IFA Medium-Term Fertilizer Outlook 2026-2030

Summary report and background on Strait of Hormuz disruption

6th May 2026

Introduction

- This report provides updated analysis on the impact of disruption in the Strait of Hormuz on global fertilizer markets.
- It also presents forecast scenarios to illustrate possible severity of supply impacts, and the resulting impact of worsening affordability on fertilizer demand in the next five years. We note the significant uncertainty in how long the current disruption will continue, how quickly markets will return to normal after vessel flows resume, and the downstream impact on fertilizer application in 2026 and beyond.
- Note: Annual periods denoted by two years, e.g. 2025-26, refer to fertilizer years which comprise a mix of 12-month periods that align to local crop seasonality. More information on annual definitions can be found on www.ifastat.org.

Contents:

Situation overview

- Disruption in the Strait of Hormuz represents a material risk to global fertilizer markets because it affects both finished fertilizers and the energy and raw materials required to produce them. Fertilizers are globally traded commodities, and the Middle East plays a central role in supplying energy-derived fertilizers to international markets.

- The risk is amplified because fertilizer supply is now directly exposed to two trade chokepoints under stress: the Strait of Hormuz and the Red Sea. This dual exposure impacts the whole market, from producers, importers and shipping markets through to distributors and farmers. Urea is the most exposed finished product, while ammonia and sulfur are also exported in significant quantities, supplying raw materials for downstream production elsewhere.

- Beyond physical fertilizer flows, the Strait is also critical to global natural gas and LNG trade, which directly affects nitrogen fertilizer economics. Nitrogen production is highly energy-intensive, with natural gas accounting for a large share of production costs. Disruption to gas flows from the Middle East therefore creates ripple effects well beyond the region. South Asian fertilizer producers, including in India, Pakistan and Bangladesh, rely heavily on imported gas from the Gulf, making them vulnerable to curtailments or higher feedstock costs.

- In Europe, where nitrogen production sits at the marginal end of the global cost curve, higher gas prices linked to geopolitical risk can quickly render domestic production uneconomic. This could tighten regional supply and increase reliance on imports at a time when global trade routes are under strain.

Source: IFA

Key facts and figures

- The Strait of Hormuz is used as a transit route for significant quantities of fertilizers and their raw materials.
- There are multiple layers of impact on fertilizer markets from disruption in the Strait:
  - Significant volumes of nitrogen and phosphate fertilizers are exported from Iran, Qatar, Saudi Arabia, UAE and Bahrain.
    - ***34% of global urea trade***
    - ***18% of global MAP+DAP trade***
  - Significant volumes of ammonia and sulfur – raw materials for downstream nitrogen and phosphate production elsewhere – are also exported from these countries:
    - ***23% of global ammonia trade***
    - ***49% of global sulfur trade***
  - Nitrogen production is energy intensive and natural gas costs typically account for 60-80% of production costs.
  - The affected region supplies large volumes of natural gas (via LNG) to energy importing fertilizer producers in South Asia. Indirect natural gas supply disruptions may affect other producers due to regional security risks, such as Egypt which sources gas from Israeli gas fields:
    - ***20% of global LNG trade***
  - Nitrogen producers elsewhere are also impacted by higher natural gas prices and/or gas curtailments as a result of the disruption to energy markets.

Access to international waters

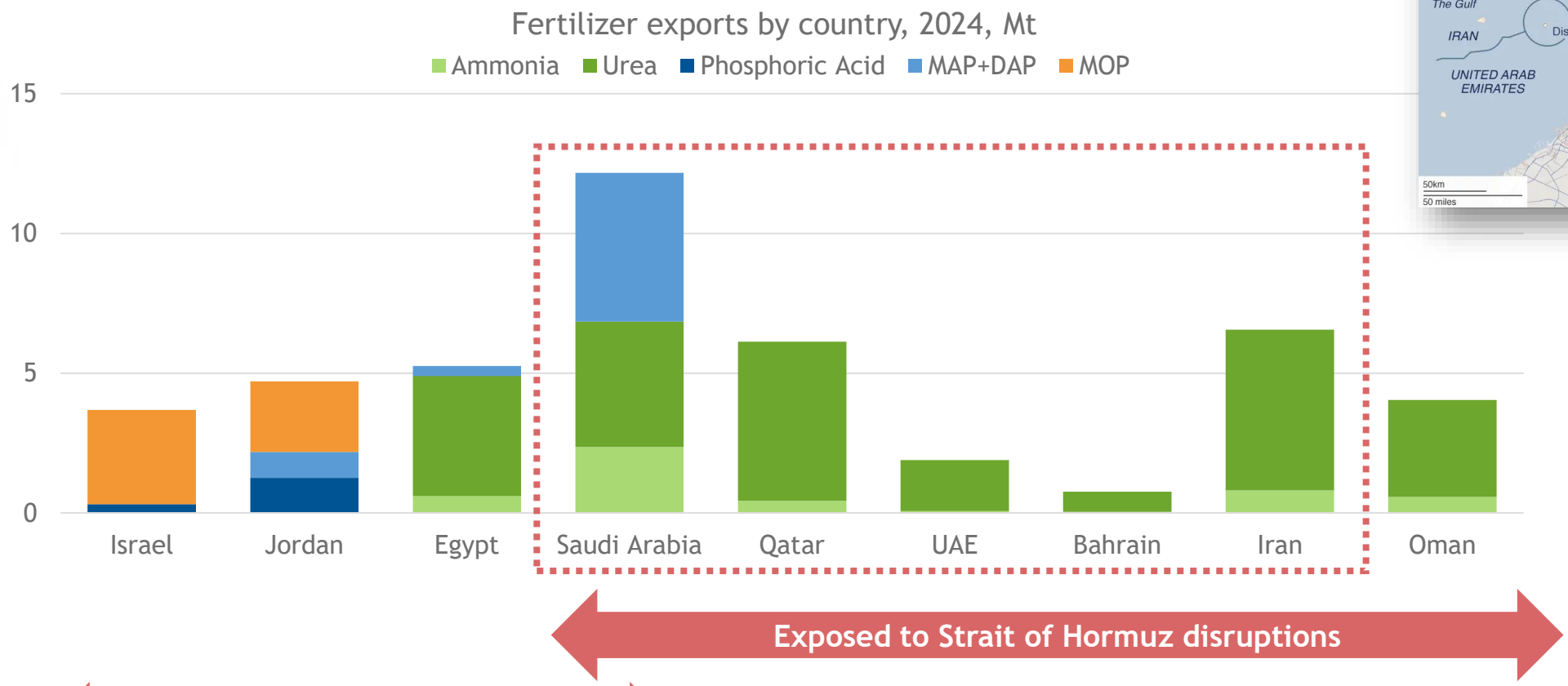
- Qatar, UAE, Bahrain and Kuwait have limited alternative export access to the Gulf of Oman.
- Iran and Saudi Arabia have partial alternative port access, although logistical barriers and other security concerns still exist.
- Oman is clear of the Strait but has experienced port infrastructure damage.

Disruption risk around Strait of Hormuz

Source: IFA, CRU, EIA. * Trade shares for 2024

Contribution of the Middle East to fertilizer supply

Energy	Raw materials	Fertilizers
Local gas feedstock	Ammonia	Urea
LNG exports to Asia	Sulfur	MAP + DAP



ifa INTERNATIONAL FERTILIZER ASSOCIATION
Helping to feed the world sustainably

Source: IFA, BBC

Impact of Strait of Hormuz disruption on fertilizer supply

Producers upstream of the Strait of Hormuz have experienced physical export restrictions and interruptions to raw material supply

South Asian nitrogen producers have seen gas supply restrictions as countries adjust to gas market tightness

European nitrogen supply is exposed to rising natural gas prices, although margins for downstream fertilizers remain positive

North African nitrogen producers are exposed to possible gas reallocation that could reduce export availability

Several governments have implemented or expanded fertilizer export restrictions to support domestic availability: China, Russia, Türkiye, Egypt

ifa INTERNATIONAL FERTILIZER ASSOCIATION
Helping to feed the world sustainably

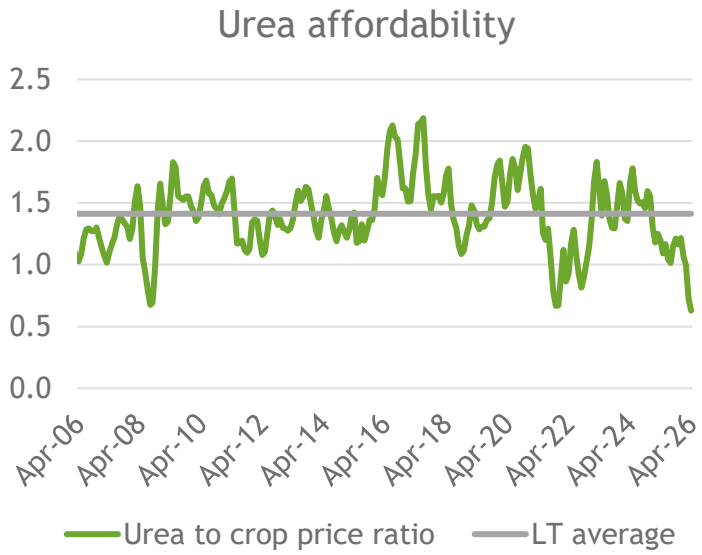
Source: IFA

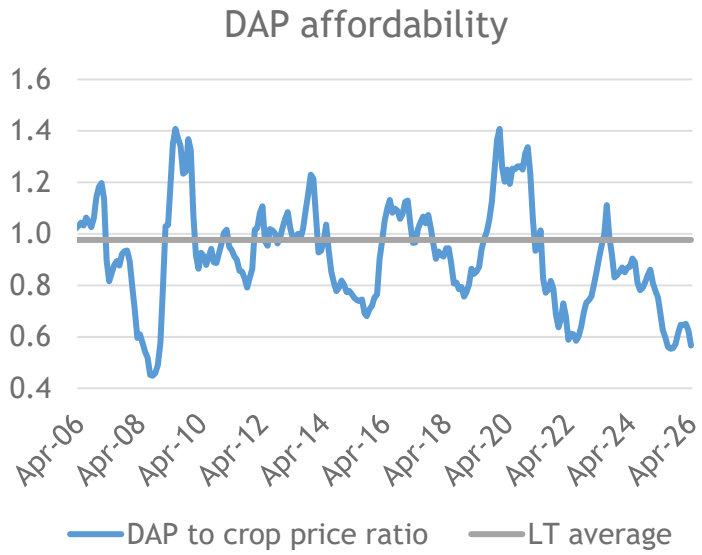
Note: IFA generates maps using Microsoft tools and does not claim a view on international boundaries, which may be subject to unresolved claims by multiple jurisdictions

