

# Timor-Leste

# Food Security Bulletin

Issue No.13 January – March 2016

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## Highlights

- The prolonged drought or El Niño had negatively affected the agriculture sector with 78% (estimated to 122,345 households) impacted by drought and reported to have first season maize and rice delayed planting and crops not growing and that 40.6% (estimated to 62,717 households) already experienced food shortages.
- The drought that started in May 2015 caused serious damaged to the first season maize, low yield below the 2.1 average in 2015 was expected, with cultivated area 51% lower compared to 2015, putting a production of 39,646 tonnes for the first season 2015/16, with a projected high deficit to 49% for marketing year 2016/17, and if to consider other food uses such as animal feeds and seeds, deficit could be as high as 63%.
- Planting of the first season rice was delayed for a month and received below normal rainfall, with a production projected to be about 30,426 tonnes, 50 % less compared to 2015, with a reduced yield and panted area to only 9,575 hectares (after reducing the areas reported to have seriously affected by drought), could only cover 14% of the total rice requirement for 2016/17, this means a potential total deficit of 95,248 tonnes.
- The government National Logistic Center reported to have imported 9,000 tonnes, in addition to the outstanding stocks of 6,371 tonnes and 11,404 tonnes initially imported by the private sector in April 2016, means total available rice stood at 26,775 tonnes, lower than the estimated total cereal (maize and rice) deficits of 159, 006 tonnes for marketing year 2016/17.
- In January to March 2016, the month-on-month inflation stood at 0.1% while year-on-year inflation was -1.6%, means that Timor-Leste experienced deflation, attributed to the international factors such as the appreciation of the US Dollar against Timor-Leste's trading partners' currencies and the decrease in the international price of oil and food.
- Subsidy rice average price continue declining to USD 0.21 cents per kilogram during the months of January to March 2016, while maize price sharply increased in January, but ending an average price of USD 0.72 cents per kilogram, lower compared to the same period in 2015. On the other hand, commercial rice prices remained relatively stable in most communities, with an average price stood at USD 0.56/kg, lower from USD 0.66/kg same period in 2015.
- During the first quarter of 2016, the percentage of children in Timor-Leste who have utilized the health facilities increased to 29% compared to the same period in 2015, with moderate underweight decreased to 7% with severely underweight remained at 2%.

*The Timor-Leste Food Security Bulletin (FSB) is a product of the EU and FAO supported project on establishing a sustainable National Information and Early Warning System (NIEWS) on Food Security in Timor-Leste. The FSB aims of reporting and providing information on national and household food security situation in a quarterly basis. This is a MAF led innovation of ensuring the timely delivery of information to decision makers and wider stakeholders on the general overview of the food security situation in the country as an early warning to mitigate the serious impact of food shortages and hunger. In this quarter issue provides projected crop production of 2016, the projected increased rice deficit and general food security outlook. This also includes market information and price for main food products, as well as information on rainfall and vulnerability.*

*The European Union funds this product. The views expressed in this publication do not necessarily reflect the views of the European Union.*



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## Food Production

### • Maize

Projected maize production for the first season 2015/16 reduced by 39 percent from the 2015 total production of 64,795 tonnes. The drought brought by the El Niño phenomenon right from the start of the season in November 2015 until the harvest concluded in May 2016, was the main reason of the significant reduction of the maize production. Most farmers delayed their planting or stop planting until after the first planted maize wilted and eventually died, due to non-availability of seeds and labour to do more planting. In addition, farmers were disappointed after several planting attempts and crops still failed to grow.

With the insufficient rain, a significant reduction of yield from the 2.1 tonnes per hectare the previous year was expected; otherwise in areas where farmers applied good agriculture practices, the yield was projected to be the same. If to compare to last year, the area planted was reduced to 51%, due to the production loss brought by the drought, and farmers were overwhelmed with the delayed and intermittent rains to expand their farm. Further reduction of areas planted, means low production this year, projected to be as low as 39,646 tonnes.

The impact of drought from the El Niño phenomenon was felt across the country, with localized extreme harmful effects to the agriculture sector (crops, livestock, etc). MAF projected that the municipalities of Liquisa, Manatuto, Bobonaro and Ainaro as well as off grid areas in Dili will have very low maize production, while the municipalities of Covalima, Lautem, Baucau and Ermera were expected to have favourable production from larger planted areas of which farmers adopted good agricultural practices.

### • Rice

Planting of the first season 2015/16 rice was seriously delayed to 4 weeks in most areas with crops suffered significant water stress. However, MAF remains positive knowing that high yielding varieties of seeds were distributed mostly to areas with irrigation schemes. Yield was expected to be the same like last year (3.30T/ha) otherwise the reduction is not very substantial, but with projected area planted reduced by 68% compared to 2015, means overall production could be significantly low. MAF projected to have a production of 30,426 tonnes or 17,070 tonnes milled rice equivalent that could only cover 14% of the total national rice requirement for the marketing year 2016/1, which means a deficit of 92,248 tonnes.

