



International  
Fertilizer Industry  
Association

## Identifying and examining the current challenges and opportunities faced by the fertilizer industry

Luc M. Maene, Director General, IFA



CROP  
WORLD  
2010


## The challenges

## Growing demands on agriculture

..... Food and nutrition security .....

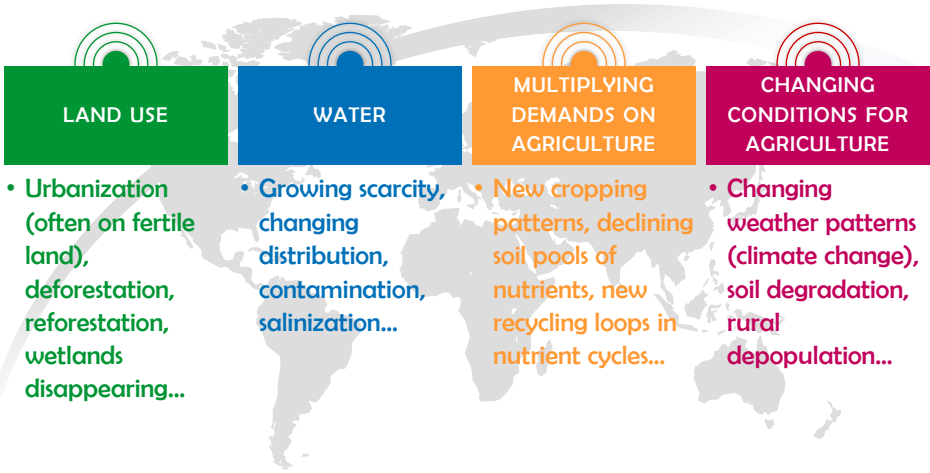
<b>Environment</b>	<b>Food</b> <ul style="list-style-type: none"> <li>Feeding a growing population</li> <li>Ensuring minimal caloric intake</li> <li>Growing preferences for meat</li> <li>Diversifying diets to ensure balanced nutrition</li> </ul>	<b>Feed</b> <ul style="list-style-type: none"> <li>More people require more livestock</li> <li>Meat consumption per person is rising</li> </ul>	<b>Conserving biodiversity</b>
	<b>Fibre and Other Components</b> <ul style="list-style-type: none"> <li>Clothing a growing population</li> <li>Fibres for construction, medicine and other non-clothing purposes</li> <li>Production of chemicals and other industrial inputs</li> <li>Crop-grown pharmaceuticals</li> </ul>	<b>Bioenergy</b> <ul style="list-style-type: none"> <li>Concerns over the longevity of fossil fuel reserves</li> <li>Security and dependence issues</li> <li>Increasing energy demands per person</li> <li>Reducing pollution from current fuels</li> </ul>	

..... Climate change .....