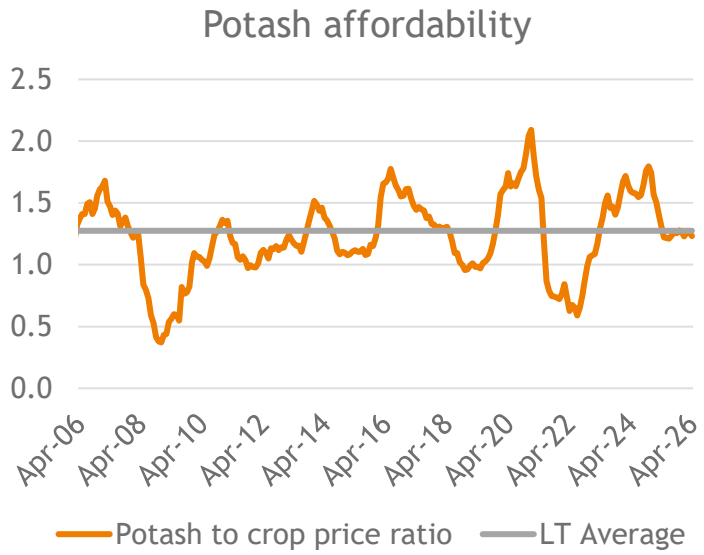
Disruption in the Strait of Hormuz has created an immediate affordability impact

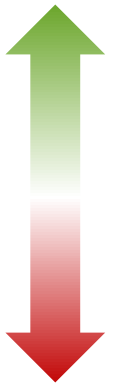
Fertilizer prices  **Crop prices** = **Fertilizer affordability**

Fertilizer affordability, measured as the balance between fertilizer prices and crop prices, is one of the key determinants of use after crop area and yield requirements. When the ratio deteriorates, farmers delay or reduce application of the more price-elastic nutrients first (P and K), with yield risks accumulating over seasons. Nitrogen is the least elastic nutrient to affordability given its crucial role in plant growth. Phosphate and potash use is more sensitive to affordability and recent periods have shown that farmers adjust their use of these nutrients more rapidly in response to high prices. Nitrogen affordability has been significantly impacted by disruption in the Strait of Hormuz, and phosphate affordability has declined from already poor levels. Farmers may prioritize certain nutrients over more affordable inputs such as potash, leading to cross-nutrient impacts even for products not directly exposed to supply disruption.





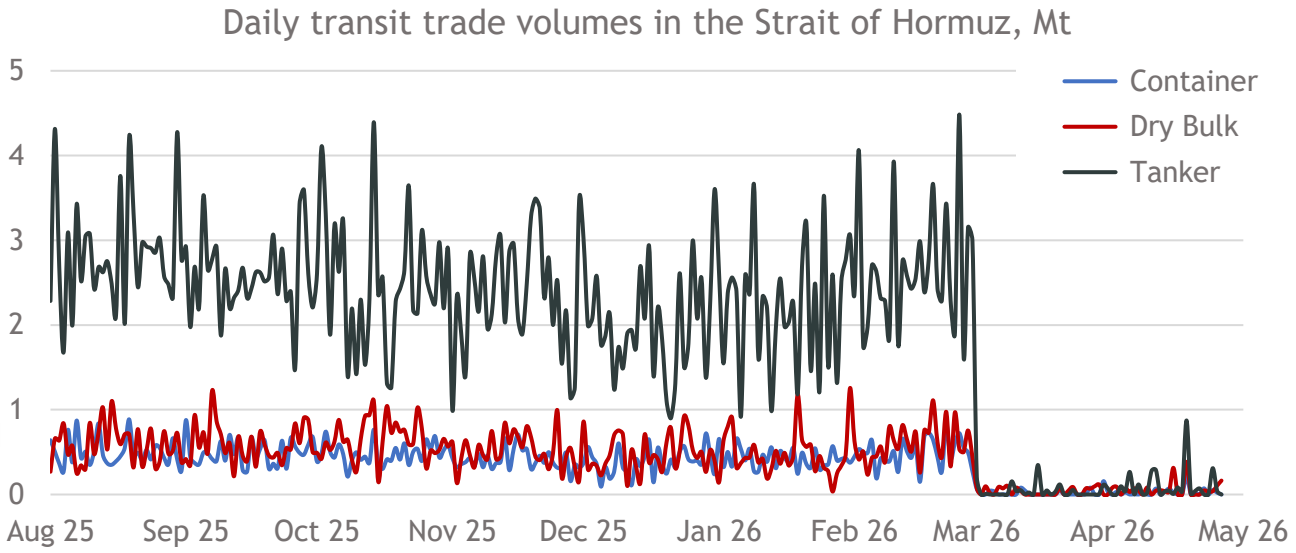




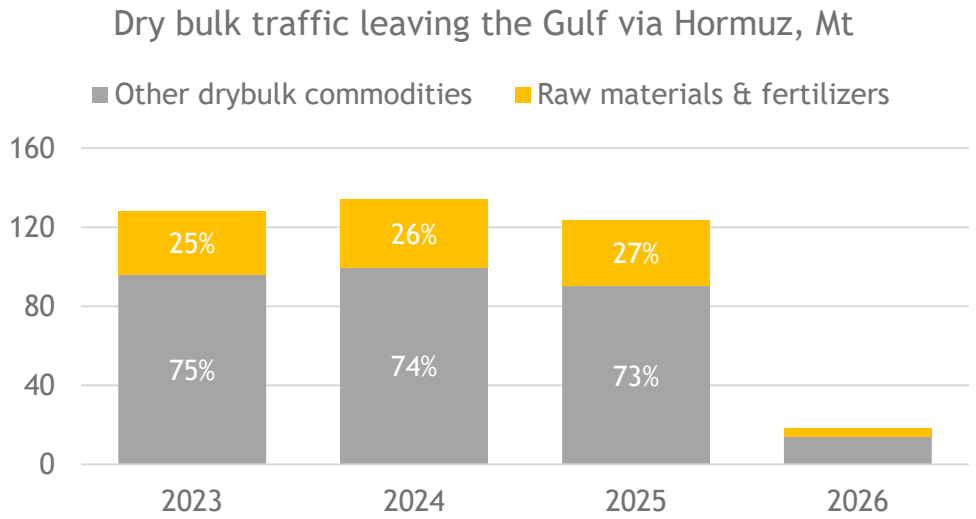
Source: IFA, CRU, World Bank
Corn, soy, wheat prices assessed at US Gulf. Affordability presented as a ratio of crop price vs fertilizer price

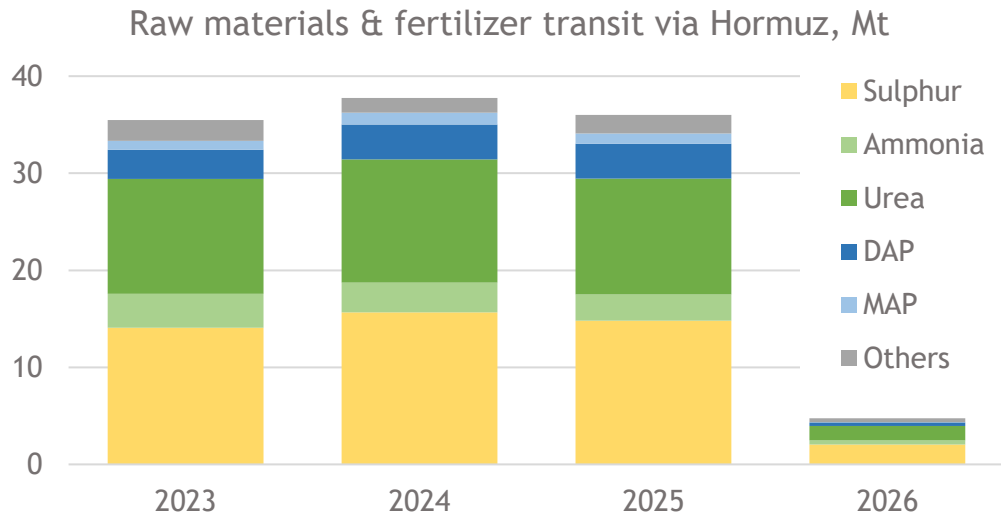
ifa INTERNATIONAL FERTILIZER ASSOCIATION
Helping to feed the world sustainably

Traffic at a standstill in the Strait of Hormuz and a disrupted supply chain



- Since February 28th, maritime traffic through the Strait of Hormuz has almost completely stopped. Daily ship movements for container ships, bulk carriers and tankers have dropped significantly.
- In recent years, fertilizers and raw materials have accounted for over 25% of all dry bulk export volumes from the Gulf.
- The most exposed products in volume terms are sulfur (~15 Mt/year) and urea (~12 Mt/year).
- Ammonia, MAP, DAP, and compound fertilizers are also affected in significant quantities.