Low rice production, high deficit was expected in the municipalities of Bobonaro, Liquisa, Lautem, Ainaro and off grid areas in Dili, while rice production in the municipalities of Viqueque and Baucau remains favourable, although lower than the normal years.

**Table 1: Comparison on Cultivation, Yield and Production of rice in 2015 to 2016.**

Commodity	Maize				Rice			
	Cultivated Area (ha)	Harvested Area (ha)	Yield (t/ha)	Total Production (t)	Cultivated Area (ha)	Harvested Area (ha)	Yield (t/ha)	Total Production (t)
<b>2015</b>	37,051	30,164	2.1	64,795	29,693	18,281	3.30	60,361
<b>*2016</b>	18,135		2.1	39,646	9,575		3.30	30,426
<b>Percentage Change (%)</b>	-51%			-63%	-68%			-50%

Source: MAF

\*Note: Maize and Rice projected production after losses from drought (El Niño)

Table 2: Projected production of the first season 2015/16 maize

Municipality	Projected Total Cultivated Area (ha)	Projected Yield (t/ha)	Projected Production before drought (El Niño) (t)	Projected Total Area Affected by drought (El Niño) (Ha)	Projected production Losses from drought (t)	Projected Total Production after drought (El Niño) (t)
Aileu	1,617	1.5	2,502	0	0	2,502
Ainaro	332	1.6	519	0	0	519
Baucau	7,998	1.4	11,373	5,461	7,765	3,608
Bobonaro	2,489	2.3	5,625	2,336	5,280	345
Covalima	6,138	2.7	16,750	217.2	593	16,157
Dili	215	2.1	454	215	454	-
Ermera	1,895	1.7	3,181	0	0	3,181
Lautem	4,283	2.6	11,129	857	2,226	8,903
Liquisa	1,985	3.5	7,035	1,985	7,035	-
Manatuto	1,021	1.9	1,957	850	1,630	328
Manufahi	1,099	2.4	2,582	0	0	2,582
Viqueque	1,093	1.5	1,690	109	169	1,521
<b>TOTAL</b>	<b>30,165</b>	<b>2.1</b>	<b>64,797</b>	<b>12,030</b>	<b>25,151</b>	<b>39,646</b>

Source: DNAHE, MAF

Table 3: Projected production of the first season 2015/16 rice

Municipality	Projected Total Cultivated Area (ha)	Projected Yield (t/ha)	Projected Production before drought (El Niño) (t)	Milled Rice Equivalent (t)	Projected Total Area Affected by drought (El Niño) (ha)	Projected production Losses from drought (t)	Projected Total Production after drought (El Niño) (t)	Milled Rice Equivalent (t)
Aileu	398	3.11	1,240	744	0		1,240	744
Ainaro	150	4.91	737	442	0		737	442
Baucau	8,112	3.25	26,350	15,810	5,461	17,748	8,602	5,161
Bobonaro	2,409	3.53	8,501	5,101	2,336	8,504	(2)	(1)
Covalima	970	3.15	3,061	1,837	217.2	684	2,377	1,426
Dili	30	3.86	116	70	0		116	70
Ermera	833	3.51	2,926	1,755	0		2,926	1,755
Lautem	370	3.72	1,376	825	74	270	1,106	664
Liquisa	254	3.24	824	494	254	823	1	0.6
Manatuto	1,302	4.05	5,272	3,163	850	3,443	1,829	1,097
Manufahi	800	2.67	2,135	1,281	0		2,135	1,281
Viqueque	3,825	2.78	10,634	6,380	383	1,274	9,360	5,616
<b>TOTAL</b>	<b>19,454</b>	<b>3.30</b>	<b>63,172</b>	<b>37,903</b>	<b>9,575</b>	<b>32,746</b>	<b>30,426</b>	<b>17,070</b>

