

AGRICULTURAL INDICATORS SYSTEM (AIS)

FOOD SUFFICIENCY AND SECURITY

REPORT No. 2017-5



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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 2012 to 2016.

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.



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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 domestic production or the extent to which a country relies on its own production resources. 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 local production is more than enough to support the domestic requirements. The higher the ratio, the greater the self-sufficiency.

In 2016, self-sufficiency ratio (SSR) of rice increased to 95.01 percent from the last year's ratio of 88.93 percent. This implies that the country's own production accounted for 95.01 percent of the domestic supply of rice. The increase in the SSR of rice was attributed to the reduction in the level of importation in 2016. On the other hand, corn recorded a decline in SSR to 89.96 percent in 2016 compared with 2015 record at 91.35 percent. The drop in SSR was caused by the decreasing share of domestic production to the country's supply while its importation was increasing. Adequacy in production was continuously reported for coconut and sugarcane. Coffee production remained inadequate as its SSR in 2016 further dropped to 31.89 percent due to lesser share of local production while imports were going up.

Continued sufficiency in production was noted for calamansi and papaya. Pomelo, which had achieved sufficiency in production in the previous years, reported a slight decline in SSR to 99.99 percent in 2016. For vegetables and rootcrops, adequacy in production was likewise observed in tomato, cabbage, eggplant, cassava and sweet potato. SSR of onion indicated an abrupt fall from 84.48 percent in 2015 to 47.65 percent in 2016 indicating higher level of importation during the year. Meanwhile, the 2016 SSRs slightly went down to 11.03 percent for garlic, 27.52 percent for peanut, 52.15 percent for mungo and 85.23 percent for potato.

Among the livestock and poultry products, self-sufficiency was sustained for chevon and chicken egg. Adequacy in production was nearing to be achieved for duck (dressed) with SSR increasing to 99.23 percent in 2016. SSR of carabeef rose to 68.52 percent. In contrast, declining SSRs were reported in beef at 67.27 percent, pork at 89.36 percent and chicken (dressed) at 84.67 percent.

For the fishery products, sufficiency in production was maintained for milkfish, tilapia, shrimps and prawns, crabs and oysters. SSR of crabs stayed the highest as it improved to 127.82 percent in 2016. Roundscad registered a minimal drop in SSR to 99.64 percent while SSR of tuna increased to 83.91 percent in 2016 (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.

Import dependency ratio (IDR) of rice in the country abruptly decreased to 4.99 percent in 2016 from 11.07 percent in 2015. This indicates lesser importation in 2016. On the other hand, IDR of corn went up to 10.04 percent in 2016 from a year's ago ratio of 8.65 percent.

Coffee, garlic, onion, peanut and mongo showed high dependency on importation. Correspondingly, these posted IDRs at 68.12 percent, 89.08 percent, 52.59 percent, 72.48 percent and 47.85 percent in 2016. On the other hand, minimal importation was noted for potato with IDR of 14.78 percent.

Relatively higher IDRs continued for beef at 32.73 percent and carabeef at 31.48 percent in 2016. IDRs of pork and chicken (dressed) improved to 10.64 percent and 15.48 percent, respectively. Dependency on importation was low for duck (dressed) with IDR of 0.88 percent in 2016.

Importation was lesser for the fishery products such as milkfish, roundscad, tilapia, crabs and oysters with IDRs in 2016 at less than 1.0 percent each. Tuna posted the highest IDR at 21.19 percent followed by shrimps and prawns at 5.69 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 2016, the biggest volume of rice stocks was reported in May at 3.69 million metric tons. The bulk of the rice stocks in the month of May came from households accounting for 40.0 percent. Meanwhile, commercial warehouses contributed 28.3 percent while NFA shared 31.7 percent in the total rice stocks. On the other hand, rice stock inventory continued to be lowest in September at 1.78 million metric tons in 2016. Rice stocks held by households and NFA had nearly the same shares at 35.4 percent and 35.2 percent, respectively. About 29.4 percent were kept in the commercial warehouses (Table 3a and Table 3b).

For corn, the peak month of stocking was November with total inventory of 0.60 million metric tons. In this month, commercial warehouses comprised the biggest share in corn stock at 69.7 percent. This was followed by households at 30.2 percent. The remaining 0.1 percent was held in NFA depositories. In contrast, the lean month was noted in July with 0.22 million metric tons of corn stocks. Of this volume, 77.8 percent were in commercial holdings and 22.0 percent were stocks in the households. Only 0.2 percent of the corn stocks came from NFA (Table 4a and Table 4b).

