Current world fertilizer trends and outlook to 2016

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
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Preface

This report presents the world nitrogen, phosphate and potassium fertilizer medium-term supply and demand projections for the period 2012-2016. The FAO/Fertilizer Organizations Working Group met in FAO, Rome in June 2012 to review the prospects for fertilizer demand and supply, and made the forecasts.

The Working Group comprised:

	Fertilizers Europe
FAI	Fertiliser Association of India
IFA	International Fertilizer Industry Association
IFDC	International Center for Soil Fertility and Agricultural Development
IMPHOS	World Phosphate Institute
K+S	K+S KALI GmbH
TFI	The Fertilizer Institute
FAO	Food and Agriculture Organization of the United Nations

Annex 1 presents explanatory notes on potential supply, demand and balance. Annexes 2, 3, and 4 present world and regional (listed in Annex 8) fertilizer demand forecasts for nitrogen, phosphate, and potash, respectively. Annexes 5, 6 and 7 present world and regional potential supply, demand and balance for the three primary nutrients. Name plate capacity, operating rates and demand for fertilizers vary from year to year.

All references relating to fertilizers are in terms of three primary nutrients, viz., nitrogen (N), phosphate (P_2O_5) and potash (K_2O). The fertilizer demand and supply data refer to the calendar year.

FAO, in collaboration with experts from the Working Group dealing with fertilizer production, consumption and trade, annually provides five-year forecasts of world and regional fertilizer supply, demand and potential balance. The contributions made by the members of the Working Group are gratefully acknowledged. Preparation of the document by Mr. T. K. Chanda, Additional Director, The Fertiliser Association of India is sincerely acknowledged. Editing of the document by Dr. Christian Nolte, Senior Officer, FAO and collection of data and assistance in compilation by Ms. Christina Vella, Tomlin, FAO, Rome are gratefully acknowledged.

Executive summary

The world economy has experienced financial turmoil followed by a slump in growth with intermittent recovery in the past four years. The global grain supply-demand balance in the 2012/13 marketing season may tighten significantly as a result of a anticipated fall in production of wheat and coarse cereals. World food prices may ease in 2012 after the peak level recorded in 2011. World fertilizer nutrient ($N+P_2O_5+K_2O$) consumption is estimated to reach 180.1 million tonnes in 2012, up by 1.9 percent over 2011. World demand for total fertilizer nutrients is estimated to grow at 1.9 percent per annum from 2012 to 2016. The demand for nitrogen, phosphate, and potash is forecast to grow annually by 1.3, 2.0, and 3.7 percent, respectively, during the period. Over the next five years, the global capacity of fertilizer products, intermediates and raw materials will further increase.

The global potential nitrogen balance (i.e., the difference between N available for fertilizers and N fertilizer demand) as a percentage of N fertilizer demand is expected to increase from 2 per cent in 2012 to 4-5 per cent in 2013 and 2014. Thereafter, it is expected to be around 8 per cent during the last two years of the forecast period, i.e, 2015 and 2016. The global potential balance of phosphate is expected to rise from 2.1 million tonnes in 2012 to 3.8 million tonnes in 2016 or from 5 per cent of total demand to 8 percent. The global potential balance of potassium is expected to rise significantly from 8 million tonnes in 2012 to 15.6 million tonnes in 2016 or from 25 per cent of total demand to 42 percent.

The *Africa* region is likely to remain a major exporter of phosphate, followed by nitrogen, but would continue to depend solely on import of potash. *North America* would increasingly rely on nitrogen fertilizer import. Its phosphate export may come down slowly and the potash balance of the sub-region is expected to increase. *Latin America & Caribbean* is expected to become a potential supplier of nitrogen from 2015 while its dependence on import of phosphate and potash would continue during the forecast period. The dependence of *East Asia* on nitrogen import is expected to decline in 2015 and 2016 and the import of potash would grow significantly during the period. The sub-region would, however, continue to be a net exporter of phosphate during the period. *West Asia* has a surplus in all the three nutrients. It is a major contributor to the global nitrogen supply. The sub-region has a small surplus of phosphate for exports, which is expected to grow in the forecast period. *South Asia* would continue to remain deficit in all the three nutrients during the forecast period. The deficit balance in all the three nutrients is expected to rise during the forecast period. In *Europe*, the major contribution in the nitrogen, phosphate, and potash surplus is from *East Europe & Central Asia*. It has a large potential balance of nitrogen and potash. *West Europe* would continue to remain in surplus in potash and in deficit in nitrogen and phosphate. *Central Europe* would continue to be in deficit in phosphate and potash. The surplus balance of nitrogen in the sub-region will marginally decline. *Oceania* region would continue to be in deficit in all the three nutrients.

The world fertilizer outlook

BACKGROUND

The global economic growth and financial situation impacts various sectors, including agriculture. The world economy has experienced a financial turmoil followed by a slump in growth with intermittent recovery in the past four years. The world fertilizer outlook, therefore, needs to be viewed from the perspective of a reduced world economic growth. This report begins with a background of the world economic growth, followed by developments in agricultural production, input (fertilizer) output prices, and thereafter presents the details of regional and global supply, demand, and the potential balance of fertilizers in the coming years on a five year basis.

According to the April 2012 *World Economic Outlook* report of the International Monetary Fund (IMF), the world economic activity suffered a major setback in 2011. The world output growth dropped from 5.3 per cent in 2010 to 3.9 per cent in 2011. Economic growth lost its momentum in the second half of 2011, caused by the euro crisis. A fall in business confidence and escalating financial stress were major factors in the contraction of the euro area economy. The real GDP in Japan was also affected due to weak demand and supply disruptions related to floods in Thailand. In the Middle East and North Africa, production and trade remained subdued due to social unrest and geo-political uncertainty. In emerging Asia and in Latin America, trade and production slowed due to cyclical factors, including policy tightening. In the United States, however, economic activity improved as consumption and inventory investment strengthened. In sub-Saharan Africa growth continued to sustain supported by favorable commodity prices.

Some sign of recovery was noticed in global trade and production in the first quarter of 2012. Global growth increased to 3.6 percent during the period mainly due to temporary factors, including easing financial conditions and recovery in confidence in response to the European Central Bank's longer-term refinancing operations. Unfortunately, developments during the second quarter of 2012 have been once again disappointing. There has been further escalation in financial market stress in the Euro area caused by increased political and financial uncertainty in Greece, banking sector problems in Spain, uncertainty about fiscal adjustment and reform and the extent of cooperation from partner countries. The momentum of growth has also slowed in various emerging market economies, mainly Brazil, China, and India. Many emerging market economies have also been hit by a drastic fall in investment due to uncertainty in the market.

The July 2012 *World Economic Outlook.* The report indicates that global growth is projected to moderate to 3.5 percent in 2012 and to 3.9 percent in 2013. Growth in advanced economies is projected to increase by 1.4 percent in 2012 and 1.9 percent in 2013. Growth in emerging and developing economies may be around 5.6 percent in 2012 before picking up to 5.9 percent in 2013. Growth in the Euro area may fall by 0.3 per cent in 2012 before recovering to 0.7 per cent in 2013. Growth is projected to remain relatively weaker than in 2011 in regions connected more closely with the euro area, particularly, Central and Eastern Europe. However, the USA may maintain a growth of 2 per cent in 2012 and 2.3 per cent in 2013. Against the broad trends, growth in the Middle East and North Africa will be higher in 2012 compared to last year. Similarly, growth in sub-Saharan Africa is expected to remain strong in 2012–13, supported by the

region's relative insulation from external financial shocks. Table 1 shows the world economic outlook projections in 2012 and 2013 compared to 2010 and 2011.

Table 1
World Economic Outlook Projections (Percentage change)

	2010	2011	2012	2013
World Output	**5.3**	**3.9**	**3.5**	**3.9**
Advanced Economies	3.2	1.6	1.4	1.9
United States	3.0	1.7	2.0	2.3
Euro Area	1.9	1.5	–0.3	0.7
Japan	4.4	–0.7	2.4	1.5
United Kingdom	2.1	0.7	0.2	1.4
Canada	3.2	2.4	2.1	2.2
Other Advanced Economies [1]	5.8	3.2	2.4	3.4
Emerging and Developing Economies	7.5	6.2	5.6	5.9
Central and Eastern Europe	4.5	5.3	1.9	2.8
Commonwealth of Independent States	4.8	4.9	4.1	4.1
Developing Asia	9.7	7.8	7.1	7.5
China	10.4	9.2	8.0	8.5
India	10.8	7.1	6.1	6.5
ASEAN-5 [2]	7.0	4.5	5.4	6.1
Latin America and the Caribbean	6.2	4.5	3.4	4.2
Brazil	7.5	2.7	2.5	4.6
Mexico	5.6	3.9	3.9	3.6
Middle East & North Africa	5.0	3.5	5.5	3.7
Sub-Saharan Africa	5.3	5.2	5.4	5.3
South Africa	2.9	3.1	2.6	3.3

[1] = Excludes the G7 and Euro area countries.
[2] = Indonesia, Malaysia, Philippines, Thailand and Vietnam.
Source: World Economic Outlook Update, July 16 2012, International Monetary Fund.

According to IMF, global consumer price inflation is projected to ease in 2012 as demand is expected to soften and commodity prices may recede. Overall, headline inflation is expected to slip from 4.5 percent in the last quarter of 2011 to 3 to 3.5 percent in 2012–13.

Agricultural outlook

The *World Food Situation*, released by the FAO in early September 2012 forecasts a significant tightening of the global grain supply-demand balance in the 2012/13 marketing season. The world cereal production in 2012 is estimated to touch 2 295 million tonnes, down by 52 million tonnes, or 2.2 percent, from the record production in 2011. This is mainly due to declining prospects in maize production in the United States because of severe drought.

Global wheat production is anticipated to reach 663 million tonnes in 2012, down by 36 million tonnes (5 percent) compared to 2011. Most of the decline in wheat production is on account of the effect of drought on yields and production in CIS. Wheat output in the Russian Federation is forecast to decline by 29 percent over 2011. Production also appears to fall sharply in Kazakhstan and Ukraine, by 47 and 37 percent, respectively. In contrast, a number of other major producing countries may harvest more wheat. In the United States, wheat production is to increase by 13.5 percent to an above-average level of 61.7 million tonnes. In Canada, wheat output is expected to be above-average and 6 percent higher than in 2011. The wheat harvest in India may reach almost 94 million tonnes (8 percent above the previous year's record). Likewise, in China, the wheat output may reach a new high of 118 million tonnes. In the EU, the latest projections indicate a small reduction from 2011.

World production of coarse grains (i.e. maize, barley, sorghum, millet, rye and oats) is projected at 1 148 million tonnes in 2012, down 17 million tonnes (or 1.5 percent) from 2011. The anticipated fall is mainly attributed to a lower maize crop production, which is expected to decline to 864 million tonnes in 2012, 20 million tonnes less than in 2011. The maize crop in the United States may fall to 274 million tonnes, down 40 million tonnes (13 percent) vis-à-vis 2011.

The global rice production is estimated at 483.3 million tonnes (milled basis) in 2012, up marginally (0.2 percent) from the 2011 level. The forecast has been revised from the earlier estimates of FAO. The revision is due to a reported deterioration in crop prospects in a number of Asian countries, mostly as a result of unfavourable climatic conditions. This has been particularly the case in India, where late and weak monsoon rains in June and July constrained the main Kharif crop plantings, leading to a 6 percent decline in this year's production, to 98.5 million tonnes. Current prospects similarly point to less crop production in Cambodia, the Republic of Korea, the DPR Korea and Nepal although, on aggregate, the region is still expected to end the season with favourable results, largely due to the expectation of higher production in China (Mainland), Indonesia and Thailand.