Source: DNAHE, MAF

## Factors Affecting Production

### Agro-meteorology

- From January to March 2016, rainfall condition was generally below the long term average. With sustained dry weather in most of the municipalities. Precipitation anomaly relative difference to long term average showed below normal rainfall in most areas of the country except during the month of February of which most areas received good rain (Figure 1). Having low and erratic rainfall from January to March was not supportive to the main season maize and rice production, of which negatively affected the yield and overall crop production results.
- The VHI informs the overall vegetation conditions and indicates vegetation stress level particularly early indication on drought in the country. The Vegetation Health Index (VHI) is a composite index and the elementary indicator used to compute the Agricultural Stress Index (ASI) that combines both the Vegetation Condition Index (VCI) and the Temperature Condition Index (TCI).
- Figure 2 shows that during the first quarter of 2016, areas that consistently indicated having a Vegetation Health Index (VHI) more than 0.65 to 0.85 (dark green colour) were the upland west and central regions. Coastal areas especially the eastern and southern parts have VHI below the normal 0.45 up to below 0.15, particularly the eastern coast of the municipalities of Manatuto, Baucau, Lautem, and south coast of Viqueque, Covalima Manufahi and Ainaro. This means lower yield and overall crop production, while, favourable yield is expected in the highlands of the municipalities of Bobonaro, Ermera and Ainaro with VHI consistently higher than 0.55.

Figure 1: Precipitation Anomaly-Relative difference to Long Term Average

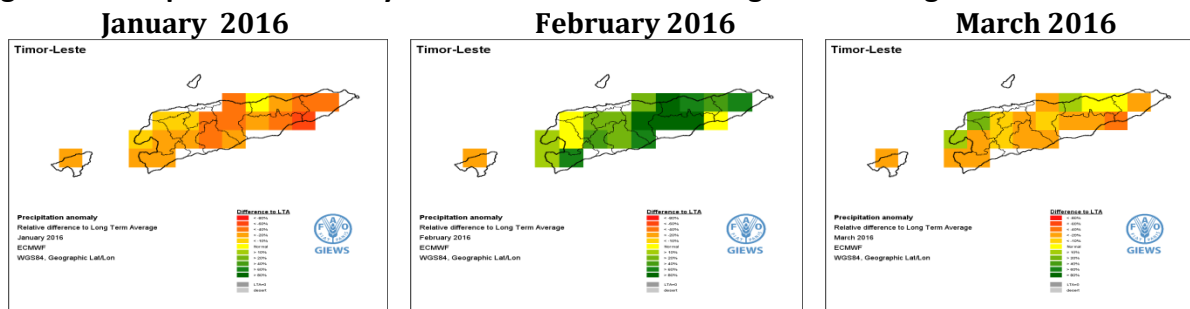
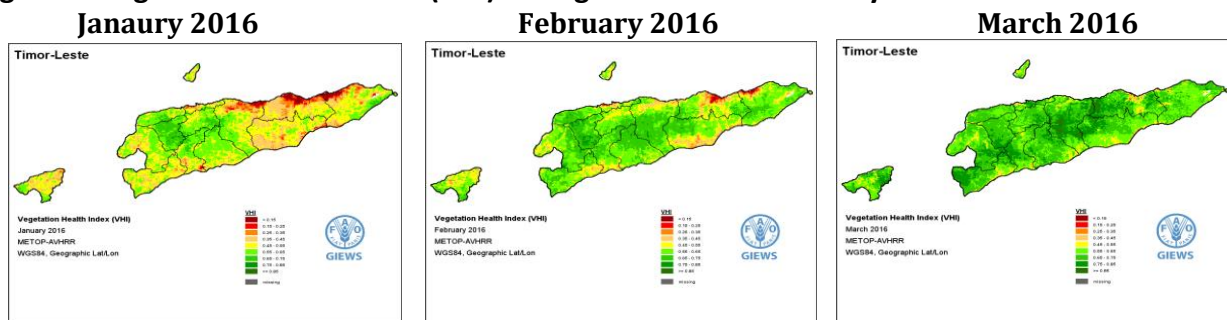


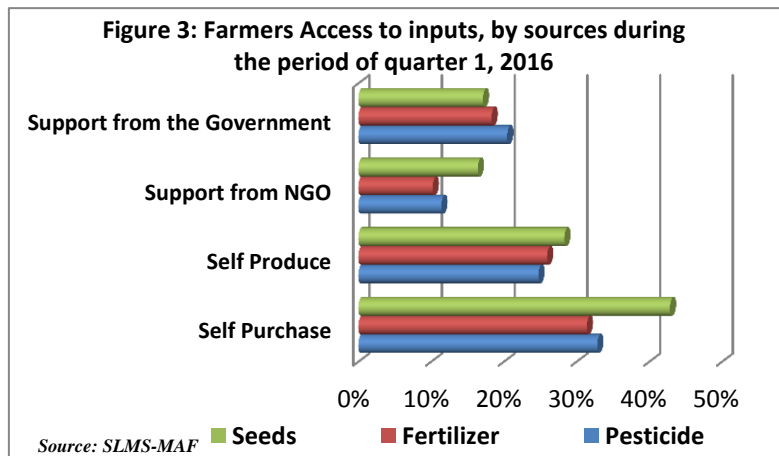
Figure 2: Vegetation Health Index (VHI) during the month of January to March 2016



