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# INPUTS

Republic of the Philippines  
Department of Agriculture  
**BUREAU OF AGRICULTURAL STATISTICS**



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## FOREWORD

The Agricultural Indicators System (AIS) is one of the statistical frameworks maintained by the Bureau of Agricultural Statistics (BAS). It has twelve (12) modules and these are being updated and released annually. This is the eleventh module entitled Inputs. It presents indicators relating to the productive factors in agriculture such as fertilizers and wages. The reference years are 2007 to 2011.

The AIS hopes to cover more agricultural development indicators to support the information needs of BAS clientele and stakeholders. 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 BAS would like to acknowledge the National Statistics Office (NSO) and Fertilizer and Pesticide Authority (FPA) for providing the basic data on this module.

  
**ROMEO S. RECIDÉ**  
Director

Quezon City, Philippines  
December 2012

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**INPUTS**

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## 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.

The country's production of fertilizers in 2011 significantly increased to 0.62 million metric tons or by 1,283.98 percent from the 2010 record. In 2011, importation of fertilizers was reduced to 1.61 million metric tons or by 18.34 percent. The share of production in the total fertilizer supply moved up to 27.62 percent while that of imports went down to 72.38 percent in 2011.



The domestic sales of fertilizer reached 0.63 million metric tons in 2011 and grew by 45.45 percent. Sales comprised 28.29 percent of the total fertilizer supply. Meanwhile, there was a vigorous expansion in the volume of fertilizer exports which rose to 0.19 million metric tons or by 5,578.40 percent from last year's level. The share of exports to the total fertilizer supply increased to 8.63 percent in 2011 (Tables 1a-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 2011, the retail prices of the five (5) major fertilizer grades such as urea, ammosul, ammophos, di-ammophos and complete were higher than the previous year's quotations. Di-ammophos continued to post the highest retail price at P1,814.00 per bag in 2011. However, it registered the smallest price increase of 2.61 percent. Prices of urea at P 1,185.62 per bag and ammosul at P660.53 per bag exhibited the highest price gains by 25.00 percent and 28.94 percent, respectively. Ammophos priced at P 1,048.56 per bag grew by 13.86 percent in 2011. A 9.04 percent price increase was noted for complete fertilizer quoted at P1,165.09 per bag. On the other hand, there was a reduction in the retail prices of muriate of potash which went down by 6.95 percent to P1,543.23 per bag (Tables 2a - 2b).

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The 2011 retail prices of ammosul, ammophos and complete fertilizers remained higher by more than two times compared to the 2000 prices. Three-fold increases were noted for the retail prices of urea and di-ammophos. Despite the price decline in 2011, muriate of potash maintained a four-fold price gain relative to the 2000 price (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 2011, nitrogen/palay price ratio went up to 3.69 from 2.98 in 2010. It implies that to pay for a kilogram of nitrogen fertilizer, the required amount of palay increased from 2.98 kilograms to 3.69 kilograms.

On a quarterly basis, the third quarter recorded the highest input-output ratio at 4.15 while the first quarter posted the lowest of 3.25 (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 to a base year.

In the agriculture sector, the nominal wage rate indices move up from 149.3 percent in 2009 to 160.0 percent in 2011. This indicates that, on the average, the 2011 wage rate paid to farm workers was higher by 60 index points from the 2000 wage. In real terms, wage rate indices fluctuated from 93.3 percent in 2009 to 94.2 percent in 2011. The wage rate in 2011 means that it was 5.8 index points lower than the base year (Tables 4a-4b).

In 2011, the gain in nominal wage rate was highest for palay farm workers at 72.3 index points and lowest for sugarcane farm workers at 31.4 index

points. Corn and coconut farm workers had wage gains at 55.3 index points and 50.8 index points, respectively. On the other hand, the real wage rate of palay farm workers was 1.4 index points more than the 2000 wage. The real wage rates of corn farm workers, coconut farm workers and sugarcane farm workers were correspondingly lower by 8.6 index points, 11.2 index points and 22.6 index points from the base year wage rates.

By region, the 2011 agricultural wage rate in nominal terms registered the biggest increment in CALABARZON at 81.7 index points. In all regions, the 2011 nominal wage rates of palay, corn, coconut and sugarcane farm workers were above the 2000 levels. Palay farm workers in Central Visayas, Davao Region, SOCCSKSARGEN, Caraga and ARMM enjoyed the biggest wage gains ranging from 91.0 index points to 105.0 index points. Wage increases of corn farm workers were higher in Cagayan Valley at 82.7 index points and Western Visayas at 86.6 index points. CALABARZON continued to post the biggest wage gain of coconut farm workers at 95.3 percent. Sugarcane farm workers in Central Luzon and Davao Region reported increases in nominal wage rates at 62.4 index points and 55.3 index points, respectively.

