, provided that the households comply with certain conditions, including attending pre-natal clinics, having 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 13% of the respondents in Nusa Tenggara Timur reported receiving assistance under the PKH program. Out of the three districts, Manggarai has the highest proportion (around 22%) of respondents receiving assistance under the PKH program compared to Flores Timur and Kota Kupang who have 12% and 6% recipients respectively (see Table 13).

The PKH program appears well targeted toward the poor given that the share of households benefiting declines from 24% among the poorest quintile to just 1% among the wealthiest quintile (see Table 13).

Table 13 Percentage of households who receive assistance under the PKH program

District/City	Share of households benefiting (%)	Average amount received (IDR/month)
Flores Timur	12	258,486
Kota Kupang	6	220,033
Manggarai	22	299,210
Total	13	274,862
Wealth quintiles		
Poorest	24	280,365
2nd	20	267,355
3rd	13	301,515
4th	5	215,500
Wealthiest	1	171,000
Total	13	274,862

Source: Food and Nutrition Security Survey 2017

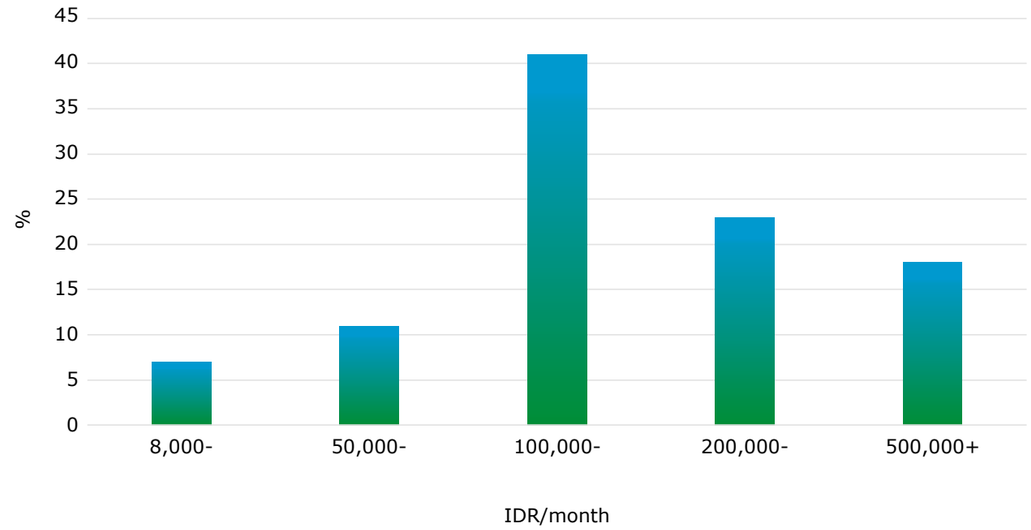
Table 14 shows that households in Flores Timur received the most from the PKH program with 57% of households receiving more than 200,000 RP/month for PKH program, while most households in Nusa Tenggara Timur (41%) were paid between 100,000-199,999 RP/month (see also Figure 4).

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

IDR per month	District			Total
	Flores Timur	Kota Kupang	Manggarai	
8,000-49,999	4	0	11	7
50,000-99,999	10	0	14	11
100,000-199,999	29	71	39	41
200000-499,999	41	17	15	23
500000+	16	12	21	18
Total	100	100	100	100
N=	49	24	87	160

Source: Food and Nutrition Security Survey 2017

Figure 4. Amount households paid for PKH program each month in Nusa Tenggara Timur region



Source: Food and Nutrition Security Survey 2017

Results in Table 15 show that 68% of Nusa Tenggara Timur households under the PKH program reported receiving cash, while 31% reported receiving transfers. Almost all of PKH assistance is in cash in Manggarai district with 92% reporting getting cash, while bank transfers are dominant in Kota Kupang.

Table 15 Method of receiving PKH benefits by district

IDR per month	District			Total
	Flores Timur	Kota Kupang	Manggarai	
Cash	53	13	92	68
Bank transfer	47	87	7	31
Other	0	0	1	1
Total	100	100	100	100
N=	49	24	88	161

Source: Food and Nutrition Security Survey 2017

The level of satisfaction with the PKH program among beneficiaries was quite high in NTT, even higher than in NTB. Overall, 91% said they were "very satisfied" with the program, and more than three-quarters were "very satisfied" in each district/city. Although the survey asked about the reasons for dissatisfaction, the number of dissatisfied beneficiaries was too small to generate reliable results (see Table 16).

