

AGRICULTURAL INDICATORS SYSTEM (AIS)

# INPUTS

REPORT No. 2014-13



REPUBLIC OF THE PHILIPPINES  
PHILIPPINE STATISTICS AUTHORITY



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ISSN-2012-0435

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## FOREWORD

The Agricultural Indicators System (AIS) is one of the statistical frameworks maintained by the Philippine Statistics Authority (Bureau of Agricultural Statistics). For this year, AIS contains thirteen (13) modules; twelve (12) modules are updated and released annually, and one (1) module is updated every three years. This is the thirteenth module entitled Inputs. It presents indicators relating to the productive factors in agriculture such as fertilizers and wages. The reference years are 2009 to 2013.

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

The PSA would like to acknowledge the Fertilizer and Pesticide Authority (FPA) for providing the basic data on this module.



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December 2014

## TABLE OF CONTENTS

<b>FOREWORD</b>		i
<b>LIST OF TABLES</b>		iii
<b>INPUTS</b>		
Table 1a.	Fertilizer: supply and disposition, Philippines, 2009-2013	4
Table 1b.	Annual growth rates of fertilizer supply and disposition, Philippines, 2009-2013	4
Table 1c.	Proportion of fertilizer production, imports, sales and exports to total supply, Philippines, 2009-2013	5
Table 2a.	Retail prices of major fertilizer grades, Philippines, 2009-2013	6
Table 2b.	Annual growth rates of retail prices of major fertilizer grades, Philippines, 2009-2013	7
Table 2c.	Retail price indices of major fertilizer grades, Philippines, 2009-2013	8
Table 3.	Quarterly nitrogen/palay price ratio, Philippines, 2009-2013	9
Table 4a.	Nominal wage rate index for agriculture, by crop, by region, Philippines, 2011-2013	10
Table 4b.	Real wage rate index for agriculture, by crop, by region, Philippines, 2011-2013	13

INPUTS



## **Fertilizer Supply and Disposition**

Statistics on supply and disposition of fertilizers indicate how the country manages the production and trade of fertilizers during a given period.

In 2013, the domestic production of fertilizers was estimated at 0.34 million metric tons which was lower by 65.80 percent from the 2012 record. Importation of fertilizers in 2013 was reduced to 0.87 million metric tons or by 32.62 percent. The share of production in the total fertilizer supply was 27.78 percent while imports comprised 72.22 percent.

The country's sales of fertilizers dropped to 0.39 million metric tons in 2013 by 64.02 percent. Sales accounted for 32.34 percent of the total fertilizer supply. Likewise, exportation of fertilizers was down by 91.79 percent and settled at 0.05 million metric tons. Fertilizer exports had minimal share of 4.42 percent in the total fertilizer supply (Tables 1a to 1c).

## **Retail Prices of Major Fertilizer Grades**

The year-on-year data on retail prices of major fertilizer grades indicate the behavior of prices paid by consumers during a given period.

In 2013, the retail prices of the six (6) major fertilizer grades were lower compared with the previous year's prices. Di-ammophos maintained the highest price in 2013 at P1,753.03 per bag but it posted the lowest price reduction of 2.08 percent. This was followed by muriate of potash whose retail price at P1,428.90 per bag declined by 4.62 percent. Retail prices of urea, ammophos and complete fertilizer ranged from P1,062.99 to P1,209.48 per bag. Urea registered the highest price cut at 11.11 percent. Ammosul had the lowest price quotation at P694.59 per bag which contracted by 8.42 percent (Tables 2a to 2b).

Based on 2006 prices, the retail prices of muriate of potash and complete

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fertilizer in 2013 were higher by 77.89 percentage points and 62.08 percentage points, respectively. The price increases were lower for urea at 26.77 percentage points and di-ammophos at 29.55 percentage points (Table 2c).

### **Input-Output Ratio**

The nitrogen/palay price ratio is an indicator of how much output (palay) is needed to pay for a unit of input (nitrogen fertilizer).

In 2013, the nitrogen/palay price ratio slightly decreased to 3.28 from 3.81 in 2012. It means that to pay for a kilogram of nitrogen fertilizer, the required amount of palay was reduced to 3.28 kilograms.

