

# **Current world fertilizer trends and outlook to 2014**

**FOOD AND AGRICULTURE ORGANIZATION  
OF THE UNITED NATIONS**  
Rome, 2010



The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned.

All rights reserved. Reproduction and dissemination of material in this information product for educational or other non-commercial purposes are authorized without any prior written permission from the copyright holders provided the source is fully acknowledged. Reproduction of material in this information product for resale or other commercial purposes is prohibited without written permission of the copyright holders.

Applications for such permission should be addressed to:

*Chief  
Electronic Publishing Policy and Support Branch  
Communication Division  
FAO  
Viale delle Terme di Caracalla, 00153 Rome, Italy*

or by e-mail to: [copyright@fao.org](mailto:copyright@fao.org)

**©FAO 2010**

## Contents

<b>Preface</b>	5
<b>Executive summary</b>	6
<b>The world fertilizer outlook</b>	8
Background	8
Demand	10
Demand for fertilizer nutrients	10
Nitrogen	12
Phosphate	13
Potash	14
Total demand for primary nutrients	15
Supply	16
Nitrogen	16
Phosphate	17
Potash	18
Supply/demand balance	19
Nitrogen	20
Phosphate	20
Potash	20
The regional fertilizer situation	20
Africa	20
America	21
Asia	22
Europe	23
Oceania	24
<b>Annexes</b>	
1. Explanatory notes on supply, demand and balance	27
2. World and regional nitrogen fertilizer demand forecast	28
3. World and regional phosphate fertilizer demand forecast	29
4. World and regional potash fertilizer demand forecast	30
5. World and regional nitrogen supply, demand and balance	31
6. World and regional phosphate supply, demand and balance	34
7. World and regional potash supply, demand and balance	37
8. Regional classification of countries and territories	40

## List of tables

1. World production of major crops	9
2. Output and fertilizer input price indices	10
3. World demand for fertilizer nutrients, 2010-2014	11
4. World and regional growth in fertilizer demand, 2010-2014	12
5. World total demand for primary nutrients, 2010-2014	15
6. World supply of ammonia, phosphoric acid and potash, 2010-2014	16
7. World potential balance of nitrogen, phosphate and potash, 2010-2014	19
8. Africa fertilizer forecast, 2010-2014	21
9. America fertilizer forecast, 2010-2014	21
10. Asia fertilizer forecast, 2010-2014	22
11. Europe fertilizer forecast, 2010-2014	23
12. Oceania fertilizer forecast, 2010-2014	24
13. Regional and sub-regional potential balance of nitrogen, phosphate and potash, 2010-2014	25

## List of figures

1. Global nutrients (N+P <sub>2</sub> O <sub>5</sub> +K <sub>2</sub> O) consumption	11
2. Regional and sub-regional share of world increase in nitrogen fertilizer consumption, 2010-2014	13
3. Regional and sub-regional share of world increase in phosphate fertilizer consumption, 2010-2014	14
4. Regional and sub-regional share of world increase in potash fertilizer consumption, 2010-2014	15
5. Regional and sub-regional share of world increase in ammonia supply, 2010-2014	17
6. Regional and sub-regional share of world increase in phosphoric acid supply, 2010-2014	18
7. Regional and sub-regional share of world increase in potash supply, 2010-2014	19
8. Regional nutrient balance in 2014	26

## Preface

This report presents the world nitrogen, phosphate and potassium fertilizer medium-term supply and demand projections for the period 2010-2014. The FAO/Fertilizer Organizations Working Group met in FAO, Rome in June 2010 to review the prospects for fertilizer demand and supply, and made the forecasts.

The Working Group comprised:

EFMA	European Fertilizer Manufacturers Association (unable to attend)
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. Special efforts made by Mr. T. K. Chanda in the preparation of this document, under the overall guidance of Dr. R. N. Roy, are sincerely acknowledged.

## Executive summary

Global economy has passed through a considerable turmoil in the recent years, from spike in commodity prices followed by deep recession. Besides other sectors, agriculture has experienced a number of shocks including, high energy prices, high input prices, food security concerns and deep recession. Consumption of all the nutrients dipped in 2008, with a higher degree in case of phosphate and potash. Farmers spent less on phosphate and potash to balance the budget due to high prices of fertilizers against un-remunerative crop prices. There is sign of recovery since late 2009 and prospect for 2010 seems to be better than expectation. Prospect of cereal and other crops are better in 2010. Consumption of all the three primary nutrients is expected to rise in 2010 and grow in a stabilized way during the following years of the forecast period. World demand for total fertilizer nutrients is estimated to grow at 2.6 percent per annum from 2010 to 2014. The demand for nitrogen, phosphate and potash is forecast to grow annually by 1.8, 2.9 and 5 percent, respectively during the period. On the supply front, there has been delay in commissioning of some of the projects. Some projects have been postponed and a few others cancelled. However, with the recovery in global economy, although at a slower pace, there is chance of stabilized growth in fertilizer sector in the coming years.

World potential nitrogen (N) balance as a percentage of total demand is expected to be 4 to 6 percent between 2010 and 2012. It is likely to rise to 8 percent in 2013 and 12 percent in 2014 with the expected additions in nitrogen capacity. The potential balance of phosphate ( $P_2O_5$ ) as a percentage of global demand is anticipated to remain within 6 to 7 per cent during the major part of the forecast period. The potential potash ( $K_2O$ ) balance as a percentage of global demand is expected to change from 27 percent in 2010 to the level of 22 - 23 percent during 2011 to 2013. It is anticipated to rise to 26 percent in 2014 due to additions in capacity expected in some of the major producing countries.

Africa is likely to remain a major phosphate exporter and would significantly increase its nitrogen fertilizer export but would continue to remain an importer of potash. The deficit of nitrogen in North America is expected to increase. But the sub-region would continue to remain a primary potash fertilizer supplier and also a net exporter of phosphate. Latin America region is expected to increase its export of nitrogen but its import of phosphate and potash would continue to rise. The dependence of East Asia on nitrogen import is expected to reduce over the years and likely to be close to balance by 2014. Import demand for potash in East Asia may increase during the forecast period. The sub-region would, however, continue to be a net exporter of phosphate during the forecast period. West Asia is a major contributor to global nitrogen supply. Its potential balance of nitrogen and potash is expected to increase and the sub-region would also have some surplus of phosphate for exports in the coming years. South Asia would continue to remain deficit in all the three nutrients during the forecast period. Nitrogen deficit balance in South Asia may be reduced by the end of the projected period. The deficit balance of phosphate and potash in the sub-region would continue to rise during the forecast period.

In Europe, the major contribution in the nitrogen, phosphate and potash surplus is from East Europe & Central Asia. West Europe would continue to be surplus in potash but deficit in nitrogen and phosphate during the forecast period. Central Europe would remain surplus in nitrogen and deficit in phosphate and potash. Oceania may turn into surplus in nitrogen from deficit in 2014. For phosphate and potash, the region would continue to depend on imports.

# The world fertilizer outlook

## BACKGROUND

Before going into the details of regional and global supply, demand and potential balance of fertilizers in the coming years on mid-term basis, it is imperative to analyze the impact of recent world economic growth on agriculture which has a direct bearing on fertilizer use. The years 2007/08 and 2008/09 witnessed a major turmoil in international commodity markets and global economic conditions. During this period, many agricultural commodity prices rose to historically high levels that created concerns about global food availability and threatened the objective of food security. This was followed by an unprecedented financial crisis, which slowed down the global activity and then the world economy went into the deepest recession since the 1930s.

A sign of recovery has been noticed since late 2009 but the progress is slow. The growth is still not strong enough to conclude that a significant progress is underway at the global level. Currently, the world economy is undergoing a mixed pattern of recovery. While some of the large developing countries and emerging economies are showing faster recovery, a slow turnaround is underway in many developed economies. The faster recovery in the developing and emerging economies compared to the developed world, has led to a more rapid turnaround in agricultural demand and world trade. However, considerable uncertainties remain in the short-term concerning the strength and pace of recovery in returning to a period of sustainable growth.

According to International Monetary Fund (*World Economic Outlook, April 2010*), in 2010, the global recovery has shown better progress than expected with economic activity recovering at varying speeds. Among the advanced economies, the economic growth in the United States shows a better start than Europe and Japan. Among emerging and developing economies, the growth in Asia is the highest. There is also sign of improved growth in main Latin American and other emerging and developing economies but continue to lag in many European and various CIS countries. Global growth is projected to reach 4.2 percent in 2010 and 4.3 percent in 2011. Advanced economies are expected to grow by 2.3 percent in 2010 and 2.4 percent in 2011, following a decline in output by more than 3 percent in 2009. Growth in emerging and developing economies is projected to be over 6.3 percent during 2010-11, following a modest growth of 2.4 percent in 2009.

## *Agricultural outlook*

Agriculture has experienced several shocks in recent years with record high oil prices resulting in high prices of finished fertilizers and raw materials, volatile output prices, food security concerns and resultant trade restrictions, and finally the victim of serious global economic recession. The impact has been severe on the poor, particularly in developing countries, with the world's hungry population now estimated at about 1 billion people. In 2010, a certain degree of normalcy has returned to many markets with higher recovery in production and demand. Yet, there are concerns about a few important factors, such as, energy prices, exchange rates, and/or the macroeconomic performance of the main countries and regions.



According to *FAO Food Outlook*, June 2010, world cereal production in 2010/11 is forecast to reach 2 280 million tonnes (including rice on a milled basis), which is 1 percent above the last year's already good level and close to the 2008/09 record. There may be a reduction in wheat production due to shrinkage in area in several major producing and exporting countries due to reduced price prospects. The small decline in production is expected to be almost entirely offset by larger opening stocks which will be adequate to meet anticipated demand, with a minor reduction in closing stocks by the end of seasons in 2010/11. The production of coarse grains and rice are expected to rise. World production of coarse grains is forecast to increase by over 1 percent. There is good prospect of another record production of maize crop in the United States. A recovery in maize production in South America is also expected which was affected by drought in 2009. The forecast of global rice production shows a vigorous growth, as prices remain relatively attractive and governments continue to provide support to the sector. FAO's first forecast for world cereal trade in 2010/11 shows an increase of 3 million tonnes over the estimated 2009/10 level, to reach 264.5 million tonnes. World sugar production is expected to recover by 3.5 percent to 156.3 million tonnes in 2009/10, mainly due to relatively favourable growing conditions and high returns. Nevertheless, global sugar output is still to remain short of consumption for the second consecutive year, with the estimated deficit of the order of 6.3 million tonnes. Global production of oilseeds is expected to reach a new record, with the expectations of bumper harvests in South America, primarily due to above-average area and yield levels in soybean. The forecasts for total production indicates a more balanced supply and demand situation for oilseeds and meals but less so for oils/fats. As a result, in the coming months, meal values are expected to weaken significantly, while oil/fat prices should remain firm. Notwithstanding the easing of the oil crop supply and demand situation, prices in the oilseed sector continue to be high. Consequently, farmers are not expected to reduce significantly oil crop plantings, and assuming a return to average yield levels, oilseed output in 2010/11 is expected to remain unchanged or decrease slightly. However, global supplies could increase further in 2010/11 given an anticipated strong rise in carry-over stocks. Oilseed product output, especially meals, could again exceed demand, which would lead to further recoveries in inventories and stock-to-use ratios, increasing the likelihood of an easing in prices. Table 1 presents the world production of major crops in recent years and forecast for 2010/11.

**Table1**  
**World production of major crops (million tonnes)**

	2007/08	2008/09	2009/10 (estimate)	2010/11 (forecast)
Wheat	610.3	683.8	682.4	676.5
Maize	777.8	819.8	815.1	835.0
Rice	440.2	458.0	455.5	-
Total cereals	2 131.8	2 282.2	2 253.1	2 279.5
Sugar	167.6	151.1	156.3	-
Oil seeds	403.7	408.7	448.7	-

Source: Various issues of Food Outlook, FAO, Rome

### *Input and output prices*

The volatility in the commodity market and world economic conditions in recent years reflected on the prices of agricultural output and input. Demand for fertilizers depended more on economics of fertilizer use in most of the countries rather than other factors. Because of highly fluctuating crop and fertilizer prices, farmers in most of the countries reduced or postponed their expenditure in fertilizer and other agricultural inputs. The expenditure on phosphate and potash reduced substantially in most of the countries. There were a few exceptions, such as country like India where farmers are provided fertilizers at heavily subsidized rates. With some recovery in the global economic conditions in 2010 leading towards a more stable market conditions, farmers are reported to be reinvesting on phosphate and potash fertilizers to maintain or improve the fertility of their soils. Table 2 brings out the fluctuations in the output price index vis-à-vis fertilizer input price index in the context of disorder in the commodity markets and world economic conditions experienced in recent years with the sign of recovery since late 2009.