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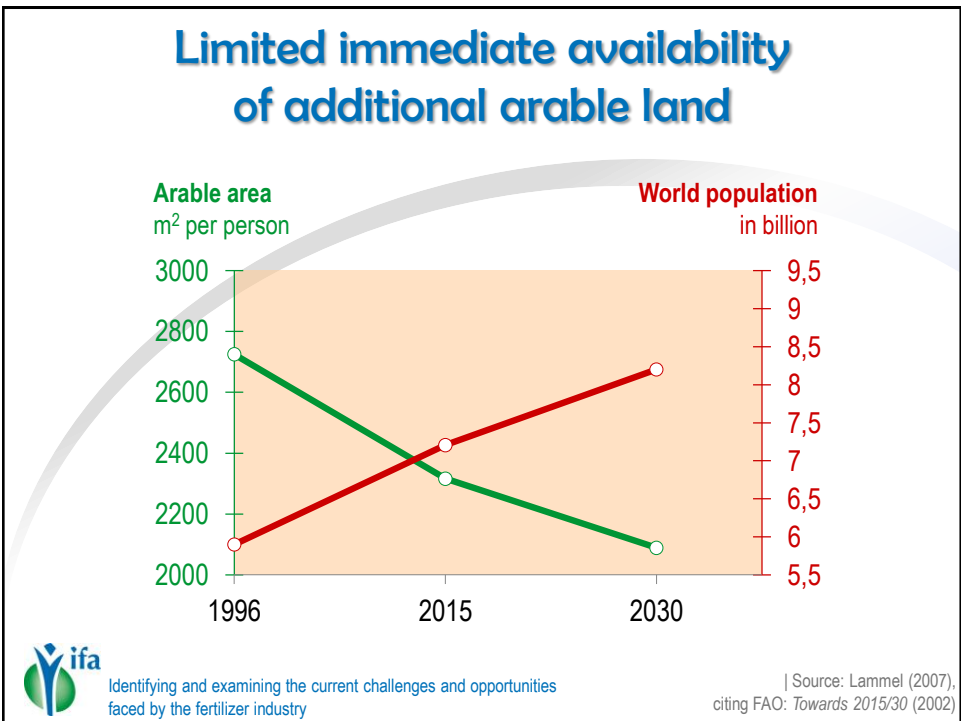
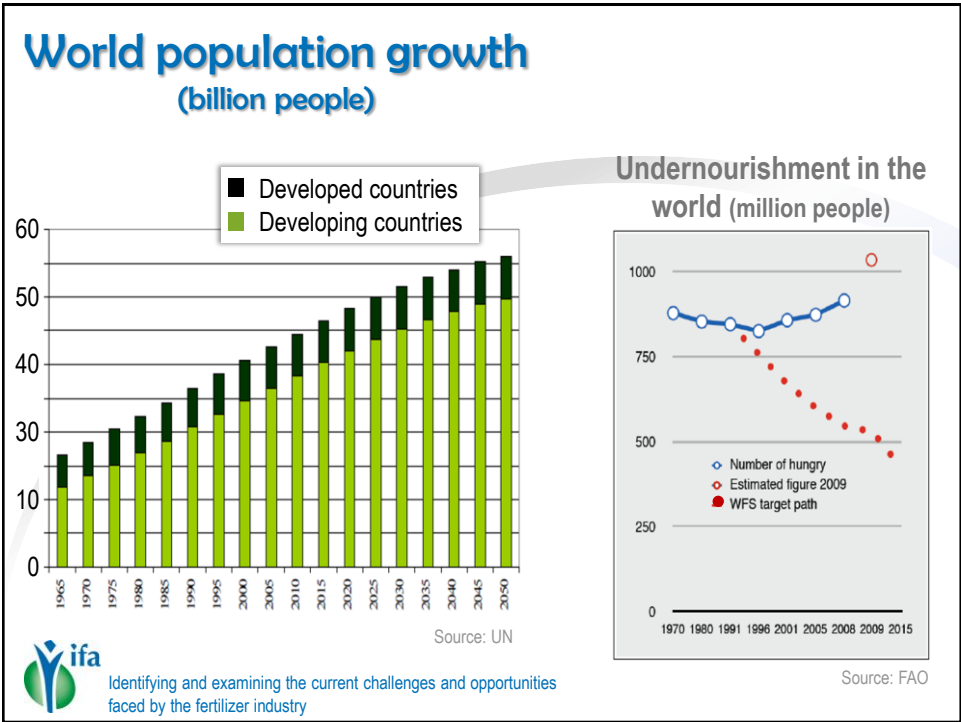
## A moving target