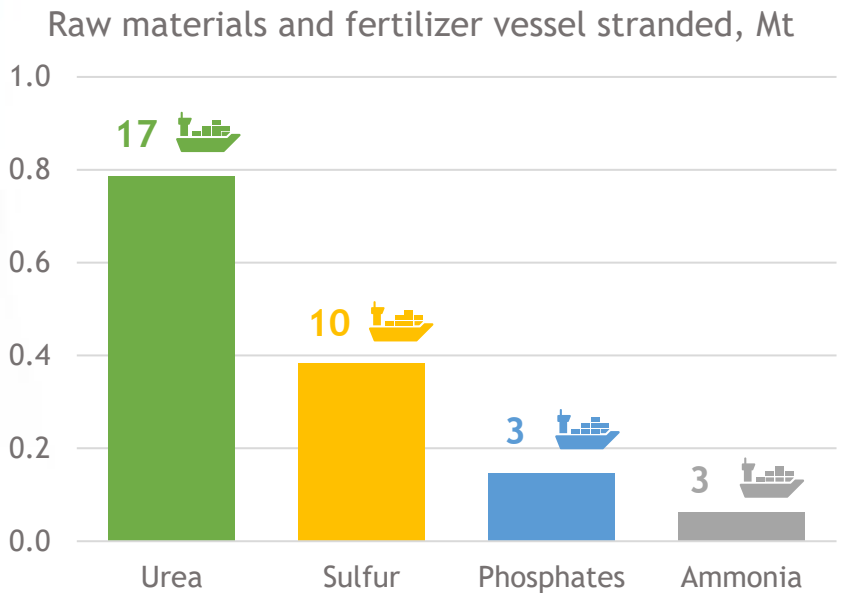




Source: UN Global Platform PortWatch, AXS Marine (Signal Group)

ifa INTERNATIONAL FERTILIZER ASSOCIATION
Helping to feed the world sustainably

Hormuz impact on the supply chains of many countries



- Between late February and the end of April, AIS vessel tracking data implies that only 4 sulfur vessels were able to leave the Gulf through Hormuz, totalling ~ 200 kt, and 2 urea vessels also exited the area, carrying ~ 85 kt.
- Data shows the following volumes and vessels remained loaded and blocked west of Hormuz as of end-April.
  - 800,000 tonnes of urea on 17 ships
  - 400,000 tonnes of sulfur on 10 ships
  - 150,000 tonnes of phosphate fertilizers on 3 ships
  - 60,000 tonnes of ammonia on 3 ships
- Several importing countries are particularly exposed. India is a significant importer of raw materials and finished fertilizers from the region, particularly given reduced Chinese export supply in recent years. Morocco, Indonesia and China are all major importers of sulfur via the Strait, while Brazil, Australia, the US and Thailand are all major importers of finished fertilizers.

Supplies from the Strait of Hormuz by destination in 2025, Mt

	India	Morocco	Indonesia	Brazil	Australia	China	USA	Thailand	Bangla desh	Tanzania	South Africa	Jordan	Djibouti	South Korea
Sulfur	1.0	**3.2**	**3.2**	0.9		2.2	0.1			0.9	0.6	0.9		
Urea	**2.1**			1.4	**2.0**	0.1	1.3	1.3	0.9	0.1	0.3		0.4	0.1
DAP	**2.4**						0.3		0.4	0.1				
Ammonia	1.3	0.3					0.1							0.5
MAP				0.7	0.1		0.2							
Others	0.4		0.1		0.3	0.1	0.1	0.1					0.4	

ifa INTERNATIONAL FERTILIZER ASSOCIATION
Helping to feed the world sustainably

Source: AXS Marine (Signal Group)

Scenarios based on **timeline of disruption** and **affordability impact**

Scenarios for forecasting demand

- A single medium-term forecast is challenging to produce amid high levels of uncertainty and rapidly developing announcements.
- Given the uncertainty in the short-term status of fertilizer flows through the Strait of Hormuz, IFA has developed several scenarios to illustrate the possible outcomes of different levels of disruption.
- The scenarios presented here account for different time periods of disruption and assumed fertilizer affordability impacts, but reality could present differently or outside of these bounds.
- Manual adjustments have been made to scenario outputs to reflect the uneven application of food security policies and government intervention.
- Data is not presented for scenario 4 at this stage of development.

Scenario 0: Q1 2026 underlying conditions view

Scenario 1: Short-term shock
3-month war

Return to normal S/D: 120 days
Impact in 2026, but rapid recovery

Likely "best case" scenario as of early May 2026

Scenario 2: Year-long shock
6-month war

Return to normal S/D: 6-9 months
Deeper impact, extends into 2027

Could include intermittent vessel flows

Scenario 3: Cycle disruption
12-month war

Return to normal S/D: 12-18 months
Multiple season impact, until 2028

Accounts for staggered, longer return to normal S/D

Scenario 4: Structural break
18-36+ month war

No return to normal S/D
Prolonged impact

Likely forced global rebalancing of energy, fertilizer and food cost floors

Source: IFA
* Scenario 4 is shown as an illustrative scenario and not modelled in the following slides

As scenarios play out, more application seasons could be impacted

	Mar 26	Apr 26	May 26	Jun 26	Jul 26	Aug 26	Sep 26	Oct 26	Nov 26	Dec 26	Jan 27	Feb 27	Mar 27	Q2 27	Q3 27	Q4 27	H1 28	H2 28	H1 29
Strait of Hormuz	S1				S2								S3					S4	
Fertilizer exports	S1				S2								S3					S4	
Raw material supply	S1						S2							S3				S4	
Fert. affordability	S1								S2						S3				S4
Energy affordability	S1								S2						S3				S4

Application season *(major crops, first application window)*

	Mar 26	Apr 26	May 26	Jun 26	Jul 26	Aug 26	Sep 26	Oct 26	Nov 26	Dec 26	Jan 27	Feb 27	Mar 27
Brazil	●						●	●	●			●	●
Europe	●	●	●				●	●					●
USA		●	●	●			●	●					
China	●	●		●			●	●					●
India				●	●	●	●		●	●	●		
SE Asia rice			●	●	●	●	●		●	●	●		
SE Asia palm	●	●	●				●	●	●				●

Scenario 1:

- **Several regions had inventories in place before disruption:** Brazil, Europe, USA
- **Some still needed to procure for upcoming needs as of end April 2026:** India, Mexico, Australia, SE Asia, SSA

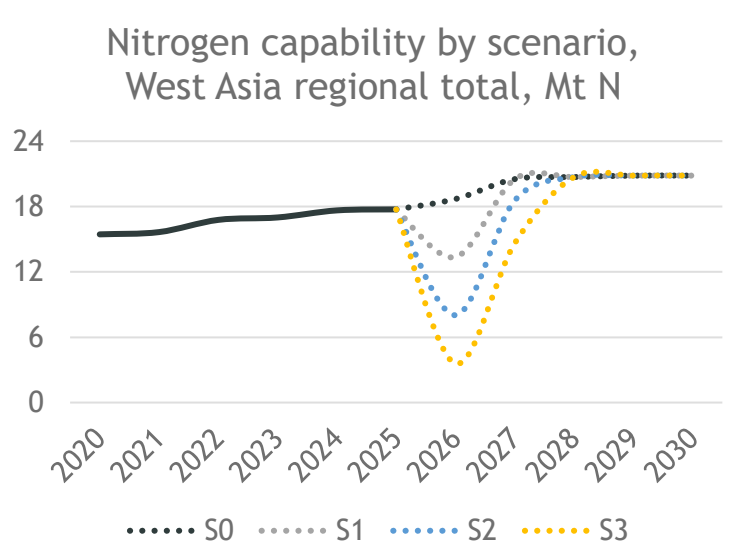
Scenario 2: Import-dependent countries without subsidies exposed to affordability into 2027

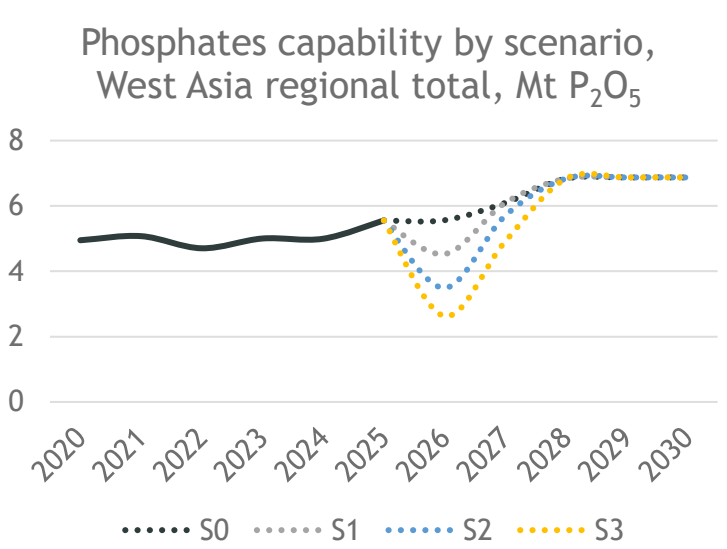
Scenario 3: Affordability pressures continue into 2028 causing multiyear impact

ifa INTERNATIONAL FERTILIZER ASSOCIATION
Helping to feed the world sustainably

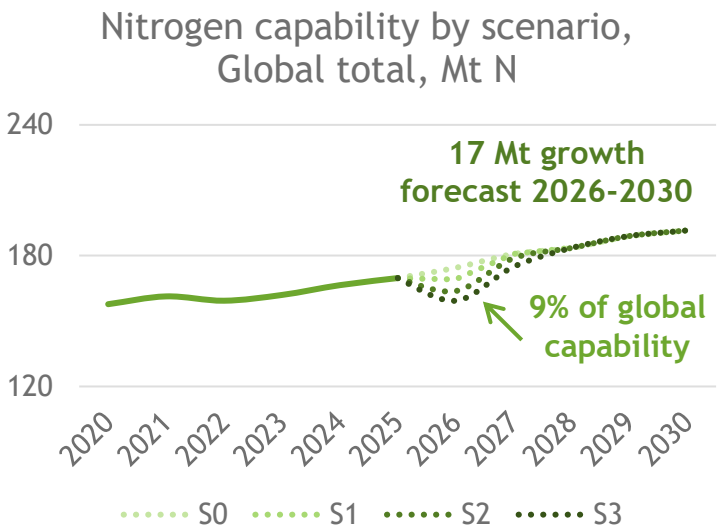
Source: IFA
*Scenario windows are illustrative and may fall outside of the bounds shown