**Table 2**  
**Output and fertilizer input price indices (2002-2004 =100)**

	2006	2007	2008	2009	2010 (January- June)
<b>Output price index<sup>1</sup></b>					
Cereals	121	167	238	174	159
Dairy	128	212	220	142	199
Meat	107	112	128	118	131
Oils & Fats	112	169	225	150	171
Sugar	210	143	182	257	279
<b>Food</b>	<b>122</b>	<b>154</b>	<b>191</b>	<b>152</b>	<b>167</b>
<b>Fertilizer input price index<sup>2</sup></b>					
Urea	160	222	362	184	189
DAP	139	228	515	176	242
MOP	150	182	573	541	293

Source:

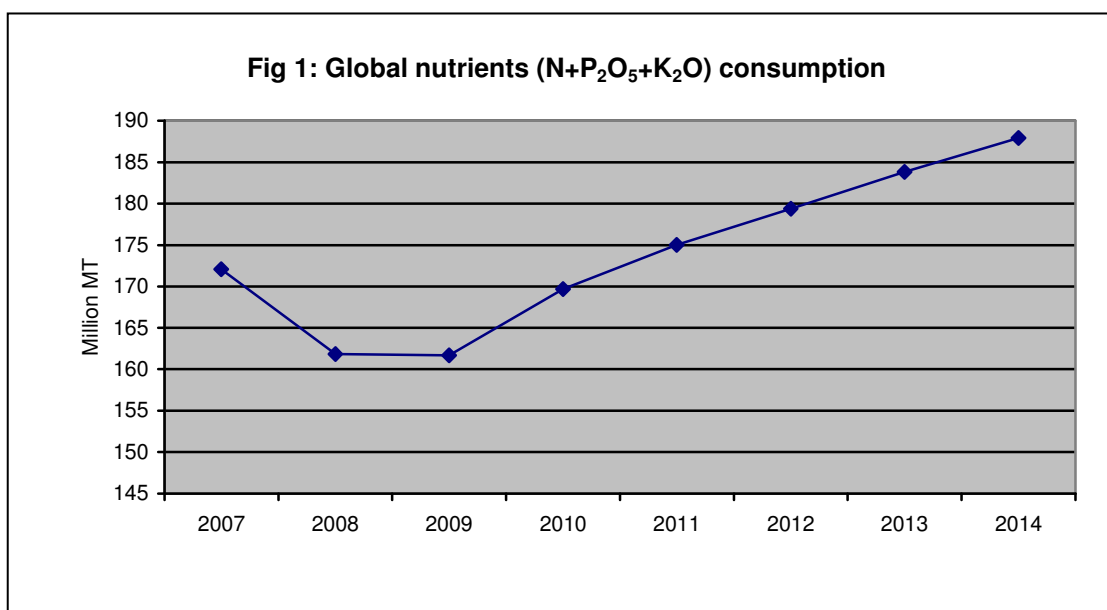
<sup>1</sup> *World Food Situation: Food Prices Index*, FAO, Rome,  
(<http://www.fao.org/worldfoodsituation/FoodPricesIndex/en/>)

<sup>2</sup> Calculated from average FOB prices quoted in various Fertilizer Trade Journals.

## **DEMAND**

### *Demand for fertilizer nutrients*

The global fertilizer nutrient consumption suffered severe set back in 2008 with a marginal recovery in the consumption of nitrogen and phosphate in 2009, and expected to move towards a stabilized growth from 2010. Total fertilizer nutrient (N+P<sub>2</sub>O<sub>5</sub>+K<sub>2</sub>O) consumption estimated at 161.7 million tonnes in 2009 is forecast to reach 169.7 million tonnes in 2010. With a successive growth of 2.6 percent per year, it is expected to reach 187.9 million tonnes by the end of 2014. Fig.1 indicates the forecasts of world demand for total fertilizer nutrients from 2010 to 2014 against the backdrop of consumption taken place in the preceding three years.



The forecasts of demand for three main plant nutrients covering regions and the world for 2010 to 2014 are presented in Annexes 2, 3 and 4. The global demand for fertilizer nutrients are summarized in Table 3.

**Table 3**  
**World demand for fertilizer nutrients, 2010-2014 (thousand tonnes)**

Year	2010	2011	2012	2013	2014
Nitrogen (N)	103 877	106 054	107 901	109 835	111 638
Phosphate (P <sub>2</sub> O <sub>5</sub> )	39 148	40 445	41 594	42 791	43 876
Potash (K <sub>2</sub> O)	26 655	28 542	29 882	31 218	32 413
Total (N+P <sub>2</sub> O <sub>5</sub> +K <sub>2</sub> O)	169 680	175 041	179 377	183 844	187 927

In 2010, the world demand for nitrogen, phosphate and potash is forecast to grow by 2, 6 and 16 percent, respectively over the previous year. The world and regional annual growth rate in fertilizer demand between 2010 and 2014 is given in Table 4. World demand for total fertilizer nutrients is estimated to grow at 2.6 percent per annum from 2010 to 2014. The demand for nitrogen, phosphate and potash is forecast to grow annually by 1.8, 2.9 and 5 percent, respectively during the period.

**Table 4**  
**World and regional growth in fertilizer demand, 2010 to 2014**

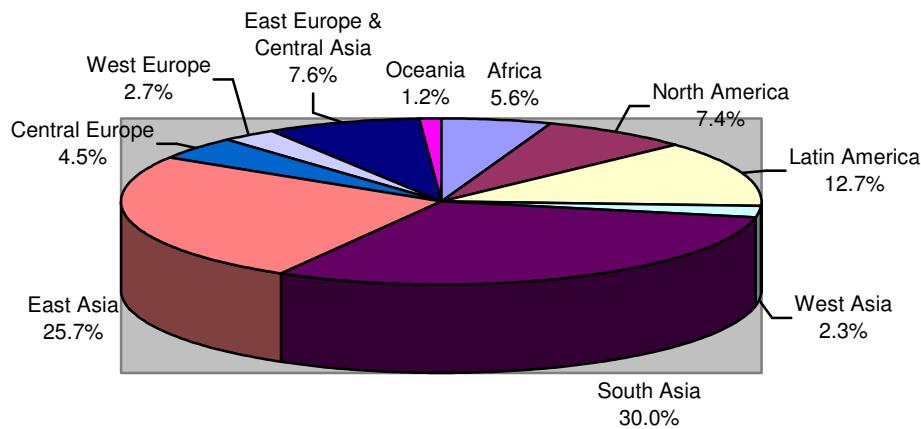
Region	Annual growth rate (Compound)			
	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Total (N+P <sub>2</sub> O <sub>5</sub> +K <sub>2</sub> O)
<b>World</b>	<b>1.8%</b>	<b>2.9%</b>	<b>5.0%</b>	<b>2.6%</b>
Africa	3.6%	3.2%	4.5%	3.6%
America	1.9%	3.5%	4.9%	3.0%
- North America	1.1%	2.1%	3.8%	1.8%
- Latin America	3.6%	4.7%	6.0%	4.6%
Asia	1.7%	2.6%	5.4%	2.4%
- West Asia	1.4%	2.9%	7.7%	2.2%
- South Asia	2.8%	3.9%	4.8%	3.3%
- East Asia	1.2%	1.7%	5.6%	1.9%
Europe	1.9%	3.1%	4.0%	2.5%
- Central Europe	3.2%	2.8%	5.4%	3.5%
- West Europe	0.7%	1.9%	3.8%	1.4%
- East Europe & Central Asia	3.5%	5.1%	3.5%	3.8%
Oceania	1.9%	4.2%	4.7%	3.2%

#### **Nitrogen (N)**

The world nitrogen fertilizer demand is expected to increase from a total of 103.9 million tonnes in 2010 to 111.6 million tonnes in 2014 at the annual growth of 1.8 percent. Of the overall increase in demand for 7.7 million tonnes nitrogen, 58 percent would be in Asia, 20 percent in America, 15 percent in Europe, 6 percent in Africa and 1 percent in Oceania.

Among the Asian countries, bulk of the increase of world demand for nitrogen is expected in India (23 percent) and China (21 percent), followed by Pakistan (5 percent), Vietnam and Indonesia (3 percent each). In America, major share of increase is expected in USA and Brazil (6 percent each). In Europe, moderate increase is expected in Central Europe (5 percent), followed by West Europe (3 percent). In the sub-region East Europe & Central Asia, the major share would be in Russian Fedn. (4 percent), followed by Ukraine (2 percent). In Africa, major share of increase is anticipated in Egypt (3 percent) and Morocco (1 percent). Figure 2 shows regional and sub-regional share of world increase in nitrogen consumption between 2010 and 2014.

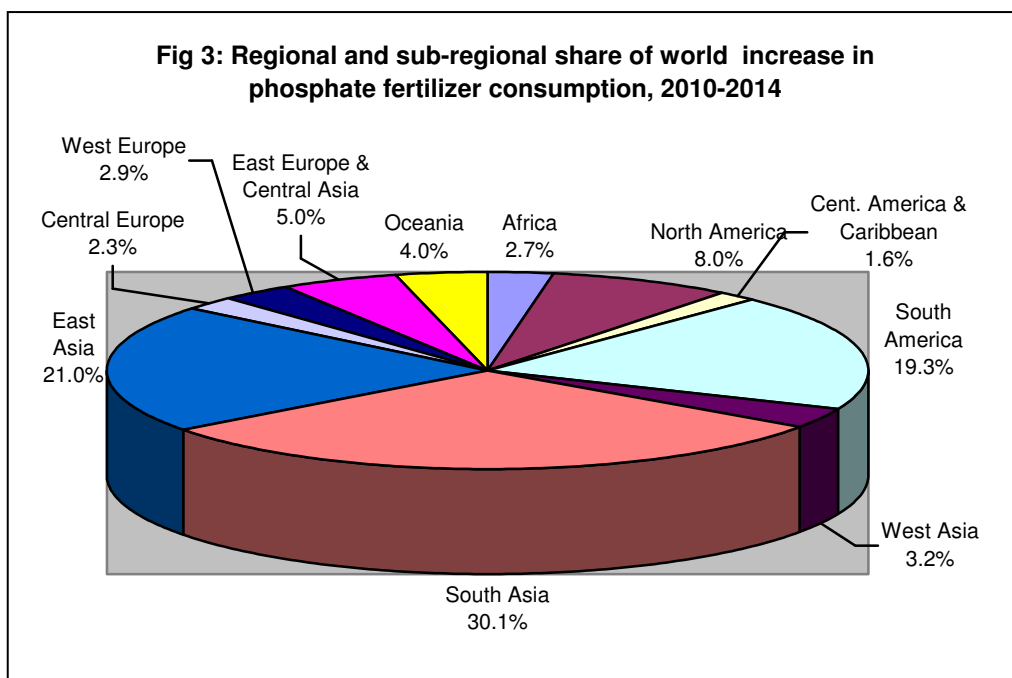
**Fig 2: Regional and sub-regional share of world increase in nitrogen fertilizer consumption, 2010-2014**



### 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  $P_2O_5$  through single super phosphate, rock phosphate, etc. The world phosphate fertilizer demand is expected to increase from a total of 39.1 million tonnes in 2010 to 43.9 million tonnes in 2014 at a growth rate of 2.9 percent per year. Of the overall increase in demand for 4.8 million tonnes  $P_2O_5$ , 54 percent would be in Asia, 29 percent in America, 10 percent in Europe, 4 percent in Oceania and 3 percent in Africa.