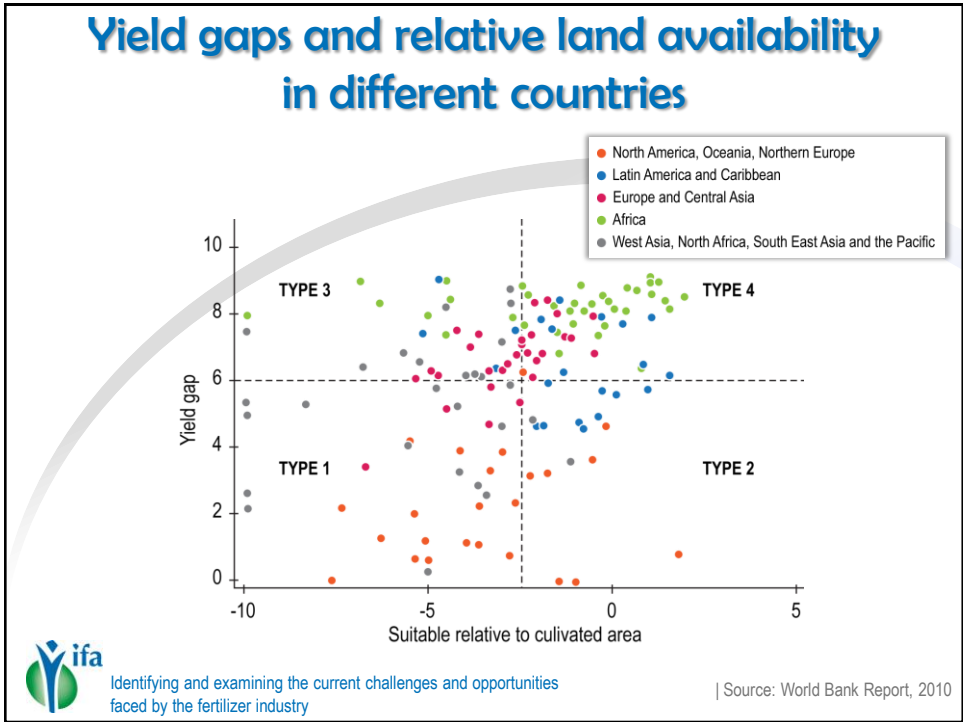
<b>LAND USE</b>	<b>WATER</b>	<b>MULTIPLYING DEMANDS ON AGRICULTURE</b>	<b>CHANGING CONDITIONS FOR AGRICULTURE</b>
<ul style="list-style-type: none"> <li>Urbanization (often on fertile land), deforestation, reforestation, wetlands disappearing...</li> </ul>	<ul style="list-style-type: none"> <li>Growing scarcity, changing distribution, contamination, salinization...</li> </ul>	<ul style="list-style-type: none"> <li>New cropping patterns, declining soil pools of nutrients, new recycling loops in nutrient cycles...</li> </ul>	<ul style="list-style-type: none"> <li>Changing weather patterns (climate change), soil degradation, rural depopulation...</li> </ul>