On a quarterly basis, the first quarter of 2013 posted the highest ratio at 3.74. The lowest ratio was observed in fourth quarter at 2.86 (Table 3).

### **Nominal and Real Wage Rate Indices in Agriculture**

The agricultural wage rate is an indicator of progress and welfare of agricultural workers. Wage rate indices determine whether farm workers are getting better-off or worse-off through the increase or decrease in the wages they received over the years compared with a base year.

In 2013, agricultural wage rate index in nominal terms rose to 141.0 percent or an increase of 41.0 index points from the 2006 wage rate. In real terms, wage rate index went up to 105.3 percent or about 5.3 percent above the base year record (Tables 4a to 4b).

Palay farm workers recorded the biggest nominal wage rate increment at 50.9 index points in 2013. The lowest wage gains were received by the sugarcane farm workers at 30.6 index points and coconut farm workers at 31.9 index points. Wage rate of corn farm workers was higher by 40.3 index points. On the other hand, the 2013 real wage rate of palay farm

workers was up by 12.6 index points while that of the corn farm workers increased by 4.7 index points from the 2006 record. The real wage rates of coconut and sugarcane farm workers in 2013 remained lower than the base year levels.

At the regional level, the 2013 agricultural wage rates in nominal terms were all above the 2006 records. The biggest gain in agricultural wage rate was noted in Cagayan Valley at 70.3 index points. Likewise, the regional nominal wage rates of palay, corn, coconut and sugarcane farm workers in 2013 were higher than in the base year. Palay farm workers in Cagayan Valley received the biggest wage gain of 75.1 index points. Meanwhile, a wage increase of 72.4 index points was enjoyed by the corn farm workers in Central Luzon. The coconut and sugarcane farm workers in Ilocos Region recorded the highest wage gains corresponding to 77.2 index points and 60.3 index points.

In real terms, the 2013 wage rates of agricultural workers in all regions except Northern Mindanao, SOCCSKSARGEN and ARMM were above the base year levels. Ilocos Region and Cagayan Valley posted the highest real wage increment at 25 index points each. Real wage gains were biggest in palay farms in Cagayan Valley at 29.1 index points and corn farms in Central Luzon at 27.3 index points. Wage rates of palay farm workers in Eastern Visayas and ARMM remained lower than the base year record. Corn farm workers in Central and Eastern Visayas, Zamboanga Peninsula, Northern Mindanao, Davao Region, SOCCSKSARGEN and ARMM received real wage rates in 2013 below the 2006 wages. In Ilocos Region, coconut and sugarcane farm workers had wage increases at 39.7 index points and 26.4 index points, respectively. Wage rates of coconut farm workers below the 2006 records were noted in the Bicol Region, SOCCSKSARGEN, Caraga and ARMM. For sugarcane farms, wage rates lower than the base year levels were registered in the reference regions except Central Luzon and Central Visayas.



**Table 1a.**  
**Fertilizer: supply and disposition, Philippines, 2009-2013**  
(in metric tons)

YEAR	PRODUCTION	IMPORTS	SUPPLY*	LOCAL SALES	EXPORTS
2009	196,095	1,733,728	1,929,823	173,929	160,182
2010	44,401	1,971,947	2,016,348	432,661	3,380
2011	614,499	1,610,308	2,224,807	629,295	191,930
2012R	981,925	1,295,521	2,277,446	1,086,483	650,937
2013P	335,827	872,870	1,208,697	390,906	53,473

*R- revised*

*P- preliminary*

**Table 1b.**  
**Annual growth rates of fertilizer supply and disposition,**  
**Philippines, 2009-2013**  
(in percent)

YEAR	PRODUCTION	IMPORTS	SUPPLY*	LOCAL SALES	EXPORTS
2009/2010	-77.36	13.74	4.48	148.76	-97.89
2010/2011	1283.98	-18.34	10.34	45.45	5578.40
2011/2012	59.79	-19.55	2.37	72.65	239.15
2012/2013P	-65.80	-32.62	-46.93	-64.02	-91.79

*\*consists of local production and imports*

**Table 1c.**  
**Proportion of fertilizer production, imports, sales and exports**  
**to total supply, Philippines, 2009-2013**  
 (in percent)