Among the Asian countries, about 25 percent of the growth in world demand of phosphate is expected in India, 18 percent in China, 4 percent in Pakistan and the balance in rest of Asia. Among the major countries in America, 14 percent of the growth in world demand is projected to be in Brazil and 7 percent in USA. The share of West Europe is expected to be 3 percent and Central Europe 2 percent. The share of Russian Fedn. under East Europe & Central Asia would be around 3 percent. Figure 3 shows regional and sub-regional share of world increase in phosphate consumption between 2010 and 2014.

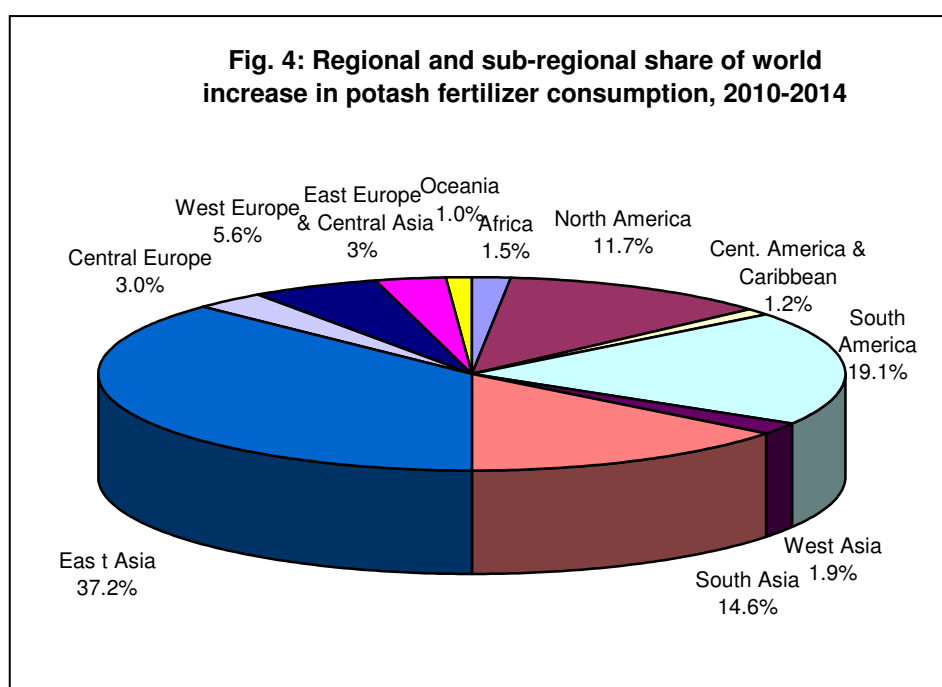


### Potash (K<sub>2</sub>O)

Potash demand in the fertilizer and industrial sectors in 2009 was weak. Potassium fertilizer consumption dropped for two consecutive years, i.e. 2008 and 2009. Potash use shrunk in most of the countries, affecting global import. Many NPK manufacturers, which faced lower demand and low profitability, reduced the potassium content in their fertilizer formulations. Global potash sales collapsed, since major carry-over stocks were available in several consuming countries at the beginning of 2009.

Following two years of consecutive decline, potassium fertilizer demand in 2010 is projected to show an impressive recovery of 16 percent. The world potash fertilizer demand is expected to increase from a total of 26.7 million tonnes in 2010 to 32.4 million tonnes in 2014. Of the overall increase in demand for 5.7 million tonnes potash, 54 percent would be in Asia, 32 percent in America, 12 percent in Europe, 2 percent in Africa and 1 percent in Oceania.

Among the Asian countries, about 24 percent of the growth in world demand for potash is expected in China, 14 percent in India and the balance in rest of Asia. In America, major share of the growth of about 16 percent is projected to be in Brazil and 11 percent in USA. In Europe, about 6 per cent of the growth in world demand for potash is expected in West Europe, followed by 3 percent in Central Europe, and 3 percent in East Europe & Central Asia. Figure 4 shows regional and sub-regional share of world increase in potash consumption during 2010 to 2014.



#### ***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 for purposes other than fertilizer, such as industrial use. In addition, nitrogen and phosphate are reported to be used as feed for cattle, poultry and fish. Table 5 shows global total demand (fertilizer + non-fertilizer) for primary nutrients for 2010 to 2014.

**Table 5**

**World total demand for primary nutrients, 2010-2014 (thousand tonnes)**

Year	2010	2011	2012	2013	2014
Nitrogen (N)	130 039	133 545	136 319	139 070	141 697
Phosphate (P <sub>2</sub> O <sub>5</sub> ) <sup>1</sup>	45 351	46 765	48 018	49 567	50 924
Phosphate (P <sub>2</sub> O <sub>5</sub> ) <sup>2</sup>	37 962	39 573	40 790	42 448	43 811
Potash (K <sub>2</sub> O)	29 949	32 063	33 570	35 004	36 311
Total (N+P <sub>2</sub> O <sub>5</sub> +K <sub>2</sub> O)	197 950	205 181	210 679	216 522	221 819

<sup>1</sup> = Total P<sub>2</sub>O<sub>5</sub> demand (H<sub>3</sub>PO<sub>4</sub> based fertilizer + non-fertilizer, and non-H<sub>3</sub>PO<sub>4</sub> fertilizer).

<sup>2</sup> = Total H<sub>3</sub>PO<sub>4</sub> demand (fertilizer + non-fertilizer) expressed as P<sub>2</sub>O<sub>5</sub>.

Since, major share of phosphate fertilizer is based on H<sub>3</sub>PO<sub>4</sub>, and its supply and demand is of commercial importance, the following sections on supply and supply/demand balance are based on H<sub>3</sub>PO<sub>4</sub> (i.e., excluding non- H<sub>3</sub>PO<sub>4</sub> source).

## SUPPLY

The global fertilizer market has moved towards stabilization, as fertilizer demand started to recover from the mid-year of 2009 in the main consuming countries. However, overall sales and production dropped significantly in 2009 due to large carry-over of inventory. Production of phosphate and potash declined, while production of nitrogen products increased moderately. Global capacity of fertilizers increased in main exporting regions, but at modest rates compared with those of the previous years. Completion of a few projects was postponed due to a combination of soft market conditions and technical delays. Table 6 shows world supply of ammonia, phosphoric acid and potash during 2010 to 2014. Region and sub-region wise detail information is given in Annex 5, 6 and 7.

**Table 6**

**World supply of ammonia, phosphoric acid and potash, 2010-2014 (thousand tonnes)**

Year	2010	2011	2012	2013	2014
Ammonia (as N)	134 751	139 616	144 342	150 276	158 459
Phosphoric acid (as P <sub>2</sub> O <sub>5</sub> )	40 335	42 113	44 104	45 453	46 852
Potash (as K <sub>2</sub> O)	38 036	39 169	41 374	42 904	45 851

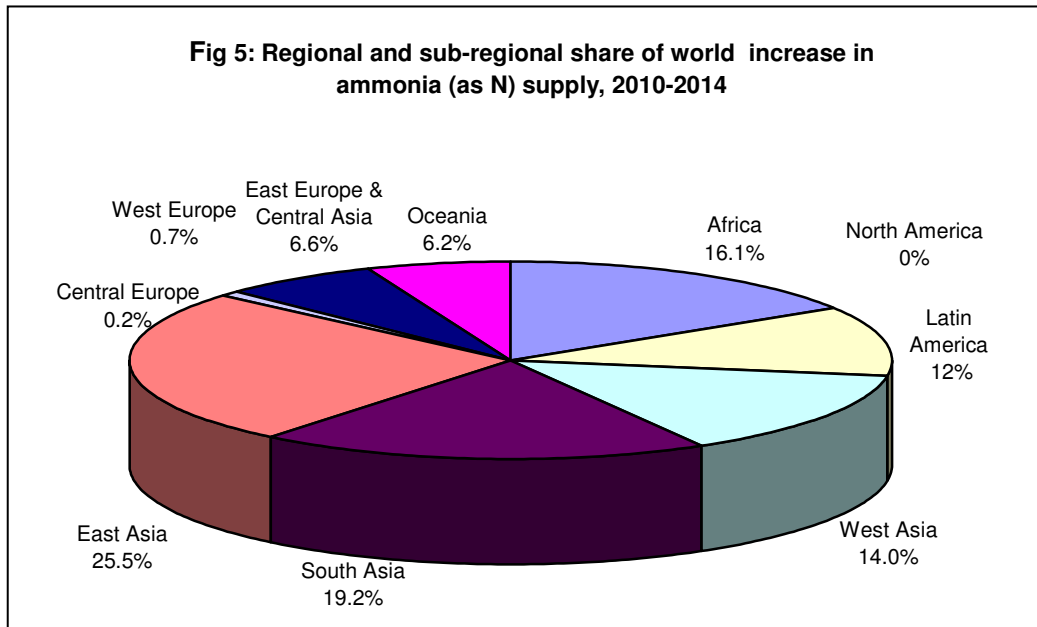
### Nitrogen (N)

According to IFA, the global financial crisis and subsequent widespread economic recession in recent years led to postponement in the commissioning of some of the plants and cancellation in few others. World ammonia capacity was 153.4 million tonnes (as N) in 2009. With the expected addition in capacity of about 5.3 million tonnes, the total ammonia capacity is likely to be 158.7 million tonnes (as N) in 2010. As a result of successive addition in capacity each year, total ammonia capacity is expected to rise to 184.2 million tonnes (as N) in 2014. Of the total increase of 30.8 million tonnes from 2009 to 2014, nearly 51 percent is expected to be added in South Asia (India and Pakistan) and East Asia (China and Vietnam). No increase in capacity is expected in North America and West Europe. About 13 percent each of the increase in world ammonia capacity is expected in Africa (Algeria and Egypt) and West Asia (Iran, Qatar, Saudi Arabia and Abu Dhabi) and 5 percent in Oceania (Australia). World-wide, about 65 new plants are either under construction or being planned to be commissioned during this period, of which about 23 new plants would be in China alone.

After taking into account operating rates, world supply of ammonia (as N) is estimated at 130.6 million tonnes in 2009 which would rise to 134.8 million tonnes in 2010. From 2010 to 2014, there would be a total addition in supply of 23.7 million tonnes. The total supply of ammonia (as N) would thereby rise to 158.5 million tonnes in 2014 (Table 6)

Fig.5 shows the percentage contribution of various regions and sub-regions to the total increase in ammonia (as N) supply between 2010 and 2014.

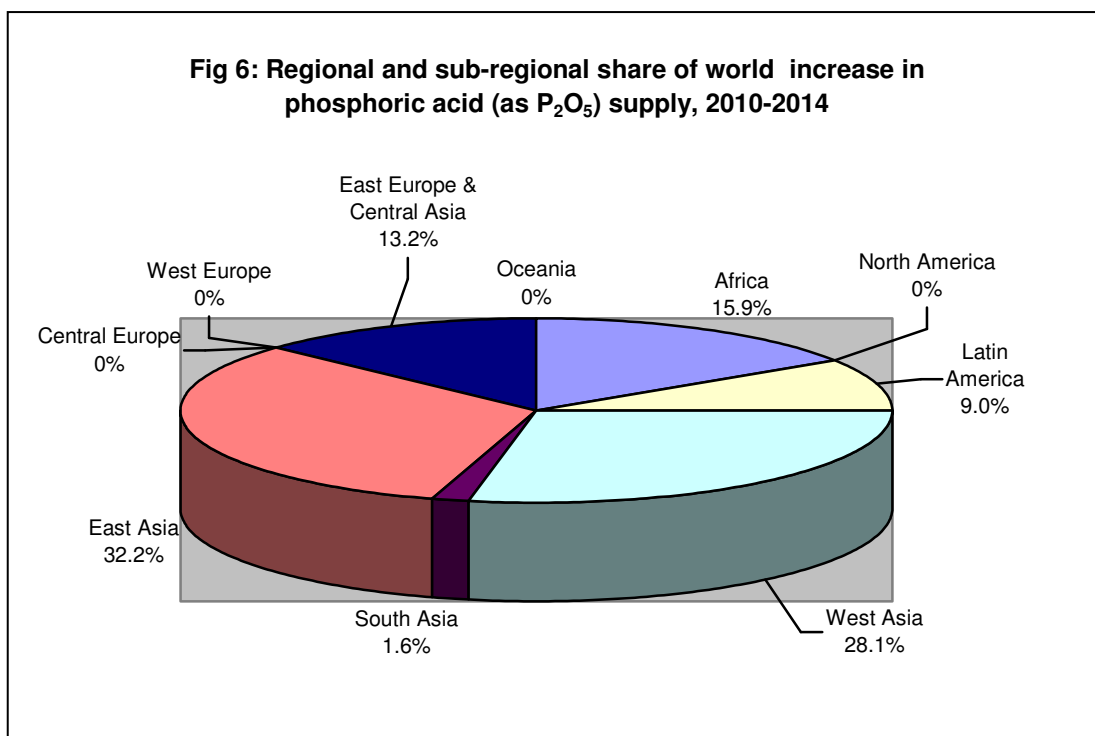




### Phosphate (P<sub>2</sub>O<sub>5</sub>)

World phosphoric acid (as P<sub>2</sub>O<sub>5</sub>) capacity was about 46.6 million tonnes in 2009. A modest increase of 1.7 million tonnes is expected in 2010 with the total rising to 48.3 million tonnes. By 2014, it is expected to rise to 54.9 million tonnes. Of the total 8.3 million tonnes addition in world capacity between 2009 and 2014, 69 percent addition would take place in Asia, mainly in East Asia (China) and West Asia (Saudi Arabia and Jordan). About 14 percent capacity would be added in Africa (Morocco and Tunisia), 12 percent in East Europe & Central Asia and 9 percent in Latin America. No addition in capacity is expected in North America, Central Europe, West Europe and Oceania. Bulk of the expansion in capacity would be kept for the domestic markets, and the rest would be sold under contracted off-take agreements for downstream processing. No new suppliers of merchant grade acid have emerged during the past five years. No new stand-alone projects, without contracted off-take agreements, have been announced for the next five years.