Table 16. Satisfaction with the PKH program by district

How satisfied with t	District			Total
	Flores Timur	Kota Kupang	Manggarai	
Very satisified	78	96	97	91
Somewhat satisfied	22	4	0	7
Indifferent/netural	0	0	2	1
Somewhat dissatisfie	0	0	1	1
Total	100	100	100	100
N=	49	24	88	161

Source: Food and Nutrition Security Survey 2017

3.5 Experience with the BKM program

Bantuan Khusus Murid (BKM) is a government program that started in 2001-2002 which provides scholarships at the primary and secondary level for students from low-income households. The results of the FNS Survey show that only 17% of households in Nusa Tenggara Timur reported that their children benefitted from the BKM. There is not much variation across districts (see Table 17).

The BKM program is somewhat targeted at low-income households: 24% of the poorest households benefit, 11% of the wealthiest households benefit. However, a fairly significant share of the benefits go to higher-income households (see Table 15).

Table 17 Percentage of households with children benefiting from BKM

District/City	Share of households benefiting (%)
Flores Timur	17
Kota Kupang	15
Manggarai	19
Total	17
Wealth quintile	
Poorest	24
2nd	20
3rd	15
4th	12
Wealthiest	11
Total	17
N=	1,200

3.6 Experience with the JAMSEKSMAS 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. In our NTT sample, 72% of the households Tenggara Timur said that they benefitted from JAMKESMAS. The share was higher in Kupang (76%) than in the two rural districts (68% and 73%) (see Table 18).

The lower part of the table shows the proportion households in each wealth category that benefits from JAMKESMAS. In every wealth category, at least two-thirds of the households benefit from the program. If anything, the middle quintiles are slightly less likely to benefit compared, but there is no tendency for poorer groups to benefit more than richer groups. In other words, there does not seem to be any targeting of JAMKESMAS toward lower-income households in these areas of NTT (see Table 18).

Table 18 Percentage of households benefiting from JAMKESMAS

District/City	Share of households benefiting (%)
Flores Timur	68
Kota Kupang	76
Manggarai	73
Total	72
Wealth quintile	1,200
Poorest	77
2nd	67
3rd	68
4th	70
Wealthiest	76
Total	72
N=	1,200

Source: Food and Nutrition Security Survey 2017

Results in Table 19 show that 81% Nusa Tenggara Timur households are very satisfied with the JAMKESMAS program, while an additional 10% somewhat satisfied. Satisfaction with the JAMKESMAS Program is very high in Manggarai district with around 93% reporting being very satisfied with the program.

Table 19 Percentage of household satisfied with the JAMKESMAS program by district

	District			Total
	Flores Timur	Kota Kupang	Manggarai	
Very satisfied	70	78	93	81
Somewhat satisfied	16	11	1	9
Indifferent/neutral	8	9	5	7
Somewhat dissatisfied	6	2	0	3
Very dissatisfied	0	0	1	0
Total	100	100	100	100
N=	270	305	293	868

Source: Food and Nutrition Security Survey 2017

The small proportion of Nusa Tenggara Timur households who reported being dissatisfied with the JAMKESMAS program were asked about what aspects contributed to their dissatisfaction. The two main aspects of their dissatisfaction were that the JAMKESMAS program did not cover all health services and that the health services were not good enough. A very high proportion (91%) of dissatisfied households in Flores Timur complained about not all health services being covered by the JAMKESMAS program (See Table 20).

Table 20. Reasons for dissatisfaction with the JAMKESMAS program

	District			Total
	Flores Timur	Kota Kupang	Manggarai	
It does not cover all health services	91	66	30	74
It costs too much money	7	46	0	22
The health services are not good	32	35	20	32
It is too complicated	12	47	10	26
Others	7	19	65	19

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. Results in Table 21 show that on average it takes no more than 10 minutes to reach the nearest community prenatal care in Nusa Tenggara Timur using the normal mode of transportation. Similarly, reaching the nearest village post would take on average around 13 minutes, while sub-district health post takes 33 minutes. Households in Kupang had shorter travel times to all four types of health facilties. Reaching district health clinic takes on average around 2 hours for households in Flores Timur, while in Manggarai and Kota Kupang it takes on average 90 and 30 minutes respectively.

Table 21 Distance (in minutes) to health care providers by normal mode of transportation

	District			Total
	Flores Timur	Kota Kupang	Manggarai	
Nearest community prenatal care	8	7	11	9
Nearest village post	11	11	17	13
Nearest sub-district health post	41	16	42	33
Nearest district health clinic	112	31	90	78

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 Timur, while village health post and sub-district health post are visited 3 and 2 times respectively in the past 12 months.

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

	District			Total
	Flores Timur	Kota Kupang	Manggarai	
Community prenatal care	5.3	3.3	4.1	4.3
Village health post	3.9	1.8	3.3	3.3
Sub-district health post	2.1	3.0	1.1	2.1

Source: Food and Nutrition Security Survey 2017

The frequency of visiting each type of health facility can also be shown by wealth category. Poor households visit village health posts much more often than sub-district clinics, while for wealthy households the reverse is true.