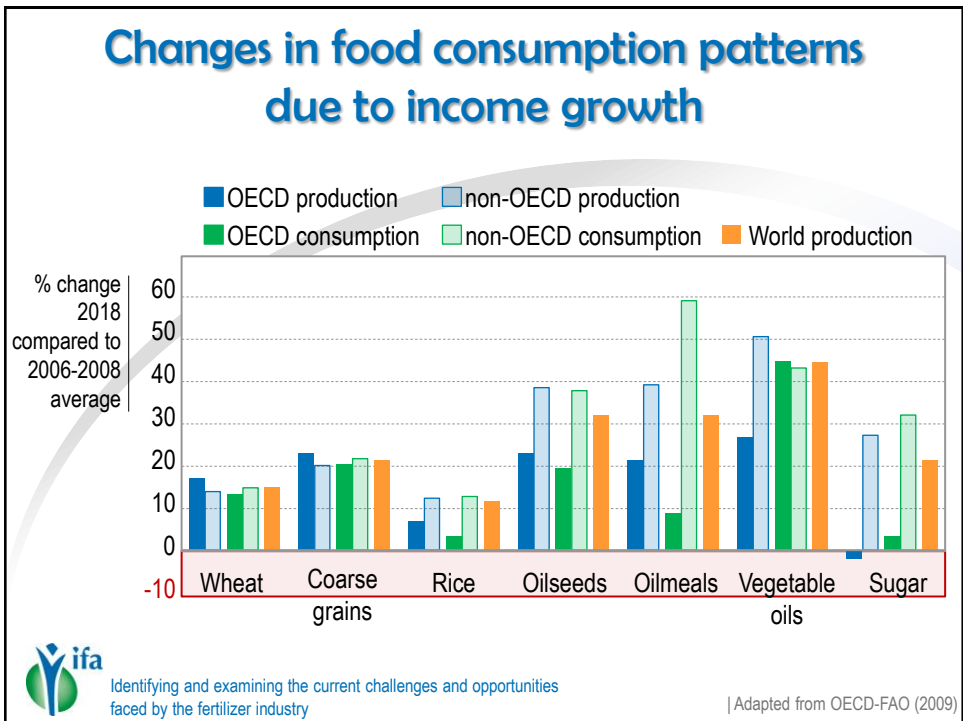
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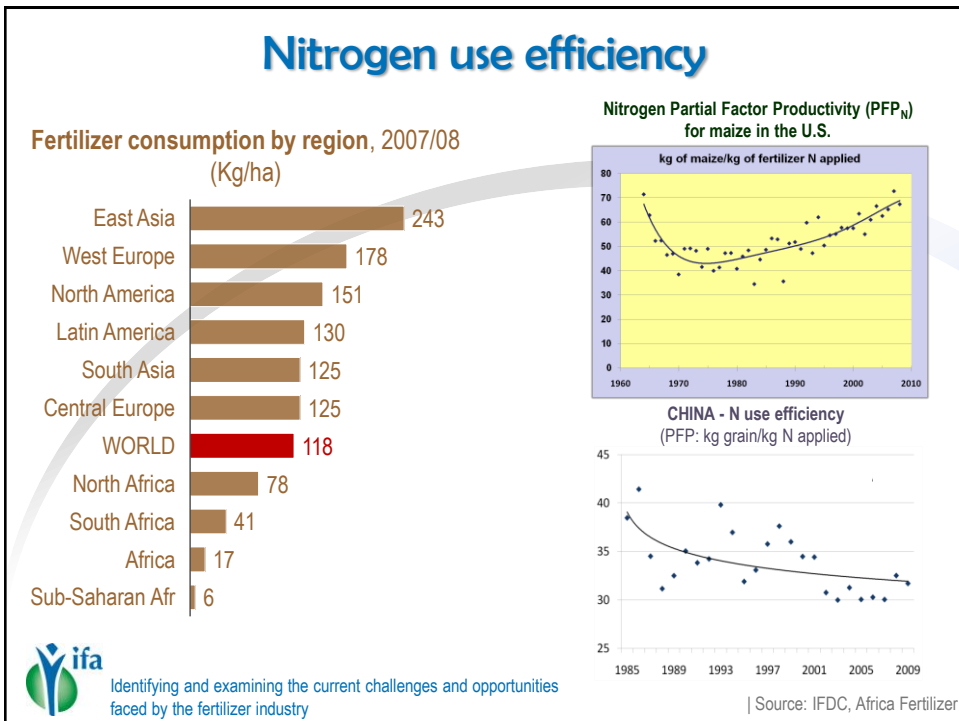
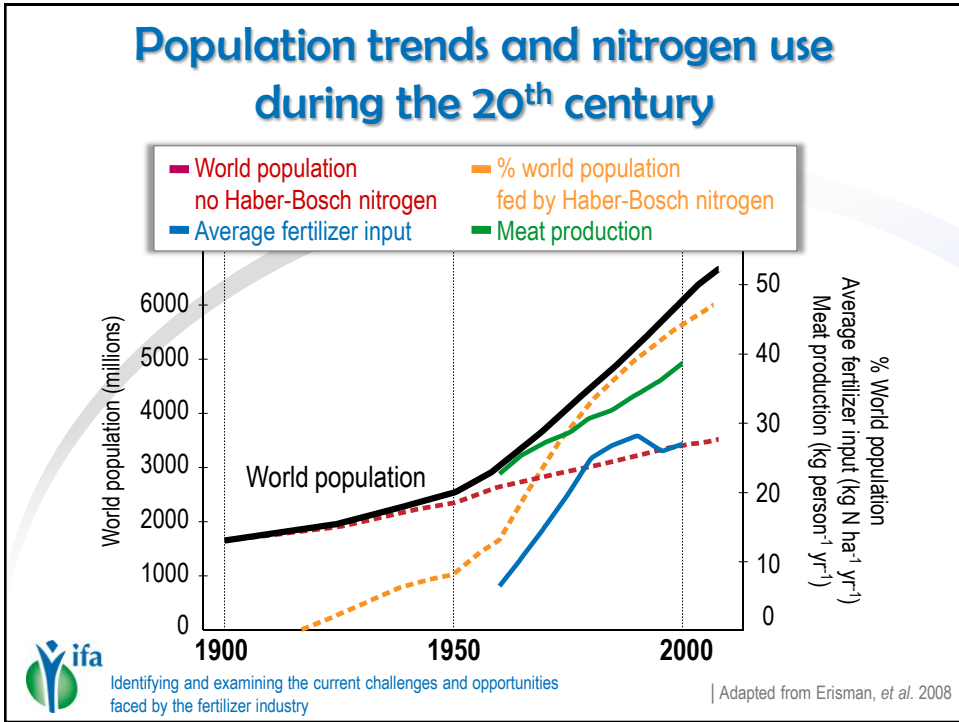