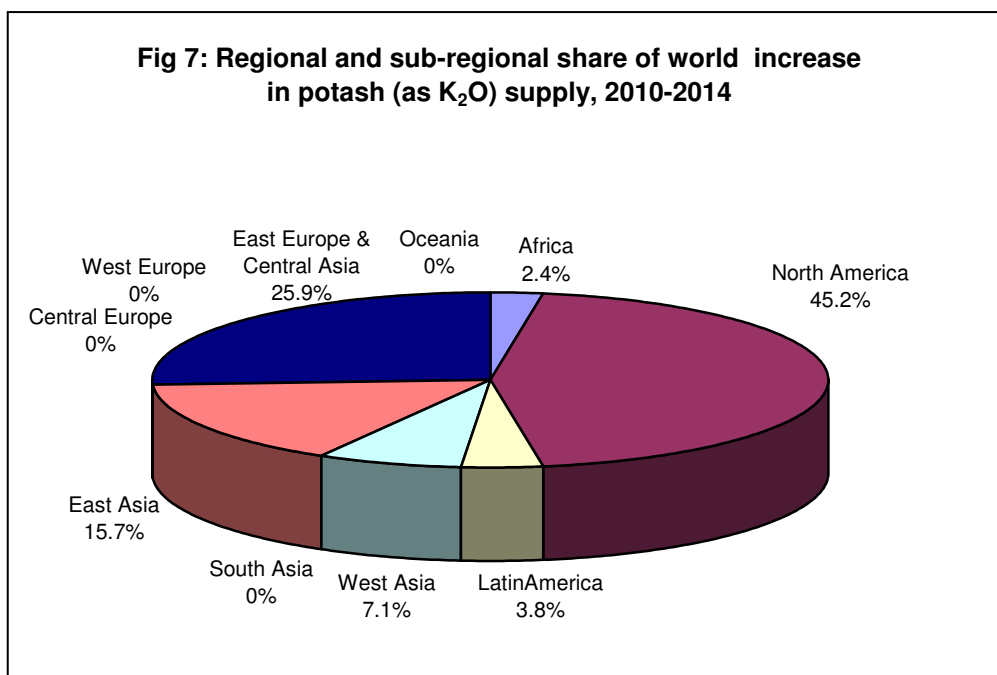
After taking into account operating rates, world supply of phosphoric acid (as P<sub>2</sub>O<sub>5</sub>) is estimated at 38 million tonnes in 2009, which is estimated to rise to 40.3 million tonnes in 2010. A modest increase is expected annually and by 2014, the total supply will be 46.8 million tonnes (Table 6). Fig.6 shows the percentage contribution of various regions and sub-regions to the total increase in phosphoric acid (as P<sub>2</sub>O<sub>5</sub>) supply between 2010 and 2014.



### Potash (K<sub>2</sub>O)

World potash capacity is estimated at 41.6 million tonnes (as K<sub>2</sub>O) in 2009. A small increase of 1.4 million tonnes is expected in 2010 with the total rising to 43 million tonnes. By 2014, the total capacity is likely to be 54.7 million tonnes. Of the total increase in capacity of 13.1 million tonnes potash between 2009 and 2014, 44 percent would be in North America (Canada), 13 percent in Latin America (Argentina and Brazil), 23.9 percent in East Europe & Central Asia (Russia and Belarus), 12.5 percent in East Asia (China), 3.4 percent in West Asia and 2.8 percent in Africa (Congo).

After considering operating rates, world supply of potash (as K<sub>2</sub>O) is estimated at 37.1 million tonnes in 2009, which would rise to 38 million tonnes in 2010. A modest increase is expected annually and by 2014, the total supply may touch 45.8 million tonnes (Table 6). Fig.7 shows the percentage contribution of various regions and sub-regions to the total increase in potash supply between 2010 and 2014.



### SUPPLY/DEMAND BALANCE

Table 7 presents the world potential balance of nitrogen, phosphate (H<sub>3</sub>PO<sub>4</sub> based P<sub>2</sub>O<sub>5</sub>), and potash (K<sub>2</sub>O) for 2010 to 2014. The potential balance is derived on the basis of 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<sub>2</sub>O<sub>5</sub> = P<sub>2</sub>O<sub>5</sub> through phosphoric acid, and

K<sub>2</sub>O = K<sub>2</sub>O 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 7 indicates the world potential balance of nitrogen, phosphate, and potash for 2010 to 2014.

**Table 7**

**World potential balance of nitrogen, phosphate and potash, 2010-2014 (thousand tonnes)**

Year	2010	2011	2012	2013	2014
Nitrogen (N)	4 712 (3.6)	6 071 (4.5)	8 023 (5.9)	11 206 (8.1)	16 762 (11.8)
Phosphate as P <sub>2</sub> O <sub>5</sub> (H <sub>3</sub> PO <sub>4</sub> based)	2 373 (6.3)	2 540 (6.4)	3 314 (8.1)	3 005 (7.1)	3 041 (6.9)
Potash (K <sub>2</sub> O)	8 087 (27.0)	7 106 (22.2)	7 804 (23.2)	7 900 (22.6)	9 540 (26.3)

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

### **Nitrogen (N)**

The world nitrogen supply is expected to increase by 4.1 percent annually between 2010 and 2014. As against this, demand is projected to increase by 2.2 percent in the same period. Potential balance of nitrogen is expected to be 4.7 million tonnes in 2010 as against 4.3 million tonnes in the previous year. There would be an addition in the potential balance of an average of 2 million tonnes per year from 2010 to 2013. In 2014, a sweeping increase is expected with the total balance rising to 16.8 million tonnes.

The potential nitrogen balance as a percentage of global total demand is expected to remain between 4 to 6 percent between 2010 and 2012. With the expected higher availability from new capacities, it is likely to increase to 8 percent in 2013 and 12 percent in 2014. 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<sub>2</sub>O<sub>5</sub>)**

The world phosphate (H<sub>3</sub>PO<sub>4</sub> based P<sub>2</sub>O<sub>5</sub>) supply is expected to increase by 3.8 percent per annum between 2010 and 2014. As against this, demand is projected to increase by 3.6 percent in the same period. The potential balance of phosphate is expected to rise marginally from 2.4 million tonnes in 2010 to 3 million tonnes in 2014. The ratio of potential phosphate balance (H<sub>3</sub>PO<sub>4</sub> based) as a percentage of global phosphate demand (H<sub>3</sub>PO<sub>4</sub> based P<sub>2</sub>O<sub>5</sub>) is likely to remain within 6 to 7 per cent during major part of the forecast period.

### **Potash (K<sub>2</sub>O)**

World potash balance was significantly high at 11.3 million tonnes in 2009 in view of higher sales not translated into consumption. The demand for potash is projected to increase by 4.9 percent between 2010 and 2014. The world potash supply is expected to increase by 4.8 percent during the same period. With the expected increase in potash demand from 2010, the potential balance may reduce to 8.1 million tonnes in 2010 and 7.1 million tonnes in 2011. Thereafter, the potential balance is expected to rise slowly until 2013. In 2014, the balance is expected to increase significantly to a level of 9.5 million tonnes. The potential potash (K<sub>2</sub>O) balance as a percentage of global total demand is expected to reduce to 27 percent in 2010 from an unusually high level of 44 percent in 2009. With the increase in demand, the balance would further reduce and range between 22 and 23 percent during 2011 to 2013. It is expected to rise to 26 percent in 2014 as a result of additions in capacity expected in Canada, Russia, and Argentina during 2013/14.

## **THE REGIONAL FERTILIZER SITUATION**

### **Africa**

Africa accounted for less than 3 percent of world fertilizer consumption in 2009. Its share in world consumption of nitrogen is 2.8 percent, phosphate 2.4 percent and potash 1.4 percent. The main consumers of fertilizer in the region are Egypt, Morocco, Nigeria and South Africa. The growth rate in demand for nitrogen, phosphate and potash is expected to be 3.6, 3.2 and 4.5 percent, respectively between 2010 and 2014. 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 8 indicates fertilizer forecast for Africa for 2010 to 2014.

**Table 8**  
**Africa fertilizer forecast, 2010-2014 (thousand tonnes)**

	2010	2011	2012	2013	2014
<b>N</b> Supply	5 112	5 875	6 790	7 800	8 919
Total demand	3 450	3 573	3 689	3 812	3 925
Potential balance	1 662	2 302	3 101	3 988	4 994
<b>P<sub>2</sub>O<sub>5</sub> based on H<sub>3</sub>PO<sub>4</sub></b>					
Supply	7 367	7 691	7 907	8 100	8 411
Total demand	1 401	1 467	1 505	1 766	1 975
Potential balance	5 966	6 224	6 402	6 334	6 436
<b>K<sub>2</sub>O</b> Supply	0	0	0	0	185
Total demand	534	564	596	612	634
Potential balance	-534	-564	-596	-612	-449

### America

The share of America in the overall world consumption of fertilizer is 22 percent, of which North America constitutes 13 percent and Latin America 9 percent. The region would continue to remain surplus in potash and deficit in nitrogen during the forecast period. Limited phosphate surplus in the region may turn into deficit from 2013 as a result of larger demand outstripping supply. Table 9 presents fertilizer forecast for the America region.

**Table 9**  
**America fertilizer forecast, 2010-2014 (thousand tonnes)**

	2010	2011	2012	2013	2014
<b>N</b> Supply	20 069	20 463	20 749	21 905	22 802
Total demand	25 522	26 357	26 941	27 415	27 918
Potential balance	-5 453	-5 894	-6 192	-5 510	-5 116
<b>P<sub>2</sub>O<sub>5</sub> based on H<sub>3</sub>PO<sub>4</sub></b>					
Supply	11 378	11 541	11 613	11 694	11 966
Total demand	10 670	11 099	11 360	11 831	12 103
Potential balance	708	442	253	-137	-137
<b>K<sub>2</sub>O</b> Supply	15 527	15 832	16 532	17 536	19 355
Total demand	9 806	10 447	10 928	11 374	11 795
Potential balance	5 721	5 385	5 604	6 162	7 560

### North America

The share of North America in world consumption of nitrogen is 12.8 percent, phosphate 11 percent and potash 15.5 percent. The growth rate in demand for nitrogen, phosphate and potash is expected to be 1.1, 2.1 and 3.8 percent, respectively between 2010 and 2014. The main consumers of fertilizer in the region are USA and Canada. The fertilizer nutrient supply/demand balance indicates that the sub-region

would increasingly rely on nitrogen fertilizer import. Its phosphate export may come down progressively due to increase in demand and almost static supply. The potash balance of the region is expected to increase due to addition in potash capacity mainly in Canada.