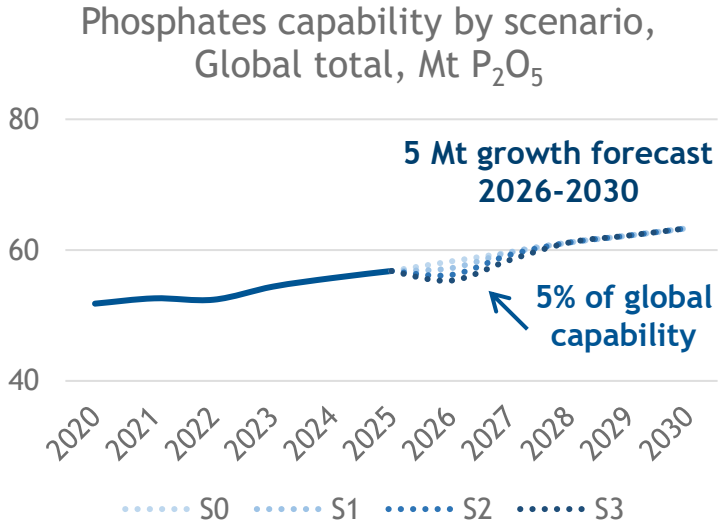
Capability scenarios

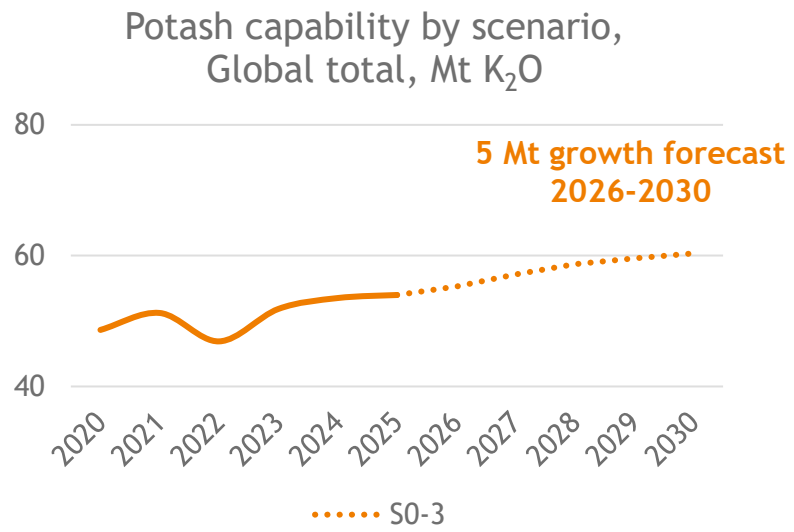




- IFA forecasts capability as a measure of future capacity and typical maximum utilisation rates.
- Given volumes exported via the Strait of Hormuz, nitrogen and phosphates are the most affected product families. Potash is not directly affected but could be impacted by worsening cross-nutrient affordability.
- Raw material exposure is also important to consider. E.g. phosphate capability is forecast to be impacted by up to 3 Mt per year, but affordability impacts could be broader given the contribution of the region to global trade of ammonia and sulfur which are imported as raw materials for phosphate production elsewhere.





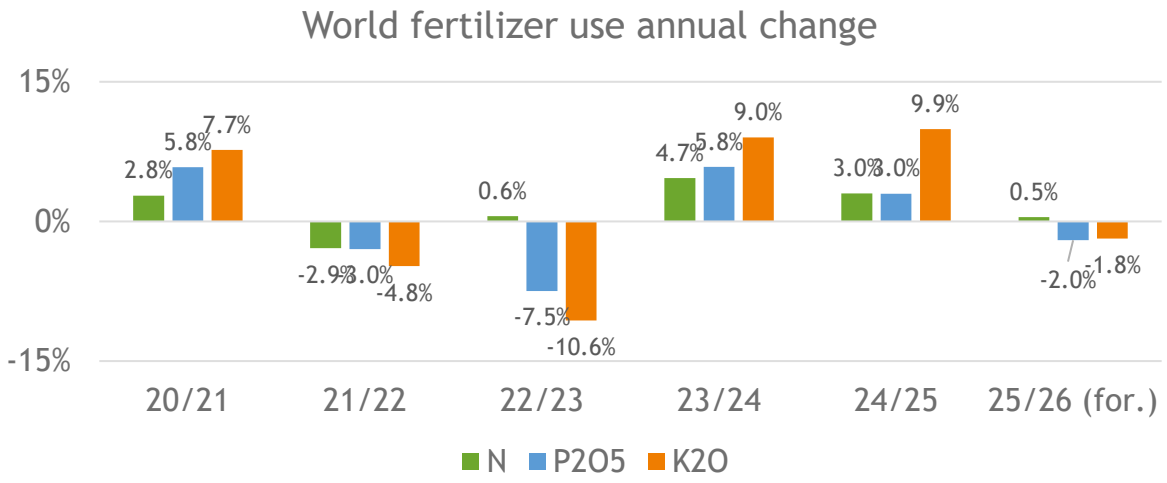


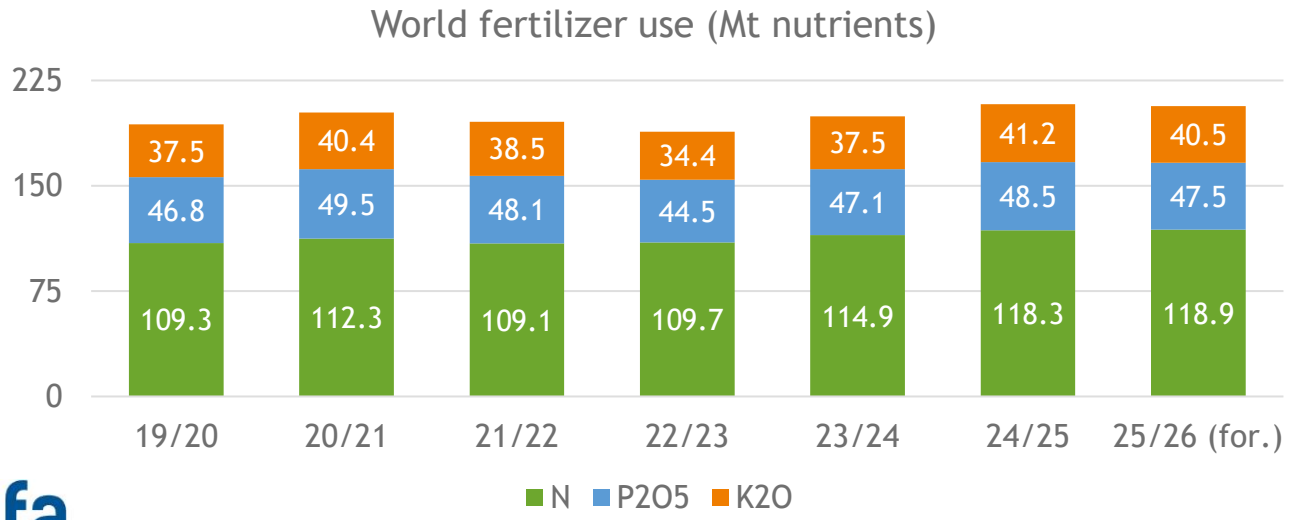
ifa INTERNATIONAL FERTILIZER ASSOCIATION
Helping to feed the world sustainably

Source: IFA

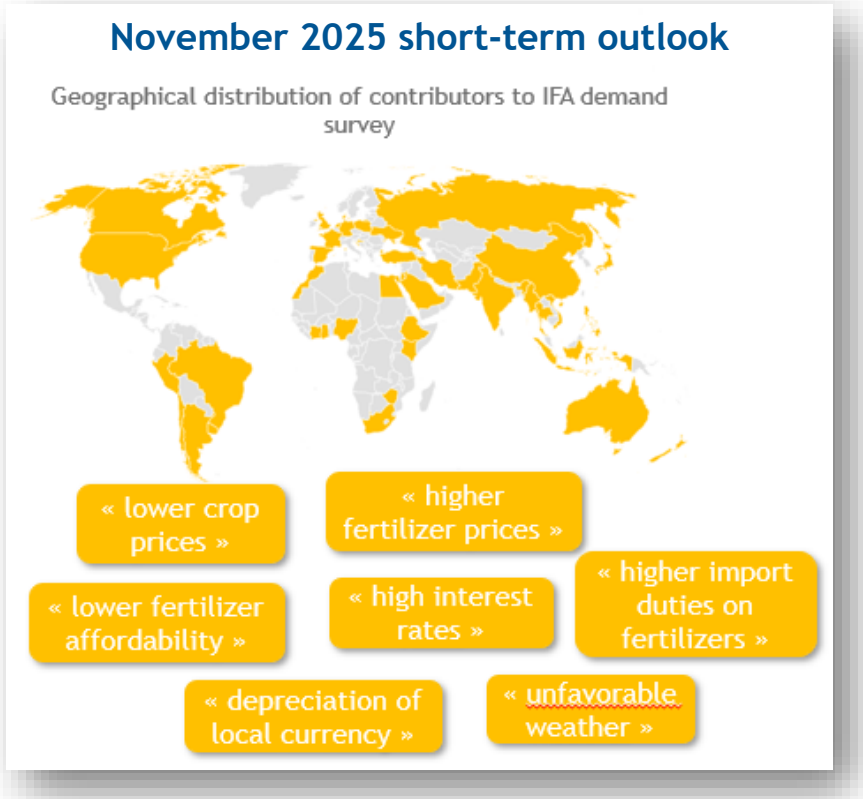
Recent fertilizer use trends: 2020/21-2025/26

The recovery in global fertilizer use began to stall before the start of disruption in the Middle East





Fertilizer consumption is exiting a 4-year cycle marked by a 2-year sharp decline and subsequent 2-year recovery after the war in Ukraine triggered worsening affordability. In late 2025, short-term fertilizer demand expectations had flattened in response to unfavourable economic factors for farmers.



