

AGRICULTURAL INDICATORS SYSTEM (AIS)

FOOD SUFFICIENCY AND SECURITY

REPORT No. 2016-5



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FOREWORD

The Agricultural Indicators System (AIS) is one of the statistical indicator frameworks maintained by the Philippine Statistics Authority (PSA). AIS has twelve (12) modules which are updated and released annually. This is the fifth module entitled Food Sufficiency and Security. It provides information on self-sufficiency ratio, and import dependency ratio of selected major agricultural commodities and data on rice and corn stocks. The reference years are 2011 to 2015.

The AIS hopes to cover more agricultural development indicators to support the information needs of our data users. We encourage the readers to give their comments and suggestions on the improvement of the AIS, in general, and this report, in particular.

The PSA would like to acknowledge the National Food Authority (NFA) for providing the basic data on this module.



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FOOD SUFFICIENCY
AND SECURITY



Self-Sufficiency Ratio

Self-sufficiency ratio (SSR) shows the magnitude of production in relation to domestic utilization. It is the extent to which a country's supply of commodities is derived from its own domestic production. A ratio of less than 100 percent indicates inadequacy of food production to cope with the demand of the population; equal to 100 percent indicates that food production capacity of the sector is just enough to support the food needs of the population; ratio of greater than 100 percent indicates that domestic production is more than enough to support the domestic requirements. The higher the ratio, the greater the self-sufficiency.

In 2015, the country's self-sufficiency ratio of rice dropped to 88.93 percent from last year's record of 91.95 percent. This means that 88.93 percent of the domestic supply of rice came from the country's own production. Likewise, SSR of corn decreased to 91.35 percent in 2015 from 2014's 93.12 percent. The declining SSRs of both commodities were brought about by the reduced share of domestic production to the country's supply while importation was increasing. Sufficiency in production was sustained for coconut and sugarcane. For coffee, SSR abruptly went down to 33.04 percent.

Adequacy in production was continuously reported for calamansi, papaya and pomelo. For vegetables and rootcrops, self-sufficiency was still achieved for cabbage, eggplant, cassava and sweet potato. There was a sudden drop in the SSR of garlic to 12.96 percent in 2015 from last year's SSR of 23.30 percent. This was attributed to the significant increase in the volume of imports. Similar trend was observed for onion and potato with SSRs going down to 84.48 percent and 85.54 percent, respectively, in 2015. In the same year, a minimal reduction in SSR was recorded in peanut at 28.43 percent and mongo at 52.23 percent.

For livestock and poultry products, self-sufficiency was continuously reported for chevon and chicken egg. Meanwhile, the 2015 SSRs slightly went up to 76.15 percent for beef, 89.71 percent for pork and 98.53 percent for duck. In contrast, SSRs slid to 69.88 percent for carabeef and 86.39 percent for chicken meat.

Sufficiency in production continued in milkfish, tilapia, shrimps and prawns, crabs and oysters. SSR of crabs decreased to 120.97 percent but remained the highest in 2015. Roundscad exhibited a minimal drop in SSR to 99.93 percent. Tuna's SSR was reduced to 81.61 percent in 2015 (Table 1).

Import Dependency Ratio

Import dependency ratio (IDR) indicates the extent to which a country's supply of commodities came from imports. A high ratio implies greater dependency on importation.

The country's import dependency ratio (IDR) of rice in 2015 increased to 11.07 percent compared to 2014's 8.06 percent. Similarly, IDR of corn rose to 8.65 percent in 2015 from last year's 6.89 percent.

Higher and increasing dependency on importation was noted for garlic, coffee, peanut and mongo with respective IDRs at 87.14 percent, 66.96 percent, 71.64 percent and 47.77 percent in 2015. Meanwhile, there was a remarkable increment in the IDRs of onion and potato in 2015 which reached 15.95 percent and 14.46 percent, respectively. Importation of tomato remained lower in 2015 as it recorded IDR of 0.03 percent.

In 2015, importation continued for all livestock and poultry products except chevon and chicken eggs. Relatively higher IDRs in 2015 were registered for beef at 23.86 percent and carabeef at 30.12 percent. IDRs of pork settled at 10.29 percent, chicken at 13.88 percent and duck at 1.63 percent.

Dependency on importation was low for fishery products such as milkfish, roundscad, tilapia, crabs and oyster with IDRs ranging from 0.01 percent to 0.15 percent in 2015. IDR of shrimps and prawns was estimated at 4.62 percent. Importation of tuna increased in 2015 and pushed up its IDR to 22.52 percent (Table 2).