### *Latin America*

The share of Latin America in world consumption of nitrogen is 6.1 percent, phosphate 12.6 percent, and potash 17.3 percent. The per annum growth in demand for nitrogen, phosphate and potash is expected to be at 3.6, 4.7 and 6.0 percent, respectively between 2010 and 2014. The main consumers of fertilizer in the region are Brazil and Argentina in South America and Mexico in Central America and Caribbean. The fertilizer nutrient supply/demand balance indicates that export of nitrogen might increase while import of phosphate and potash would continue to decline.

### *Asia*

Asia region is the largest consumer of fertilizer in the world. Total fertilizer nutrient consumption in Asia is 61 per cent of the world total, bulk of which is in East Asia and South Asia. Table 10 presents fertilizer forecast for the Asia region as a whole.

**Table 10**

**Asia fertilizer forecast, 2010-2014 (thousand tonnes)**

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>N</b> Supply	75 345	78 167	81 283	84 454	89 259
Total demand	77 308	79 227	80 820	82 480	84 073
Potential balance	-1 963	-1 060	463	1 974	5 186
<b>P<sub>2</sub>O<sub>5</sub> based on H<sub>3</sub>PO<sub>4</sub></b>					
Supply	16 678	17 837	19 018	20 025	20 732
Total demand	21 257	22 173	22 923	23 718	24 481
Potential balance	-4 579	-4 336	-3 905	-3 693	-3 749
<b>K<sub>2</sub>O</b>					
Supply	6 229	6 986	7 775	7 813	8 008
Total demand	14 801	16 045	16 846	17 644	18 284
Potential balance	-8 572	-9 059	-9 071	-9 831	-10 276

### *West Asia*

The share of West Asia in world consumption of nitrogen is 3.1 percent, phosphate 3.6 percent and potash 1.3 percent. Total fertilizer consumption in West Asia is forecast to grow by 2.2 percent per year from 2010 to 2014. The demand for nitrogen, phosphate and potash is expected to grow by 1.4., 2.9 and 7.7 percent, respectively during the period. The sub-region is surplus in all the three nutrients. It is a major contributor to global nitrogen supply. Its nitrogen supply is expected to grow by 7.3 percent and potash supply 3.8 percent per annum during the period. The sub-region might also have some surplus of phosphate for exports in the coming years.

### *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 19.4, 21.7 and 16.6 percent, respectively. Nitrogen, phosphate and potash consumption is expected to grow at 2.8, 3.9 and 4.8 percent, respectively per annum during 2010 to 2014. India has introduced nutrient based subsidy on P and K fertilizers which is expected to encourage balanced fertilization. The sub-region would continue to remain deficit in all the three nutrients during the forecast period. The deficit nitrogen balance might improve slightly by the end of the projected period if the plants which are planned are commissioned as per schedule. The deficit balance of phosphate and potash would continue 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 fertilizer consumption is 39 percent. The share of the sub-region in nitrogen consumption is 40.8 percent, phosphate 36.9 percent and potash 30.8 percent. Nitrogen, phosphate and potash consumption is expected to grow at 1.2, 1.7 and 5.6 percent, respectively per annum during 2010 to 2014. With the growth in nitrogen capacity in the sub-region, the dependence on nitrogen import is expected to reduce over the years and is expected to reach close to balance by 2014. 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 11 presents fertilizer forecast for the Europe region as a whole. Europe's share in global fertilizer consumption is about 13 percent. The share of the region in nitrogen fertilizer consumption is 13.9 percent, phosphate 9.3 percent and potash 15.7 percent. Nitrogen, phosphate and potash consumption is expected to grow in the region at 1.9, 3.1 and 4 percent, respectively per annum during 2010 to 2014.

**Table 11**  
**Europe fertilizer forecast, 2010-2014 (thousand tonnes)**

	2010	2011	2012	2013	2014
<b>N</b> Supply	32 666	33 535	33 798	34 378	34 459
Total demand	21 843	22 398	22 819	23 269	23 646
Potential balance	10 823	11 137	10 979	11 109	10 813
<b>P<sub>2</sub>O<sub>5</sub> based on H<sub>3</sub>PO<sub>4</sub></b>					
Supply	4 434	4 564	5 087	5 153	5 264
Total demand	4 011	4 171	4 306	4 408	4 521
Potential balance	423	393	781	745	743
<b>K<sub>2</sub>O</b> Supply	16 280	16 350	17 068	17 555	18 304
Total demand	4 524	4 700	4 874	5 035	5 258
Potential balance	11 756	11 650	12 194	12 520	13 046

While the share of fertilizer consumption in West Europe is highest within the region, rate of future growth is expected more in East Europe & Central Asia and Central

Europe. The East Europe & Central Asia sub-region is surplus in all the three nutrients. It has the largest potential balance of nitrogen and potash in the world. The potential balance of nitrogen is expected to increase at 1.7 percent per annum with the total quantum increase of about 900 thousand tonnes between 2010 and 2014. The potential balance of potash is expected to show significant increase at 4.1 percent per annum with the quantum increase of about 1.81 million tonnes during 2010-2014.

West Europe would continue to remain surplus in potash and deficit in nitrogen and phosphate. Central Europe would continue to be deficit in phosphate and potash and the deficit balance would increase over the period. On the other hand, the surplus balance of nitrogen will progressively decline in the sub-region.

### Oceania

Fertilizer consumption in Oceania is expected to grow by 3.2 percent annually from 2010 until 2014. Nitrogen, phosphate and potash consumption is likely to grow by 1.9, 4.2 and 4.7 percent, respectively during the period. The region would continue to be deficit in nitrogen until 2013. In 2014, the region may turn into surplus in nitrogen. With regard to phosphate and potash, the region would continue to remain deficit during the period. (Table 12)

**Table 12**  
**Oceania fertilizer forecast, 2010-2014 (thousand tonnes)**

	2010	2011	2012	2013	2014
<b>N</b> Supply	1 558	1 576	1 723	1 739	3 020
Total demand	1 915	1 991	2 051	2 094	2 135
Potential balance	-357	-415	-328	-355	885
<b>P<sub>2</sub>O<sub>5</sub> based on H<sub>3</sub>PO<sub>4</sub></b>					
Supply	480	480	480	480	480
Total demand	624	662	697	723	731
Potential balance	-144	-182	-217	-243	-251
<b>K<sub>2</sub>O</b>					
Supply	0	0	0	0	0
Total demand	285	306	327	339	342
Potential balance	-285	-306	-327	-339	-342

Table 13 presents the summary of regional potential balance of nitrogen, phosphate (H<sub>3</sub>PO<sub>4</sub> based) and potash during 2010 to 2014.

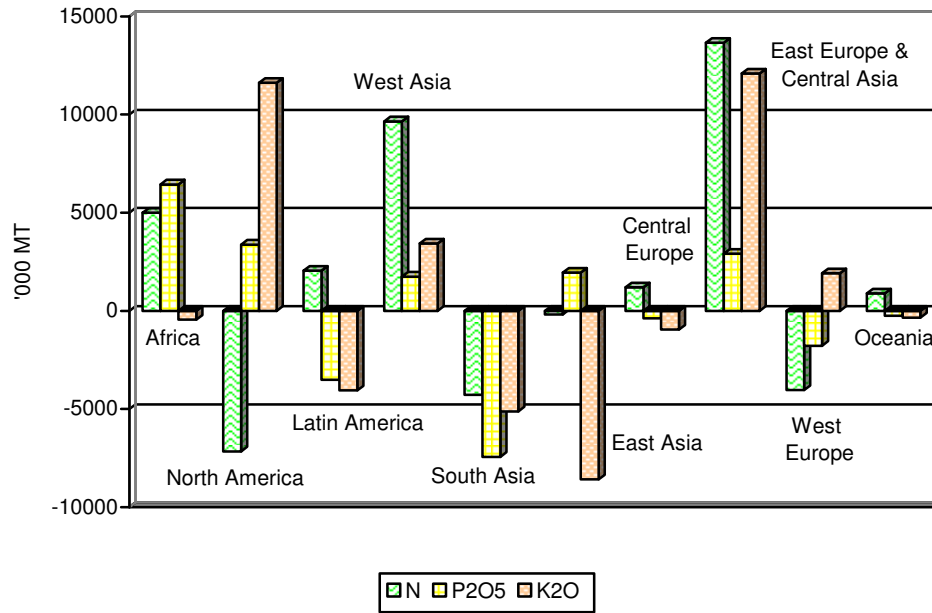


**Table 13**  
**Regional and sub-regional potential balance of nitrogen, phosphate (P<sub>2</sub>O<sub>5</sub> based on H<sub>3</sub>PO<sub>4</sub>) and potash (K<sub>2</sub>O), 2010-2014 (thousand tonnes)**

Region	Nutrient	2010	2011	2012	2013	2014
Africa	N	1 662	2 302	3 101	3 988	4 994
	P <sub>2</sub> O <sub>5</sub>	5 966	6 224	6 402	6 334	6 436
	K <sub>2</sub> O	-534	-564	-596	-612	-449
North America	N	-6 028	-6 508	-6 806	-6 977	-7 157
	P <sub>2</sub> O <sub>5</sub>	3 753	3 642	3 557	3 458	3 374
	K <sub>2</sub> O	8 874	8 923	9 412	10 420	11 615
Latin America	N	575	614	614	1 467	2 041
	P <sub>2</sub> O <sub>5</sub>	-3 046	-3 200	-3 303	-3 595	-3 512
	K <sub>2</sub> O	-3 153	-3 538	-3 808	-4 258	-4 054
West Asia	N	6 533	7 768	8 661	9 572	9 649
	P <sub>2</sub> O <sub>5</sub>	46	638	1 140	1 625	1 743
	K <sub>2</sub> O	3 024	3 420	3 506	3 460	3 430
South Asia	N	-6 400	-6 562	-6 464	-6 252	-4 280
	P <sub>2</sub> O <sub>5</sub>	-6 075	-6 462	-6 683	-7 105	-7 437
	K <sub>2</sub> O	-4 247	-4 469	-4 690	-4 905	-5 120
East Asia	N	-2 096	-2 266	-1 735	-1 347	-183
	P <sub>2</sub> O <sub>5</sub>	1 450	1 488	1 638	1 787	1 945
	K <sub>2</sub> O	-7 349	-8 010	-7 887	-8 387	-8 585
Central Europe	N	1 521	1 448	1 391	1 296	1 194
	P <sub>2</sub> O <sub>5</sub>	-264	-293	-328	-353	-381
	K <sub>2</sub> O	-774	-814	-853	-894	-952
East Europe & Central Asia	N	12 746	13 325	13 308	1 3709	13 654
	P <sub>2</sub> O <sub>5</sub>	2 295	2 371	2 836	2 856	2 905
	K <sub>2</sub> O	10 277	10 306	10 961	11 402	12 087
West Europe	N	-3 444	-3 636	-3 719	-3 896	-4 035
	P <sub>2</sub> O <sub>5</sub>	-1 608	-1 686	-1 727	-1 757	-1 781
	K <sub>2</sub> O	2 253	2 158	2 085	2 013	1 910
Oceania	N	-357	-415	-328	-355	885
	P <sub>2</sub> O <sub>5</sub>	-144	-182	-217	-243	-251
	K <sub>2</sub> O	-285	-306	-327	-339	-342

Fig.8 indicates the regional potential N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O balance situation in the terminal year of the forecast period, i.e., 2014.