### Means of Production and Input

- The Ministry of Agriculture and Fisheries (MAF) continues to provide farm inputs subsidies such as seeds, fertilizers and pesticides with an objective of increasing the productivity for maize and rice. With the negative effect of drought, MAF distributed seeds as early as October 2015, of which most of the farmers used in their first planting attempt. While the seed distribution was early, most farmers hardly access the government tractors

Figure 3: Farmers Access to inputs, by sources during the period of quarter 1, 2016



from the free plowing program (programa fila rai gratuita). The Suco Level Food Security Monitoring System (SLMS) reported that during the first quarter of 2016 many farmers received most of their seeds from the government (20%) along with pesticides (26%) and fertilizers (33%), while 31% claimed that they either purchased or produced their farm inputs, higher than the previous planting season. On the other hand, 13% reportedly received farm inputs from NGOs, higher compare to the same season in 2015.

## FOOD SUPPLY AND DEMAND SITUATION

### Preliminary National Cereal Balance Sheet for marketing year 2016/17 (April/March)

This National Cereal Balance for marketing year of 2016/17 still preliminary, considering that production figure used in the calculation was based from the earlier projection of the Ministry of Agriculture and Fisheries (MAF), pending the final estimate for 2016 that is being consolidated to include the second season production.

MAF expected that with lower maize and rice production this year, cereal deficit was estimated to as high as 159,006 tonne. Most of this deficit could be covered by a new rice import, either from the private sector or by the Centro Logistica Nacional (CLN) of the Ministry of Commerce, Industry and Environment (MCIE) that already arranged the delivery of some 5,000 tonnes, in anticipation for additional market operations during the remaining months of 2016. Usually consumption of other food crops such as roots and tubers, partially address high cereal deficits at the household level, particularly to communities located in remote areas where market is often not accessible.

**Table 4: Preliminary National Cereal Balance Sheet Marketing Year 2016/17 (April/March)**

	Rice (T)	Maize(T)
Domestic Availability	<b>32,441</b>	<b>39,646</b>
<b>Opening stocks 1/</b>	15,371	
<b>Projected Production main season</b>	17,070	39, 646
Total utilization	<b>127,689</b>	<b>103,404</b>
<b>Food use 3/</b>	123,728	78,205
<b>Seed requirement 4/</b>	547	1,270
<b>Feed use 5/</b>		16,000
<b>Post-harvest losses 6/</b>	3,414	7,929
<b>Targeted closing stocks 7/</b>		
Deficit/Surplus	<b>-95,248</b>	<b>-63,758</b>
Import Requirements		
<b>Anticipated commercial Imports</b>	<b>159,006</b>	

Source: NIEWS-MAF

**In order to calculate the national cereal balance, the following assumptions were used:**

1/ only government stocks (data from MCIE) as of March 2015

2/Milling rate of paddy to rice is estimated at 60 percent

3/ Based on 106 kg per year/person of rice consumption and 67 kg per year/person of maize consumption with a population of 1,167,242 (Source: DNE Preliminary Result of the Population & Housing Census 2015)

4/ According to the Directorate National of Agriculture and Horticulture (DNAH) of MAF, standard use of seed for: rice 25-35 kg/ha, maize 40-50 kg/ha

5/ There is no information available on the use of grains to feed animals. However, it is known that the 60% extraction rate of rice already takes into account and 6% that remains in the husk is given to animals. Maize, in turn is extensively used as feed. Only chicken feed is used for this calculation, based on MAF's standard consumption rate.

6/ DNAH/MAF estimates 15-20% post-harvest losses in both rice and maize

7/ It may include contingency stock.