YEAR	PRODUCTION/ SUPPLY	IMPORT/ SUPPLY	SALES/ SUPPLY	EXPORT/ SUPPLY
2009	10.16	89.84	9.01	8.30
2010	2.20	97.80	21.46	0.17
2011	27.62	72.38	28.29	8.63
2012	43.12	56.88	47.71	28.58
2013	27.78	72.22	32.34	4.42

**Table 2a.**  
**Retail prices of major fertilizer grades, Philippines, 2009-2013**  
(P/bag of 50 kgs)

YEAR	UREA (46-0-0)	AMMOSUL (21-0-0)	AMMOPHOS (16-20-0)	DI- AMMOPHOS (18-46-0)	COMPLETE (14-14-14)	MURIATE OF POTASH (0-0-60)
2009	975.88	570.90	1,111.63	2,240.57	1193.13	1951.97
2010	948.47	512.27	920.91	1,767.94	1,068.46	1,648.88
2011	1,185.62	660.53	1,048.56	1,814.00	1,165.09	1,534.23
2012	1,282.05	758.48	1,100.11	1,790.23	1,251.71	1,498.07
2013	1,139.63	694.59	1,062.99	1,753.03	1,209.48	1,428.90

**Table 2b.**  
**Annual growth rates of retail prices of major fertilizer grades, Philippines, 2009-2013**  
(in percent)

YEAR	UREA (46-0-0)	AMMOSUL (21-0-0)	AMMOPHOS (16-20-0)	DI- AMMOPHOS (18-46-0)	COMPLETE (14-14-14)	MURIATE OF POTASH (0-0-60)
2009/2010	-2.81	-10.27	-17.16	-21.09	-10.45	-15.53
2010/2011	25.00	28.94	13.86	2.61	9.04	-6.95
2011/2012	8.13	14.83	4.92	-1.31	7.43	-2.36
2012/2013	-11.11	-8.42	-3.37	-2.08	-3.37	-4.62

**Table 2c.**  
**Retail price indices of major fertilizer grades, Philippines, 2009-2013**  
 (2006=100)

YEAR	UREA (46-0-0)	AMMOSUL (21-0-0)	AMMOPHOS (16-20-0)	DI- AMMOPHOS (18-46-0)	COMPLETE (14-14-14)	MURIATE OF POTASH (0-0-60)
2009	108.56	120.34	151.38	165.58	159.89	243.02
2010	105.51	107.98	125.41	130.65	143.18	205.28
2011	131.89	139.24	142.79	134.06	156.13	191.01
2012	142.62	159.89	149.81	132.30	167.74	186.51
2013	126.77	146.42	144.76	129.55	162.08	177.89

**Table 3.**  
**Quarterly nitrogen/palay price ratio, Philippines, 2009-2013**

YEAR	NITROGEN/PALAY PRICE RATIO				
	JAN-MAR	APR-JUN	JUL-SEP	OCT-DEC	JAN-DEC
2009	3.62	3.03	3.24	2.93	3.21
2010	2.92	2.98	2.86	3.16	2.98
2011	3.25	3.37	4.15	4.00	3.69
2012	3.79	3.72	3.93	3.81	3.81
2013	3.74	3.48	3.12	2.86	3.28

*Note:*

*Nitrogen price was based on weighted retail price of Urea and Ammosul*

*Palay price was based on farmgate price per kilogram of other variety*

**Table 4a.**  
**Nominal wage rate index for agriculture, by crop, by region,**  
**Philippines, 2011-2013**  
(2006=100)