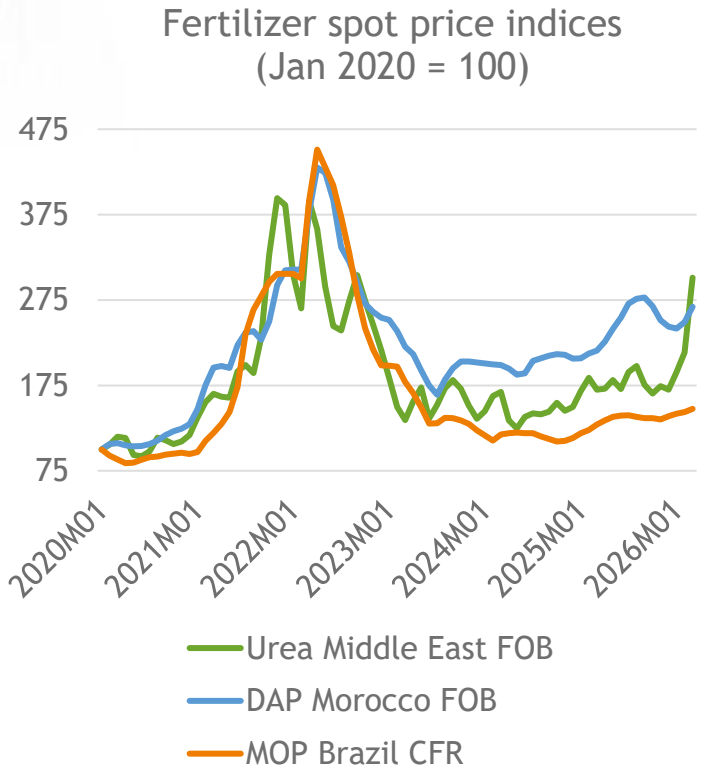
Source: IFA

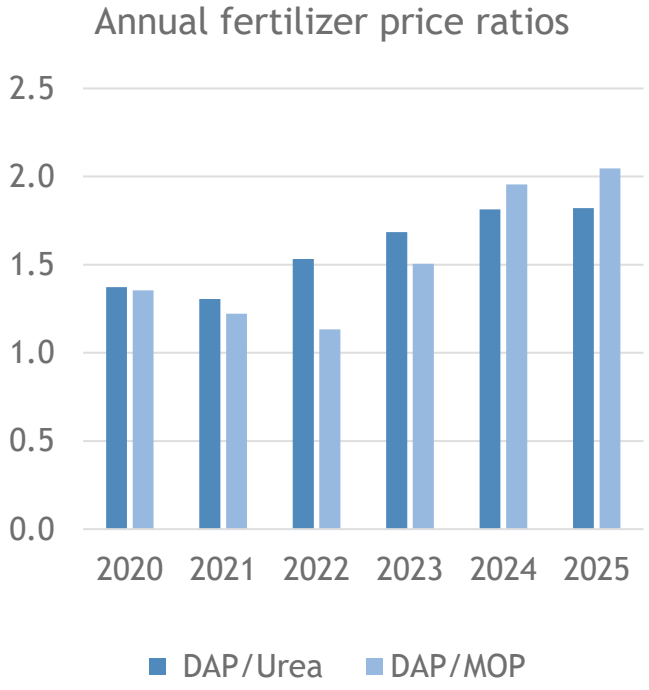
ifa INTERNATIONAL FERTILIZER ASSOCIATION
Helping to feed the world sustainably

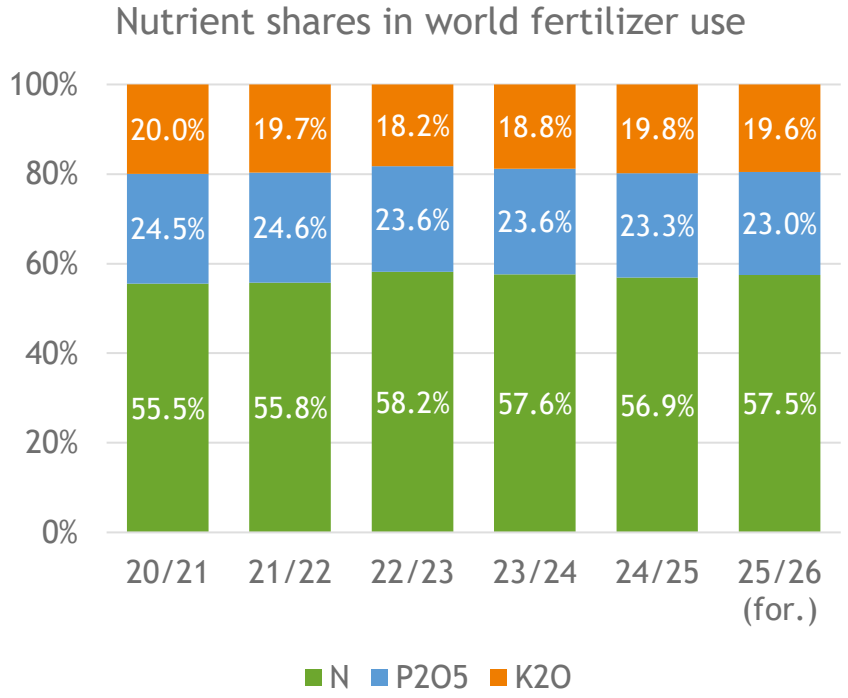
Recent fertilizer use trends: 2020/21-2025/26

In recent years, the relative evolution of nutrient prices has caused erosion in the share of P_2O_5

In recent years, fertilizer prices fell from the highs of 2022 but also decoupled at the same time, with phosphate fertilizers remaining relatively higher than nitrogen and potash. This has resulted in an erosion of the P share of total fertilizer use declining from 24.5% to 23%, mostly to the benefit of nitrogen which now accounts for 57.5% of N + P_2O_5 + K_2O fertilizer use.





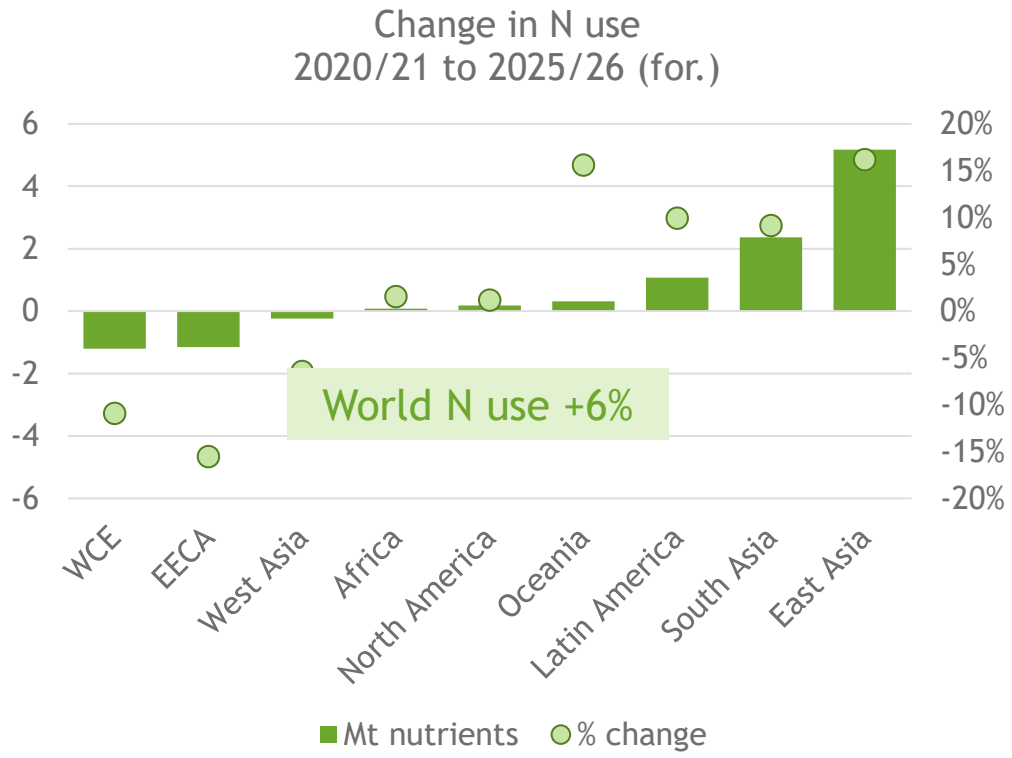


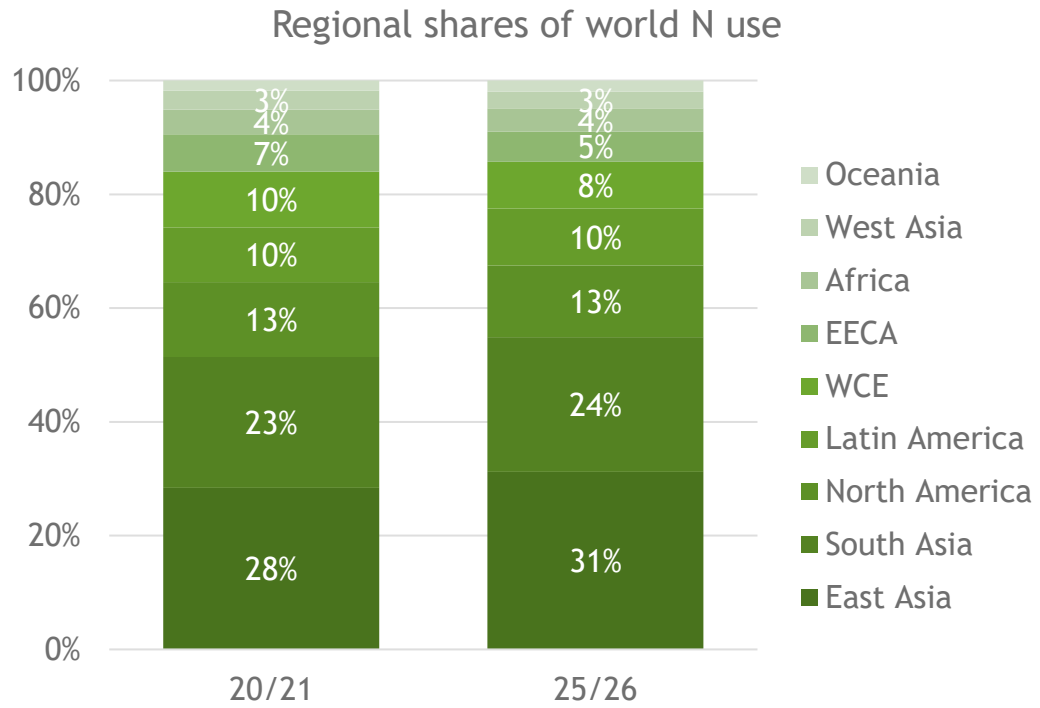
Source: CRU, IFA

Recent fertilizer use trends: 2020/21-2025/26

East and South Asia have been the main drivers of global nitrogen (N) use growth, supported by government policies

Global nitrogen use has grown by 6% in the last five years, primarily driven by growth in Asian markets. The increase has been underpinned by government support policies in the two largest consuming markets – China and India – with food security objectives for their large populations. The Chinese government has periodically restricted urea and phosphate exports each year to keep fertilizer prices affordable to Chinese farmers, while the Indian government offers direct subsidies including a maximum retail price of urea which has been kept constant for over 10 years.