Table 2 presents the world production of major crops in recent years and forecast for 2012/13**.**

Table 2
World production of major crops (million tonnes)

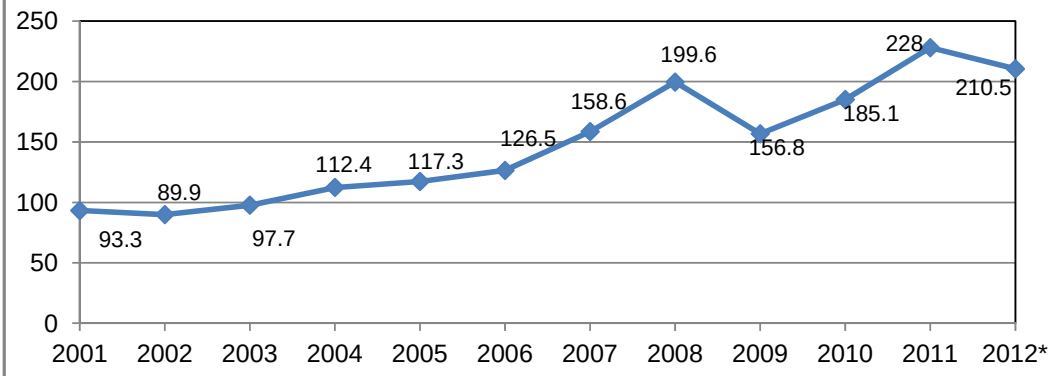
	2009/10	2010/11	2011/12 (est.)	2012/13 (forecast)
Wheat	685.7	655.6	699.1	663.3
Coarse grain	1 125.4	1 135.5	1 165.7	1 148.3
Rice	455.1	468.3	482.3	483.3
Total cereals	2 266.2	2 259.4	2 347.0	2 294.8
Sugar	156.7	165.1	172.8	
Oil seeds	456.7	468.0	450.9	

Source: Various issues of Food Outlook, FAO, Rome

Input and output prices

The Food Price Index of the Food and Agriculture Organization of the United Nations (FAO) showed a strong upward movement touching an all-time record of 228 points in 2011 and surpassing the earlier peak value of 200 in 2008. The index of cereals touched 247, diary 221, meat 177, oils & fats 252 and sugar 369 in 2011. The food price index started coming down from last quarter of 2011. The average food price index came down to 211 in the first half of 2012. The average index of cereals has come down to 224, of dairy to 190, of meat to 176, of oils & fat to 237 and of sugar to 321. Fig.1 shows the movement in annual food price indices from 2001 to the first half of 2012.

Fig.1: Annual Food Price Indices (2002-2004 = 100)



* = Jan/June

Source: FAO Food Price Index

Besides this hike in food prices, energy prices also moved upward in 2011 as a result of higher demand outpacing supply. The average Brent crude price increased to US$ 111.26 per barrel in 2011, an increase of 40% over 2010. During the first half of 2012, the average price of Brent crude moved up further to US$ 113 per barrel with a peak price of US$ 125.44 per barrel in March 2012 and a low of US$ 95.16 per barrel in June 2012. The crude prices started moving up as of July 2012 and it crossed a little over US$ 113 per barrel in August/September 2012. High energy prices impact various cost segments, including fertilizer.

The prices of fertilizer marked a significant increase in 2011. For instance, the index (2002-04 =100) of FOB prices for DAP increased from 264 in 2010 to 337 in 2011. Similar is the situation in respect to other fertilizers. In the first half of 2012, urea and MOP price indices increased further, whereas the price of DAP declined to a certain extent. Under the situation of high food prices, and high prices of fertilizers, a mixed scenario emerges. High agricultural commodity prices provide incentives for farmers in market-oriented economies to invest in fertilizers and other inputs for higher productivity. However, it is a disincentive for farmers to purchase fertilizers, particularly i P&K, having smallholdings and with the bulk of food production meant for family consumption. Table 3 shows output and fertilizer input price indices from 2008 to the first half of 2012.

Table 3
Output and fertilizer input price indices (2002-2004 =100)

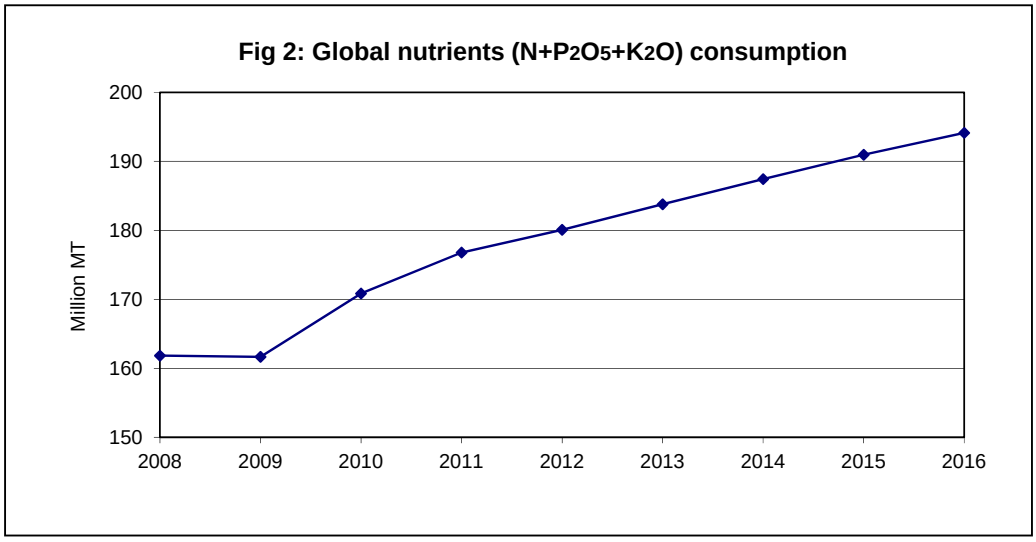
	2008	2009	2010	2011	2012 (January-June)
Output price index[1]					
Cereals	238	174	183	247	224
Dairy	220	142	200	221	190
Meat	153	133	152	177	176
Oils & Fats	227	151	194	252	237
Sugar	182	257	302	369	321
Food	**200**	**157**	**185**	**228**	**211**
Fertilizer input price index[2]					
Urea	362	184	208	308	310
DAP	537	176	264	337	291
MOP	573	542	296	388	408

Source:
[1] **World** *Food Situation: Food Prices Index*, FAO, Rome, (http://www.fao.org/worldfoodsituation/FoodPricesIndex/en/)
[2] Calculated from average FOB prices quoted in various Fertilizer Trade Journals.

DEMAND

Demand for fertilizer nutrients

In light of the above background and keeping in view the factors which influence and likely impact in future, the demand for fertilizer nutrients have been projected for the coming five years. Total fertilizer nutrient ($N+P_2O_5+K_2O$) consumption is estimated at 176.8 million tonnes in 2011 and is forecast to reach 180.1 million tonnes in 2012. With a successive growth of 1.9 percent per year, it is expected to reach 194.1 million tonnes by the end of 2016. Fig. 2 indicates the forecasts of world demand for total fertilizer nutrients from 2012 to 2016 against the actual consumption in the preceding four years.



The forecasts of demand for three main plant nutrients in specific regions and the world for 2012 to 2016 are presented in Annexes 2, 3 and 4. The global demand for fertilizer nutrients are summarized in Table4.

Table 4

World demand for fertilizer nutrients, 2012-2016 (thousand tonnes)

Year	2012	2013	2014	2015	2016
Nitrogen (N)	109 928	111 558	113 063	114 504	115 956
Phosphate (P_2O_5)	41 525	42 731	43 487	44 251	45 013
Potash (K_2O)	28 626	29 494	30 879	32 208	33 163
Total (N+ P_2O_5+K_2O)	**180 079**	**183 782**	**187 429**	**190 963**	**194 132**

In 2012, the world demand for nitrogen, phosphate and potash is forecast to grow by 1.6, 2.4 and 2.0 percent, respectively, over the previous year. The world and regional annual growth rate in fertilizer demand between 2012 and 2016 is given in Table 5. The world demand for nitrogen, phosphate and potash is forecast to grow annually by 1.3, 2.0 and 3.7 percent, respectively, between 2012 and 2016.

Table 5

World and regional growth in fertilizer demand, 2012 to 2016

Region	Annual growth rate (Compound)			
	N	P_2O_5	K_2O	Total ($N+P_2O_5+K_2O$)
World	**1.3%**	**2.0%**	**3.7%**	**1.9%**
Africa	2.6%	2.9%	3.3%	2.7%
North Africa	2.3%	1.7%	1.2%	2.1%
Sub-Saharan Africa	2.9%	3.7%	4.2%	3.3%
America	1.3%	1.9%	1.9%	1.6%
North America	0.6%	0.6%	0.6%	0.6%
Latin America & Caribbean	2.7%	3.0%	2.9%	2.9%
Asia	1.3%	2.0%	5.8%	2.0%
West Asia	1.8%	3.3%	3.9%	2.3%
South Asia	2.6%	3.0%	10.3%	3.5%
East Asia	0.6%	1.2%	4.2%	1.2%
Europe	1.3%	2.5%	2.0%	1.6%
Central Europe	1.5%	2.4%	2.4%	1.8%
West Europe	-0.2%	1.2%	1.0%	0.3%
East Europe & Central Asia	3.7%	4.3%	3.3%	3.8%
Oceania	1.3%	2.0%	1.4%	1.6%

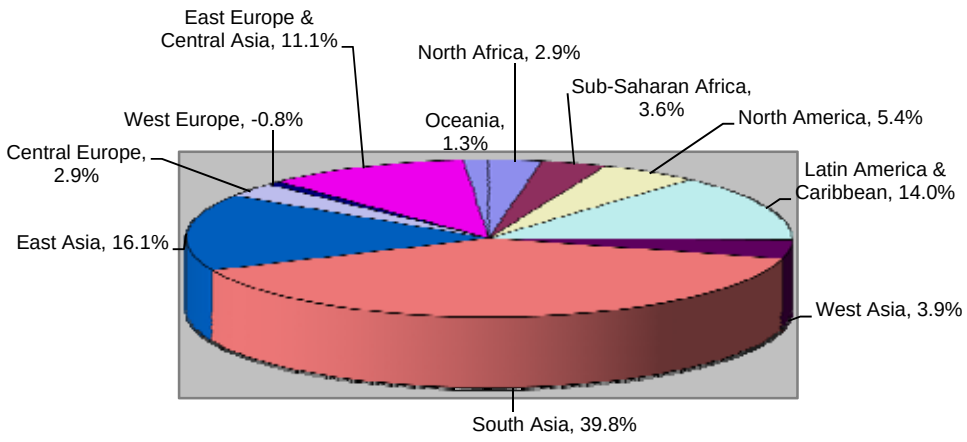
Nitrogen (N)

The world nitrogen fertilizer demand increased from 108.2 million tonnes in 2011 to 109.9 million tonnes in 2012, at a growth rate of 1.6 per cent. It is expected to be around 116.0 million tonnes in 2016 at the annual growth of 1.3 percent. Of the overall increase in demand for 6 million tonnes nitrogen between 2012 and 2016, 60 percent would be in

Asia, 19 percent in America, 13 percent in Europe, 7 percent in Africa and 1 percent in Oceania.

Among the Asian countries, the bulk of the increase of world demand for nitrogen is expected in India (30 percent) and China (7 percent), followed by Pakistan (6 percent), Indonesia (5 percent), Bangladesh (3 per cent), Vietnam (2 per cent) and Malaysia (1 per cent). In America, the major share of increase is expected in Latin America (14 percent), mainly in Brazil, Argentina, Colombia and Mexico. In North America the share of increase is expected to be around 5 per cent, contributed largely by USA and Canada. In Europe, major share of increase is expected in East Europe & Central Asia (11 per cent), mainly in Russia (5 per cent) and Ukraine (4 per cent). This is expected to be followed by Central Europe (3 percent). In West Europe, there may be a nominal decline in consumption during the period. The share of increase in North Africa is expected to be around 3 per cent, mainly in Egypt and Morocco. The share of increase in Sub-Saharan Africa is expected to be around 4 per cent, mainly in Nigeria, Kenya, Ethiopia, Malawi and South Africa. The share of increase in Oceania is expected to be around 1 per cent. Figure 3 shows the regional and sub-regional share of world increase in nitrogen consumption between 2012 and 2016.