Table 1.
Self-sufficiency ratio (SSR) of selected agricultural commodities,
Philippines, 2012-2016
(in percent)

COMMODITY	2012	2013	2014	2015	2016P
Rice	91.89	96.82	91.95	88.93	95.01
Corn	98.18	95.57	93.12	91.35	89.96
Coconut	100.01	100.02	100.01	100.02	100.04
Sugarcane	100.00	100.00	100.00	100.00	100.00
Coffee	45.21	46.79	71.91	33.04	31.89
Calamansi	100.02	100.02	100.03	100.03	100.05
Papaya	101.89	103.69	103.05	101.07	100.99
Pomelo	100.00	100.00	100.15	100.15	99.99
Tomato	99.99	100.00	100.00	99.97	100.00
Garlic	48.17	71.92	23.30	12.96	11.03
Onion	90.62	96.36	96.10	84.48	47.65
Cabbage	100.00	100.00	100.00	100.00	100.00
Eggplant	100.00	100.00	100.00	100.00	100.00
Peanut	35.59	45.43	30.52	28.43	27.52
Mongo	50.21	49.08	52.85	52.23	52.15
Cassava	100.02	99.38	99.66	100.02	100.02
Sweet potato	100.00	100.00	100.00	100.00	100.00
Potato	95.00	96.43	94.70	85.54	85.23
Beef	75.11	75.03	70.00	70.83	67.27
Carabeef	69.71	75.04	68.04	66.26	68.52
Pork	93.34	91.81	89.39	89.78	89.36
Chevon	100.00	99.99	99.94	100.00	100.00
Chicken (dressed)	91.82	92.82	88.44	87.25	84.67
Duck (dressed)	98.62	99.62	98.82	99.09	99.23
Chicken egg	99.93	99.99	100.00	100.00	100.00
Milkfish	100.40	100.91	100.83	100.80	100.83
Roundscad	100.14	100.00	99.99	99.93	99.64
Tilapia	100.10	101.69	100.63	100.04	100.01
Tuna	95.33	93.45	90.99	81.61	83.91
Shrimps & Prawns	100.33	107.09	111.02	103.98	107.02
Crabs	115.45	135.64	124.12	120.97	127.82
Oysters	99.91	100.32	101.95	101.14	100.23

Source of basic data: Philippine Statistics Authority

P - preliminary

Table 2.
Import dependency ratio (IDR) of selected agricultural commodities,
Philippines, 2012-2016
(in percent)

COMMODITY	2012	2013	2014	2015	2016P
Rice	8.11	3.20	8.06	11.07	4.99
Corn	1.82	4.43	6.89	8.65	10.04
Coconut	-	-	-	-	-
Sugarcane	a/	-	-	-	-
Coffee	54.79	53.42	28.10	66.96	68.12
Calamansi	-	-	-	-	-
Papaya	-	-	-	-	-
Pomelo	-	-	-	-	0.01
Tomato	0.01	a/	a/	0.03	-
Garlic	51.85	28.13	76.93	87.14	89.08
Onion	13.38	6.11	4.27	15.95	52.59
Cabbage	-	-	-	-	a/
Eggplant	-	-	-	-	-
Peanut	64.41	54.57	69.51	71.64	72.48
Mongo	49.91	50.96	47.23	47.77	47.85
Cassava	a/	0.67	0.41	-	a/
Sweet potato	-	-	-	a/	a/
Potato	5.00	3.57	5.30	14.46	14.78
Beef	24.89	24.99	30.02	29.18	32.73
Carabeef	30.29	24.98	31.96	33.74	31.48
Pork	6.66	8.24	10.62	10.22	10.64
Chevon	a/	0.01	0.06	-	-
Chicken (dressed)	8.65	7.65	12.17	13.00	15.48
Duck (dressed)	1.39	0.38	1.46	1.01	0.88
Chicken egg	0.07	a/	-	-	-
Milkfish	0.19	0.11	0.03	0.03	a/
Roundscad	0.01	0.07	0.07	0.15	0.39
Tilapia	-	0.01	-	0.01	0.01
Tuna	7.77	11.59	14.50	22.52	21.19
Shrimps & Prawns	4.61	4.69	5.29	4.62	5.69
Crabs	0.08	0.12	0.16	0.05	0.42
Oysters	0.15	0.02	a/	0.03	0.02