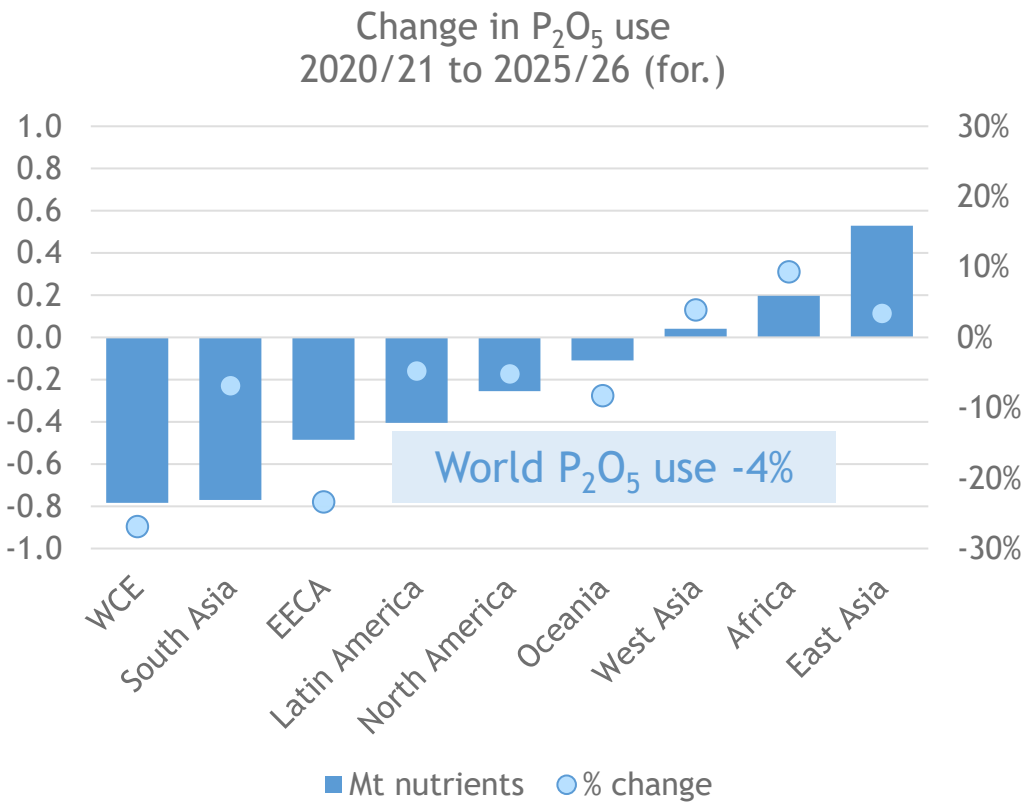
Source: IFA

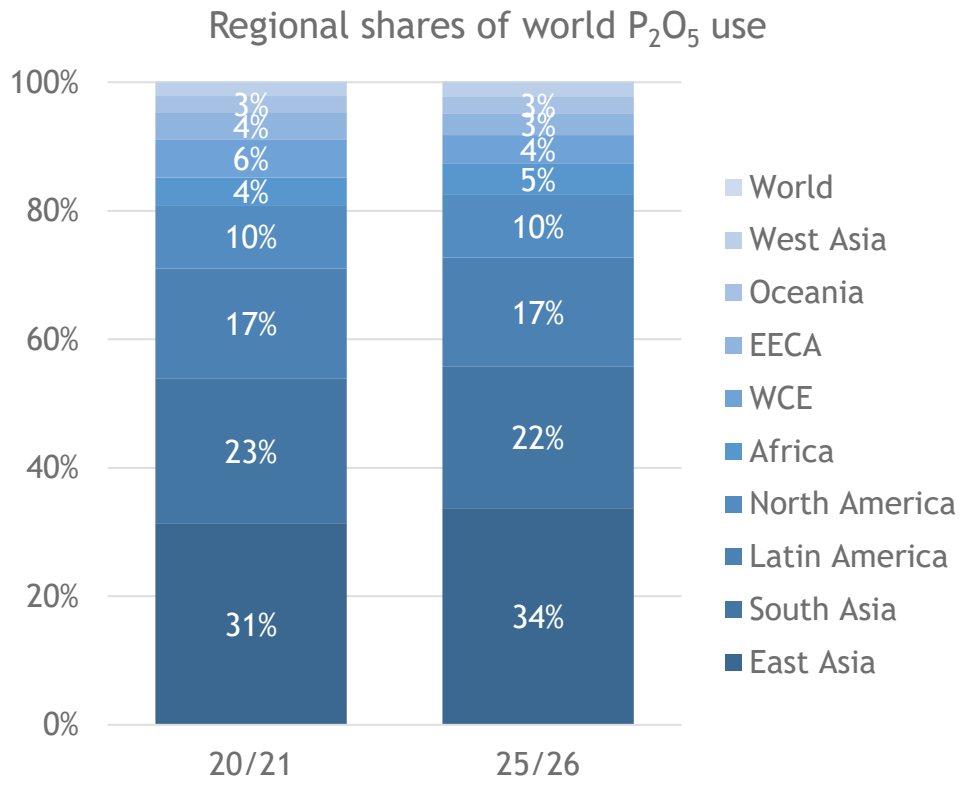
ifa INTERNATIONAL FERTILIZER ASSOCIATION
Helping to feed the world sustainably

Recent fertilizer use trends: 2020/21-2025/26

Affordability constraints have led to reduced P_2O_5 use in many countries

Global use of phosphorous is now 4% lower than in 2020/21, a peak year of consumption. Most regions globally have reduced their P consumption in response to poor affordability, including South Asia which has not returned to its previous peak. The two exceptions are China (which is self-sufficient in P and restricting exports), and Africa (driven by North Africa but growth has also been present in Sub-Saharan Africa).





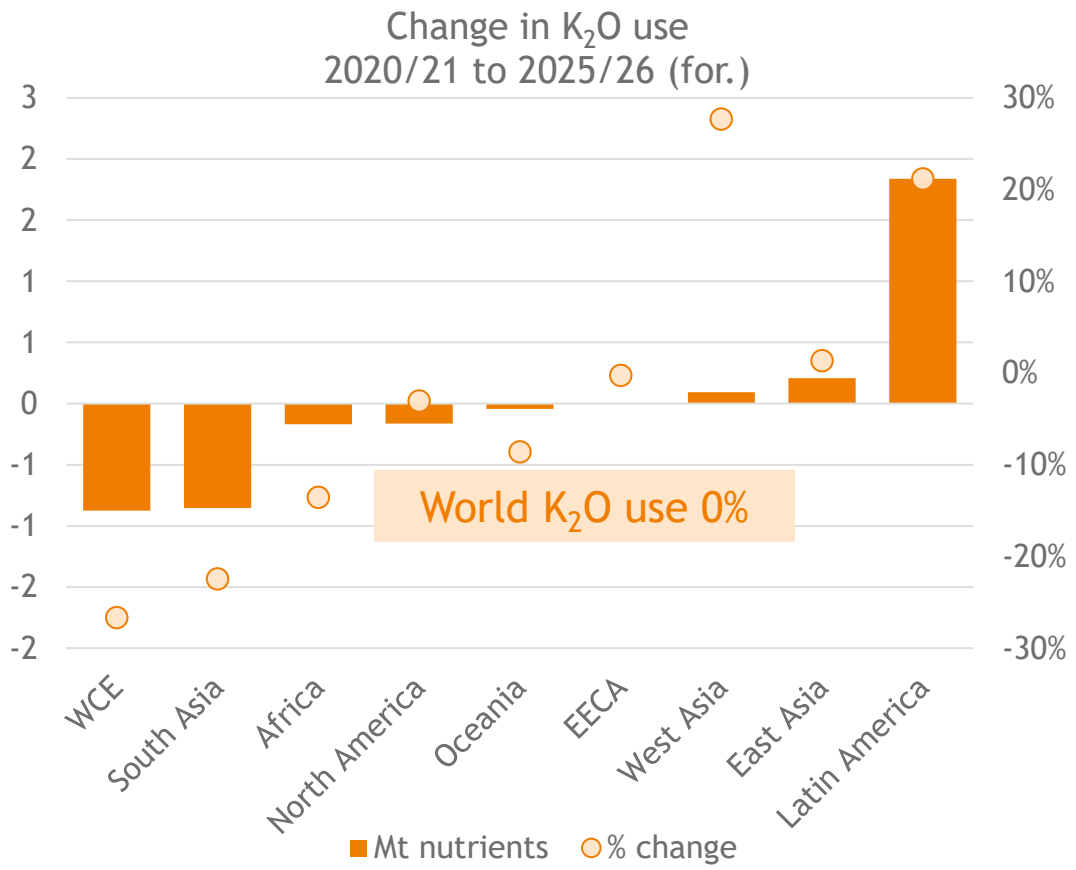
ifa INTERNATIONAL FERTILIZER ASSOCIATION
Helping to feed the world sustainably