Fig 3: Regional and sub-regional share of world increase in nitrogen fertilizer consumption, 2012-2016

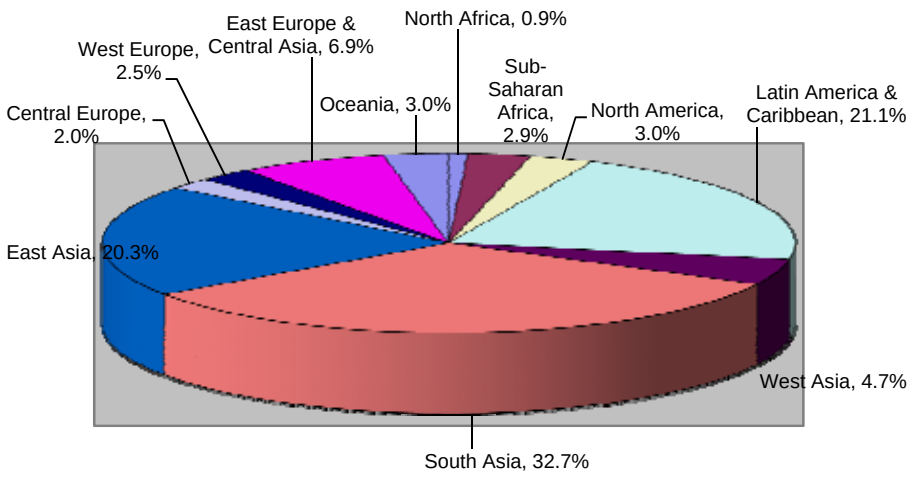


Phosphate (P_2O_5)

Phosphate fertilizer consumption/demand include H_3PO_4 (phosphoric acid) based fertilizer demand + non-H_3PO_4 fertilizer demand. The non-H_3PO_4 fertilizer demand includes P_2O_5 in single super phosphate, rock phosphate, etc. The world phosphate fertilizer demand increased from 40.6 million tonnes in 2011 to 41.5 million tonnes in 2012, at a growth rate of 2.4 per cent. It is expected to touch 45.0 million tonnes in 2016 at a growth rate of 2.0 percent per year. Of the overall increase in demand for 3.5 million tonnes P_2O_5 between 2012 and 2016, 58 percent would be in Asia, 24 percent in America, 11 per cent in Europe, 4 percent in Africa and 3 per cent in Oceania.

Among the Asian countries, about 25 percent of the growth in world demand of phosphate is expected in India, 14 percent in China, 4 percent in Pakistan, and 3 per cent in both, Indonesia and Bangladesh. West Asia accounts for 5 per cent of the increase in consumption, of which Turkey, Iran and Syria have the bulk of the share. Among the major countries in America, 14 percent of the growth in world demand is projected to be in Brazil, 3 per cent in Argentina and 2 percent in USA. The share of East Europe & Central Asia is expected to be 7 per cent, of which Russia accounts for a share of 4 per cent and Ukraine around 2 per cent. West Europe accounts for a share of 3 per cent and Central Europe 2 per cent of the world increase in consumption. The share of increase in Oceania is expected to be 3 per cent. In Sub-Saharan Africa, the increase is likely to be 3 per cent and in North Africa, it is expected to be around 0.9 per cent. Fig. 4 shows regional and sub-regional shares of world increase in phosphate consumption between 2012 and 2016.

Fig 4: Regional and sub-regional share of world increase in phosphate fertilizer consumption, 2012-2016

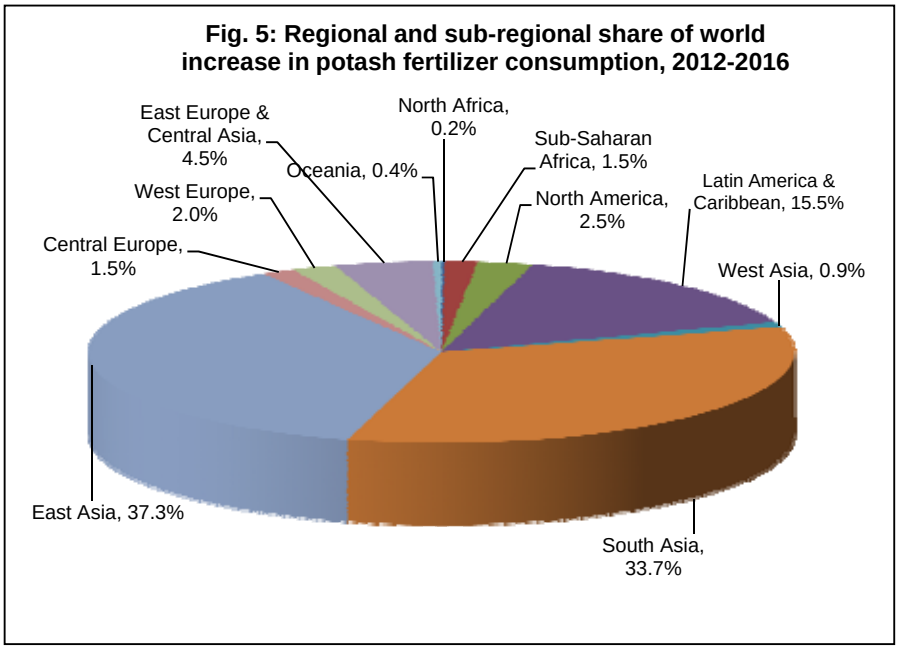


Potash (K_2O)

Potassium fertilizer demand is estimated to increase from 28.1 million tonnes in 2011 to 28.6 million tonnes in 2012, indicating an increase of 2.0 percent. The world potash fertilizer demand is expected to be 33.2 million tonnes in 2016 with an annual per annum growth of 3.7 per cent over 2012. Of the overall increase in demand for 4.5 million tonnes potash between 2012 and 2016, 72 percent would be in Asia, 18 percent in America, 8 percent in Europe, 2 percent in Africa and 0.4 percent in Oceania.

Among the Asian countries, about 32 percent of the growth in world demand for potash is expected in India, 25 percent in China, 5 per cent in Indonesia, 3 per cent in Thailand, 2 per cent in Vietnam, 1 per cent in Malaysia and the balance in the rest of Asia. In America, the major share of the growth of about 11 percent is projected to be in Brazil and 2 percent in USA. In Europe, about 5 per cent of the growth in world demand for potash is expected in East Europe & Central Asia (of which Russia 2 per cent, Ukraine & Belarus 1 per cent each). This is followed by 2 per cent in Central Europe and West

Europe each. Figure 5 shows regional and sub-regional shares of world increase in potash consumption during 2012 to 2016.



Total demand for primary nutrients

The details of demand for primary nutrients for use as fertilizer have been discussed in the previous section. There is also some use of primary nutrients in industry. In addition, nitrogen and phosphate are reported to be used as feed for cattle, poultry, and fish. Table 6 shows the global total demand (fertilizer + non-fertilizer) for primary nutrients for 2012 to 2016.

Table 6
World total demand for primary nutrients, 2012-2016 (thousand tonnes)

Year	2012	2013	2014	2015	2016
1.Nitrogen (N)	137 726	140 340	142 882	145 035	147 131
2.Phosphate (P_2O_5)[a]	47 376	48 901	49 831	50 715	51 547
3.Phosphate (P_2O_5)[b]	41 525	42 731	43 487	44 251	45 013
4.Potash (K_2O)	32 210	33 210	34 709	36 149	37 221
5.Total (N+ P_2O_5+K_2O) (1+2+4)	217 312	222 451	227 422	231 899	235 899

[a] = Total P_2O_5 demand (H_3PO_4 based fertilizer + non-fertilizer, and non-H_3PO_4 fertilizer).
[b] = Total H_3PO_4 demand (fertilizer + non-fertilizer) expressed as P_2O_5.

Since, the major share of phosphate fertilizer is based on phosphoric acid (H_3PO_4), and its supply and demand is of commercial importance, the following sections on supply and supply/demand balance are based on H_3PO_4 (i.e., excluding non- H_3PO_4 source).

SUPPLY

The global total nutrient capacity (N+P_2O_5+K_2O) was 256 million tonnes in 2011, out of which the total supply was 219 million tonnes. During 2012, the total capacity is

expected to increase by 4.9 per cent and supply would grow by 2.8 per cent. Over the next five years, global capacity and production of fertilizers would increase further. Table 7 shows world supply of ammonia, phosphoric acid and potash during 2012 to 2016. Region and sub-region wise detail information is given in Annex 5, 6 and 7.

Table 7
World supply of ammonia, phosphoric acid and potash, 2012-2016 (thousand tonnes)

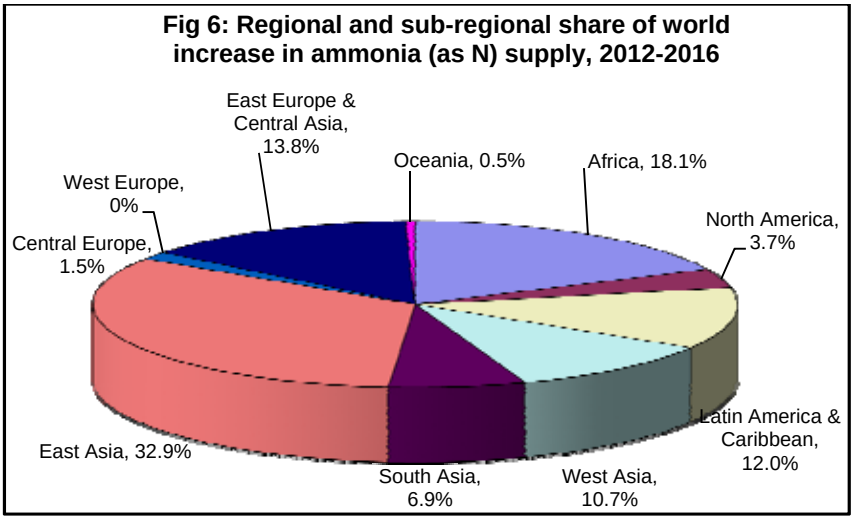
Year	2012	2013	2014	2015	2016
Ammonia (as N)	140 760	146 400	149 729	156 307	158 463
Phosphoric acid (as P_2O_5)	44 312	45 857	47 392	48 776	49 835
Potash (as K_2O)	40 196	43 467	45 682	48 561	52 817

Nitrogen (N)

The world ammonia capacity was 161.3 million tonnes (as N) in 2011. With the expected addition in capacity of about 7.7 million tonnes, the total ammonia capacity is likely to be 169.0 million tonnes (as N) in 2012. With successive additions in capacity each year, total ammonia capacity is expected to rise to 182.2 million tonnes (as N) in 2015 and marginally reduce to 181.5 million tonnes in 2016. The main additions to capacity would occur in East Asia, South Asia, Africa, West Asia and Latin America. Of the total increase of 12.5 million tonnes from 2012 to 2016, nearly 18 percent is expected to be added in East Asia, 13 per cent in East Asia and 11 per cent in South Asia. About 23 percent of the increase in world ammonia capacity is expected in Africa, 9 per cent in Latin America & Caribbean, 21 per cent in East Europe and Central Asia, 3 per cent in North America and 2 per cent in Central Europe. No increase in ammonia capacity is expected in West Europe and Oceania.

After taking into account operating rates, world supply of ammonia (as N) is estimated at 137.7 million tonnes in 2011 which would rise to 140.8 million tonnes in 2012. From 2012 to 2016, there would be a total addition in supply of 17.7 million tonnes. The total supply of ammonia (as N) would thereby rise to 158.5 million tonnes in 2016 (Table 7). Fig.6 shows the percentage contribution of various regions and sub-regions to the total increase in ammonia (as N) supply between 2012 and 2016.

Fig 6: Regional and sub-regional share of world increase in ammonia (as N) supply, 2012-2016



According to the International Fertilizer Industry Association (IFA), Paris, there are delays in commissioning of several urea plants announced earlier. About 50 million tonnes of urea (product) capacity is expected to be added through large plants and 4 million tonnes will be contributed by expansion and revamp. Capacity changes are expected in some of the consuming countries, such as, Brazil and Vietnam. The additions in capacities proposed in India would depend upon announcement of investment policy and assurance of supply of feedstock (gas). The capacity changes in exporting countries include mainly Algeria, China, Indonesia, Qatar, Saudi Arabia and Venezuela. The bulk of the additions in world capacity of urea is expected in the above mentioned countries.