## Yield gaps and relative land availability in different countries

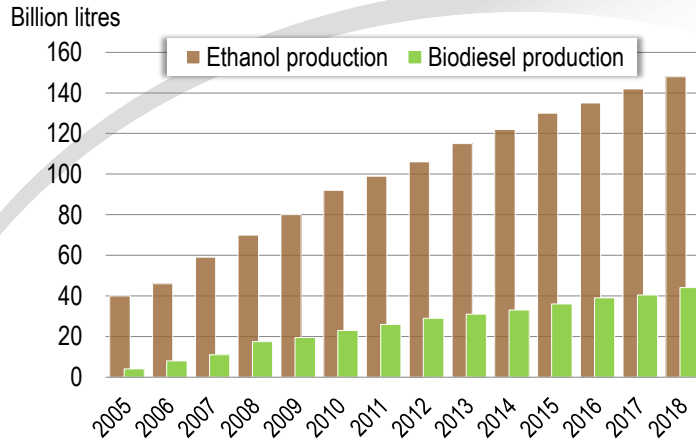


## Changes in food consumption patterns due to income growth





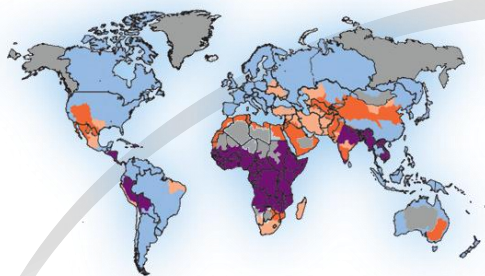
## Renewable energy development *World biofuel production*



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| Source: OECD-FAO

## Areas of physical and economic water scarcity



- Little or no water scarcity
- Physical water scarcity
- Approaching physical water scarcity
- Economic water scarcity
- Not estimated

### ON AVERAGE

- 1,000 litres of water are needed to produce a kg of maize
- 1,500 litres to produce a kg of wheat
- 2,500 litres for a kg of rice
- 4,000 litres for a kg of poultry
- 15,000 litres for a kg of beef
- 3,000 litres per person to produce our daily food intake



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| Source: IWMI

# The opportunities and industry initiatives

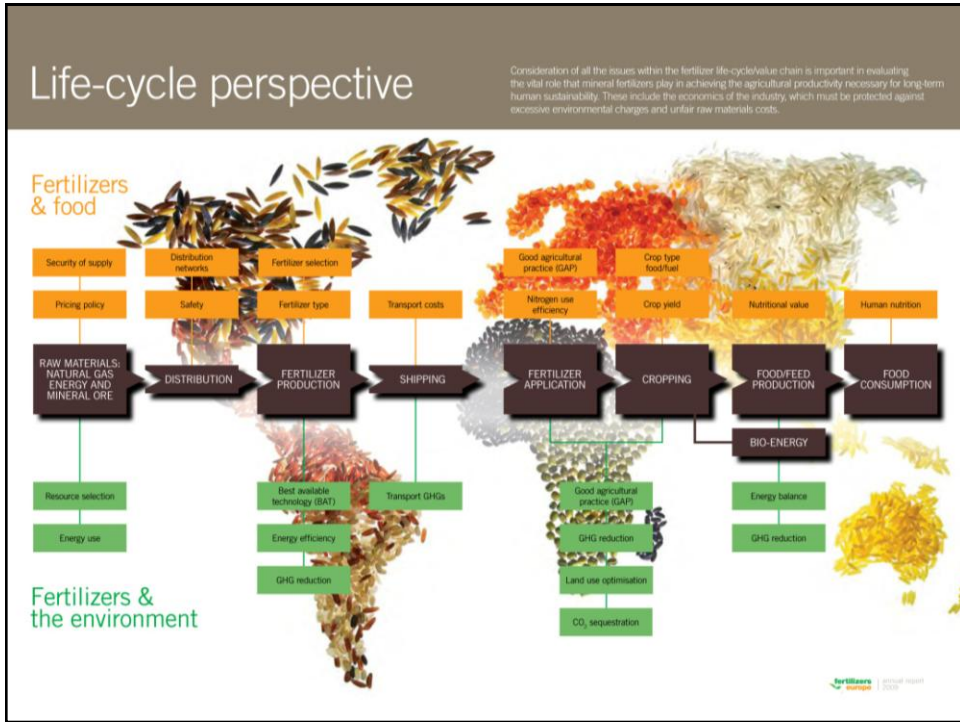
## Opportunities for the fertilizer industry and the farming sector