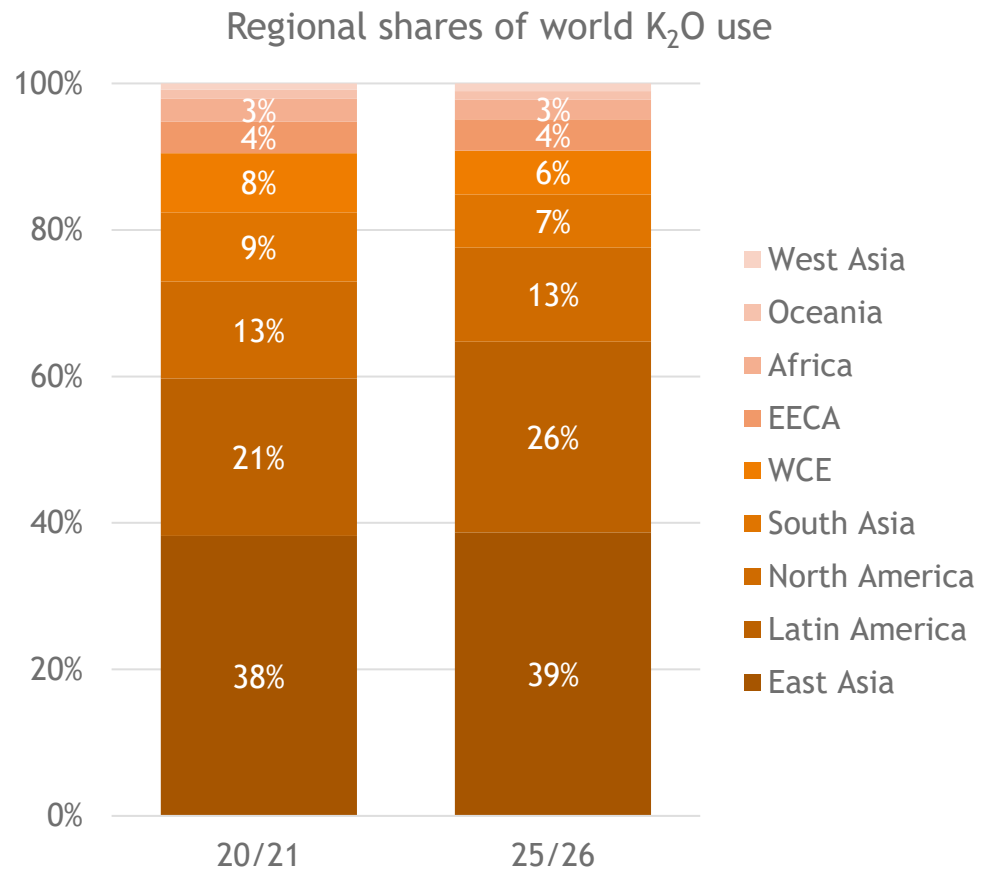
Source: IFA

Recent fertilizer use trends: 2020/21-2025/26

Latin America's growth in K_2O use has offset WCE and South Asia declines

Potassium use has seen an overall positive trend in recent years, and two bumper years of consumption in 2024 and 2025. Demand growth has been driven by Latin America and East Asia, which collectively now account for 65% of global K_2O use.





Source: IFA

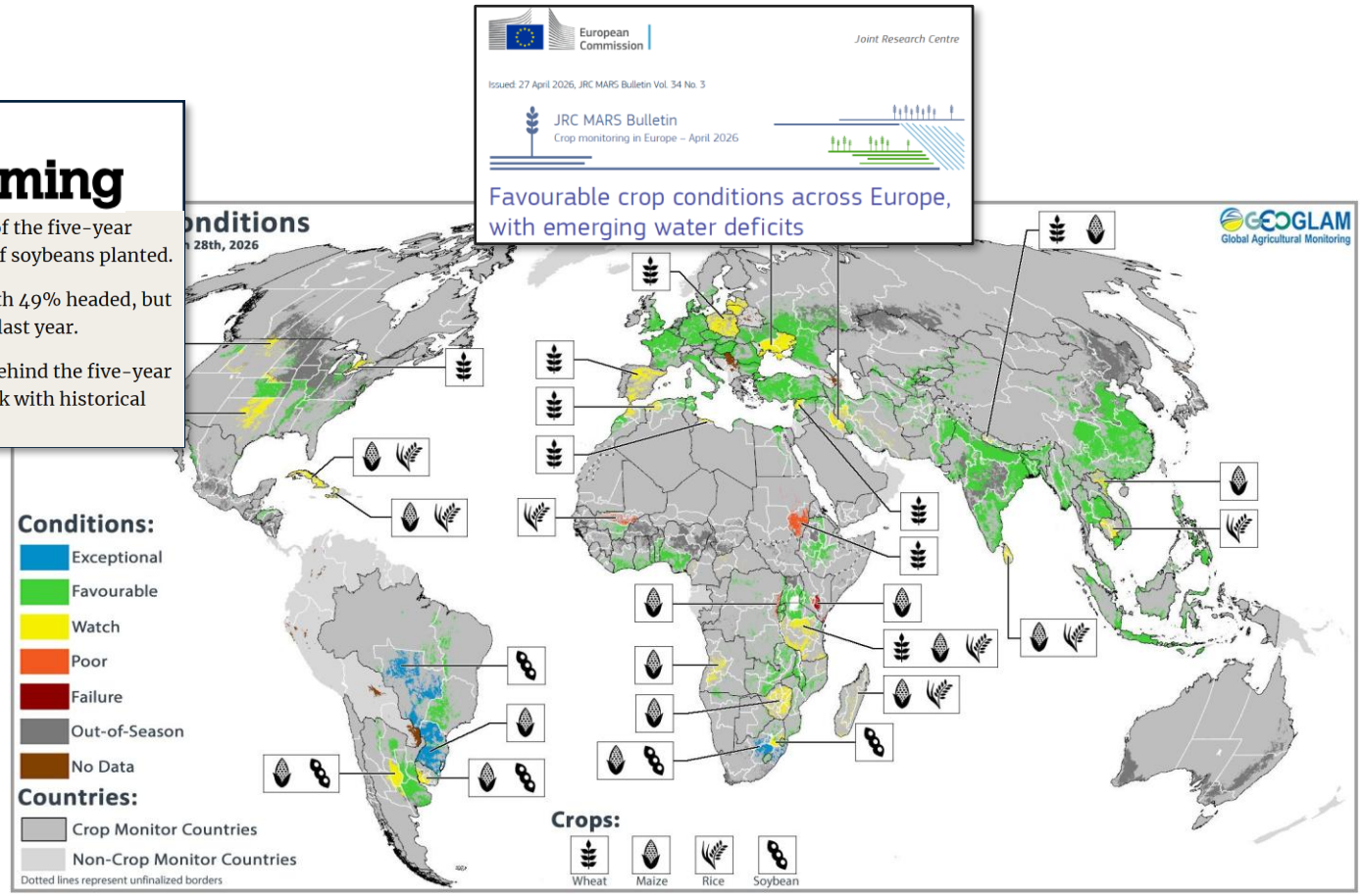
2026 crop conditions

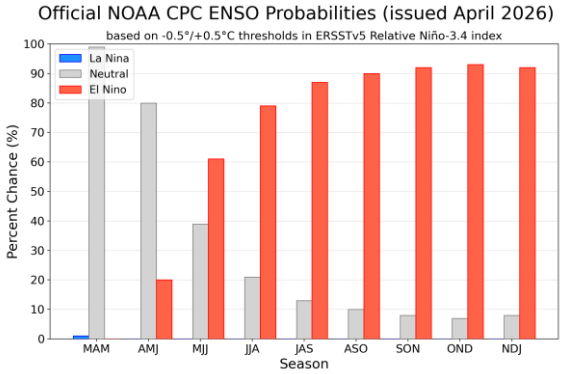
Strong Southern Hemisphere harvests and generally favorable Northern Hemisphere conditions ahead of El Niño

US, 4 May 2026

Successful Farming

- Corn and soybean planting is ahead of the five-year average, with 38% of corn and 33% of soybeans planted.
- Winter wheat is progressing well, with 49% headed, but crop conditions remain weaker than last year.
- Spring wheat planting lags slightly behind the five-year average, while oat planting is on track with historical trends.





IMD forecasts 'below normal' monsoon as El Nino risk builds

BAD TIDINGS. Rain seen at 92% of LPA; may hit crops, stoke inflation and slow growth

Source: The Hindu Business Line, Tuesday, 14 April 2026

Australia Sky News, 5 May 2026

El Nino set to heat up 2026 to the earth's hottest year on record in the coming months, with 2027 on track to be even warmer

ifa INTERNATIONAL FERTILIZER ASSOCIATION
Helping to feed the world sustainably

Source: IFA, GEOGLAM, media reports

Demand scenario overview

Description of approach to demand scenarios:

- The fertilizer demand forecasts presented in the following slides have been prepared in line with scenarios 1-3 outlined on slide 10. We acknowledge the possibility that demand impacts could fall outside of this range should impacts be deeper and/or more widespread than currently foreseen.

- Scenario 0 (S0) presents the results of IFA's traditional forecast methodology: a survey to 50 country experts which is then compiled to form a global view. This forecast is only shown for the short-term due to most replies assuming business as usual conditions as of March 2026, and a partial set of responses. Scenario 0 therefore presents a more optimistic short-term view and demonstrates the downward correction in expectations in the two months leading up to May 2026.

- Scenarios 1 to 3 were prepared by analyzing the key factors that have historically influenced fertilizer use, as well as local assumptions that fall outside of these drivers, particularly government policies to support fertilizer availability and affordability. Long-term correlating factors were used to inform the point of convergence in 2030.

- IFA does not forecast fertilizer prices or take a view on future affordability, but the scenarios do take into account relative affordability following the 2025-26 base year. The results therefore reflect generally prolonged poor affordability conditions that recover at different timelines and pace.