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

	Wealth quintile					
Variable	Poorest	2nd	3rd	4th	Wealthiest	Total
Community prenatal care	4.7	4.7	4.3	3.9	3.5	4.3
Village health post	4.1	4.0	2.9	2.4	1.5	3.3
Sub-district health post	1.2	1.6	2.4	2.6	3.0	2.1

Source: Food and Nutrition Security Survey 2017

The Nurse or doctor being too busy to help is the main complaint about services regarding both village health post (13%) and sub-district health post (15%) in Nusa Tenggara Timur. The same complaint is more common in Kota Kupang district, with 42% and 33% of the households reporting on village health post and sub-district post respectively (see Table 24 and Table 25).

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

	District			Total
	Flores Timur	Kota Kupang	Manggarai	
Nurse or doctor was absent when you went there	7	4	3	5
Nurse or doctor was too busy to help when you went there	2	42	12	13
Health post did not have medicine your household	3	19	7	8
Others	3	10	1	3

Source: Food and Nutrition Security Survey 2017

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

	District			Total
	Flores Timur	Kota Kupang	Manggarai	
Nurse or doctor was absent when you went there	6	3	1	3
Nurse or doctor was too busy to help when you went there	2	33	10	15
Health post did not have medicine your household	2	14	3	6
Other aspects of the program	2	8	1	4

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).

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 (NTB)	34.6	35.7
	Nusa Tenggara Timur (NTT)	65.4	32.5
District	Lombok Utara – NTB	17.2	40.9
	Lombok Timur – NTB	17.4	30.6
	Flores Timur – NTT	23.0	36.7
	Kota Kupang – NTT	19.6	24.8
	Manggarai – NTT	22.8	34.9
Sex	Male	49.5	33.9
	Female	50.5	33.4
Age (years)	0	14.6	20.4
	1	21.4	27.0
	2	26.1	38.3
	3	21.9	35.0
	4	16.0	45.1
Child birth weight	2.5kg or more	72.3	29.9
	<2.5kg	26.4	44.4
Education of mother	Junior high or less	68.7	35.8
	At least some senior high	31.3	29.0
Wealth quintile	Poorest	21.6	37.0
	2nd	18.9	41.3
	3rd	19.6	32.8
	4th	20.0	32.8
	Wealthiest	19.9	24.4
Sanitation	Unimproved	40.8	31.4
	Improved	59.2	35.2
Water source	Unimproved	50.5	36.5
	Improved	49.5	30.7
Water treatment	Untreated	18.3	43.6
	Treated	81.7	31.4
Number of ANC visits	<4 visits	5.8	35.1
	>=4 visits	92.5	33.3
Doctor/midwife/nurse provided ANC care	No	1.6	50.0
	Yes	98.4	33.4
Mother received iron supplements during pregnancy	No	2.7	41.2
	Yes	97.3	33.4
Mother received tetanus shot during pregnancy	No	9.7	32.3
	Yes	90.3	33.8
Child ever breastfed?	No	2.7	11.8
	Yes	97.3	34.2
When breastfeeding began	Within the first hour	74.6	33.3
	Within the first day	16.7	38.3
	Within one week or more	5.9	34.2
Duration of exclusive breastfeeding	0-5 months	18.9	33.9
	6 months or more	79.3	33.7
Child had diarrhea in past two weeks?	No	79.8	33.5
	Yes	20.2	34.1
Anything done to treat diarrhea?	Nothing done	0.9	33.3
	Something done	19.2	34.1

Source: Food and Nutrition Security Survey 2017

The prevalence of underweight children is lower in households were 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

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			
	2nd	1.099	0.023	0.745	
	3rd	0.731	-0.072	0.321	
	4th	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 summarizes the results of a survey carried out by SNV and the International Food Policy Research Institute (IFPRI). The questionnaire covered household characteristics, food security, water, sanitation, and safety net programs, among other topics. 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). This report focuses on the results from NTT, except in the analysis of underweight children where we combine NTB and NTT samples.

4.1 Summary of results

The household characteristics indicate that Manggarai has poorest living conditions among the three NTT districts and even among the five districts covered by the survey. For example, Manggarai has the largest average household size (5.1), the lowest level of electrification (60%), the smallest share of households with access to safe water (32%), and the lowest percentage of households with an improved toilet (50%). We constructed a wealth index based on housing characteristics and ownership of consumer assets such as radios, bicycles, and motorbikes. Three-quarters of the households in Manggarai are in the bottom 40% in terms of wealth. In contrast, households in Kupang are relatively well off. Across the five districts, Kupang has the smallest share of households in the bottom 40% (8%), the highest rate of electrification (98%), the greatest access to safe water (81%), and the highest percentage of households with improved toilets (75%).