The real agricultural wage rates in 2011 were up in Cagayan Valley by 7.7 index points and CALABARZON by 8.2 index points. The real wage rates of palay farm workers in 2011 were above the 2000 wage rates in Ilocos Region, Cagayan Valley, CALABARZON, Bicol Region, Central Visayas, Zamboanga Peninsula, Davao Region and SOCCSKSARGEN and Caraga. Among these, the biggest wage gains were noted in Central Visayas and Davao Region at 14 index points each. Higher than the base year wage rates were recorded by corn farms in CAR, Ilocos Region, Cagayan Valley, Central Luzon, CALABARZON, Western and Central Visayas in 2011. Western Visayas posted the biggest wage gain at 11 index points. Those working in coconut farms in CALABARZON and Western Visayas received wage increments by 16.3 index points and 0.2 index points, respectively. For sugarcane farm workers, the 2011 real wage rates in all regions were below the 2000 records.



**Table 1a.**  
**Fertilizer: supply and disposition, Philippines, 2007-2011**  
(in metric tons)

YEAR	PRODUCTION	IMPORTS	SUPPLY*	LOCAL SALES	EXPORTS
2007	747,884	1,583,393	2,331,277	1,227,645	298,531
2008	287,105	1,512,245	1,799,350	678,544	7,258
2009	196,095	1,733,728	1,929,823	173,929	160,182
2010R	44,401	1,971,947	2,016,348	432,661	3,380
2011P	614,499	1,610,308	2,224,807	629,295	191,930

*P- preliminary*

**Table 1b.**  
**Annual growth rates of fertilizer supply and disposition, Philippines, 2007-2011**  
 (in percent)

YEAR	PRODUCTION	IMPORTS	SUPPLY*	LOCAL SALES	EXPORTS
2007/2008	-61.61	-4.49	-22.82	-44.73	-97.57
2008/2009	-31.70	14.65	7.25	-74.37	2106.97
2009/2010R	-77.36	13.74	4.48	148.76	-97.89
2010/2011P	1283.98	-18.34	10.34	45.45	5578.40

\* consists of local production and imports

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**Table 1c.**

**Proportion of fertilizer production, imports, sales and exports to total supply, Philippines, 2007-2011**

(in percent)

<b>YEAR</b>	<b>PRODUCTION/ SUPPLY</b>	<b>IMPORT/ SUPPLY</b>	<b>SALES/ SUPPLY</b>	<b>EXPORT/ SUPPLY</b>
2007	32.08	67.92	52.66	12.81
2008	15.96	84.04	37.71	0.40
2009	10.16	89.84	9.01	8.30
2010R	2.20	97.80	21.46	0.17
2011P	27.62	72.38	28.29	8.63

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**Table 2a.**  
**Retail prices of major fertilizer grades, Philippines, 2007-2011**  
(P/bag of 50 kgs)

<b>YEAR</b>	<b>UREA</b> (46-0-0)	<b>AMMOSUL</b> (21-0-0)	<b>AMMOPHOS</b> (16-20-0)	<b>DI-AMMOPHOS</b> (18-46-0)	<b>COMPLETE</b> (14-14-14)	<b>MURIATE OF POTASH</b> (0-0-60)
2007	961.08	541.78	774.89	1,398.92	796.40	859.21
2008	1,551.43	917.81	1,618.21	2,691.85	1,671.67	1,711.99
2009	975.88	570.90	1,111.63	2,240.57	1,193.13	1,951.97
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

**Table 2b.**  
**Annual growth rates of retail prices of major fertilizer grades, Philippines, 2007-2011**  
(in percent)

<b>YEAR</b>	<b>UREA</b> (46-0-0)	<b>AMMOSUL</b> (21-0-0)	<b>AMMOPHOS</b> (16-20-0)	<b>DI-AMMOPHOS</b> (18-46-0)	<b>COMPLETE</b> (14-14-14)	<b>MURIATE OF POTASH</b> (0-0-60)
2007/2008	61.43	69.41	108.83	92.42	109.90	99.25
2008/2009	-37.10	-37.80	-31.30	-16.76	-28.63	14.02
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

**Table 2c.**  
**Retail price indices of major fertilizer grades, Philippines, 2007-2011**  
 (2000=100)

<b>YEAR</b>	<b>UREA</b> (46-0-0)	<b>AMMOSUL</b> (21-0-0)	<b>AMMOPHOS</b> (16-20-0)	<b>DI-AMMOPHOS</b> (18-46-0)	<b>COMPLETE</b> (14-14-14)	<b>MURIATE OF POTASH</b> (0-0-60)
2007	263.00	233.66	194.27	271.33	197.76	226.57
2008	424.55	395.83	405.70	522.11	415.09	451.44
2009	267.05	246.22	278.69	434.58	296.27	514.72
2010	259.55	220.93	230.88	342.91	265.31	434.80
2011	324.45	284.87	262.88	351.84	289.31	404.56