REGION/CROPS	INDICES (%)		
	2011	2012	2013
Philippines			
Agriculture	125.4	133.7	141.0
Palay	137.4	144.1	150.9
Corn	126.4	128.0	140.3
Coconut	113.8	126.8	131.9
Sugarcane	110.4	115.9	130.6
CAR			
Agriculture	131.4	136.3	151.4
Palay	130.5	135.0	151.7
Corn	138.0	145.9	149.7
Coconut			
Sugarcane			
Ilocos Region			
Agriculture	143.9	151.6	158.9
Palay	145.6	152.8	157.7
Corn	137.3	138.1	159.3
Coconut	119.3	137.0	177.2
Sugarcane	133.2	134.5	160.3
Cagayan Valley			
Agriculture	139.2	151.6	170.3
Palay	143.2	157.9	175.1
Corn	141.9	146.9	166.6
Coconut	114.7	132.7	156.0
Sugarcane	105.6	114.9	123.5
Central Luzon			
Agriculture	131.1	138.7	155.5
Palay	134.0	139.8	159.6
Corn	134.7	146.3	172.4
Coconut	119.3	134.2	138.1
Sugarcane	115.3	129.5	137.1

**Table 4a.**  
**Nominal wage rate index ...*(Continued)***

REGION/CROPS	INDICES (%)		
	2011	2012	2013
<b>CALABARZON</b>			
Agriculture	131.5	135.0	148.6
Palay	143.5	147.3	150.5
Corn	126.9	127.1	137.4
Coconut	131.3	135.3	150.6
Sugarcane	103.0	103.5	130.4
<b>MIMAROPA</b>			
Agriculture	129.9	135.2	146.7
Palay	137.7	140.8	150.8
Corn	136.0	137.9	149.9
Coconut	122.0	129.6	142.5
Sugarcane			
<b>Bicol Region</b>			
Agriculture	128.2	136.8	141.6
Palay	141.1	143.1	155.5
Corn	125.4	127.3	149.7
Coconut	123.5	135.4	135.5
Sugarcane	113.7	113.9	131.6
<b>Western Visayas</b>			
Agriculture	126.9	131.3	138.7
Palay	131.0	133.0	141.1
Corn	125.1	126.3	138.2
Coconut	124.6	135.4	138.2
Sugarcane	106.4	116.1	124.6
<b>Central Visayas</b>			
Agriculture	127.2	130.5	148.0
Palay	141.5	145.6	166.9
Corn	123.1	126.4	130.8
Coconut	125.8	128.2	157.5
Sugarcane	118.6	126.9	134.9
<b>Eastern Visayas</b>			
Agriculture	128.8	136.5	145.1
Palay	128.8	132.1	138.4
Corn	124.1	125.9	135.5
Coconut	129.1	139.2	148.8



**Table 4a.**  
**Nominal wage rate index ... (Continued)**

REGION/CROPS	INDICES (%)		
	2011	2012	2013
Sugarcane	107.8	111.0	127.7
Zamboanga Peninsula			
Agriculture	120.4	128.0	145.3
Palay	144.2	153.0	157.3
Corn	124.9	129.9	140.4
Coconut	111.0	119.4	143.7
Sugarcane			
Northern Mindanao			
Agriculture	125.7	128.3	138.4
Palay	139.0	143.2	147.8
Corn	124.4	126.0	130.7
Coconut	124.8	128.0	144.5
Sugarcane	107.9	111.0	116.4
Davao Region			
Agriculture	120.6	129.3	152.5
Palay	139.6	146.4	151.0
Corn	120.8	124.1	124.9
Coconut	116.3	127.8	165.4
Sugarcane	105.8	107.9	117.6
SOCCSKSARGEN			
Agriculture	128.6	134.2	140.8
Palay	147.4	157.0	162.2
Corn	124.4	127.9	139.7
Coconut	115.0	119.3	120.0
Sugarcane	108.3	113.4	122.8
Caraga			
Agriculture	131.0	133.5	148.7
Palay	148.4	152.8	163.2
Corn	126.3	136.4	150.8
Coconut	122.9	132.2	140.8
Sugarcane			
ARMM			
Agriculture	120.3	127.0	131.7
Palay	136.9	141.3	145.7
Corn	125.5	126.9	134.5
Coconut	107.6	113.7	121.9
Sugarcane			