**Fig. 8: Regional nutrient balance in 2014**



## 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 the IFA 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)

	2009 <sup>1</sup>	2010	2011	2012	2013	2014	CAGR (%)
<b>WORLD</b>	<b>101 664</b>	<b>103 877</b>	<b>106 054</b>	<b>107 901</b>	<b>109 835</b>	<b>111 638</b>	<b>1.82</b>
<b>AFRICA</b>	<b>2 809</b>	<b>2 919</b>	<b>3 025</b>	<b>3 131</b>	<b>3 246</b>	<b>3 357</b>	<b>3.56</b>
<b>AMERICA</b>	<b>19 142</b>	<b>19 746</b>	<b>20 237</b>	<b>20 597</b>	<b>20 945</b>	<b>21 314</b>	<b>1.93</b>
North America	12 988	13 319	13 497	13 650	13 773	13 897	1.07
Latin America	6 154	6 428	6 741	6 947	7 172	7 417	3.64
- Central America & Caribbean	1 740	1 778	1 805	1 833	1 860	1 888	1.51
- South America	4 414	4 650	4 936	5 115	5 312	5 529	4.43
<b>ASIA</b>	<b>64 418</b>	<b>65 506</b>	<b>66 725</b>	<b>67 815</b>	<b>68 963</b>	<b>70 013</b>	<b>1.68</b>
West Asia	3 164	3 213	3 248	3 275	3 338	3 394	1.38
South Asia	19 758	20 305	20 896	21 465	22 046	22 635	2.75
East Asia	41 496	41 989	42 582	43 075	43 579	43 983	1.17
<b>EUROPE</b>	<b>14 135</b>	<b>14 495</b>	<b>14 821</b>	<b>15 083</b>	<b>15 389</b>	<b>15 647</b>	<b>1.93</b>
Central Europe	2 574	2 629	2 720	2 799	2 887	2 981	3.19
West Europe	7 737	7 891	7 964	8 017	8 068	8 103	0.66
East Europe & Central Asia	3 824	3 975	4 137	4 267	4 434	4 563	3.51
<b>OCEANIA</b>	<b>1 160</b>	<b>1 211</b>	<b>1 246</b>	<b>1 275</b>	<b>1 292</b>	<b>1 307</b>	<b>1.93</b>

<sup>1</sup> = Estimated consumption; CAGR = Compound annual growth rate 2010 to 2014.

## Annex 3

### World and regional phosphate fertilizer demand forecasts (thousand tonnes P<sub>2</sub>O<sub>5</sub>)

	2009 <sup>1</sup>	2010	2011	2012	2013	2014	CAGR (%)
<b>WORLD</b>	<b>36 952</b>	<b>39 148</b>	<b>40 445</b>	<b>41 594</b>	<b>42 791</b>	<b>43 876</b>	<b>2.89</b>
<b>AFRICA</b>	<b>901</b>	<b>938</b>	<b>975</b>	<b>1 004</b>	<b>1 034</b>	<b>1 064</b>	<b>3.20</b>
<b>AMERICA</b>	<b>8 719</b>	<b>9 352</b>	<b>9 764</b>	<b>10 046</b>	<b>10 417</b>	<b>10 713</b>	<b>3.46</b>
North America	4 068	4 442	4 556	4 639	4 736	4 818	2.05
Latin America	4 651	4 909	5 209	5 407	5 681	5 895	4.68
- Central America & Caribbean	335	360	385	405	420	435	4.84
- South America	4 316	4 549	4 824	5 002	5 261	5 460	4.67
<b>ASIA</b>	<b>23 009</b>	<b>24 055</b>	<b>24 722</b>	<b>25 362</b>	<b>25 997</b>	<b>26 626</b>	<b>2.57</b>
West Asia	1 336	1 280	1 324	1 357	1 400	1 433	2.86
South Asia	8 021	8 538	8 874	9 234	9 597	9 963	3.93
East Asia	13 652	14 237	14 524	14 770	15 000	15 230	1.70
<b>EUROPE</b>	<b>3 420</b>	<b>3 751</b>	<b>3 864</b>	<b>4 001</b>	<b>4 116</b>	<b>4 233</b>	<b>3.07</b>
Central Europe	860	940	970	1 000	1 030	1 050	2.81
West Europe	1 535	1 734	1 774	1 809	1 844	1 871	1.92
East Europe & Central Asia	1 025	1 077	1 120	1 192	1 242	1 312	5.06
<b>OCEANIA</b>	<b>903</b>	<b>1 053</b>	<b>1 120</b>	<b>1 181</b>	<b>1 227</b>	<b>1 240</b>	<b>4.17</b>

<sup>1</sup> = Estimated consumption; CAGR = Compound annual growth rate 2010 to 2014.

## Annex 4

### World and regional potash fertilizer demand forecasts (thousand tonnes K<sub>2</sub>O)

	2009 <sup>1</sup>	2010	2011	2012	2013	2014	CAGR (%)
<b>WORLD</b>	<b>23 044</b>	<b>26 655</b>	<b>28 542</b>	<b>29 882</b>	<b>31 218</b>	<b>32 413</b>	<b>5.01</b>
<b>AFRICA</b>	<b>412</b>	<b>459</b>	<b>488</b>	<b>514</b>	<b>530</b>	<b>547</b>	<b>4.51</b>
<b>AMERICA</b>	<b>7 563</b>	<b>8 695</b>	<b>9 266</b>	<b>9 712</b>	<b>10 136</b>	<b>10 539</b>	<b>4.93</b>
North America	3 579	4 208	4 406	4 588	4 746	4 882	3.79
Latin America	3 984	4 488	4 860	5 124	5 390	5 657	5.96
- Central America & Caribbean	355	384	400	416	434	453	4.22
- South America	3 629	4 104	4 460	4 708	4 956	5 205	6.12
<b>ASIA</b>	<b>11 198</b>	<b>13 232</b>	<b>14 357</b>	<b>15 041</b>	<b>15 765</b>	<b>16 324</b>	<b>5.39</b>
West Asia	290	320	340	370	410	430	7.67
South Asia	3 818	4 112	4 327	4 536	4 745	4 954	4.77
East Asia	7 090	8 800	9 690	10 135	10 610	10 940	5.59
<b>EUROPE</b>	<b>3 617</b>	<b>3 991</b>	<b>4 132</b>	<b>4 295</b>	<b>4 455</b>	<b>4 668</b>	<b>4.00</b>
Central Europe	630	730	766	804	844	900	5.37
West Europe	1 784	1 980	2 050	2 120	2 200	2 300	3.82
East Europe & Central Asia	1 203	1 281	1 316	1 371	1 411	1 468	3.47
<b>OCEANIA</b>	<b>254</b>	<b>279</b>	<b>300</b>	<b>321</b>	<b>332</b>	<b>335</b>	<b>4.68</b>

<sup>1</sup> = Estimated consumption; CAGR = Compound annual growth rate 2010 to 2014.

## Annex 5

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

	2009	2010	2011	2012	2013	2014
<b>WORLD</b>						
NH <sub>3</sub> capacity (as N)	153 439	158 667	163 813	170 170	176 065	184 183
NH <sub>3</sub> supply (as N)	130 601	134 751	139 616	144 342	150 276	158 459
N other uses	24 669	26 161	27 491	28 418	29 235	30 059
N available for fertilizer	105 933	108 589	112 125	115 924	121 041	128 400
N Fert. consumption/demand	101 664	103 877	106 054	107 901	109 835	111 638
Potential N balance	4 269	4 712	6 071	8 023	11 206	16 762
<b>AFRICA</b>						
NH <sub>3</sub> capacity (as N)	5 911	5 942	6 837	7 787	8 908	9 993
NH <sub>3</sub> supply (as N)	5 083	5 112	5 875	6 790	7 800	8 919
N other uses	502	531	549	558	566	569
N available for fertilizer	4 581	4 581	5 327	6 232	7 234	8 351
N Fert. consumption/demand	2 809	2 919	3 025	3 131	3 246	3 357
Potential N balance	1 772	1 662	2 302	3 101	3 988	4 994
<b>AMERICA</b>						
NH <sub>3</sub> capacity (as N)	22 036	22 284	22 776	23 174	24 717	25 860
NH <sub>3</sub> supply (as N)	19 879	20 069	20 463	20 749	21 905	22 802
N other uses	5 416	5 775	6 119	6 344	6 470	6 603
N available for fertilizer	14 462	14 294	14 344	14 405	15 435	16 198
N Fert. consumption/demand	19 142	19 746	20 237	20 597	20 945	21 314
Potential N balance	-4 680	-5 453	-5 894	-6 192	-5 510	-5 116
<b>North America</b>						
NH <sub>3</sub> capacity (as N)	13 157	13 154	13 154	13 154	13 154	13 154
NH <sub>3</sub> supply (as N)	11 710	11 708	11 708	11 708	11 708	11 708
N other uses	4 120	4 417	4 719	4 865	4 912	4 968
N available for fertilizer	7 590	7 291	6 989	6 843	6 796	6 740
N Fert. consumption/demand	12 988	13 319	13 497	13 650	13 773	13 897
Potential N balance	-5 398	-6 028	-6 508	-6 806	-6 977	-7 157
<b>Latin America</b>						
NH <sub>3</sub> capacity (as N)	8 879	9 130	9 622	10 020	11 563	12 706
NH <sub>3</sub> supply (as N)	8 169	8 361	8 755	9 041	10 197	11 094
N other uses	1 297	1 358	1 401	1 480	1 558	1 636
N available for fertilizer	6 872	7 003	7 354	7 561	8 639	9 458
N Fert. consumption/demand	6 154	6 428	6 741	6 947	7 172	7 417
Potential N balance	718	575	614	614	1 467	2 041
<b>ASIA</b>						
NH <sub>3</sub> capacity (as N)	86 435	90 899	94 549	99 254	101 764	106 210
NH <sub>3</sub> supply (as N)	71 748	75 345	78 167	81 283	84 454	89 259
N other uses	11 022	11 802	12 501	13 005	13 517	14 060
N available for fertilizer	60 726	63 543	65 666	68 278	70 937	75 199
N Fert. consumption/demand	64 418	65 506	66 725	67 815	68 963	70 013
Potential N balance	-3 692	-1 963	-1 060	463	1 974	5 186

	2009	2010	2011	2012	2013	2014
<b>West Asia</b>						
NH <sub>3</sub> capacity (as N)	11 400	12 160	13 437	14 400	15 501	15 501
NH <sub>3</sub> supply (as N)	9 576	10 265	11 552	12 476	13 452	13 587
N other uses	492	520	537	539	542	544
N available for fertilizer	9 084	9 745	11 016	11 937	12 910	13 043
N Fert. consumption/demand	3 164	3 213	3 248	3 275	3 338	3 394
Potential N balance	5 920	6 533	7 768	8 661	9 572	9 649
<b>South Asia</b>						
NH <sub>3</sub> capacity (as N)	15 485	16 496	16 892	17 663	18 566	21 671
NH <sub>3</sub> supply (as N)	13 937	14 874	15 331	16 023	16 842	19 428
N other uses	937	969	998	1 023	1 047	1 072
N available for fertilizer	13 000	13 905	14 334	15 001	15 794	18 355
N Fert. consumption/demand	19 758	20 305	20 896	21 465	22 046	22 635
Potential N balance	-6 758	-6 400	-6 562	-6 464	-6 252	-4 280
<b>East Asia</b>						
NH <sub>3</sub> capacity (as N)	59 550	62 242	64 220	67 191	67 697	69 038
NH <sub>3</sub> supply (as N)	48 235	50 206	51 283	52 784	54 161	56 244
N other uses	9 593	10 314	10 967	11 443	11 928	12 443
N available for fertilizer	38 642	39 892	40 316	41 340	42 232	43 800
N Fert. consumption/demand	41 496	41 989	42 582	43 075	43 579	43 983
Potential N balance	-2 854	-2 096	-2 266	-1 735	-1 347	-183
<b>EUROPE</b>						
NH <sub>3</sub> capacity (as N)	37 433	37 919	38 008	38 150	38 870	38 883
NH <sub>3</sub> supply (as N)	32 332	32 666	33 535	33 798	34 378	34 459
N other uses	7 068	7 348	7 576	7 736	7 881	7 999
N available for fertilizer	25 265	25 318	25 958	26 062	26 498	26 460
N Fert. consumption/demand	14 135	14 495	14 821	15 083	15 389	15 647
Potential N balance	11 130	10 823	11 137	10 979	11 109	10 813
<b>Central Europe</b>						
NH <sub>3</sub> capacity (as N)	5 898	6 396	6 396	6 423	6 423	6 423
NH <sub>3</sub> supply (as N)	4 600	4 979	5 007	5 035	5 035	5 035
N other uses	792	829	839	845	853	860
N available for fertilizer	3 808	4 150	4 168	4 190	4 183	4 175
N Fert. consumption/demand	2 574	2 629	2 720	2 799	2 887	2 981
Potential N balance	1 234	1 521	1 448	1 391	1 296	1 194
<b>West Europe</b>						
NH <sub>3</sub> capacity (as N)	10 300	9 942	9 942	9 942	9 942	9 942
NH <sub>3</sub> supply (as N)	9 682	9 335	9 400	9 510	9 510	9 510
N other uses	4 667	4 888	5 072	5 213	5 338	5 442
N available for fertilizer	5 015	4 447	4 328	4 298	4 172	4 068
N Fert. consumption/demand	7 737	7 891	7 964	8 017	8 068	8 103
Potential N balance	-2 722	-3 444	-3 636	-3 719	-3 896	-4 035