## Cereal Imports

**Table 5: Rice imports during marketing years**

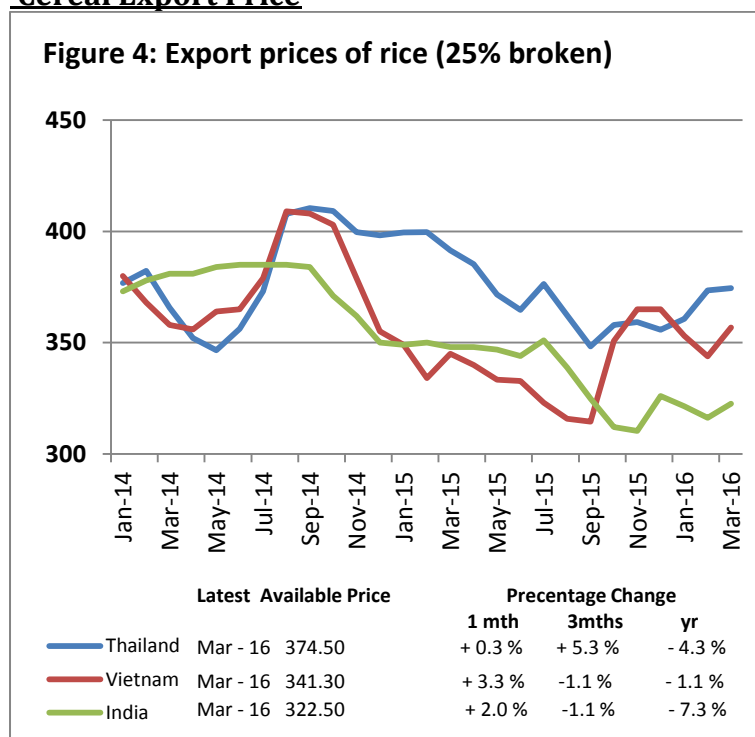
	April	May	June	July	August	September	October	November	December	January	February	March	Total
<b>2012/2013</b>	134	331	3,856	1	1	500	10,607	0.11	3,042	3	251	51	<b>18,777</b>
<b>2013/2014</b>	3,010	-	1,999	9,754	487	6,905	2,029	6	2,475	8,307	845	10,047	<b>45,864</b>
<b>2014/2015</b>	8,954	640	131	5,529	28,810	14,695	3,710	5,925	131,237	4,606	4,675	5,857	<b>214,769</b>
<b>2015/2016</b>	7,602	10,944	379	6,635	5,355	7,753	6,957	10,603	11,021	7,489	12,045	21,078	<b>107,861</b>
<b>2016/17</b>	11,404												<b>11,404</b>

Source: Alfandega-MoF

- The projected import requirement for the marketing year 2016/17, to cover cereal deficit is as high as 159,006 tonnes, with the expected rice deficit of 95,248 tonnes and maize deficit of 63,758 tonnes, 13 percent higher compare to the marketing year 2015/16.
- Before the closing of the marketing year 2015/16, the final rice imported through the private sector from January to March 2016 was at 40,612 tonnes, in addition to the import made from April to December 2015 for a total of 67,249, thus total of imported rice stood at 107,861 tonnes. With the huge import from the previous marketing year (2014/15) of 214,769 tonnes against the deficit of 92,813 tonnes, it is being assumed that the positive balance stock was used to supplement the deficit during the marketing year 2015/16.
- The government National Logistic Center confirmed that 9,000 tonnes of rice was imported during the first quarter of 2016, while an additional import is being anticipated between April to June 2016 to around 5,000 tonnes, to supplement the current rice stocks to increase coverage on market distribution planned for the second quarter of 2016.

## Food Price

### Cereal Export Price



Source: FAO-GIEWS

According to the FAO Global Food Monitor, the overall cereal trade during the 2015/16 marketing year to decline from previous year's record. Aggregate rice imports in the 2016 calendar year are forecast at 15.2 million tonnes, 3 percent below the 2015 record level. This decrease rests on anticipated lower imports by Bangladesh, China and Sri Lanka, which are expected to more than offset increased deliveries elsewhere, especially to Indonesia, Nepal and the Philippines.

In most countries in East Asia, domestic prices of rice remained relatively stable in March 2016. Downward pressure from the arrival of the newly-harvested 2015/16 secondary season crops on the market was limited. In Vietnam, rice prices firmed up in March 2016 mainly due to the 2016 main winter/spring crop, currently being harvested, which has been affected by dry weather conditions and excess soil salinity.

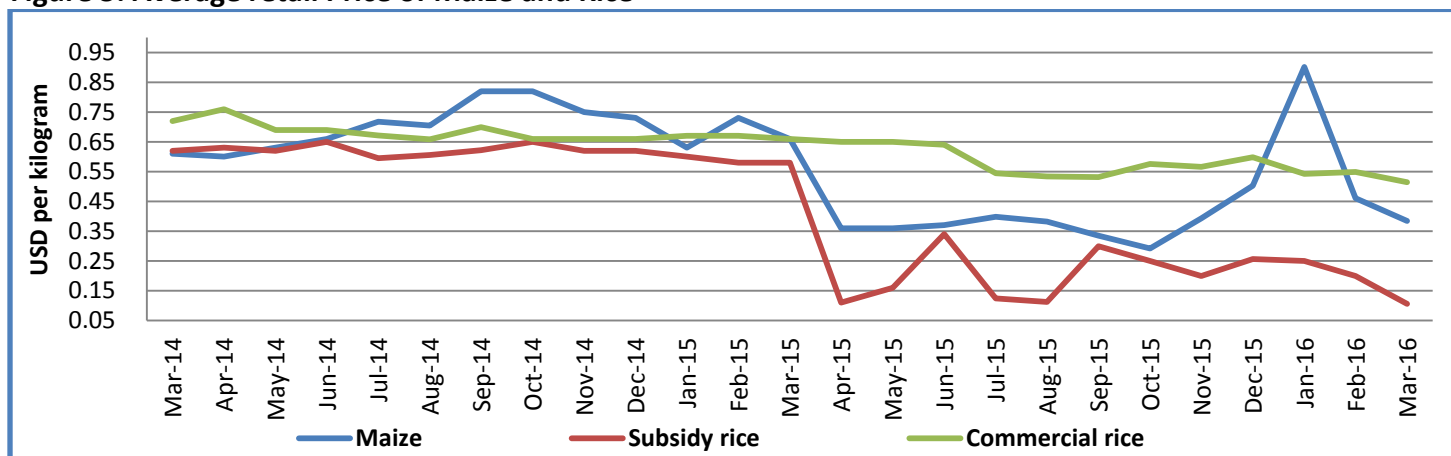
In Thailand, rice prices eased only marginally in March despite the release of rice from the state reserves and remained slightly above the year-earlier levels. In India, large Government procurement purchases added to the upward pressure already on prices in view of the smaller 2015/16 secondary season crop, being harvested.