- ☺ Improve the efficiency of fertilizer manufacturing plants
- ☺ Develop new products of high performance
- ☺ Increase irrigated conditions and water use efficiency
- ☺ Increase cropping intensity and crop diversification
- ☺ Improve the availability and affordability of fertilizers in Africa

*Investment in agriculture must increase so it can play its role as an engine of growth and poverty reduction and act as a longer-term pillar to fight hunger!*



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## IFA initiatives

- ☺ Africa forum
- ☺ Farming First
- ☺ Fertilizer use and human health
- ☺ Effective last-mile delivery
- ☺ Protect&sustain  
*The global fertilizer industry's product stewardship initiative*
- ☺ Task force on climate change
- ☺ Water management initiative

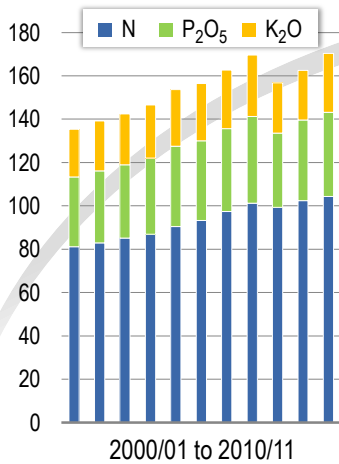
[www.fertilizer.org](http://www.fertilizer.org)

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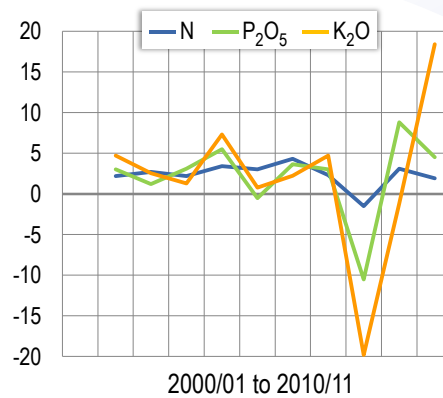
# Fertilizer demand situation and outlook

## Global fertilizer consumption trends

Consumption (Mt nutrients)



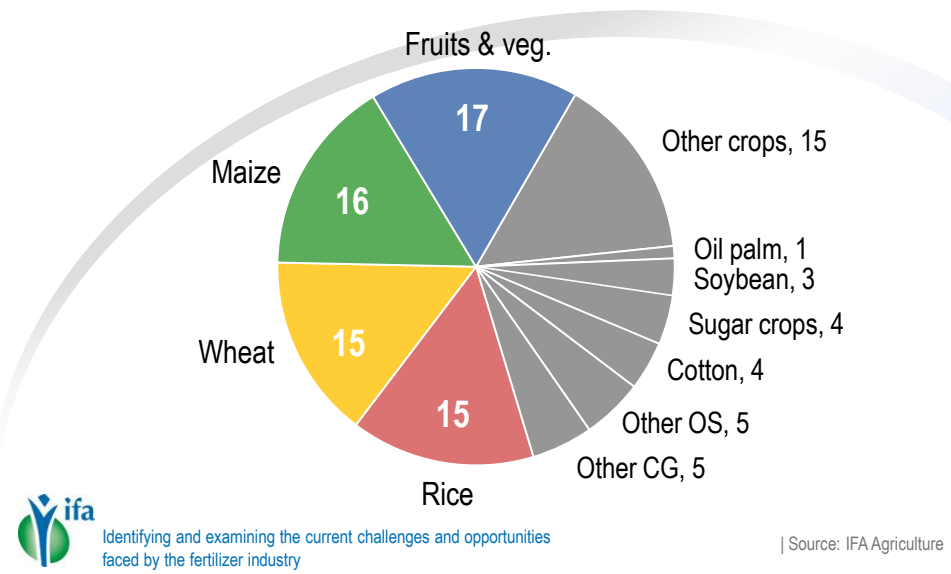
Year to year variation (%)