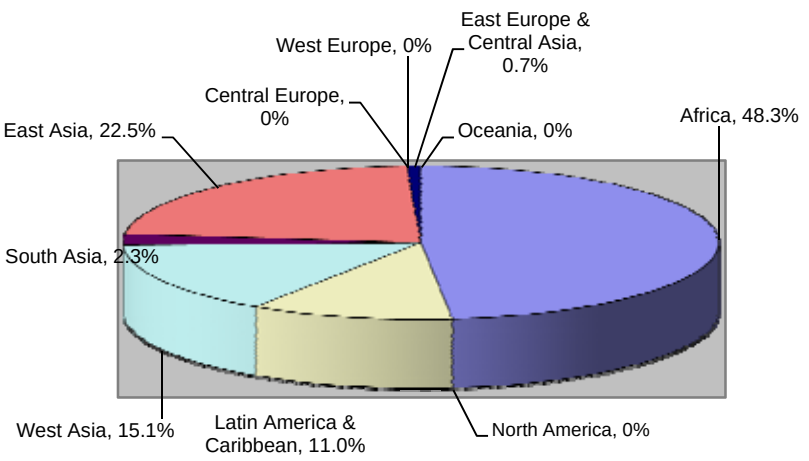
Phosphate (P_2O_5)

World phosphoric acid (as P_2O_5) capacity was about 51.5 million tonnes in 2011. A modest increase of 1.8 million tonnes is expected in 2012 with the total rising to 53.3 million tonnes. By 2016, it is expected to rise to 61.3 million tonnes. Of the total 8 million tonnes addition in world capacity between 2012 and 2016, 45 percent addition would take place in Asia, mainly in East Asia and West Asia About 35 percent capacity would be added in Africa, 13 percent in Latin America & Caribbean, 6 per cent in East Europe & Central Asia and 1 per cent in Oceania. No addition in capacity is expected in Central Europe, West Europe and in North America.

According to IFA, between 2011 and 2016, close to 40 new acid units are planned for completion, of which 17 would be located in China. Outside China, the main projects that would mean a large increase in phosphoric acid capacity are in Morocco, Brazil, Jordan, Tunisia, Indonesia, Algeria and possibly in India.

After taking into account operating rates, world supply of phosphoric acid (as P_2O_5) is estimated at 42.6 million tonnes in 2011, which is estimated to rise to 44.3 million tonnes in 2012. A modest increase is expected annually, and by 2016, the total supply will be 49.8 million tonnes (Table 7). Fig.7 shows the percentage contribution of various regions and sub-regions to the total increase in phosphoric acid (as P_2O_5) supply between 2012 and 2016.

Fig 7: Regional and sub-regional share of world increase in phosphoric acid (as P_2O_5) supply, 2012-2016



According to IFA's 2012 world capacity survey, over the next five years, close to 35 new units of MAP, DAP and TSP are planned to come on stream in ten countries between 2011 and 2016. China will account for half of these plants. Morocco and Brazil plan to add 6 new plants each. Five other plants are under construction or planned for completion before 2016.

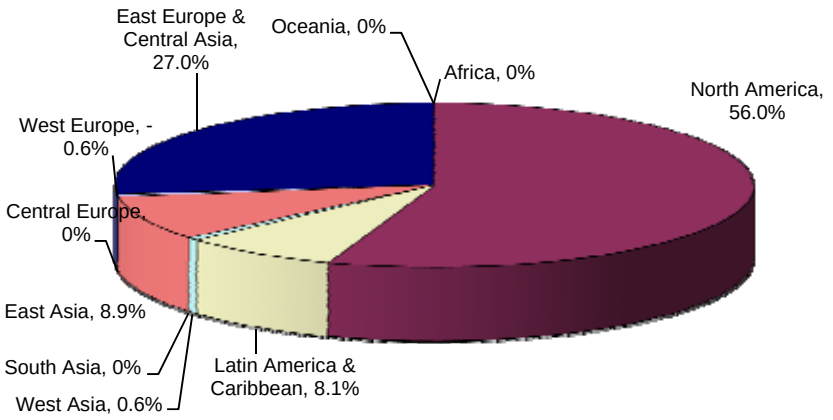
Potash (K_2O)

World potash capacity was estimated at 43.3 million tonnes (as K_2O) in 2011. An increase of 2.9 million tonnes is expected in 2012 with the total rising to 46.2 million tonnes. By 2016, the total capacity is likely to be 61.4 million tonnes. Of the total increase in capacity of 15.2 million tonnes potash between 2012 and 2016, 48 percent would be in North America, 13 percent in Latin America & Caribbean, 32 percent in East Europe & Central Asia and 7 per cent in East Asia.

According to IFA, between 2011 and 2016, about 68 per cent of additional capacity is expected to come from brown field projects in Canada, Russia and Belarus besides Chile and China. The remaining 32 per cent of capacity are expected in green field projects in Argentina, Canada and Russia. The bulk of new potash capacity will be in the form of MOP.

After considering operating rates, world supply of potash (as K_2O) is estimated at 38.8 million tonnes in 2011, which would rise to 40.2 million tonnes in 2012. A good increase is expected annually from 2012 and by 2016, the total supply may touch 52.8 million tonnes (Table 7). Fig.8 shows the percentage contribution of various regions and sub-regions to the total increase in potash supply between 2012 and 2016.

Fig 8: Regional and sub-regional share of world increase in potash (as K_2O) supply, 2012-2016



SUPPLY / DEMAND BALANCE

Table 8 presents the world potential balance of nitrogen, phosphate (H_3PO_4 based P_2O_5), and potash (K_2O) for 2012 to 2016. The potential balance is derived from maximum availability (supply) over the projected total demand as shown below.

(i) Potential balance = supply–non-fertilizer demand–fertilizer demand.

(ii) Supply of each nutrient is referred as under:

N = N through ammonia, P_2O_5 = P_2O_5 through phosphoric acid, and

K_2O = K_2O through potash.

Unforeseen factors, such as, feedstock/raw material limitations, logistic problems, unscheduled shut down due to technical reasons, natural calamities (earth quake, mine flooding, etc.) are not considered in the balance. Consumption/demand projections are based on agronomic considerations (e.g. cropped area and application rate of fertilizer), market feed back, estimates by industry associations, growth models; econometric models, expert advice, etc. Table 8 indicates the world potential balance of nitrogen, phosphate, and potash for 2012 to 2016.

Table 8

World potential balance of nitrogen, phosphate and potash, 2012-2016 (thousand tonnes)

Year	2012	2013	2014	2015	2016
Nitrogen (N)	3 034 (2.2)	6 061 (4.3)	6 847 (4.8)	11 272 (7.8)	11 332 (7.7)
Phosphate as P_2O_5 (H_3PO_4 based)	2 088 (5.0)	2 277 (5.3)	2 988 (6.9)	3 598 (8.1)	3 781 (8.4)
Potash (K_2O)	7 986 (24.8)	10 258 (30.9)	10 973 (31.6)	12 411 (34.3)	15 596 (41.9)

( ) = Potential balance as % of projected total demand (fertilizer + non-fertilizer).

Nitrogen (N)

The world nitrogen supply is expected to increase by 3 percent annually between 2012 and 2016, whereas demand is projected to increase by 1.3 percent in the same period. The potential balance of nitrogen is expected to be 3.0 million tonnes in 2012 as against 2.7 million tonnes in the previous year. There would be an addition in the potential balance by about 3 million tonnes in 2013 with a small increase in 2014. A sweeping increase over 4 million tonnes is expected in 2015, followed by a small increase in 2016. The total potential balance would be around 11.3 million tonnes by the end of 2016. The potential nitrogen balance as a percentage of global total demand is expected to increase from 2 per cent in 2012 to 4-5 per cent in 2013 and 2014. Thereafter, it is expected to be around 8 per cent during the last two years of the forecast period, i.e, 2015 and 2016 (Table 8). Any shortfall in supply due to slippage in commissioning in some of the projects or surge in demand could well be absorbed from the potential balance.

Phosphate (P_2O_5)

The world phosphate (H_3PO_4 based P_2O_5) supply is expected to increase by 3 percent per annum between 2012 and 2016, whereas demand is projected to increase by 2 percent in the same period. The potential balance of phosphate is expected to rise from 2.1 million tonnes in 2012 to 3.8 million tonnes in 2016. The ratio of potential phosphate balance (H_3PO_4 based) to global phosphate demand (H_3PO_4 based P_2O_5) is likely to grow from about 5 per cent in 2012 and 2013 to 7 to 8 per cent during the remaining period of the forecast period (Table 8).

Potash (K_2O)

The world potash balance was 7.2 million tonnes in 2011, which increased to 8 million tonnes in 2012. The demand for potash is projected to increase by 3.8 percent between 2012 and 2016. The world potash supply is expected to increase by 7.1 percent during the same period. The potential balance is expected to rise significantly from 8 million tonnes in 2012 to 15.6 million tonnes in 2016. The potential potash (K_2O) balance as a percentage of global total demand is expected to rise from 25 percent in 2012 to a high level of 42 percent in 2016 (Table 8).

THE REGIONAL FERTILIZER SITUATION

Africa

Africa accounted for about 2.9 percent of world fertilizer consumption in 2011. Its share in world consumption of nitrogen is 3.3 percent, phosphate 2.6 percent and potash 1.8 percent. The growth rate in demand for nitrogen, phosphate, and potash for fertilizer is expected to be 2.6, 2.9, and 3.3 percent, respectively, between 2012 and 2016. The fertilizer nutrient supply/demand balance indicates that the region would remain a major exporter of phosphate, followed by nitrogen. For potash, the region would continue to depend solely on import. Table 9 indicates fertilizer forecast for Africa for 2012 to 2016.

Table 9
Africa fertilizer forecast, 2012-2016 (thousand tonnes)

		2012	2013	2014	2015	2016
N	Supply	5 673	7 368	7 970	8 771	8 871
	Total demand	4 216	4 334	4 443	4 551	4 654
	Fertilizer demand	3 630	3 729	3 827	3 924	4 019
	Potential balance	1 457	3 034	3 527	4 220	4 217
P_2O_5 based on H_3PO_4	Supply	6 758	7 425	8 295	9 009	9 426
	Total demand	1 426	1 536	1 581	1 612	1 644
	Fertilizer demand	968	994	1 024	1 054	1 085
	Potential balance	5 332	5 889	6 714	7 397	7 782
K_2O	Supply	0	0	0	0	0
	Total demand	609	626	643	666	693
	Fertilizer demand	530	545	559	580	605
	Potential balance	-609	-626	-643	-666	-693

North Africa
The share of North Africa in world consumption of nitrogen is 1.7 percent, phosphate 1 percent and potash 0.5 percent. The growth rate in demand for nitrogen, phosphate and potash for fertilizer is expected to be 2.3, 1.7 and 1.2 percent, respectively, between 2012 and 2016. Egypt and Morocco have a major share in consumption in North Africa.

Sub-Saharan Africa
The share of Sub-Saharan Africa in world consumption of nitrogen is 1.6 percent, phosphate 1.6 percent and potash 1.3 percent. The growth rate in demand for nitrogen, phosphate and potash for fertilizer is expected to be 2.9, 3.7 and 4.2 percent, respectively, between 2012 and 2016. South Africa, Nigeria, Kenya, Ethiopia and Malawai are the major users of fertilizers in Sub-Saharan Africa.

America
Total fertilizer nutrient consumption in America is 23.7 per cent, of which North America constitutes 13.2 percent and Latin America & Caribbean 10.5 percent. The share of America in world consumption of nitrogen is 19.6 percent, phosphate 25.5 percent and potash 36.9 percent. The region would continue to remain in potash surplus, but in nitrogen and phosphate deficit during the forecast period. Table 10 presents fertilizer forecast for the America region for 2012 to 2016.