### Domestic Price

- The price of the subsidy rice recovered to USD 0.26 cents per kilogram in December 2015 after a fall in November to USD 0.20 cents per kilogram. Although, the price declined from January to March 2016 to USD 0.11 cents per kilogram, making rice considerably accessible to drought or El Niño affected population. The maize average price remained lower in December 2015 to USD 0.39 cents per kilogram but sharply increased to USD 0.90 cents per kilogram in January 2016 when most of the farmers already exhausted their stocks and still waiting for the 2016 mean season harvest, resulting to less supply in the markets. On the other hand, commercial rice prices remained relatively stable in most communities, the average price stood at USD 0.56/kg, lower than USD 0.66/kg during the same period in 2015.
- The Suco Level Food Security Monitoring System (SLMS) reported that there were 52 upland remote villages (with fewer access to market) belonging to the municipalities of Lautem, Ainaro, Liquiça, Manufahi, Baucau and Covalima, recorded higher prices (more than the average market price) on maize and rice ranges from USD 1.00/kg to USD 1.25/kg for maize and USD 0.56/kg to USD 0.80kg for subsidy rice.

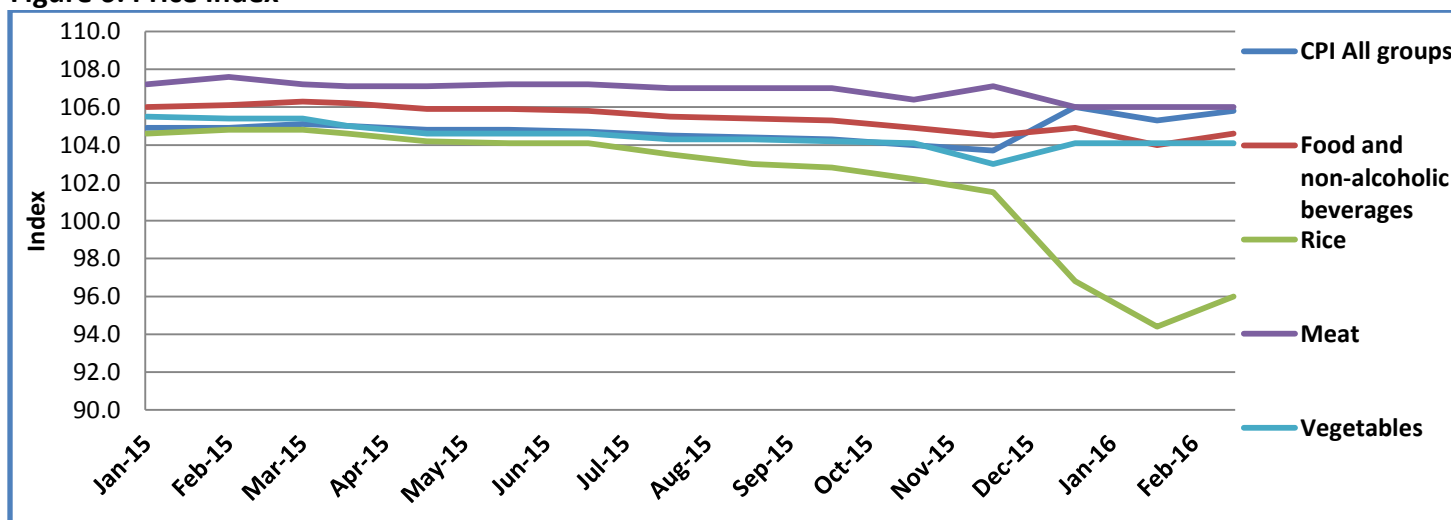
- The month-on-month inflation during the first quarter of 2016 stood at 0.1%, while year-on-year inflation in March 2016 was -1.6%, this means that Timor-Leste experienced deflation, mainly attributed to the international factors such as the appreciation of the US Dollar against the majority of the Timor-Leste’s trading partners’ currencies and the decrease in the international price of oil and food prices. The sharp fall in the price of food and non-alcoholic beverages is acting as the main driver of deflation as a consequence of the significant weight of this group in the Timor-Leste’s CPI basket. The year-on-year core inflation, which excludes the prices of these volatile items, was 0.4% in March 2016, down from 0.8% in March 2015. With the inflation dipped negative for the last five consecutive months, due to the low international food prices, it is expected that this trend to continue throughout 2016 (Source: Quarterly Inflation Review, National Directorate for Economic Policy, Ministry of Finance).