	2009	2010	2011	2012	2013	2014
<b>East Europe and Central Asia</b>						
NH <sub>3</sub> capacity (as N)	21 236	21 581	21 670	21 785	22 505	22 518
NH <sub>3</sub> supply (as N)	18 051	18 353	19 127	19 253	19 833	19 914
N other uses	1 609	1 632	1 665	1 678	1 690	1 697
N available for fertilizer	16 441	16 721	17 462	17 575	18 143	18 217
N Fert. consumption/demand	3 824	3 975	4 137	4 267	4 434	4 563
Potential N balance	12 617	12 746	13 325	13 308	13 709	13 654
<b>OCEANIA</b>						
NH <sub>3</sub> capacity (as N)	1 624	1 624	1 643	1 806	1 806	3 237
NH <sub>3</sub> supply (as N)	1 559	1 558	1 576	1 723	1 739	3 020
N other uses	659	705	746	776	802	828
N available for fertilizer	899	854	831	947	937	2 192
N Fert. consumption/demand	1 160	1 211	1 246	1 275	1 292	1 307
Potential N balance	-261	-357	-415	-328	-355	885

## Annex 6

### World and regional phosphate supply, demand and balance (thousand tonnes P<sub>2</sub>O<sub>5</sub>)

	2009	2010	2011	2012	2013	2014
<b>WORLD</b>						
H <sub>3</sub> PO <sub>4</sub> capacity	46 591	48 262	51 479	52 511	53 349	54 919
H <sub>3</sub> PO <sub>4</sub> supply	37 994	40 335	42 113	44 104	45 453	46 852
H <sub>3</sub> PO <sub>4</sub> industrial demand	5 910	6 203	6 320	6 424	6 776	7 048
H <sub>3</sub> PO <sub>4</sub> available for fertilizer	32 084	34 133	35 793	37 680	38 676	39 804
P Fert. consumption/demand	36 952	39 148	40 445	41 594	42 791	43 876
H <sub>3</sub> PO <sub>4</sub> Fert. demand	29 680	31 759	33 253	34 367	35 671	36 763
Non-H <sub>3</sub> PO <sub>4</sub> Fert. consumption	7 272	7 389	7 193	7 227	7 120	7 113
Potential H <sub>3</sub> PO <sub>4</sub> balance	2 403	2 373	2 540	3 314	3 005	3 041
<b>AFRICA</b>						
H <sub>3</sub> PO <sub>4</sub> capacity	8 145	8 185	8 545	8 785	9 000	9 345
H <sub>3</sub> PO <sub>4</sub> supply	5 620	7 367	7 691	7 907	8 100	8 411
H <sub>3</sub> PO <sub>4</sub> industrial demand	529	604	648	661	908	1 092
H <sub>3</sub> PO <sub>4</sub> available for fertilizer	5 091	6 763	7 043	7 245	7 192	7 318
P Fert. consumption/demand	901	938	975	1 004	1 034	1 064
H <sub>3</sub> PO <sub>4</sub> Fert. demand	765	797	819	843	858	883
Non-H <sub>3</sub> PO <sub>4</sub> Fert. consumption	135	141	156	161	176	181
Potential H <sub>3</sub> PO <sub>4</sub> balance	4 325	5 966	6 224	6 402	6 334	6 436
<b>AMERICA</b>						
H <sub>3</sub> PO <sub>4</sub> capacity	12 180	12 217	12 417	12 537	12 537	12 922
H <sub>3</sub> PO <sub>4</sub> supply	11 344	11 378	11 541	11 613	11 694	11 966
H <sub>3</sub> PO <sub>4</sub> industrial demand	2 056	2 103	2 116	2 124	2 210	2 215
H <sub>3</sub> PO <sub>4</sub> available for fertilizer	9 288	9 274	9 425	9 489	9 485	9 751
P Fert. consumption/demand	8 719	9 352	9 764	10 046	10 417	10 713
H <sub>3</sub> PO <sub>4</sub> Fert. demand	7 975	8 566	8 983	9 235	9 622	9 888
Non-H <sub>3</sub> PO <sub>4</sub> Fert. consumption	744	785	781	811	795	825
Potential H <sub>3</sub> PO <sub>4</sub> balance	1 313	708	442	253	-137	-137
<b>North America</b>						
H <sub>3</sub> PO <sub>4</sub> capacity	9 861	9 861	9 861	9 861	9 861	9 861
H <sub>3</sub> PO <sub>4</sub> supply	9 249	9 249	9 249	9 249	9 249	9 249
H <sub>3</sub> PO <sub>4</sub> industrial demand	1 100	1 053	1 051	1 053	1 055	1 056
H <sub>3</sub> PO <sub>4</sub> available for fertilizer	8 149	8 196	8 198	8 196	8 194	8 193
P Fert. consumption/demand	4 068	4 442	4 556	4 639	4 736	4 818
H <sub>3</sub> PO <sub>4</sub> Fert. demand	4 068	4 442	4 556	4 639	4 736	4 818
Non-H <sub>3</sub> PO <sub>4</sub> Fert. consumption	0	0	0	0	0	0
Potential H <sub>3</sub> PO <sub>4</sub> balance	4 081	3 753	3 642	3 557	3 458	3 374

**Note:** H<sub>3</sub>PO<sub>4</sub> = Phosphoric acid

	2009	2010	2011	2012	2013	2014
<b>Latin America</b>						
H <sub>3</sub> PO <sub>4</sub> capacity	2 319	2 356	2 556	2 676	2 676	3 061
H <sub>3</sub> PO <sub>4</sub> supply	2 095	2 129	2 293	2 364	2 446	2 718
H <sub>3</sub> PO <sub>4</sub> industrial demand	957	1 051	1 065	1 071	1 155	1 159
H <sub>3</sub> PO <sub>4</sub> available for fertilizer	1 139	1 078	1 227	1 293	1 290	1 558
P Fert. consumption/demand	4 651	4 909	5 209	5 407	5 681	5 895
H <sub>3</sub> PO <sub>4</sub> Fert. demand	3 907	4 124	4 427	4 596	4 885	5 070
Non-H <sub>3</sub> PO <sub>4</sub> Fert. consumption	744	785	781	811	795	825
Potential H <sub>3</sub> PO <sub>4</sub> balance	-2 768	-3 046	-3 200	-3 303	-3 595	-3 512
<b>ASIA</b>						
H <sub>3</sub> PO <sub>4</sub> capacity	19 168	20 837	23 498	23 890	24 490	24 929
H <sub>3</sub> PO <sub>4</sub> supply	16 120	16 678	17 837	19 018	20 025	20 732
H <sub>3</sub> PO <sub>4</sub> industrial demand	2 316	2 413	2 412	2 471	2 489	2 568
H <sub>3</sub> PO <sub>4</sub> available for fertilizer	13 804	14 264	15 426	16 547	17 536	18 163
P Fert. consumption/demand	23 009	24 055	24 722	25 362	25 997	26 626
H <sub>3</sub> PO <sub>4</sub> Fert. demand	17 751	18 843	19 761	20 452	21 229	21 912
Non-H <sub>3</sub> PO <sub>4</sub> Fert. consumption	5 259	5 211	4 960	4 909	4 768	4 713
Potential H <sub>3</sub> PO <sub>4</sub> balance	-3 946	-4 579	-4 336	-3 905	-3 693	-3 749
<b>West Asia</b>						
H <sub>3</sub> PO <sub>4</sub> capacity	2 235	2 245	3 732	3 787	4 287	4 287
H <sub>3</sub> PO <sub>4</sub> supply	1 628	1 636	2 250	2 801	3 326	3 475
H <sub>3</sub> PO <sub>4</sub> industrial demand	405	425	407	413	413	414
H <sub>3</sub> PO <sub>4</sub> available for fertilizer	1 223	1 211	1 843	2 389	2 913	3 061
P Fert. consumption/demand	1 336	1 280	1 324	1 357	1 400	1 433
H <sub>3</sub> PO <sub>4</sub> Fert. demand	1 216	1 165	1 205	1 249	1 288	1 318
Non-H <sub>3</sub> PO <sub>4</sub> Fert. consumption	120	115	119	109	112	115
Potential H <sub>3</sub> PO <sub>4</sub> balance	7	46	638	1 140	1 625	1 743
<b>South Asia</b>						
H <sub>3</sub> PO <sub>4</sub> capacity	2 146	2 150	2 150	2 150	2 150	2 325
H <sub>3</sub> PO <sub>4</sub> supply	1 548	1 613	1 613	1 716	1 716	1 716
H <sub>3</sub> PO <sub>4</sub> industrial demand	245	260	266	273	280	286
H <sub>3</sub> PO <sub>4</sub> available for fertilizer	1 303	1 353	1 347	1 443	1 436	1 430
P Fert. consumption/demand	8 021	8 538	8 874	9 234	9 597	9 963
H <sub>3</sub> PO <sub>4</sub> Fert. demand	6 978	7 428	7 809	8 126	8 541	8 867
Non-H <sub>3</sub> PO <sub>4</sub> Fert. consumption	1 043	1 110	1 065	1 108	1 056	1 096
Potential H <sub>3</sub> PO <sub>4</sub> balance	-5 675	-6 075	-6 462	-6 683	-7 105	-7 437
<b>East Asia</b>						
H <sub>3</sub> PO <sub>4</sub> capacity	14 787	16 442	17 615	17 952	18 052	18 316
H <sub>3</sub> PO <sub>4</sub> supply	12 944	13 429	13 975	14 501	14 983	15 540
H <sub>3</sub> PO <sub>4</sub> industrial demand	1 665	1 728	1 739	1 786	1 796	1 868
H <sub>3</sub> PO <sub>4</sub> available for fertilizer	11 279	11 701	12 236	12 715	13 187	13 672
P Fert. consumption/demand	13 652	14 237	14 524	14 770	15 000	15 230
H <sub>3</sub> PO <sub>4</sub> Fert. demand	9 556	10 251	10 748	11 078	11 400	11 727
Non-H <sub>3</sub> PO <sub>4</sub> Fert. consumption	4 096	3 986	3 776	3 693	3 600	3 503
Potential H <sub>3</sub> PO <sub>4</sub> balance	1 722	1 450	1 488	1 638	1 787	1 945