**Table 4b.**  
**Real wage rate index for agriculture, by crop, by region,**  
**Philippines, 2011-2013**  
 (2006=100)

REGION/CROPS	INDICES (%)		
	2011	2012	2013
Philippines			
Agriculture	99.5	102.8	105.3
Palay	109.0	110.8	112.6
Corn	100.2	98.4	104.7
Coconut	90.2	97.4	98.5
Sugarcane	87.6	89.1	97.5
CAR			
Agriculture	106.2	106.4	114.3
Palay	105.6	105.4	114.5
Corn	111.7	113.9	113.0
Coconut			
Sugarcane			
Ilocos Region			
Agriculture	118.1	122.5	125.3
Palay	119.5	123.5	124.4
Corn	112.8	111.7	125.7
Coconut	98.0	110.7	139.7
Sugarcane	109.4	108.8	126.4
Cagayan Valley			
Agriculture	108.8	115.5	125.5
Palay	111.8	120.3	129.1
Corn	110.8	112.0	122.8
Coconut	89.6	101.1	115.0
Sugarcane	82.5	87.6	91.0
Central Luzon			
Agriculture	102.8	105.2	114.8
Palay	105.1	106.1	117.8
Corn	105.7	111.0	127.3
Coconut	93.6	101.8	102.0
Sugarcane	90.4	98.2	101.2

**Table 4b.**  
**Real wage rate index for agriculture ...((Continued)**

REGION/CROPS	INDICES (%)		
	2011	2012	2013
<b>CALABARZON</b>			
Agriculture	104.0	104.0	111.5
Palay	113.5	113.5	113.0
Corn	100.4	97.9	103.1
Coconut	103.9	104.3	113.1
Sugarcane	81.5	79.8	97.9
<b>MIMAROPA</b>			
Agriculture	100.5	101.4	107.3
Palay	106.5	105.7	110.3
Corn	105.2	103.5	109.6
Coconut	94.3	97.2	104.3
Sugarcane			
<b>Bicol Region</b>			
Agriculture	99.5	103.3	103.3
Palay	109.5	108.1	113.5
Corn	97.3	96.1	109.3
Coconut	95.9	102.2	98.9
Sugarcane	88.3	86.0	96.0
<b>Western Visayas</b>			
Agriculture	100.2	99.6	101.3
Palay	103.4	100.8	103.0
Corn	98.7	95.8	100.9
Coconut	98.3	102.6	100.9
Sugarcane	84.0	88.0	91.0
<b>Central Visayas</b>			
Agriculture	104.1	101.6	109.7
Palay	115.8	113.4	123.7
Corn	100.7	98.5	97.0
Coconut	102.9	99.8	116.8
Sugarcane	97.0	98.8	100.0
<b>Eastern Visayas</b>			
Agriculture	99.2	102.1	104.0
Palay	99.2	98.8	99.2
Corn	95.6	94.2	97.1
Coconut	99.4	104.1	106.6

**Table 4b.**  
**Real wage rate index for agriculture ...((Continued))**

REGION/CROPS	INDICES (%)		
	2011	2012	2013
Sugarcane	83.1	83.0	91.5
Zamboanga Peninsula			
Agriculture	90.8	94.1	102.4
Palay	108.8	112.4	110.8
Corn	94.3	95.5	99.0
Coconut	83.7	87.7	101.3
Sugarcane			
Northern Mindanao			
Agriculture	94.7	92.8	95.9
Palay	104.8	103.6	102.4
Corn	93.7	91.1	90.5
Coconut	94.0	92.5	100.1
Sugarcane	81.3	80.2	80.6
Davao Region			
Agriculture	91.1	95.3	108.9
Palay	105.4	107.9	107.8
Corn	91.2	91.5	89.2
Coconut	87.8	94.2	118.0
Sugarcane	79.9	79.5	84.0
SOCCKSARGEN			
Agriculture	97.0	98.6	99.7
Palay	111.2	115.3	114.9
Corn	93.8	93.9	98.9
Coconut	86.7	87.6	85.0
Sugarcane	81.7	83.3	87.0
Caraga			
Agriculture	95.9	93.8	100.6
Palay	108.7	107.3	110.4
Corn	92.5	95.8	101.9
Coconut	90.0	92.8	95.2
Sugarcane			
ARMM			
Agriculture	87.6	89.6	89.9
Palay	99.7	99.7	99.4
Corn	91.3	89.5	91.8
Coconut	78.3	80.2	83.2
Sugarcane			

## **MODULES OF THE AGRICULTURAL INDICATORS SYSTEM**

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

Design and Layout  
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