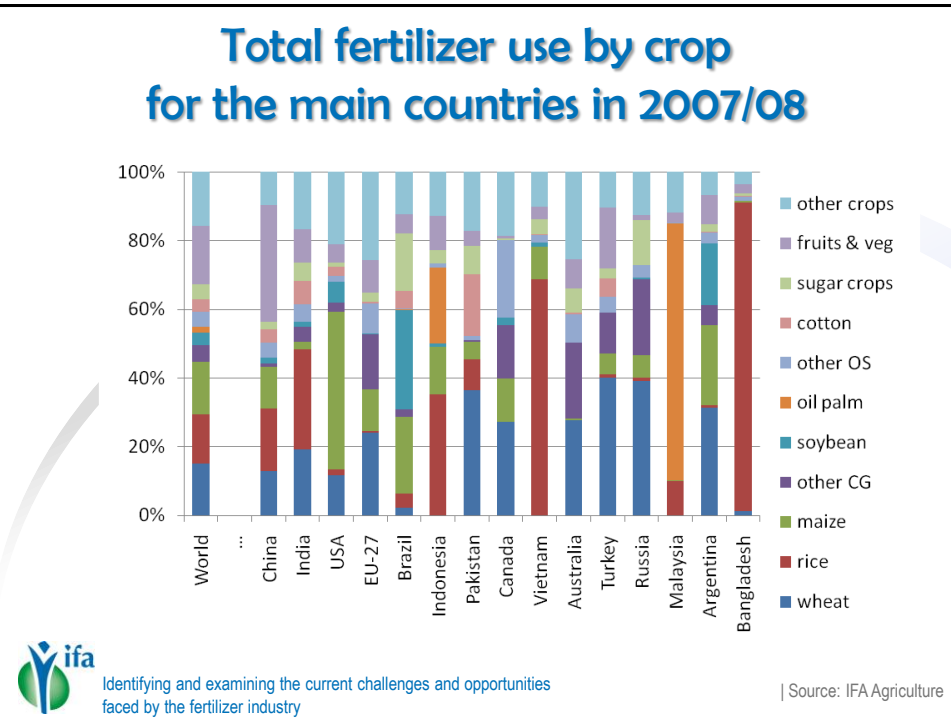
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| Source: IFA Agriculture

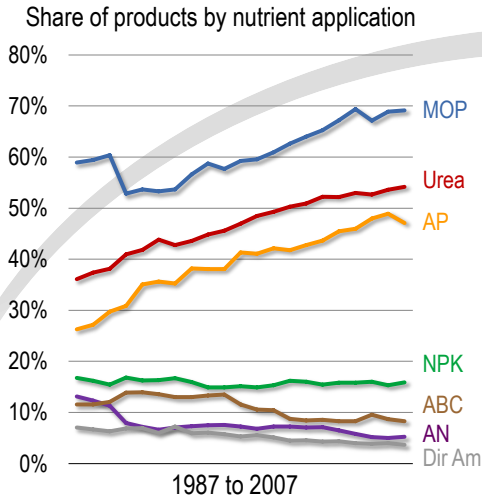
### Total fertilizer use by crop at the global level in 2006/07 (%)



### Total fertilizer use by crop for the main countries in 2007/08



## Insights: evolution of fertilizer products



- Trend toward high-analysis products
- Safety and security concerns
- Displacement of ABC, AN, FMP
- Growth for UAN, AS
- Demand recovery for SSP
- Further growth for NPKs on account of balanced fertilization and NBS-scheme in India, among others



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| Source: IFA Agriculture

## Anticipated impact of the driving forces on world fertilizer demand

	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
Population growth	+++	++	++
Food security	+++	++	++
Food diversification	+++	++	+++
New land cultivation	++	+++	+++
Biofuels *	++	+	+++
Nutrient use efficiency *	---	-	-
Nutrient recycling *	-	---	---

\* Strongly influenced by technological developments and regulations



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## Global P demand *Medium-term outlook*