	2009	2010	2011	2012	2013	2014
<b>EUROPE</b>						
H <sub>3</sub> PO <sub>4</sub> capacity	6 498	6 423	6 420	6 700	6 723	7 123
H <sub>3</sub> PO <sub>4</sub> supply	4 430	4 434	4 564	5 087	5 153	5 264
H <sub>3</sub> PO <sub>4</sub> industrial demand	985	1 058	1 121	1 143	1 145	1 148
H <sub>3</sub> PO <sub>4</sub> available for fertilizer	3 445	3 376	3 443	3 944	4 008	4 116
P Fert. consumption/demand	3 420	3 751	3 864	4 001	4 116	4 233
H <sub>3</sub> PO <sub>4</sub> Fert. demand	2 675	2 953	3 051	3 162	3 263	3 373
Non-H <sub>3</sub> PO <sub>4</sub> Fert. consumption	746	798	813	839	853	860
Potential H <sub>3</sub> PO <sub>4</sub> balance	770	423	393	781	745	743
<b>Central Europe</b>						
H <sub>3</sub> PO <sub>4</sub> capacity	1 022	1 022	1 022	1 022	1 022	1 022
H <sub>3</sub> PO <sub>4</sub> supply	546	546	546	546	546	546
H <sub>3</sub> PO <sub>4</sub> industrial demand	49	48	53	53	54	55
H <sub>3</sub> PO <sub>4</sub> available for fertilizer	497	498	493	492	491	490
P Fert. consumption/demand	860	940	970	1 000	1 030	1 050
H <sub>3</sub> PO <sub>4</sub> Fert. demand	688	761	786	820	845	872
Non-H <sub>3</sub> PO <sub>4</sub> Fert. consumption	172	179	184	180	185	179
Potential H <sub>3</sub> PO <sub>4</sub> balance	-191	-264	-293	-328	-353	-381
<b>West Europe</b>						
H <sub>3</sub> PO <sub>4</sub> capacity	1 025	895	685	685	685	685
H <sub>3</sub> PO <sub>4</sub> supply	671	636	604	604	604	604
H <sub>3</sub> PO <sub>4</sub> industrial demand	726	753	764	774	775	776
H <sub>3</sub> PO <sub>4</sub> available for fertilizer	-55	-117	-160	-171	-171	-172
P Fert. consumption/demand	1 535	1 734	1 774	1 809	1 844	1 871
H <sub>3</sub> PO <sub>4</sub> Fert. demand	1 320	1 491	1 526	1 556	1 586	1 609
Non-H <sub>3</sub> PO <sub>4</sub> Fert. consumption	215	243	248	253	258	262
Potential H <sub>3</sub> PO <sub>4</sub> balance	-1 375	-1 608	-1 686	-1 727	-1 757	-1 781
<b>East Europe &amp; Central Asia</b>						
H <sub>3</sub> PO <sub>4</sub> capacity	4 451	4 506	4 713	4 993	5 016	5 416
H <sub>3</sub> PO <sub>4</sub> supply	3 213	3 252	3 415	3 938	4 004	4 115
H <sub>3</sub> PO <sub>4</sub> industrial demand	210	257	304	315	316	317
H <sub>3</sub> PO <sub>4</sub> available for fertilizer	3 003	2 995	3 110	3 622	3 688	3 797
P Fert. consumption/demand	1 025	1 077	1 120	1 192	1 242	1 312
H <sub>3</sub> PO <sub>4</sub> Fert. demand	666	700	739	787	832	892
Non-H <sub>3</sub> PO <sub>4</sub> Fert. consumption	359	377	381	405	410	420
Potential H <sub>3</sub> PO <sub>4</sub> balance	2 336	2 295	2 371	2 836	2 856	2 905
<b>OCEANIA</b>						
H <sub>3</sub> PO <sub>4</sub> capacity	600	600	600	600	600	600
H <sub>3</sub> PO <sub>4</sub> supply	480	480	480	480	480	480
H <sub>3</sub> PO <sub>4</sub> industrial demand	24	24	24	24	24	24
H <sub>3</sub> PO <sub>4</sub> available for fertilizer	456	456	456	456	456	456
P Fert. consumption/demand	903	1 053	1 120	1 181	1 227	1 240
H <sub>3</sub> PO <sub>4</sub> Fert. demand	515	600	638	673	699	707
Non-H <sub>3</sub> PO <sub>4</sub> Fert. consumption	388	453	482	508	528	533
Potential H <sub>3</sub> PO <sub>4</sub> balance	-59	-144	-182	-217	-243	-251

## Annex 7

### World and regional potash supply, demand and balance (thousand tonnes K<sub>2</sub>O)

<b>WORLD</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Potash capacity	41 609	42 952	43 769	47 947	52 152	54 672
Potash supply	37 115	38 036	39 169	41 374	42 904	45 851
Industrial and other demand	2 754	3 293	3 521	3 687	3 786	3 899
Available for fertilizer	34 361	34 742	35 648	37 687	39 118	41 953
K fert. consumption/demand	23 044	26 655	28 542	29 882	31 218	32 413
Potential K <sub>2</sub> O balance	11 317	8 087	7 106	7 804	7 900	9 540
<b>AFRICA</b>						
Potash capacity	0	0	0	0	0	370
Potash supply	0	0	0	0	0	185
Industrial and other demand	59	75	76	82	82	87
Available for fertilizer	-59	-75	-76	-82	-82	98
K fert. consumption/demand	412	459	488	514	530	547
Potential K <sub>2</sub> O balance	-471	-534	-564	-596	-612	-449
<b>AMERICA</b>						
Potash capacity	17 153	18 055	18 125	20 675	22 895	24 645
Potash supply	14 876	15 527	15 832	16 532	17 536	19 355
Industrial and other demand	953	1 110	1 182	1 216	1 238	1 255
Available for fertilizer	13 923	14 417	14 650	15 316	16 298	18 100
K fert. consumption/demand	7 563	8 695	9 266	9 712	10 136	10 539
Potential K <sub>2</sub> O balance	6 360	5 721	5 385	5 604	6 162	7 560
<b>North America</b>						
Potash capacity	15 815	16 455	16 525	19 075	21 295	21 605
Potash supply	13 714	14 058	14 363	15 063	16 246	17 589
Industrial and other demand	833	975	1 034	1 063	1 080	1 092
Available for fertilizer	12 881	13 082	13 329	14 000	15 165	16 497
K fert. consumption/demand	3 579	4 208	4 406	4 588	4 746	4 882
Potential K <sub>2</sub> O balance	9 302	8 874	8 923	9 412	10 420	11 615
<b>Latin America</b>						
Potash capacity	1 338	1 600	1 600	1 600	1 600	3 040
Potash supply	1 162	1 469	1 469	1 469	1 291	1 766
Industrial and other demand	120	134	148	153	158	163
Available for fertilizer	1 042	1 335	1 321	1 316	1 132	1 603
K fert. consumption/demand	3 984	4 488	4 860	5 124	5 390	5 657
Potential K <sub>2</sub> O balance	-2 942	-3 153	-3 538	-3 808	-4 258	-4 054
<b>ASIA</b>						
Potash capacity	6 797	6 992	7 687	8 415	8 625	8 875
Potash supply	6 213	6 229	6 986	7 775	7 813	8 008
Industrial and other demand	1 295	1 569	1 688	1 804	1 879	1 959
Available for fertilizer	4 918	4 660	5 298	5 970	5 934	6 048
K fert. consumption/demand	11 198	13 232	14 357	15 041	15 765	16 324
Potential K <sub>2</sub> O balance	-6 279	-8 572	-9 059	-9 071	-9 831	-10 276

	2009	2010	2011	2012	2013	2014
<b>West Asia</b>						
Potash capacity	3 570	3 665	4 020	4 020	4 020	4 020
Potash supply	3 452	3 422	3 849	3 975	3 975	3 975
Industrial and other demand	72	78	89	99	105	115
Available for fertilizer	3 380	3 344	3 760	3 876	3 870	3 860
K fert. consumption/demand	290	320	340	370	410	430
Potential K <sub>2</sub> O balance	3 090	3 024	3 420	3 506	3 460	3 430
<b>South Asia</b>						
Potash capacity	0	0	0	0	0	0
Potash supply	0	0	0	0	0	0
Industrial and other demand	120	135	142	154	160	166
Available for fertilizer	-120	-135	-142	-154	-160	-166
K fert. consumption/demand	3 818	4 112	4 327	4 536	4 745	4 954
Potential K <sub>2</sub> O balance	-3 937	-4 247	-4 469	-4 690	-4 905	-5 120
<b>East Asia</b>						
Potash capacity	3 227	3 327	3 667	4 395	4 605	4 855
Potash supply	2 762	2 807	3 137	3 800	3 838	4 033
Industrial and other demand	1 103	1 356	1 458	1 552	1 615	1 678
Available for fertilizer	1 658	1 451	1 680	2 248	2 223	2 355
K fert. consumption/demand	7 090	8 800	9 690	10 135	10 610	10 940
Potential K <sub>2</sub> O balance	-5 432	-7 349	-8 010	-7 887	-8 387	-8 585
<b>EUROPE</b>						
Potash capacity	17 660	17 905	17 957	18 857	20 632	20 782
Potash supply	16 027	16 280	16 350	17 068	17 555	18 304
Industrial and other demand	443	534	569	579	580	590
Available for fertilizer	15 584	15 747	15 782	16 488	16 976	17 714
K fert. consumption/demand	3 617	3 991	4 132	4 295	4 455	4 668
Potential K <sub>2</sub> O balance	11 967	11 756	11 650	12 194	12 520	13 046
<b>Central Europe</b>						
Potash capacity	0	0	0	0	0	0
Potash supply	0	0	0	0	0	0
Industrial and other demand	39	44	48	49	50	52
Available for fertilizer	-39	-44	-48	-49	-50	-52
K fert. consumption/demand	630	730	766	804	844	900
Potential K <sub>2</sub> O balance	-669	-774	-814	-853	-894	-952
<b>West Europe</b>						
Potash capacity	5 590	5 590	5 590	5 590	5 590	5 590
Potash supply	4 624	4 651	4 651	4 651	4 651	4 651
Industrial and other demand	339	418	443	446	438	441
Available for fertilizer	4 286	4 233	4 208	4 205	4 213	4 210
K fert. consumption/demand	1 784	1 980	2 050	2 120	2 200	2 300
Potential K <sub>2</sub> O balance	2 502	2 253	2 158	2 085	2 013	1 910
<b>East Europe and Central Asia</b>						
Potash capacity	12 070	12 315	12 367	13 267	15 042	15 192
Potash supply	11 402	11 629	11 699	12 417	12 904	13 653
Industrial and other demand	64	72	78	85	91	98
Available for fertilizer	11 338	11 558	11 621	12 332	12 813	13 555
K fert. consumption/demand	1 203	1 281	1 316	1 371	1 411	1 468
Potential K <sub>2</sub> O balance	10 135	10 277	10 306	10 961	11 402	12 087

	2009	2010	2011	2012	2013	2014
<b>OCEANIA</b>						
Potash capacity	0	0	0	0	0	0
Potash supply	0	0	0	0	0	0
Industrial and other demand	5	6	6	6	7	7
Available for fertilizer	-5	-6	-6	-6	-7	-7
K fert. consumption/demand	254	279	300	321	332	335
Potential K <sub>2</sub> O balance	-259	-285	-306	-327	-339	-342

## Annex 8

### Regional classification of countries and territories

#### AFRICA

Algeria  
Angola  
Burkina Faso  
Burundi  
Cameroon  
Congo, Dem. Rep.  
Congo, Rep. of  
Côte d'Ivoire  
Egypt  
Ethiopia  
Gabon  
Gambia  
Ghana  
Guinea  
Kenya  
Libya, Arab Jam.  
Madagascar  
Malawi  
Mali  
Mauritius  
Morocco  
Namibia  
Niger  
Nigeria  
Rwanda  
Senegal  
Seychelles  
South Africa  
Sudan  
Tanzania, United Rep of  
Togo  
Tunisia  
Uganda  
Zambia  
Zimbabwe

#### AMERICA

Latin America  
Central America  
& Caribbean  
Antigua and Barbuda  
Barbados  
Belize  
Costa Rica

Cuba  
Dominica  
El Salvador  
Guatemala  
Honduras  
Jamaica  
Mexico  
Nicaragua  
Panama  
St Kitts and Nevis  
Trinidad & Tobago

#### South America

Argentina  
Bolivia  
Brazil  
Chile  
Colombia  
Ecuador  
Guyana  
Paraguay  
Peru  
Suriname  
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, Arab Rep.  
Turkey  
United Arab Emirates  
Yemen

#### EUROPE

#### Central Europe

Albania  
Bosnia and Herzegovina  
Bulgaria  
Croatia  
Czech Republic  
Hungary  
Lithuania  
Macedonia  
Poland  
Romania  
Serbia  
Slovakia  
Slovenia

#### Eastern Europe and Central Asia

Armenia  
Azerbaijan  
Belarus  
Estonia  
Georgia  
Kazakhstan  
Kyrgyzstan  
Latvia  
Moldova, Rep of  
Russian Fed  
Ukraine

#### Western Europe

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

#### OCEANIA

Australia  
Fiji  
French Polynesia  
New Caledonia  
New Zealand  
Papua New Guinea  
Samoa  
Tonga