Cereals Stocks

Information on supply condition is vital to be able to maintain food balance. The occurrence of typhoons and other calamities as well as volatile grains market structures necessitate the need to monitor stocks situation of the staple grains. This is to ensure supply and demand equilibrium, access and price stability. Information on monthly stockholdings can guide policy makers on how much and whether to export or import rice or corn in the future.

In 2015, the peak month of rice stocking was recorded in December with total inventory of 3.44 million metric tons. Of the total volume of rice stocks, 47.8 percent comprised the household stocks, 28.4 percent were held by commercial warehouses and the remaining 23.8 percent were kept in NFA depositories. In contrast, September had the lowest volume of rice stocks at 2.0 million metric tons. NFA holdings accounted for the biggest share of the total rice stock at 41.1 percent. Stocks from commercial warehouses and households shared around 29 percent each (Table 3a).

For corn, the biggest volume of stocks in 2015 was noted in October at 0.42 million metric tons. About 56.4 percent were contributed by commercial warehouses while 43.4 percent were stocks kept by the households. The remaining 0.2 percent came from NFA. On the other hand, the lean month for corn stocks was January with 0.18 million metric tons in 2015. Stocks in commercial warehouses and households comprised 52.9 percent and 46.2 percent, respectively, of total corn stocks. NFA contributed only 0.9 percent (Table 4a).

Table 1.
Self-sufficiency ratio (SSR) of selected agricultural commodities,
Philippines, 2011-2015
(in percent)

COMMODITY	2011	2012	2013	2014	2015P
Rice	93.91	91.89	96.82	91.95	88.93
Corn	99.06	98.18	95.57	93.12	91.35
Coconut	100.05	100.01	100.02	100.01	100.02
Sugarcane	100.00	100.00	100.00	100.00	100.00
Coffee	54.90	45.21	46.79	71.91	33.04
Calamansi	100.02	100.02	100.02	100.03	100.03
Papaya	101.90	101.89	103.69	103.05	101.07
Pomelo	100.00	100.00	100.00	100.15	100.15
Tomato	99.54	99.99	100.00	100.00	99.97
Garlic	28.74	48.17	71.92	23.30	12.96
Onion	107.70	90.62	96.36	96.10	84.48
Cabbage	100.00	100.00	100.00	100.00	100.00
Eggplant	100.00	100.00	100.00	100.00	100.00
Peanut	32.94	35.59	45.43	30.52	28.43
Mongo	57.60	50.21	49.08	53.18	52.23
Cassava	99.79	100.02	99.38	99.66	100.02
Sweet potato	100.00	100.00	100.00	100.00	100.00
Potato	93.65	95.00	96.43	94.70	85.54
Beef	80.14	79.79	79.71	75.42	76.15
Carabeef	72.67	73.38	78.21	71.77	69.88
Pork	92.08	93.30	91.74	89.26	89.71
Chevon	100.00	100.00	99.99	99.95	100.00
Chicken (dressed)	90.00	91.00	92.13	87.57	86.39
Duck (dressed)	99.48	97.65	99.35	97.99	98.53
Chicken egg	100.00	99.93	99.99	100.00	100.00
Milkfish	100.88	100.40	100.91	100.83	100.80
Roundscad	100.24	100.14	100.00	99.99	99.93
Tilapia	99.91	100.10	101.69	100.63	100.04
Tuna	95.99	95.33	93.45	90.99	81.61
Shrimps & Prawns	108.91	100.33	107.09	111.02	103.98
Crabs	109.99	115.45	135.64	124.12	120.97
Oysters	100.10	99.91	100.32	101.95	101.14

P - preliminary

Table 2.
Import dependency ratio (IDR) of selected agricultural commodities,
Philippines, 2011-2015
(in percent)

COMMODITY	2011	2012	2013	2014	2015P
Rice	6.09	8.11	3.20	8.06	11.07
Corn	0.94	1.82	4.43	6.89	8.65
Coconut	-	-	-	-	-
Sugarcane	-	a/	-	-	-
Coffee	45.10	54.79	53.42	28.10	66.96
Calamansi	-	-	-	-	-
Papaya	-	-	-	-	-
Pomelo	-	-	-	-	-
Tomato	0.46	0.01	a/	a/	0.03
Garlic	71.28	51.85	28.13	76.93	87.14
Onion	4.05	13.38	6.11	4.27	15.95
Cabbage	-	-	-	-	-
Eggplant	-	-	-	-	-
Peanut	67.26	64.41	54.57	69.51	71.64
Mongo	42.88	49.91	50.96	46.90	47.77
Cassava	0.26	a/	0.67	0.41	-
Sweet potato	-	-	-	-	a/
Potato	6.35	5.00	3.57	5.30	14.46
Beef	19.86	20.21	20.31	24.60	23.86
Carabeef	27.33	26.62	21.79	28.23	30.12
Pork	7.92	6.71	8.31	10.75	10.29
Chevon	-	a/	0.01	0.05	-
Chicken (dressed)	10.97	9.51	8.39	13.09	13.88
Duck (dressed)	0.52	2.35	0.65	2.50	1.63
Chicken egg	-	0.07	0.01	-	-
Milkfish	0.04	0.19	0.11	0.03	0.03
Roundscad	0.02	0.01	0.07	0.07	0.15
Tilapia	0.09	-	0.01	-	0.01
Tuna	7.34	7.77	11.59	14.50	22.52
Shrimps & Prawns	3.66	4.61	4.69	5.29	4.62
Crabs	0.12	0.08	0.12	0.16	0.05
Oysters	0.06	0.15	0.02	a/	0.03