Table 10
America fertilizer forecast, 2012-2016 (thousand tonnes)

	2012	2013	2014	2015	2016
N Supply	21 532	22 334	22 730	23 967	24 306
Total demand	27 588	28 061	28 617	29 093	29 521
Fertilizer demand	21 395	21 646	21 952	22 251	22 562
Potential balance	-6 056	-5 727	-5 887	-5 126	-5 215
P_2O_5 based on H_3PO_4 Supply	10 373	10 519	10 567	10 687	10 981
Total demand	11 441	11 718	11 938	12 144	12 348
Fertilizer demand	9 622	9 771	9 963	10 157	10 353
Potential balance	-1 068	-1 199	-1 371	-1 457	-1 367
K_2O Supply	16 337	18 611	20 107	21 898	24 426
Total demand	11 735	11 951	12 192	12 444	12 696
Fertilizer demand	10 501	10 683	10 887	11 102	11 318
Potential balance	4 602	6 660	7 915	9 454	11 730

North America

The share of North America in world consumption of nitrogen is 12.9 percent, phosphate 11.6 percent and potash 16.9 percent. The growth rate in demand for nitrogen, phosphate and potash is expected to be 0.6 per cent each between 2012 and 2016. USA and Canada are major users of fertilizer in the region. The fertilizer nutrient supply/ demand balance indicates that the sub-region would increasingly rely on nitrogen fertilizer import. Its phosphate export may come down slowly due to an increase in demand and an almost static supply. The potash balance of the region is expected to increase due to addition of potash capacity mainly in Canada.

Latin America & Caribbean

The share of Latin America & Caribbean in world consumption of nitrogen is 6.7 percent, phosphate 13.9 percent, and potash 20.1 percent. The per annum growth in demand for nitrogen, phosphate and potash is expected to be at 2.7, 3.0 and 2.9 percent, respectively between 2012 and 2016. Brazil, Argentina, Mexico and Colombia constitute major users of fertilizer in the region. The fertilizer nutrient supply/demand balance indicates that the region would become a potential supplier of nitrogen as 2015, while its dependence on import of phosphate and potash would continue during the forecast period.

Asia

Asia region is the largest consumer of fertilizer in the world. Total fertilizer nutrient consumption in Asia is 58.7 per cent of the world total, the bulk of which is in East Asia and South Asia. Table 11 presents the fertilizer forecast for the Asia region as a whole. The share of Asia in world consumption of nitrogen is 61.9 percent, phosphate 59.6 percent and potash 44.9 percent. The region's dependence on imports of nitrogen may reduce slowly and it may have a small surplus by 2015 if plants in the pipeline are commissioned in time. The region would continue to remain in deficit with phosphate and potash during the forecast period. Table 11 presents the fertilizer forecast for the Asia region for 2012 to 2016.

Table 11
Asia fertilizer forecast, 2012-2016 (thousand tonnes)

		2012	2013	2014	2015	2016
N	Supply	77 745	80 659	82 676	85 342	86 683
	Total demand	80 694	82 217	83 649	84 828	86 040
	Fertilizer demand	68 269	69 251	70 172	71 015	71 870
	Potential balance	-2 949	-1 558	-973	514	643
P_2O_5 based on H_3PO_4	Supply	22 363	23 070	23 673	24 222	24 569
	Total demand	24 677	25 514	25 944	26 427	26 990
	Fertilizer demand	22 019	22 750	23 104	23 455	23 960
	Potential balance	-2 314	-2 444	-2 271	-2 205	-2 421
K_2O	Supply	7 176	7 521	7 750	8 139	8 371
	Total demand	14 595	15 218	16 357	17 419	18 109
	Fertilizer demand	12 919	13 465	14 545	15 550	16 182
	Potential balance	-7 419	-7 697	-8 607	-9 280	-9 738

West Asia

The share of West Asia in world consumption of nitrogen is 3.0 percent, phosphate 3.0 percent and potash 0.9 percent. Total fertilizer consumption in West Asia is forecast to grow by 2.3 percent per year from 2012 to 2016. The demand for nitrogen, phosphate and potash is expected to grow by 1.8, 3.3 per cent and 3.9 per cent, respectively, during the period. The sub-region is in surplus in all the three nutrients. It is a major contributor to the global nitrogen supply.

South Asia

Fertilizer consumption in South Asia has been increasing at a fast pace. It is the second largest fertilizer consuming region in the world. Its share in world consumption of nitrogen, phosphate and potash is 20.1, 21.9 and 11.1 percent, respectively. Nitrogen and phosphate consumption is expected to grow at 2.6 and 3.0 percent, respectively, per annum during 2012 to 2016. Potash consumption declined significantly in 2011 and may remain depressed in 2012 and 2013. Thereafter, the rate of growth is expected to be resumed at the normal level. The sub-region would continue to remain in deficit in all the three nutrients during the forecast period. The deficit balance of all the three nutrients is expected to rise during the forecast period.

East Asia

The East Asia sub-region is the largest fertilizer producing and consuming region in the world. Any development in East Asia and South Asia in regard to fertilizer application affects the global demand/supply situation significantly. The share of East Asia in global consumption of total fertilizer nutrients is 37.1 percent. The share of the sub-region in nitrogen consumption is 39 percent, phosphate 34.9 percent and potash 32.9 percent. Nitrogen, phosphate and potash consumption is expected to grow at 0.6, 1.2 and 4.2 percent, respectively, per annum during 2012 to 2016. With the growth in nitrogen capacity in the sub-region, the dependence on nitrogen import is expected to decline in 2015 and 2016. The potash supply in the region is far lower than the demand. With the increasing demand for potash, import demand would grow significantly during the

period. The sub-region would, however, continue to be a net exporter of phosphate during the period.

Europe

Table 12 presents fertilizer forecast for the Europe region as a whole. Europe's share in global consumption of total fertilizer nutrients is about 13 percent. The share of the region in nitrogen fertilizer consumption is 13.9 percent, phosphate 9.2 percent and potash 15.3 percent. Nitrogen, phosphate and potash consumption is expected to grow in the region at 1.3, 2.5 and 2.0 percent, respectively, per annum during 2012 to 2016.

The region has sufficient exportable surplus of nitrogen and potash while the potential balance of phosphate is very small. The potential balance of nitrogen is expected to increase from 11.4 miilion tonnes in 2012 to 12.7 million tonnes in 2016 with marginal reduction in 2013 and 2014. The potential balance of phosphate may reduce from 389 thousand tonnes in 2012 to 98 thousand tonnes in 2016. The potential balance of potash is expected to rise consistently from 11.7 million tonnes in 2012 to 14.6 million tonnes in 2016.

Table 12
Europe fertilizer forecast, 2012-2016 (thousand tonnes)

		2012	2013	2014	2015	2016
N	Supply	34 142	34 286	34 599	36 472	36 848
	Total demand	22 792	23 221	23 534	23 846	24 143
	Fertilizer demand	15 115	15 381	15 555	15 736	15 905
	Potential balance	11 350	11 065	11 065	12 626	12 705
P_2O_5 based on H_3PO_4						
	Supply	4 338	4 364	4 378	4 378	4 378
	Total demand	3 949	4 057	4 174	4 215	4 280
	Fertilizer demand	3 049	3 155	3 218	3 284	3 347
	Potential balance	389	307	204	163	98
K_2O	Supply	16 683	17 335	17 824	18 524	20 020
	Total demand	4 963	5 099	5 201	5 297	5 397
	Fertilizer demand	4 374	4 493	4 578	4 658	4 740
	Potential balance	11 720	12 236	12 623	13 227	14 623

Central Europe

The share of Central Europe in nitrogen consumption is 2.5 percent, phosphate 1.7 percent and potash 2.4 percent. Nitrogen, phosphate and potash consumption is expected to grow in the sub-region at 1.5, 2.4 and 2.4 percent, respectively, per annum during 2012 to 2016. The sub-region will continue to have exportable surplus of nitrogen of about 1.5 to 1.7 million tonnes during the forecast period. However, it will continue to depend on imports of phosphate and potash.

West Europe

The share of West Europe in nitrogen consumption is 7.6 percent, phosphate 4.4 percent and potash 7.8 percent. The consumption of nitrogen in the sub-region is expected to

decline marginally by the terminal year of the forecast period. The consumption of phosphate and potash is expected to grow in the sub-region at 1.2 and 1 per cent, respectively, per annum during 2012 to 2016. The sub-region has an exportable surplus of potash of about 1.6 million tonnes, which is expected to decline marginally by the end of the forecast period. However, it will continue to depend on imports of nitrogen and phosphate.

East Europe & Central Asia

The share of East Europe & Central Asia in nitrogen consumption is 3.8 percent, phosphate 3.1 percent and potash 5 percent. The consumption of nitrogen, phosphate and potash is expected to grow in the sub-region at 3.7, 4.3 and 3.3 percent, respectively, per annum during 2012 to 2016. The sub-region will continue to remain in surplus in all the three nutrients during the forecast period. The surplus of nitrogen may increase from about 13 million tonnes in 2012 to 15 million tonnes in 2016. Similarly, the surplus of potash is anticipated to rise from 11 million tonnes in 2012 to 14 million tonnes in 2016. The phosphate surplus in the sub region would remain at around 2 million tonnes during the forecast period.

Oceania

The share of Oceania in world consumption of total fertilizer nutrients is 1.7 per cent only. The share of the sub-region in nitrogen consumption is 1.4 percent, phosphate 3.0 percent and potash 1.0 percent. Nitrogen, phosphate and potash consumption is likely to grow in the region by 1.3, 2.0 and 1.4 percent, respectively, per year during 2012 to 2016. The region would continue to be in deficit of nitrogen, phosphate and potash during the forecast period. (Table 13)

Table 13
Oceania fertilizer forecast, 2012-2016 (thousand tonnes)

		2012	2013	2014	2015	2016
N	Supply	1 669	1 754	1 754	1 754	1 754
	Total demand	2 437	2 509	2 639	2 716	2 773
	Fertilizer demand	1 519	1 550	1 557	1 578	1 600
	Potential balance	-768	-755	-885	-962	-1 019
P_2O_5 based on H_3PO_4						
	Supply	480	480	480	480	480
	Total demand	731	754	766	779	792
	Fertilizer demand	716	740	751	764	776
	Potential balance	-251	-274	-286	-299	-312
K_2O	Supply	0	0	0	0	0
	Total demand	308	315	316	323	326
	Fertilizer demand	302	309	310	317	319
	Potential balance	-308	-315	-316	-323	-326

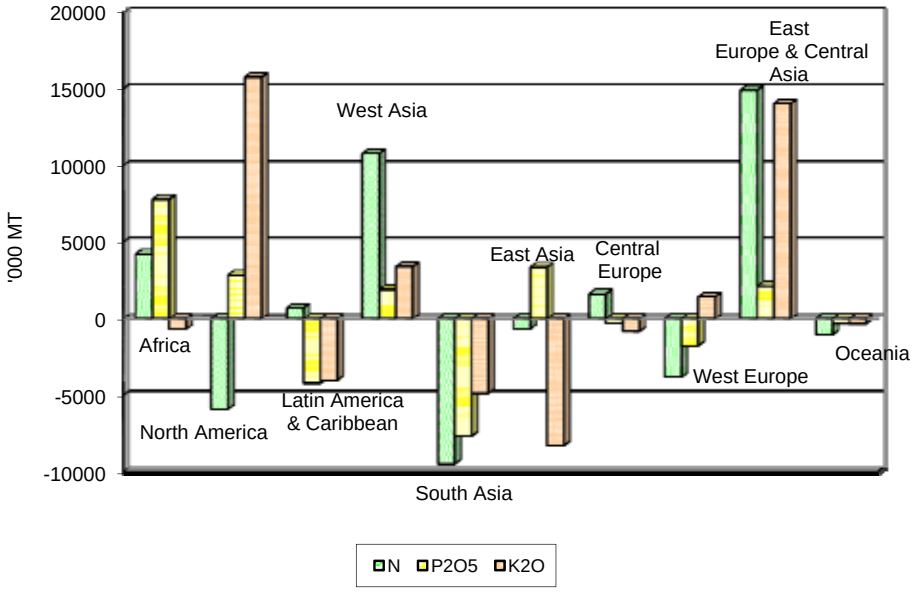
Table 14 presents the summary of regional potential balance of nitrogen, phosphate (H_3PO_4 based) and potash during 2012 to 2016.