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, 2012-2016

ITEM	2012	2013	2014	2015	2016
Month	November	May	December	December	May
Quantity ('000 MT)	2,784.6	2,614.4	3,031.5	3,441.4	3,689.4
Percent share					
Households	51.7	46.0	51.7	47.8	40.0
Commercial	28.1	30.6	32.3	28.4	28.3
NFA	20.2	23.4	16.0	23.8	31.7
Month	September	September	September	September	September
Quantity ('000 MT)	1,441.9	1,530.3	1,488.7	1,955.5	1,775.8
Percent share					
Households	36.7	35.0	40.1	29.2	35.4
Commercial	27.2	32.6	29.5	29.7	29.4
NFA	36.2	32.4	30.4	41.1	35.2

Sources of basic data: Philippine Statistics Authority and National Food Authority

Table 3b.
Total stock of rice by month, Philippines, 2012-2016
 (in '000 metric tons)

MONTH	2012	2013	2014	2015	2016
January	2,627.4	2,524.2	2,125.5	2,662.1	3,198.8
February	2,331.4	2,023.6	2,003.8	2,350.6	2,942.8
March	2,012.6	1,938.6	1,784.8	2,265.5	2,674.2
April	2,637.8	2,327.6	2,182.5	2,542.7	3,359.1
May	2,673.3	2,614.4	2,520.2	3,167.3	3,689.4
June	2,287.3	2,313.5	2,306.2	3,019.4	3,235.3
July	1,915.1	2,194.1	2,025.0	2,568.2	2,733.6
August	1,616.6	1,859.5	1,721.8	2,244.4	2,103.2
September	1,441.9	1,530.3	1,488.7	1,955.5	1,775.8
October	1,999.0	1,771.3	1,805.3	2,196.2	2,286.6
November	2,784.6	2,438.7	2,952.7	3,107.3	3,302.3
December	2,613.2	2,492.9	3,031.5	3,441.4	3,339.0

Table 4a.
Stocks of corn: Highest and lowest levels and percentage shares of
households, commercial warehouses and NFA, Philippines, 2012-2016

ITEM	2012	2013	2014	2015	2016
Month	October	April	October	October	November
Quantity ('000 MT)	217.1	299.1	408.3	420.7	604.8
Percent share					
Households	57.8	40.1	69.2	43.4	30.2
Commercial	42.1	59.8	30.3	56.4	69.7
NFA	0.1	0.1	0.5	0.2	0.1
Month	February	July	July	January	July
Quantity ('000 MT)	129.8	123.2	161.8	184.0	215.9
Percent share					
Households	44.8	34.5	33.4	46.2	22.0
Commercial	55.1	62.9	63.0	52.9	77.8
NFA	0.1	2.6	3.6	0.9	0.2

Sources of basic data: Philippine Statistics Authority and National Food Authority

Table 4b.
Total stock of corn by month, Philippines, 2012-2016
 (in '000 metric tons)

MONTH	2012	2013	2014	2015	2016
January	166.1	161.3	168.8	184.0	387.0
February	129.8	150.5	215.9	252.8	311.7
March	146.4	188.2	267.8	186.6	302.4
April	214.2	299.1	368.7	340.2	365.1
May	204.7	230.8	268.1	223.3	517.2
June	182.4	139.5	188.5	207.2	327.5
July	139.4	123.2	161.8	275.4	215.9
August	140.6	141.8	256.3	313.3	336.5
September	205.5	267.4	280.0	329.0	380.6
October	217.1	217.4	408.3	420.7	543.9
November	197.3	183.1	239.5	298.2	604.8
December	204.7	189.4	216.0	265.2	370.0

MODULES OF THE AGRICULTURAL INDICATORS SYSTEM

1. Output and Productivity
 2. Agricultural Structure and Resources
 3. Economic Growth: Agriculture
 4. Agricultural Exports and Imports
 5. **Food Sufficiency and Security**
 6. Food Consumption and Nutrition
 7. Population and Labor Force
 8. Redistribution of Land
 9. Gender-based Indicators of Labor and Employment in Agriculture
 10. Prices and Marketing of Agricultural Commodities
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 12. Inputs
-

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