a/ - less than 0.01 percent

P - preliminary

Table 3a.
Stocks of rice: Highest and lowest levels and percentage shares of households,
commercial warehouses and NFA, Philippines, 2011-2015

ITEM	2011		2012		2013		2014		2015	
	Month	Quantity ('000 MT)	Month	Quantity ('000 MT)	Month	Quantity ('000 MT)	Month	Quantity ('000 MT)	Month	Quantity ('000 MT)
HIGHEST STOCKS										
Households	January	3,424.3	November	2,784.6	May	2,614.4	December	3,031.5	December	3,441.4
Commercial										
NFA										
Percent share										
Households		33.3		51.7		46.0		51.7		47.8
Commercial		16.1		28.1		30.6		32.3		28.4
NFA		50.6		20.2		23.4		16.0		23.8
LOWEST STOCKS										
Households	September	2,415.2	September	1,441.9	September	1,530.3	September	1,488.7	September	1,955.5
Commercial										
NFA										
Percent share										
Households		22.5		36.7		35.0		40.1		29.2
Commercial		20.0		27.2		32.6		29.5		29.7
NFA		57.5		36.2		32.4		30.4		41.1

Table 3b.
Total stock of rice by month, Philippines, 2011-2015
 (in '000 metric tons)

MONTH	2011	2012	2013	2014	2015
January	3,424.3	2,627.4	2,524.2	2,125.5	2,662.1
February	3,049.6	2,331.4	2,023.6	2,003.8	2,350.6
March	2,853.0	2,012.6	1,938.6	1,784.8	2,265.5
April	3,080.6	2,637.8	2,327.6	2,182.5	2,542.7
May	3,396.5	2,673.3	2,614.4	2,520.2	3,167.3
June	3,093.6	2,287.3	2,313.5	2,306.2	3,019.4
July	3,021.8	1,915.1	2,194.1	2,025.0	2,568.2
August	2,720.4	1,616.6	1,859.5	1,721.8	2,244.4
September	2,415.2	1,441.9	1,530.3	1,488.7	1,955.5
October	2,739.2	1,999.0	1,771.3	1,805.3	2,196.2
November	3,216.8	2,784.6	2,438.7	2,952.7	3,107.3
December	3,097.5	2,613.2	2,492.9	3,031.5	3,441.4

Table 4a. Stocks of corn: Highest and lowest levels and percentage shares of households, commercial warehouses and NFA, Philippines, 2011-2015

ITEM	2011	2012	2013	2014	2015
Month	September	October	HIGHEST STOCKS April	October	October
Quantity ('000 MT)	279.6	217.1	299.1	408.3	420.7
Percent share					
Households	63.3	57.8	40.1	69.2	43.4
Commercial	36.7	42.1	59.8	30.3	56.4
NFA	0.1	0.1	0.1	0.5	0.2
Month	March	February	LOWEST STOCKS July	July	January
Quantity ('000 MT)	145.3	129.8	123.2	161.8	184.0
Percent share					
Households	53.4	44.8	34.5	33.4	46.2
Commercial	46.4	55.1	62.9	63.0	52.9
NFA	0.2	0.1	2.6	3.6	0.9

Table 4b.
Total stock of corn by month, Philippines, 2011-2015
 (in '000 metric tons)

MONTH	2011	2012	2013	2014	2015
January	152.5	166.1	161.3	168.8	184.0
February	155.1	129.8	150.5	215.9	252.8
March	145.3	146.4	188.2	267.8	186.6
April	214.4	214.2	299.1	368.7	340.2
May	206.2	204.7	230.8	268.1	223.3
June	234.5	182.4	139.5	188.5	207.2
July	221.3	139.4	123.2	161.8	275.4
August	157.0	140.6	141.8	256.3	313.3
September	279.6	205.5	267.4	280.0	329.0
October	265.2	217.1	217.4	408.3	420.7
November	200.9	197.3	183.1	239.5	298.2
December	177.1	204.7	189.4	216.0	265.2

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