Table 14
Regional and sub-regional potential balance of nitrogen, phosphate (P_2O_5 based on H_3PO_4) and potash (K_2O), 2012-2016 (thousand tonnes)

Region	Nutrient	2012	2013	2014	2015	2016
Africa	N	1 457	3 034	3 527	4 220	4 217
	P_2O_5	5 332	5 889	6 713	7 396	7 782
	K_2O	-609	-626	-643	-666	-693
North America	N	-5 712	-5 586	-5 494	-5 716	-5 900
	P_2O_5	2 951	2 944	2 908	2 875	2 843
	K_2O	8 927	11 165	12 419	13 941	15 761
Latin America & Caribbean	N	-344	-141	-393	591	686
	P_2O_5	-4 019	-4 143	-4 279	-4 332	-4 211
	K_2O	-4 326	-4 504	-4 504	-4 487	-4 032
West Asia	N	9 205	9 988	10 600	10 801	10 781
	P_2O_5	1 212	1 527	1 778	1 868	1 894
	K_2O	3 373	3 356	3 385	3 374	3 394
South Asia	N	-8 185	-8 071	-8 490	-8 953	-9 473
	P_2O_5	-6 764	-7 220	-7 377	-7 518	-7 671
	K_2O	-3 282	-3 486	-4 156	-4 686	-4 856
East Asia	N	-3 969	-3 474	-3 084	-1 334	-666
	P_2O_5	3 237	3 249	3 328	3 445	3 356
	K_2O	-7 510	-7 566	-7 836	-7 969	-8 277
Central Europe	N	1 579	1 550	1 528	1 656	1 610
	P_2O_5	-234	-245	-260	-276	-292
	K_2O	-754	-770	-785	-806	-828
West Europe	N	-3 559	-3 672	-3 718	-3 770	-3 815
	P_2O_5	-1 638	-1 685	-1 749	-1 736	-1 744
	K_2O	1 636	1 575	1 544	1 518	1 416
East Europe & Central Asia	N	13 330	13 187	13 256	14 740	14 910
	P_2O_5	2 261	2 237	2 213	2 174	2 135
	K_2O	10 837	11 430	11 865	12 515	14 035
Oceania	N	-768	-755	-885	-962	-1 019
	P_2O_5	-251	-274	-286	-299	-312
	K_2O	-308	-315	-316	-323	-326

Fig.9 indicates the regional potential N, P_2O_5 and K_2O balance situation in the terminal year of the forecast period, i.e., 2016.

Fig. 9: Regional nutrient balance in 2016



Annex 1

Explanatory notes on supply, demand and balance

In October 2006, the FAO/Fertilizer Organizations Working Group adopted a new protocol for the preparation of nutrient supply/demand balances based on the work of IFA's Production and International Trade Committee in 2005/06. The main objectives of the revised protocol were to take into account the resilient surplus between production and consumption and to update the parameters used for the computation of supply and losses.

i) All fertilizer references are in terms of plant nutrients: nitrogen (N), phosphate (P_2O_5) and potash. (K_2O). Even if for convenience P and K are stated, they actually refer to P_2O_5 and K_2O, respectively.
ii) Fertilizer demand and supply data refer to the calendar year.
iii) Definitions of the terms used and their relative criteria are listed below:

Capacity: name-plate capacity.

Supply: effective capacity, representing the maximum achievable production. Supply is computed from the "name-plate capacity" (theoretical capacity), multiplied by the highest operating rate achieved in the previous 5 years. For new plants, a ramp up of the operating rates was established for the first 3 years of operation, ranging from 85 to 100 percent.

Demand:
Fertilizer demand is the ability or the willingness of farmers to buy fertilizer at a given point in time. It is calculated on the basis of the probable consumption in one calendar year, taking into account the merge between two agricultural years.

Non-fertilizer demand**:** consumption for non-fertilizer use, referred to as industrial use. Net non-fertilizer demand excludes the use of products that are recovered as by-products from industrial processes and then used as fertilizers.

Total demand: Fertilizer demand + non-fertilizer demand.

Losses: The unavoidable losses during the life cycle of a product, from production to final consumption. The extent of loss is estimated as a percentage (between 2 and 3 percent) of total fertilizer and non-fertilizer demand.

Unspecified usage: Unspecified usage account for the historical residual tonnage from the production/consumption balances. The tonnage could be used either in fertilizer or in non-fertilizer products and equate to 4 per cent of other uses.

Potential balance: is the difference between supply and total demand (fertilizer demand + non-fertilizer demand). Regional balance is a medium-term indicator of potential changes in fertilizer nutrient demand and supply in the region. Changes in installed supply capacity, operating rates and demand vary annually.

Annex 2

World and regional nitrogen fertilizer demand forecasts (thousand tonnes N)

	2011[1]	**2012**	**2013**	**2014**	**2015**	**2016**	CAGR (%)
WORLD	**108 154**	**109 928**	**111 558**	**113 063**	**114 504**	**115 956**	**1.34**
AFRICA	**3 525**	**3 630**	**3 729**	**3 827**	**3 924**	**4 019**	**2.57**
North Africa	1 809	1 864	1 908	1 951	1 995	2 038	2.25
Sub-Saharan Africa	1 716	1 766	1821	1 875	1 930	1 981	2.91
AMERICA	**21 212**	**21 395**	**21 646**	**21 952**	**22 251**	**22 562**	**1.34**
North America	13 935	13 967	13 995	14 092	14 190	14 290	0.57
Latin America & Caribbean	7 277	7 428	7 651	7 860	8 061	8 272	2.73
ASIA	**66 935**	**68 269**	**69 251**	**70 172**	**71 015**	**71 870**	**1.29**
West Asia	2 984	3 094	3 174	3 227	3 280	3 327	1.83
South Asia	21 735	22 313	22 937	23 545	24 124	24 712	2.59
East Asia	42 216	42 862	43 140	43 400	43 611	43 832	0.56
EUROPE	**14 998**	**15 115**	**15 381**	**15 555**	**15 736**	**15 905**	**1.28**
Central Europe	2 742	2 769	2 803	2 850	2 896	2 943	1.54
West Europe	8 180	8 131	8 165	8 131	8 107	8 080	-0.16
East Europe & Central Asia	4 076	4 215	4 414	4 574	4 733	4 882	3.74
OCEANIA	**1 485**	**1 519**	**1 550**	**1 557**	**1 578**	**1 600**	**1.31**

[1] *= Estimated consumption; CAGR = Compound annual growth rate 2012 to 2016.*

Annex 3

World and regional phosphate fertilizer demand forecasts (thousand tonnes P_2O_5)

	2011[1]	2012	2013	2014	2015	2016	CAGR (%)
WORLD	**40 566**	**41 525**	**42 731**	**43 487**	**44 251**	**45 013**	**2.04**
AFRICA	**1 065**	**1 099**	**1 130**	**1 163**	**1 198**	**1 233**	**2.90**
North Africa	423	441	447	455	463	472	1.71
Sub-Saharan Africa	642	659	683	709	735	761	3.67
AMERICA	**10 355**	**10 489**	**10 663**	**10 882**	**11 105**	**11 329**	**1.95**
North America	4 708	4 712	4 719	4 754	4 786	4 817	0.56
Latin America & Caribbean	5 647	5 777	5 944	6 128	6 319	6 512	3.04
ASIA	**24 188**	**24 865**	**25 687**	**26 086**	**26 481**	**26 876**	**1.96**
West Asia	1 153	1 182	1 239	1 279	1 312	1 346	3.29
South Asia	8 882	9 036	9 543	9 753	9 965	10 177	3.02
East Asia	14 152	14 647	14 906	15 055	15 204	15 353	1.18
EUROPE	**3 740**	**3 815**	**3 953**	**4 038**	**4 127**	**4 213**	**2.51**
Central Europe	692	711	725	742	761	781	2.38
West Europe	1 788	1 776	1 828	1 840	1 854	1 864	1.21
East Europe & Central Asia	1 260	1 328	1 401	1 456	1 513	1 569	4.26
OCEANIA	**1 218**	**1 257**	**1 298**	**1 318**	**1 340**	**1 362**	**2.03**

[1] *= Estimated consumption; CAGR = Compound annual growth rate 2012 to 2016.*

Annex 4

World and regional potash fertilizer demand forecasts (thousand tonnes K_2O)

	2011[1]	2012	2013	2014	2015	2016	CAGR (%)
WORLD	**28 064**	**28 626**	**29 494**	**30 879**	**32 208**	**33 163**	**3.75**
AFRICA	**514**	**530**	**545**	**559**	**580**	**605**	**3.34**
North Africa	145	149	152	152	154	156	1.15
Sub-Saharan Africa	369	381	393	407	426	449	4.16
AMERICA	**10 366**	**10 501**	**10 683**	**10 887**	**11 102**	**11 318**	**1.89**
North America	4 735	4 742	4 750	4 786	4 822	4 858	0.60
Latin America & Caribbean	5 631	5 759	5 933	6 101	6 281	6 460	2.91
ASIA	**12 593**	**12 919**	**13 465**	**14 545**	**15 550**	**16 182**	**5.79**
West Asia	246	255	269	282	290	297	3.90
South Asia	3 117	3 170	3 346	4 007	4 533	4 699	10.34
East Asia	9 230	9 494	9 850	10 256	10 727	11 186	4.18
EUROPE	**4 297**	**4 374**	**4 493**	**4 578**	**4 658**	**4 740**	**2.03**
Central Europe	682	705	720	735	754	774	2.36
West Europe	2 200	2 208	2 255	2 274	2 287	2 301	1.03
East Europe & Central Asia	1 415	1 460	1 517	1 569	1 616	1 665	3.34
OCEANIA	**294**	**302**	**309**	**310**	**317**	**319**	**1.41**

[1] *= Estimated consumption; CAGR = Compound annual growth rate 2012 to 2016.*

Annex 5

World and regional nitrogen supply demand and balance (thousand tonnes N)

	2011	2012	2013	2014	2015	2016
WORLD						
NH3 Capacity (as N)	161 255	168 989	174 262	176 543	182 174	181 458
NH3 Supply Capability (as N)	137 715	140 760	146 400	149 729	156 307	158 463
N Other Uses	26 844	27 798	28 782	29 819	30 531	31 176
N Available for Ferts.	110 871	112 962	117 618	119 910	125 776	127 287
N Fert. Consumption	108 154	109 928	111 558	113 063	114 504	115 956
Potential N Balance	2 717	3 034	6 061	6 847	11 272	11 332
AFRICA						
NH3 Capacity (as N)	5 884	7 069	8 804	9 021	9 886	9 886
NH3 Supply Capability (as N)	5 274	5 673	7 368	7 970	8 771	8 871
N Other Uses	570	586	605	616	627	635
N Available for Ferts.	4 704	5 087	6 763	7 354	8 144	8 236
N Fert. Consumption	3 525	3 630	3 729	3 827	3 924	4 019
Potential N Balance	1 179	1 457	3 034	3 527	4 220	4 217
AMERICA						
NH3 Capacity (as N)	22 416	23 778	24 106	24 168	25 339	25 339
NH3 Supply Capability (as N)	21 065	21 532	22 334	22 730	23 967	24 306
N Other Uses	6 002	6 193	6 414	6 665	6 842	6 959
N Available for Ferts.	15 063	15 339	15 920	16 065	17 125	17 347
N Fert. Consumption	21 212	21 395	21 646	21 952	22 251	22 562
Potential N Balance	-6 149	-6 056	-5 727	-5 887	-5 126	-5 215
North America						
NH3 Capacity (as N)	13 327	13 805	14 133	14 185	14 185	14 185
NH3 Supply Capability (as N)	12 711	12 896	13 208	13 552	13 552	13 552
N Other Uses	4 502	4 641	4 799	4 954	5 079	5 163
N Available for Ferts.	8 209	8 255	8 409	8 598	8 474	8 390
N Fert. Consumption	13 935	13 967	13 995	14 092	14 190	14 290
Potential N Balance	-5 726	-5 712	-5 586	-5 494	-5 716	-5 900
Latin America &Caribbean						
NH3 Capacity (as N)	9 089	9 973	9 973	9 983	11 154	11 154
NH3 Supply Capability (as N)	8 354	8 636	9 125	9 178	10 415	10 754
N Other Uses	1 500	1 552	1 615	1 711	1 764	1 797
N Available for Ferts.	6 854	7 084	7 510	7 467	8 651	8 957
N Fert. Consumption	7 277	7 428	7 651	7 860	8 061	8 272
Potential N Balance	-423	-344	-141	-393	591	686