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 NTT households in the survey, almost half of them reported having experienced a hungry period in the past 12 months, the percentage being higher in Manggarai (66%) and lower in Kupang (34%). The duration of the hungry period was 3.3 months on average, generally between January and 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. More food security households are 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. Households in Kupang had the most diverse diet among the three NTT districts (and among the five districts in the survey). Diet diversity is strongly related to income, rising from an average of 2.7 types of food consumed among the households in the poorest quintile to 7.3 types of food consumed in the wealthiest quintile.

The RASKIN program distributes rice at subsidized prices to low-income households. A majority of households received RASKIN rice in the two rural districts, but barely one-quarter did in the city of Kupang. Although each household is supposed to receive 15 kg per month, the average quantity was less than 10 kg in Flores Timur. The Raskin program is relatively well targeted in NTT, with almost 80% of the poorest households benefiting but only 14% of the richest benefiting. The level of satisfaction with the RASKIN program was high in Manggarai and Kupang, but lower in Flores Timur. The two most common complaints about the program were the low quality of the rice (reported by 93% of households) and the fact that the rice is not available every month (reported by 63%).
The PKH is a conditional cash-transfer program available to poor households in selected regions of the country. Just 13% of the NTT households surveyed received transfers from this program, the proportion being higher in Manggarai and lower in Kupang. The PKH benefits are well targeted, with 24% of the poorest households receiving them, but just 1% of the richest benefiting. In Kupang, most of the payments are bank transfers, but in the rural districts, cash payments are more common. Households rate the PKH program very highly, with 91% of the NTT beneficiaries saying they are "very satisfied" with it.

BKM is a school scholarship program for children from low-income households. In our survey, 17% of the households had children benefiting from this program, the percentage being roughly equal across the three districts. The program is not very well targeted at low-income households, with 11% of the wealthiest households receiving BKM scholarships.

JAMKESMAS is a government health insurance scheme covering more than 70 million people in Indonesia. More than 70% of the NTT households in our sample benefited from the program, the proportion being somewhat higher in Kupang compared to the two rural districts. The program is not effectively targeted at low-income households, with similar percentages of poor and rich households receiving benefits. This program is quite popular, with over 80% of the respondents saying they were "very satisfied". The main complaint about the program is that it does not cover all health services, particularly in Flores Timur.

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 more than an hour away. Health facilities are much closer, on average, in Kupang than in the two rural districts. The results indicate that poor households more often use the village health post, while wealthier households are more likely to visit the sub-district health clinic. The most common complaint about health clinics was that the nurse or doctor was too busy to help, though this was much more common in Kupang and in the two rural districts.

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

4.2 Implications

Based on the results of the FNS Survey, we can draw 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-half of NTT 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, while others receive more than 20 kg. In Flores Timur, the average allocation was less than 10 kg/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 20% of the poorest households in NTT were not receiving subsidized rice under the Raskin program but 14% 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 NTT 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 almost as likely to benefit as poor households from these programs in NTT. 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.

The Ministry of Health should consider gathering height information on children under the age of five. 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.

References

Hoddinott J, Alderman H, Behrman JR, Haddad L, Horton S. 2013. "The economic rationale for investing in stunting reduction." Maternal and Child Nutrition 9 (Suppl. 2): 69–82.

RISKESDAS. 2013. Riset Kesehatan Dasar (RISKESDAS) (Basic Health Survey). Ministry of Health. Jakarta.

Torlesse, H., Cronin, A., Sebayang, K., Nandy, R. "Determinants of stunting in Indonesian children: evidence from a cross-sectional survey indicate a prominent role for the water, sanitation and hygiene sector in stunting reduction." *BMC Public Health*. 2016.

WHO (World Health Organization) and UNICEF (United Nations Children's Fund). 2009. WHO child growth standards and the identification of severe acute malnutrition in infants and children. Geneva. http://apps.who.int/iris/bitstream/handle/10665/44129/9789241598163_eng.pdf;jsessionid=A079A1564772F2D796782A060838F266?sequence=1

WHO (World Health Organization) and UNICEF (United Nations Children's Fund). 2015. Progress on drinking water and sanitation: 2015 update. World Health Organization and UNICEF Joint Monitoring Programme. Geneva.

WHO (World Health Organization). 2015. *Policy Brief on Stunting*. http://www.who.int/nutrition/topics/globaltargets_stunting_policybrief.pdf

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A member of the CGIAR consortium | A world free of hunger and malnutrition
1201 Eye Street, NW, Washington, DC 20005 USA | T. +1-202-862-5600 | F. +1-202-862-5606 |
Email: ifpri@cgiar.org | www.ifpri.org

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Jl. Kemang Timur Raya No.66, Jakarta Selatan, Indonesia
+6221 719 9900 www.snv.org @SNVIndonesia