Figure 5: Average retail Price of Maize and Rice



Source: NIEWS-SLMS-MAF

Figure 6: Price Index



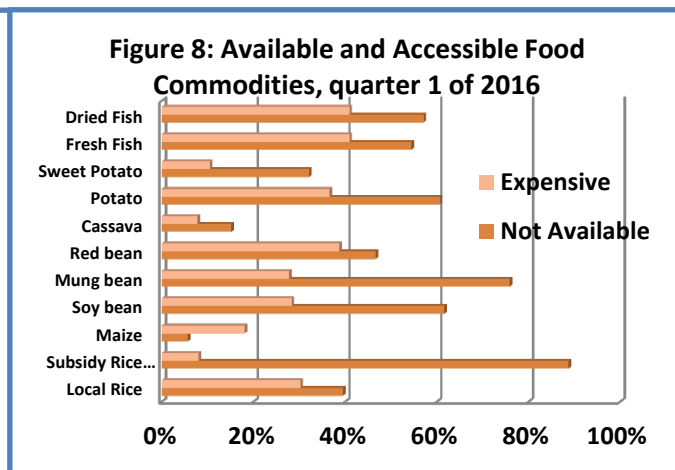
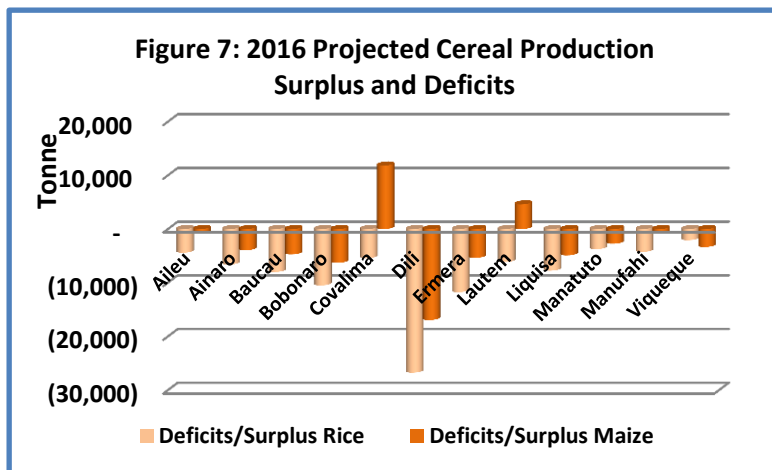
Source: DGS-MoF

### Household Food Security and Vulnerability Analysis

- Although the food supply situation across the country has been reported normal, but the household food security situation in Timor-Leste was deteriorated as a result of the negative impact of the severe drought, with current estimates indicating that 40.6 percent of the rural population or about 345,366 people already affected. This figure was expected to increase to about 378,669 people (45.9 percent) between April and June 2016, particularly in the west, north and central highland areas of the country, with no second season crop production.
- Locally produced cereals hardly entered the market during the marketing year 2015/16. Most municipalities reported to having negative effects from drought and expected to have deficits on rice but possible maize surplus in the municipalities of Covalima and Lautem due to the large area that were planted during the main season. Huge maize and rice deficits in the municipalities of Bobonaro, Ermera, Baucau and the off grid areas of Dili.
- The SLMS reported that the price of subsidy rice was very affordable in the previous months, although the supply was very limited and most of the time not available in the local markets especially in the upland areas throughout the quarter. Tubers