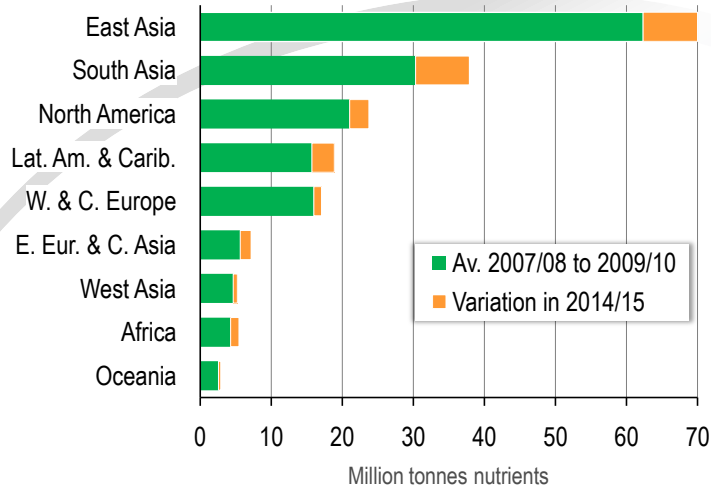
	Avg. 2007/08 to 2009/10	2014/15 (f)	Change (p.a.)
N	101.0	112.1	1.8%
P <sub>2</sub> O <sub>5</sub>	36.6	44.0	3.1%
K <sub>2</sub> O	25.0	32.2	4.3%
Total	162.7	188.3	2.5%



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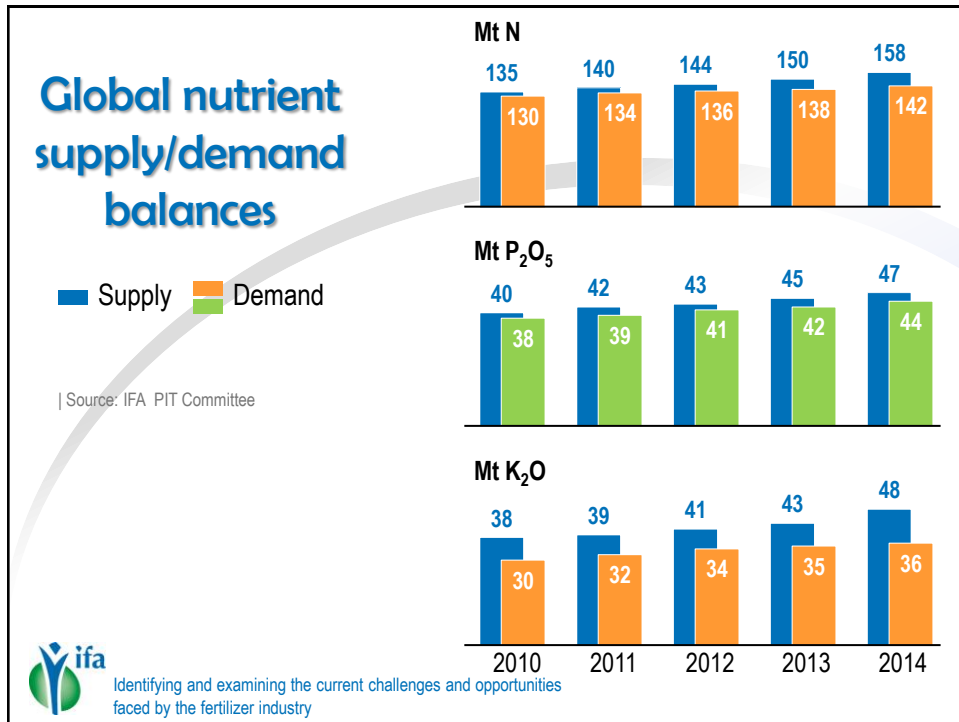
| Source: IFA

## Regional fertilizer consumption *Medium-term outlook*



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| Source: IFA Agriculture



## Beyond the factory gate...

- Greater investment in agriculture
- More effective development aid
- Reform in trade and domestic policies

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## A BETTER, MORE SECURE FUTURE...



...a new, efficient, dynamic and competitive agricultural sector will unlock hope for millions of children!



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| Source: Bationo, 2009