	2011	2012	2013	2014	2015	2016
ASIA						
NH3 Capacity (as N)	93 284	98 296	101 343	102 878	104 444	103 490
NH3 Supply Capability (as N)	75 645	77 745	80 659	82 676	85 342	86 683
N Other Uses	11 947	12 425	12 965	13 477	13 813	14 170
N Available for Ferts.	63 698	65 319	67 694	69 199	71 529	72 513
N Fert. Consumption	66 935	68 269	69 251	70 172	71 015	71 870
Potential N Balance	-3 236	-2 949	-1 558	-973	514	643
West Asia						
NH3 Capacity (as N)	12 742	13 935	14 478	15 403	15 555	15 555
NH3 Supply Capability (as N)	11 826	12 999	13 865	14 534	14 837	14 898
N Other Uses	689	699	703	707	756	791
N Available for Ferts.	11 137	12 300	13 162	13 828	14 080	14 108
N Fert. Consumption	2 984	3 094	3 174	3 227	3 280	3 327
Potential N Balance	8 153	9 205	9 988	10 600	10 801	10 781
South Asia						
NH3 Capacity (as N)	16 873	17 215	18 170	18 290	18 631	18 579
NH3 Supply Capability (as N)	15 187	15 502	16 266	16 481	16 623	16 717
N Other Uses	1 358	1 375	1 400	1 426	1 452	1 478
N Available for Ferts.	13 829	14 127	14 866	15 055	15 171	15 239
N Fert. Consumption	21 735	22 313	22 937	23 545	24 124	24 712
Potential N Balance	-7 906	-8 185	-8 071	-8 490	-8 953	-9 473
East Asia						
NH3 Capacity (as N)	63 668	67 146	68 695	69 185	70 259	69 356
NH3 Supply Capability (as N)	48 632	49 244	50 528	51 661	53 883	55 068
N Other Uses	9 900	10 351	10 862	11 344	11 605	11 901
N Available for Ferts.	38 732	38 893	39 666	40 316	42 277	43 166
N Fert. Consumption	42 216	42 862	43 140	43 400	43 611	43 832
Potential N Balance	-3 483	-3 969	-3 474	-3 084	-1 334	-666
EUROPE						
NH3 Capacity (as N)	37 983	38 028	38 191	38 657	40 686	40 925
NH3 Supply Capability (as N)	34 100	34 142	34 286	34 599	36 472	36 848
N Other Uses	7 520	7 677	7 839	7 978	8 110	8 238
N Available for Ferts.	26 580	26 465	26 447	26 620	28 362	28 610
N Fert. Consumption	14 998	15 115	15 381	15 555	15 736	15 905
Potential N Balance	11 582	11 350	11 065	11 065	12 626	12 705
Central Europe						
NH3 Capacity (as N)	6 348	6 348	6 391	6 437	6 654	6 654
NH3 Supply Capability (as N)	5 203	5 203	5 235	5 272	5 458	5 471
N Other Uses	826	855	882	895	906	917
N Available for Ferts.	4 377	4 348	4 353	4 377	4 552	4 553
N Fert. Consumption	2 742	2 769	2 803	2 850	2 896	2 943
Potential N Balance	1 635	1 579	1 550	1 528	1 656	1 610

	2011	2012	2013	2014	2015	2016
West Europe						
NH3 Capacity (as N)	10 028	10 028	10 028	10 028	10 028	10 028
NH3 Supply Capability (as N)	9 396	9 396	9 396	9 396	9 396	9 396
N Other Uses	4 759	4 824	4 903	4 983	5 060	5 132
N Available for Ferts.	4 637	4 572	4 493	4 413	4 337	4 265
N Fert. Consumption	8 180	8 131	8 165	8 131	8 107	8 080
Potential N Balance	-3 543	-3 559	-3 672	-3 718	-3 770	-3 815
East Europe and Central Asia						
NH3 Capacity (as N)	21 607	21 652	21 772	22 192	24 004	24 243
NH3 Supply Capability (as N)	19 501	19 542	19 654	19 930	21 617	21 981
N Other Uses	1 935	1 997	2 054	2 100	2 144	2 189
N Available for Ferts.	17 566	17 545	17 601	17 830	19 473	19 792
N Fert. Consumption	4 076	4 215	4 414	4 574	4 733	4 882
Potential N Balance	13 490	13 330	13 187	13 256	14 740	14 910
OCEANIA						
NH3 Capacity (as N)	1 688	1 818	1 818	1 818	1 818	1 818
NH3 Supply Capability (as N)	1 631	1 669	1 754	1 754	1 754	1 754
N Other Uses	805	917	959	1 082	1 138	1 173
N Available for Ferts.	826	751	795	672	616	581
N Fert. Consumption	1 485	1 519	1 550	1 557	1 578	1 600
Potential N Balance	-659	-768	-755	-885	-962	-1 019

Annex 6

World and regional phosphate supply demand and balance (thousand tonnes P_2O_5)

	2011	2012	2013	2014	2015	2016
WORLD						
H_3PO_4 capacity	51 502	53 338	56 222	58 118	59 358	61 323
H_3PO_4 supply capability	42 569	44 312	45 857	47 392	48 776	49 835
H_3PO_4 industrial demand	5 539	5 850	6 170	6 344	6 463	6 534
H_3PO_4 available for fertilizer	37 030	38 462	39 687	41 048	42 312	43 301
P Fert. consumption/demand	40 566	41 525	42 731	43 487	44 251	45 012
H_3PO_4 Fert. demand	35 274	36 374	37 410	38 060	38 714	39 520
Non-H_3PO_4 Fert. demand	5 291	5 151	5 321	5 428	5 537	5 493
Potential H_3PO_4 balance	1 755	2 088	2 277	2 988	3 598	3 781
AFRICA						
H_3PO_4 capacity	7 638	8 088	9 348	10 308	10 308	10 903
H_3PO_4 supply capability	7 165	6 758	7 425	8 295	9 009	9 426
H_3PO_4 industrial demand	361	459	542	558	558	559
H_3PO_4 available for fertilizer	6 803	6 299	6 883	7 737	8 450	8 867
P Fert. consumption/demand	1 065	1 099	1 130	1 163	1 198	1 233
H_3PO_4 Fert. demand	937	968	994	1 024	1 054	1 085
Non-H_3PO_4 Fert. demand	128	132	136	140	144	148
Potential H_3PO_4 balance	5 866	5 332	5 889	6 713	7 396	7 782
AMERICA						
H_3PO_4 capacity	12 261	12 381	12 381	12 501	12 741	13 406
H_3PO_4 supply capability	10 531	10 373	10 519	10 567	10 687	10 981
H_3PO_4 industrial demand	1 753	1 819	1 947	1 975	1 986	1 996
H_3PO_4 available for fertilizer	8 779	8 554	8 572	8 592	8 701	8 985
P Fert. consumption/demand	10 355	10 489	10 663	10 882	11 105	11 329
H_3PO_4 Fert. demand	9 508	9 622	9 771	9 963	10 157	10 353
Non-H_3PO_4 Fert. demand	847	867	892	919	948	977
Potential H_3PO_4 balance	-729	-1 068	-1 199	-1 371	-1 457	-1 367
North America						
H_3PO_4 capacity	9 861	9 581	9 581	9 581	9 581	9 581
H_3PO_4 supply capability	8 892	8 619	8 619	8 619	8 619	8 619
H_3PO_4 industrial demand	909	957	957	958	958	959
H_3PO_4 available for fertilizer	7 983	7 663	7 663	7 662	7 661	7 661
P Fert. onsumption/demand	4 708	4 712	4 719	4 754	4 786	4 817
H_3PO_4 Fert. demand	4 708	4 712	4 719	4 754	4 786	4 817
Non-H_3PO_4 Fert. demand	0	0	0	0	0	0
Potential H_3PO_4 balance	3 275	2 951	2 944	2 908	2 875	2 843

	2011	2012	2013	2014	2015	2016
Latin America &Caribbean						
H_3PO_4 capacity	2 400	2 800	2 800	2 920	3 160	3 825
H_3PO_4 supply capability	1 639	1 754	1 899	1 947	2 067	2 362
H_3PO_4 industrial demand	844	862	990	1 017	1 028	1 037
H_3PO_4 available for fertilizer	795	891	909	930	1 039	1 325
P Fert. onsumption/demand	5 647	5 777	5 944	6 128	6 319	6 512
H_3PO_4 Fert. demand	4 800	4 911	5 052	5 208	5 371	5 535
Non-H_3PO_4 Fert. demand	847	867	892	919	948	977
Potential H_3PO_4 balance	-4 005	-4 019	-4 143	-4 279	-4 332	-4 211
ASIA						
H_3PO_4 capacity	24 400	25 646	27 235	28 032	29 032	29 257
H_3PO_4 supply capability	19 675	22 363	23 070	23 673	24 222	24 569
H_3PO_4 industrial demand	2 556	2 658	2 765	2 840	2 972	3 030
H_3PO_4 available for fertilizer	17 119	19 705	20 305	20 833	21 250	21 539
P Fert.consumption/demand	24 188	24 865	25 687	26 086	26 481	26 876
H_3PO_4 Fert. demand	21 137	22 019	22 750	23 104	23 455	23 960
Non-H_3PO_4 Fert. demand	3 051	2 846	2 937	2 982	3 026	2 916
Potential H_3PO_4 balance	-4 019	-2 314	-2 444	-2 271	-2 205	-2 421
West Asia						
H_3PO_4 capacity	3 741	3 818	4 338	4 398	4 398	4 623
H_3PO_4 supply capability	1 752	2 669	3 037	3 324	3 446	3 503
H_3PO_4 industrial demand	364	369	370	370	371	372
H_3PO_4 available for fertilizer	1 388	2 300	2 667	2 954	3 075	3 131
P Fert.consumption/demand	1 153	1 182	1 239	1 279	1 312	1 346
H_3PO_4 Fert. demand	1 061	1 088	1 140	1 176	1 207	1 238
Non-H_3PO_4 Fert. demand	92	95	99	102	105	108
Potential H_3PO_4 balance	327	1 212	1 527	1 778	1 868	1 894
South Asia						
H_3PO_4 capacity	2 170	2 170	2 170	2 345	2 895	2 895
H_3PO_4 supply capability	1 591	1 550	1 550	1 585	1 637	1 677
H_3PO_4 industrial demand	268	272	277	282	286	290
H_3PO_4 available for fertilizer	1 323	1 278	1 273	1 303	1 351	1 387
P Fert.consumption/demand	8 882	9 036	9 543	9 753	9 965	10 177
H_3PO_4 Fert. demand	7 905	8 042	8 493	8 680	8 869	9 058
Non-H_3PO_4 Fert. demand	977	994	1 050	1 073	1 096	1 119
Potential H_3PO_4 balance	-6 582	-6 764	-7 220	-7 377	-7 518	-7 671

	2011	2012	2013	2014	2015	2016
East Asia						
H_3PO_4 capacity	18 489	19 657	20 726	21 288	21 738	21 738
H_3PO_4 supply capability	16 331	18 144	18 484	18 764	19 139	19 389
H_3PO_4 industrial demand	1 924	2 017	2 118	2 188	2 314	2 368
H_3PO_4 available for fertilizer	14 407	16 127	16 366	16 576	16 824	17 021
P Fert.consumption/demand	14 152	14 647	14 906	15 055	15 204	15 353
H_3PO_4 Fert. demand	12 171	12 889	13 117	13 248	13 379	13 664
Non-H_3PO_4 Fert. demand	1 981	1 758	1 789	1 807	1 824	1 689
Potential H_3PO_4 balance	2 236	3 237	3 249	3 328	3 445	3 356
Europe						
H_3PO_4 capacity	6 603	6 623	6 658	6 678	6 678	7 078
H_3PO_4 supply capability	4 719	4 338	4 364	4 378	4 378	4 378
H_3PO_4 industrial demand	855	900	902	956	932	933
H_3PO_4 available for fertilizer	3 863	3 438	3 462	3 422	3 446	3 445
P Fert. consumption/demand	3 740	3 815	3 953	4 038	4 127	4 213
H_3PO_4 Fert. demand	2 998	3 049	3 155	3 218	3 284	3 347
Non-H_3PO_4 Fert. demand	742	766	798	820	843	866
Potential H_3PO_4 balance	866	389	307	204	163	98
Central Europe						
H_3PO_4 capacity	1 022	1 022	1 022	1 022	1 022	1 022
H_3PO_4 supply capability	521	425	425	425	425	425
H_3PO_4 industrial demand	40	76	76	77	77	77
H_3PO_4 available for fertilizer	481	349	349	348	348	348
P Fert. consumption/demand	692	711	725	742	761	781
H_3PO_4 Fert. demand	568	583	594	608	624	640
Non-H_3PO_4 Fert. demand	125	128	130	134	137	141
Potential H_3PO_4 balance	-87	-234	-245	-260	-276	-292
West Europe						
H_3PO_4 capacity	565	565	565	565	565	565
H_3PO_4 supply capability	491	467	467	467	467	467
H_3PO_4 industrial demand	547	542	543	597	571	572
H_3PO_4 available for fertilizer	-56	-75	-76	-129	-104	-104
P Fert.consumption/demand	1 788	1 776	1 828	1 840	1 854	1 864
H_3PO_4 Fert. demand	1 574	1 563	1 609	1 619	1 631	1 640
Non-H_3PO_4 Fert. demand	215	213	219	221	222	224
Potential H_3PO_4 balance	-1 630	-1 638	-1 685	-1 749	-1 736	-1 744