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**Table 3.**  
**Quarterly nitrogen/palay price ratio, Philippines 2007-2011**

YEAR	NITROGEN/PALAY PRICE RATIO				
	JAN-MAR	APR-JUN	JUL-SEP	OCT-DEC	JAN-DEC
2007	4.01	3.99	4.08	4.17	4.06
2008	4.39	4.36	6.69	6.00	5.30
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

*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, 2009-2011 (2000=100)**

REGION/CROPS	INDICES (%)		
	2009	2010	2011
Philippines			
Agriculture	149.3	153.1	160.0
Palay	155.9	163.1	172.3
Corn	142.2	145.5	155.3
Coconut	147.2	147.6	150.8
Sugarcane	123.2	127.0	131.4
CAR			
Agriculture	139.1	141.5	148.6
Palay	136.1	138.3	145.5
Corn	165.1	168.9	175.4
Coconut			
Sugarcane			
Ilocos Region			
Agriculture	154.4	160.8	168.3
Palay	156.1	162.7	170.6
Corn	156.4	167.0	173.1
Coconut	129.5	131.1	133.3
Sugarcane	130.1	130.5	130.5
Cagayan Valley			
Agriculture	162.6	165.6	180.4
Palay	165.3	166.1	183.2
Corn	160.3	167.6	182.7
Coconut	153.8	158.3	160.2
Sugarcane	156.5	157.8	158.2
Central Luzon			
Agriculture	148.1	154.5	159.1
Palay	144.6	152.3	157.7
Corn	163.5	167.8	179.9
Coconut	164.6	164.6	165.4
Sugarcane	162.0	162.3	162.4
CALABARZON			
Agriculture	167.0	177.2	181.7
Palay	161.0	174.6	181.0
Corn	162.3	164.3	175.7
Coconut	180.1	191.2	195.3
Sugarcane	109.2	110.1	110.4



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

REGION/CROPS	INDICES (%)		
	2009	2010	2011
MIMAROPA			
Agriculture	144.9	152.3	154.2
Palay	139.4	149.9	153.0
Corn	147.5	155.8	161.9
Coconut	148.2	151.9	152.2
Sugarcane			
Bicol Region			
Agriculture	144.7	152.6	160.4
Palay	156.9	162.2	173.5
Corn	139.6	141.4	152.1
Coconut	140.4	149.9	156.0
Sugarcane	130.8	138.1	141.9
Western Visayas			
Agriculture	145.0	150.7	154.6
Palay	139.4	146.6	151.5
Corn	175.0	178.1	186.6
Coconut	165.1	169.1	169.2
Sugarcane	126.5	127.5	128.6
Central Visayas			
Agriculture	152.7	157.4	167.9
Palay	179.1	190.6	198.8
Corn	161.7	165.8	179.5
Coconut	138.0	141.0	149.1
Sugarcane	126.4	126.5	144.8
Eastern Visayas			
Agriculture	141.1	148.7	154.7
Palay	139.0	144.8	150.9
Corn	151.2	156.7	172.3
Coconut	141.9	150.4	156.1
Sugarcane	113.2	114.6	120.3
Zamboanga Peninsula			
Agriculture	127.0	132.2	140.2
Palay	164.6	171.5	187.0
Corn	142.3	146.1	161.3
Coconut	111.6	117.2	120.3
Sugarcane			

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

REGION/CROPS	INDICES (%)		
	2009	2010	2011
Northern Mindanao			
Agriculture	153.1	154.6	161.7
Palay	143.4	145.9	155.0
Corn	153.4	154.5	162.8
Coconut	157.4	159.2	164.6
Sugarcane	136.3	134.0	142.5
Davao Region			
Agriculture	138.9	141.6	153.0
Palay	176.1	186.4	204.9
Corn	154.3	158.0	168.4
Coconut	125.9	126.8	137.2
Sugarcane	151.1	148.6	155.3
SOCCSKSARGEN			
Agriculture	147.1	154.4	165.7
Palay	163.2	176.5	191.6
Corn	142.0	147.0	160.2
Coconut	153.8	158.4	164.0
Sugarcane	138.1	140.6	140.7
Caraga	149.6	139.7	165.3
Agriculture	167.6	185.2	200.2
Palay	148.5	164.4	164.0
Corn	141.5	141.6	149.3
Coconut			
Sugarcane			
ARMM	146.9	165.1	158.2
Agriculture	165.8	174.7	192.2
Palay	143.7	140.7	156.8
Corn	139.0	141.1	141.2
Coconut			
Sugarcane			