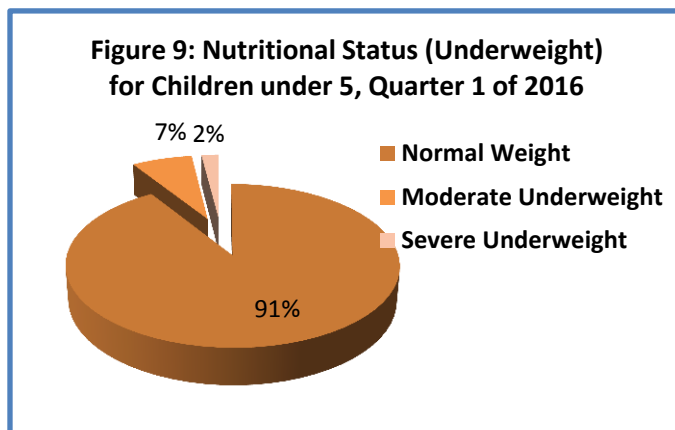
were available and affordable all the time, unlike other food products such as the local rice, dried fish, fresh fish, potato and red beans that were very expensive and at the same time the market supply was not stable.

- The Ministry of Social Solidarity (MSS) distributed approximately 490 tonnes of rice from January to March 2016 mostly to food insecure households but also included institutions such as orphanages and training centers. In addition to rice, 105 litters and 519 boxes of edible oil, 563 sacks of mung beans (25kg) and 687 sacks of red beans were also distributed to all program beneficiaries in 12 municipalities.

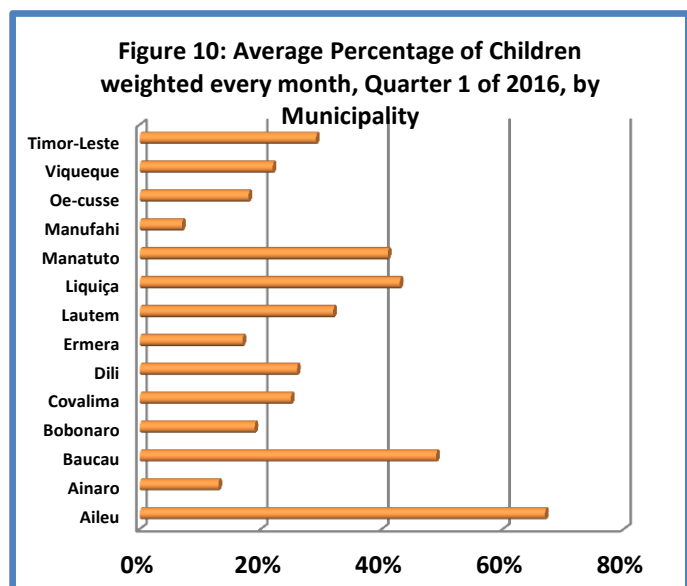


**Nutrition and Health**

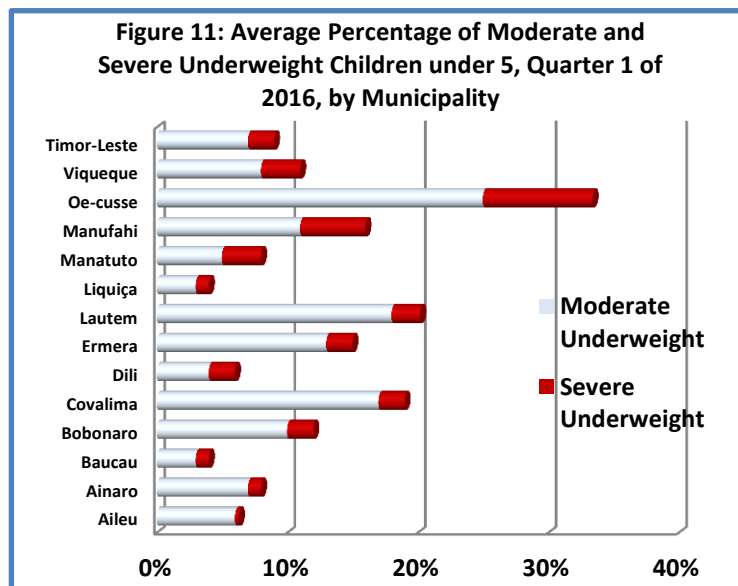
- During the first quarter of 2016, the Health Monitoring Information System (H-MIS) recorded 3% increase of children attendance at the public health facilities compared to the previous quarter (Q4, 2015) attendance of 26%, and a reduction of the number of children with moderate underweight to 7% and severe underweight at 2% compared to same quarter in 2015.
- High percentage of children attendance in the municipalities of Aileu (67%), Baucau (49%), Liquisa (43%) and Manatuto (41%), while low attendance in the municipalities of Manufahi (7%), Ainaro (13%), Ermera (13%), and Oe-cusse (18%).
- High percentage of severe and moderate underweight children in the municipalities of Oe-cusse (8.4%) and Manufahi (5%).



Source: H-MIS- MoH



Source: H-MIS- MoH



Source: H-MIS- MoH