	2011	2012	2013	2014	2015	2016
East Europe & Central Asia						
H_3PO_4 capacity	5 016	5 036	5 071	5 091	5 091	5 491
H_3PO_4 supply capability	3 707	3 446	3 471	3 486	3 486	3 486
H_3PO_4 industrial demand	268	282	282	283	284	284
H_3PO_4 available for fertilizer	3 439	3 164	3 189	3 203	3 202	3 202
P Fert.consumption/demand	1 260	1 328	1 401	1 456	1 513	1 569
H_3PO_4 Fert. demand	857	903	953	990	1 029	1 067
Non-H_3PO_4 Fert. demand	403	425	448	466	484	502
Potential H_3PO_4 balance	2 582	2 261	2 237	2 213	2 174	2 135
OCEANIA						
H_3PO_4 capacity	600	600	600	600	600	680
H_3PO_4 supply capability	480	480	480	480	480	480
H_3PO_4 industrial demand	14	14	15	15	15	16
H_3PO_4 available for fertilizer	466	466	465	465	465	464
P Fert.consumption/demand	1 218	1 257	1 298	1 318	1 340	1 362
H_3PO_4 Fert. demand	694	716	740	751	764	776
Non-H_3PO_4 Fert. demand	524	540	558	567	576	586
Potential H_3PO_4 balance	-228	-251	-274	-286	-299	-312

Annex 7
World and regional potash supply demand and balance (thousand tonnes K_2O)

	2011	2012	2013	2014	2015	2016
WORLD						
Potash Capacity	43 350	46 222	49 821	52 690	58 409	61 427
Potash Supply Capability	38 815	40 196	43 467	45 682	48 561	52 817
Industrial and other demand	3 506	3 584	3 716	3 830	3 942	4 058
Available for Fertilizer	35 309	36 612	39 752	41 852	44 619	48 759
Consumption/demand	28 064	28 626	29 494	30 879	32 208	33 163
Potential K2O Balance	7 245	7 986	10 258	10 973	12 411	15 596
AFRICA						
Potash Capacity	0	0	0	0	0	0
Potash Supply Capability	0	0	0	0	0	0
Industrial and other demand	76	78	81	83	86	88
Available for Fertilizer	-76	-78	-81	-83	-86	-88
Consumption/demand	514	530	545	559	580	605
Potential K2O Balance	-590	-609	-626	-643	-666	-693
AMERICA						
Potash Capacity	17 790	18 985	21 205	23 555	26 940	28 385
Potash Supply Capability	15 511	16 337	18 611	20 107	21 898	24 426
Industrial and other demand	1 202	1 234	1 269	1 304	1 341	1 379
Available for Fertilizer	14 309	15 103	17 343	18 803	20 557	23 047
Consumption/demand	10 366	10 501	10 683	10 887	11 102	11 318
Potential K2O Balance	3 943	4 602	6 660	7 915	9 454	11 730
North America						
Potash Capacity	16 030	17 225	19 445	20 055	23 140	24 585
Potash Supply Capability	13 998	14 736	17 011	18 332	19 921	21 810
Industrial and other demand	1 038	1 067	1 096	1 127	1 158	1 191
Available for Fertilizer	12 960	13 670	15 915	17 206	18 763	20 619
Consumption/demand	4 735	4 742	4 750	4 786	4 822	4 858
Potential K2O Balance	8 225	8 927	11 165	12 419	13 941	15 761
Latin America & Caribbean						
Potash Capacity	1 760	1 760	1 760	3 500	3 800	3 800
Potash Supply Capability	1 513	1 601	1 601	1 775	1 977	2 617
Industrial and other demand	164	168	173	177	183	188
Available for Fertilizer	1 349	1 433	1 428	1 597	1 794	2 429
Consumption/demand	5 631	5 759	5 933	6 101	6 281	6 460
Potential K2O Balance	-4 282	-4 326	-4 504	-4 504	-4 487	-4 032
ASIA						
Potash Capacity	7 523	7 857	8 277	8 445	8 955	8 955
Potash Supply Capability	6 958	7 176	7 521	7 750	8 139	8 371
Industrial and other demand	1 649	1 676	1 753	1 813	1 868	1 928
Available for Fertilizer	5 308	5 500	5 768	5 938	6 270	6 444
Consumption/demand	12 593	12 919	13 465	14 545	15 550	16 182
Potential K2O Balance	-7 284	-7 419	-7 697	-8 607	-9 280	-9 738

	2011	2012	2013	2014	2015	2016
West Asia						
Potash capacity	3 960	3 960	3 960	3 960	3 960	3 960
Potash supply	3 579	3 717	3 717	3 762	3 762	3 792
Industrial and other demand	87	89	92	95	98	101
Available for fertilizer	3 492	3 628	3 625	3 667	3 664	3 691
K fert. consumption/demand	246	255	269	282	290	297
Potential K_2O balance	3 247	3 373	3 356	3 385	3 374	3 394
South Asia						
Potash capacity	0	0	0	0	0	0
Potash supply	0	0	0	0	0	0
Industrial and other demand	128	112	140	149	153	157
Available for fertilizer	-128	-112	-140	-149	-153	-157
K fert. consumption/demand	3 117	3 170	3 346	4 007	4 533	4 699
Potential K_2O balance	-3 245	-3 282	-3 486	-4 156	-4 686	-4 856
East Asia						
Potash capacity	3 563	3 897	4 317	4 485	4 995	4 995
Potash supply	3 379	3 459	3 804	3 988	4 377	4 579
Industrial and other demand	1 435	1 475	1 521	1 569	1 618	1 670
Available for fertilizer	1 943	1 984	2 284	2 420	2 759	2 909
K fert. consumption/demand	9 230	9 494	9 850	10 256	10 727	11 186
Potential K_2O balance	-7 286	-7 510	-7 566	-7 836	-7 969	-8 277
EUROPE						
Potash capacity	18 037	19 380	20 339	20 690	22 514	24 087
Potash supply	16 346	16 683	17 335	17 824	18 524	20 020
Industrial and other demand	573	589	607	623	640	657
Available for fertilizer	15 773	16 093	16 728	17 201	17 885	19 363
K fert. consumption/demand	4 297	4 374	4 493	4 578	4 658	4 740
Potential K_2O balance	11 476	11 720	12 236	12 623	13 227	14 623
Central Europe						
Potash capacity	0	0	0	0	0	0
Potash supply	0	0	0	0	0	0
Industrial and other demand	46	48	49	51	52	54
Available for fertilizer	-46	-48	-49	-51	-52	-54
K fert. consumption/demand	682	705	720	735	754	774
Potential K_2O balance	-728	-754	-770	-785	-806	-828
West Europe						
Potash capacity	5 590	5 590	5 590	5 590	5 590	5 475
Potash supply	4 303	4 303	4 303	4 303	4 303	4 227
Industrial and other demand	447	459	473	485	498	511
Available for fertilizer	3 856	3 844	3 830	3 818	3 805	3 716
K fert. consumption/demand	2 200	2 208	2 255	2 274	2 287	2 301
Potential K_2O balance	1 656	1 636	1 575	1 544	1 518	1 416

	2011	2012	2013	2014	2015	2016
East Europe and Central Asia						
Potash capacity	12 447	13 790	14 749	15 100	16 924	18 612
Potash supply	12 043	12 380	13 032	13 521	14 221	15 793
Industrial and other demand	79	82	85	87	90	93
Available for fertilizer	11 964	12 297	12 947	13 434	14 131	15 700
K fert. consumption/demand	1 415	1 460	1 517	1 569	1 616	1 665
Potential K_2O balance	10 548	10 837	11 430	11 865	12 515	14 035
OCEANIA						
Potash capacity	0	0	0	0	0	0
Potash supply	0	0	0	0	0	0
Industrial and other demand	6	6	6	6	6	7
Available for fertilizer	-6	-6	-6	-6	-6	-7
K fert. consumption/demand	294	302	309	310	317	319
Potential K_2O balance	-300	-308	-315	-316	-323	-326

Annex 8

Regional classification of countries and territories

AFRICA

North Africa
- Algeria
- Egypt
- Libya, Arab Jam
- Morocco
- Sudan
- Tunisia

Sub-Saharan Africa
- Angola
- Benin
- Burkina Faso
- Burundi
- Cameroon
- Congo, Dem. Rep.
- Congo, Rep. of
- Côte d'Ivoire
- Eritrea
- Ethiopia
- Gabon
- Gambia
- Ghana
- Guinea
- Kenya
- Madagascar
- Malawi
- Mali
- Mauritius
- Mozambique
- Namibia
- Niger
- Nigeria
- Rwanda
- Senegal
- Seychelles
- South Africa
- Tanzania, United Rep of
- Togo
- Uganda
- Zambia
- Zimbabwe

AMERICA

Latin America & Caribbean
- Antigua and Barbuda
- Argentina
- Barbados
- Belize
- Bolivia
- Brazil
- Chile
- Colombia
- Costa Rica
- Cuba
- Dominica
- Dominican Republic
- Ecuador
- El Salvador
- Guatalemala
- Guyana
- Honduras
- Jamaica
- Mexico
- Nicaragua
- Panama
- Paraguay
- Peru
- St Kitts and Nevis
- Suriname
- Trinidad & Tobago
- Uruguay
- Venezuela

North America
- Canada
- United States of America

ASIA

East Asia
- Brunei Darussalam
- Cambodia
- China Hong Kong
- China Macao
- China Mainland
- Indonesia
- Japan
- Korea Rep
- Malaysia
- Mongolia
- Myanmar
- Philippines
- Singapore
- Taiwan Province of China
- Thailand
- Viet Nam

South Asia
- Bangladesh
- Bhutan
- India
- Maldives
- Nepal
- Pakistan
- Sri Lanka

West Asia
- Afghanistan
- Bahrain
- Cyprus
- Iran, Islamic Rep of
- Iraq
- Israel
- Jordan
- Kuwait
- Lebanon
- Oman
- Qatar
- Saudi Arabia
- Syria, ArabRep.
- Turkey
- United Arab Emirates
- Yemen

EUROPE

Central Europe
- Albania
- Bosnia and Herzegovina
- Bulgaria
- Croatia
- Czech Republic
- Hungary
- Macedonia
- Montenegro
- Poland
- Romania
- Serbia
- Slovakia
- Slovenia

Eastern Europe and Central Asia
- Armenia
- Azerbaijan
- Belarus
- Estonia
- Georgia
- Kazakhstan
- Kyrgyzstan
- Latvia
- Lithuania
- Moldova
- Russian Fed
- Tajikistan
- Ukraine
- Uzbekistan

Western Europe
- Austria
- Denmark
- Finland
- France
- Germany
- Greece
- Iceland
- Ireland
- Italy
- Luxembourg
- Malta
- Netherlands
- Norway
- Portugal
- Spain
- Sweden
- Switzerland
- United Kingdom

OCEANIA

- Australia
- Cook Islands
- Fiji
- French Polynesia
- New Caledonia
- New Zealand
- Papua New Guinea
- Samoa
- Tonga