**Table 4b.**  
**Real wage rate index for agriculture, by crop, by region,**  
**Philippines, 2009-2011 (2000=100)**

REGION/CROPS	INDICES (%)		
	2009	2010	2011
Philippines			
Agriculture	93.3	92.2	94.2
Palay	97.4	98.2	101.4
Corn	88.9	87.7	91.4
Coconut	92.0	88.9	88.8
Sugarcane	77.0	76.5	77.4
CAR			
Agriculture	86.4	84.4	87.0
Palay	84.6	82.5	85.2
Corn	102.6	100.7	102.7
Coconut			
Sugarcane			
Ilocos Region			
Agriculture	95.7	97.3	99.7
Palay	96.8	98.4	101.1
Corn	97.0	101.0	102.6
Coconut	80.3	79.3	79.0
Sugarcane	80.7	78.9	77.4
Cagayan Valley			
Agriculture	103.0	101.4	107.7
Palay	104.8	101.6	109.4
Corn	101.6	102.6	109.0
Coconut	97.5	96.9	95.6
Sugarcane	99.2	96.6	94.4
Central Luzon			
Agriculture	93.3	94.3	94.7
Palay	91.1	93.0	93.8
Corn	102.9	102.5	107.1
Coconut	103.6	100.5	98.5
Sugarcane	102.0	99.1	96.7
CALABARZON			
Agriculture	106.3	108.0	108.2
Palay	102.5	106.4	107.8
Corn	103.3	100.1	104.6
Coconut	114.6	116.5	116.3
Sugarcane	69.5	67.1	65.7

**Table 4b. Real wage rate ....(Continued)**

REGION/CROPS	INDICES (%)		
	2009	2010	2011
MIMAROPA			
Agriculture	92.7	93.7	93.3
Palay	89.2	92.3	92.6
Corn	94.4	95.9	98.0
Coconut	94.8	93.5	92.1
Sugarcane			
Bicol Region			
Agriculture	90.1	91.4	94.3
Palay	97.7	97.1	102.1
Corn	86.9	84.7	89.5
Coconut	87.4	89.7	91.8
Sugarcane	81.4	82.7	83.5
Western Visayas			
Agriculture	90.4	91.4	91.6
Palay	86.9	88.8	89.7
Corn	109.1	107.9	110.5
Coconut	102.9	102.5	100.2
Sugarcane	78.9	77.3	76.2
Central Visayas			
Agriculture	92.0	91.7	96.1
Palay	107.9	111.0	113.8
Corn	97.4	96.5	102.8
Coconut	83.1	82.1	85.4
Sugarcane	76.1	73.7	82.9
Eastern Visayas	85.9	87.9	89.6
Agriculture	84.6	85.6	87.4
Palay	92.1	92.7	99.8
Corn	86.4	89.0	90.4
Coconut	68.9	67.8	69.7
Sugarcane			
Zamboanga Peninsula	77.7	78.4	81.3
Agriculture	100.8	101.7	108.3
Palay	87.1	86.6	93.5
Corn	68.3	69.5	69.7
Coconut			
Sugarcane			

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**Table 4b. Real wage rate ....(Continued)**

REGION/CROPS	INDICES (%)		
	2009	2010	2011
Northern Mindanao			
Agriculture	91.1	89.1	90.0
Palay	85.3	84.1	86.3
Corn	91.3	89.0	90.6
Coconut	93.7	91.8	91.6
Sugarcane	81.1	77.2	79.3
Davao Region			
Agriculture	83.2	81.5	85.7
Palay	105.4	107.2	114.8
Corn	92.4	90.9	94.4
Coconut	75.4	73.0	76.9
Sugarcane	90.5	85.5	87.0
SOCCKSARGEN			
Agriculture	91.8	92.3	96.8
Palay	101.8	105.5	111.9
Corn	88.6	87.9	93.6
Coconut	96.0	94.7	95.8
Sugarcane	86.2	84.1	82.2
Caraga			
Agriculture	89.4	88.6	87.1
Palay	93.9	99.2	105.7
Corn	89.8	87.9	80.3
Coconut	87.2	83.8	80.8
Sugarcane			
ARMM			
Agriculture	83.2	81.5	79.0
Palay	93.2	92.0	91.4
Corn	78.5	79.7	86.0
Coconut	81.3	77.1	73.8
Sugarcane			

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## **Modules of the Agricultural Indicators System**

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

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