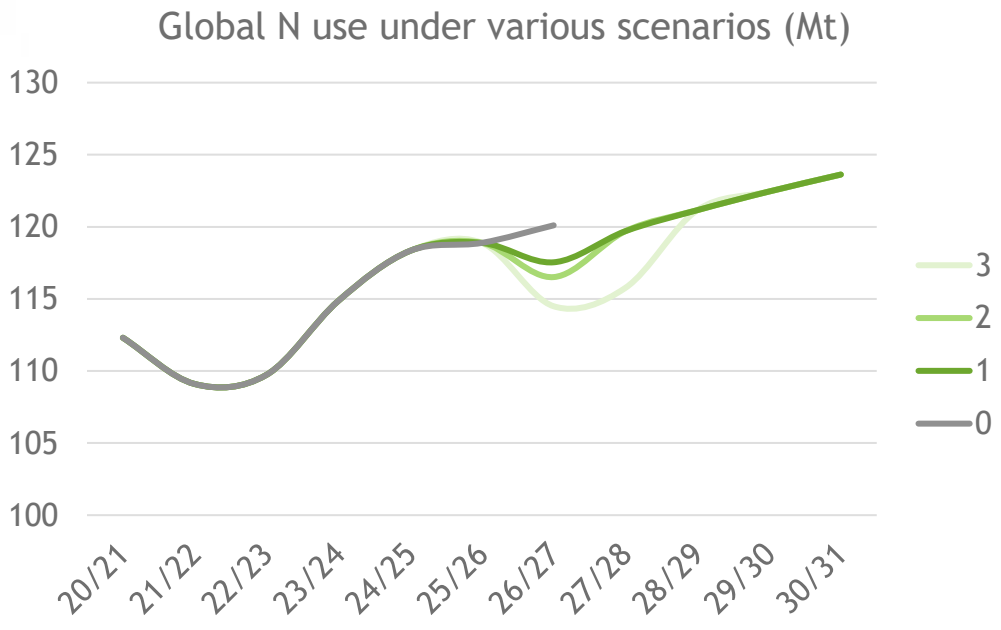
- **Will it be a brief or a long cycle of fall and recovery in fertilizer use?**
  - Scenario 1 suggests a relatively brief and narrow cycle of decline and subsequent recovery in fertilizer use, which would comprise of 1 year of decline and 1-2 years of recovery. By contrast, scenario 3 suggests a longer and deeper cycle, comprised of 2 years of declining use, and 2-3 years of recovery.

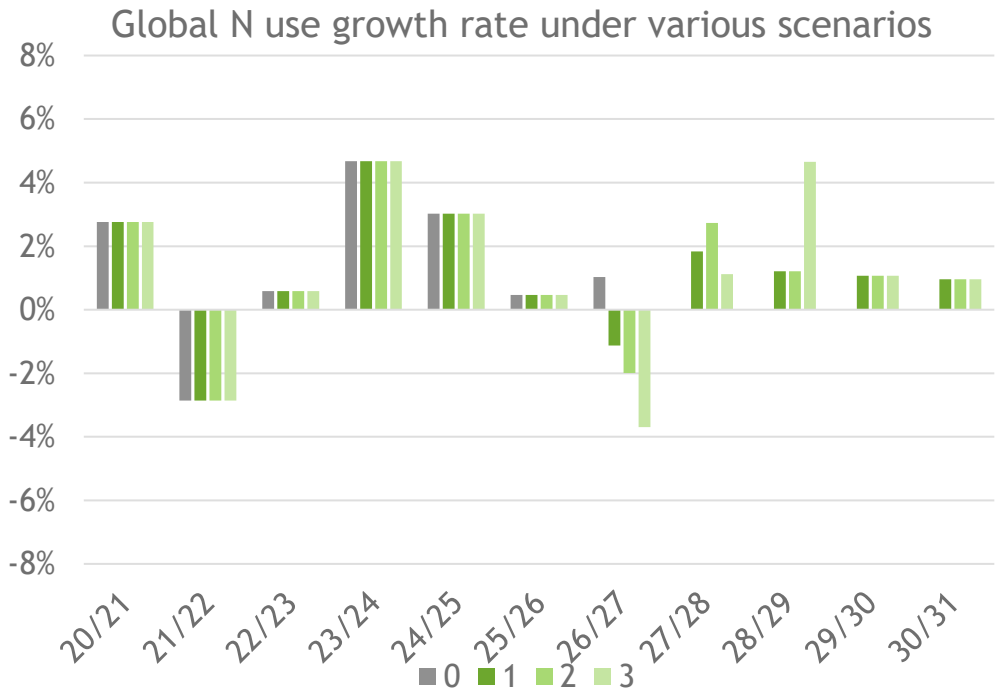
Source: IFA

Scenario analysis for 2025/26-2030/31

Global N use appears relatively resilient under scenarios 1 and 2, but faces significant downside risk under scenario 3

Prior to disruption in the Strait of Hormuz, global nitrogen use was expected to increase slightly in 2026-27, but scenario 1 now shows a decrease in response to worsening affordability. Despite the expected declines, nitrogen use is expected to be relatively resilient in scenarios 1 and 2 (declines of 1-2%), given its role as the primary nutrient with inelastic demand. Scenario 3 suggests additional downside risk with declines of up to 4% that would mirror the level of use reduction seen in 2008-09. Scenario 3 would also result in a longer trough and slower return to pre-disruption levels. Assuming a return to normal flows by 2028, a relatively quick recovery in nitrogen use is expected and by 2030 all scenarios converge to 124 Mt N, at growth rates of ~1% per year.



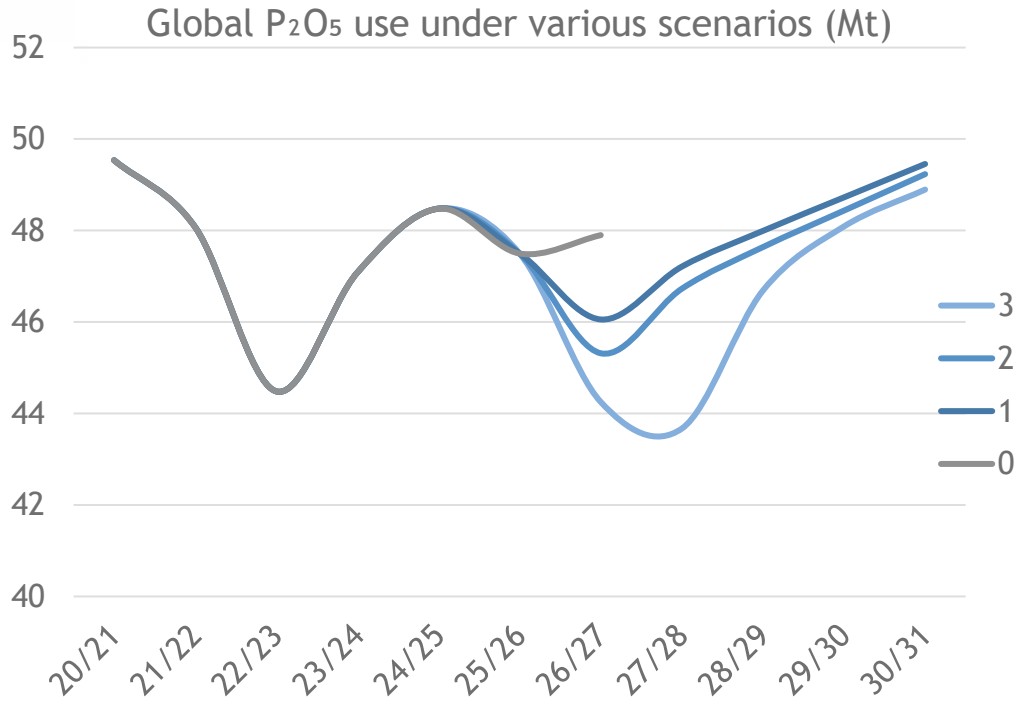


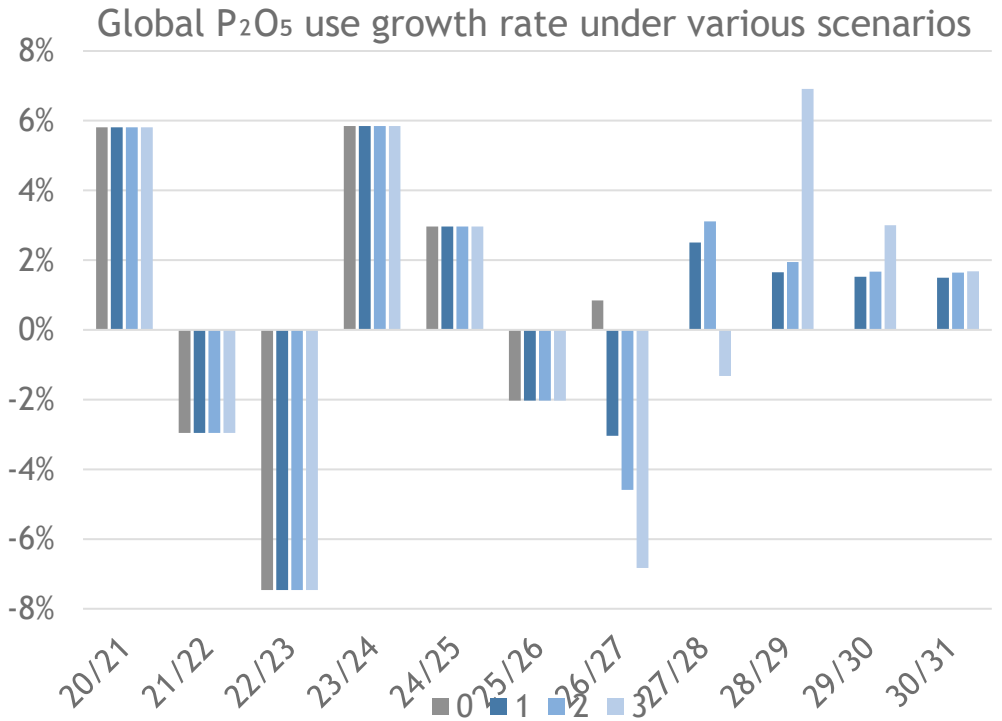
Source: IFA

Scenario analysis for 2025/26-2030/31

All three scenarios suggest steeper declines in P_2O_5 use, with a slower recovery

Phosphorus demand is more elastic to affordability, which was already at relatively poor levels coming into 2026. The forecast scenarios present a more pressured situation for phosphorus than for nitrogen, with steeper declines in all scenarios projected, and scenario 3 showing declines larger than in 2021-22. This would continue the declining trend already underway in 2025-26, and a slower recovery period in line with previous phosphate trends. By 2030 the three scenarios converge with relatively aligned phosphorus levels, at 40-50 Mt P_2O_5. Phosphorus affordability is not driven by export supply of finished fertilizers from the Middle East alone, but also on a global exposure to raw material supply from the region, namely ammonia and sulfur.



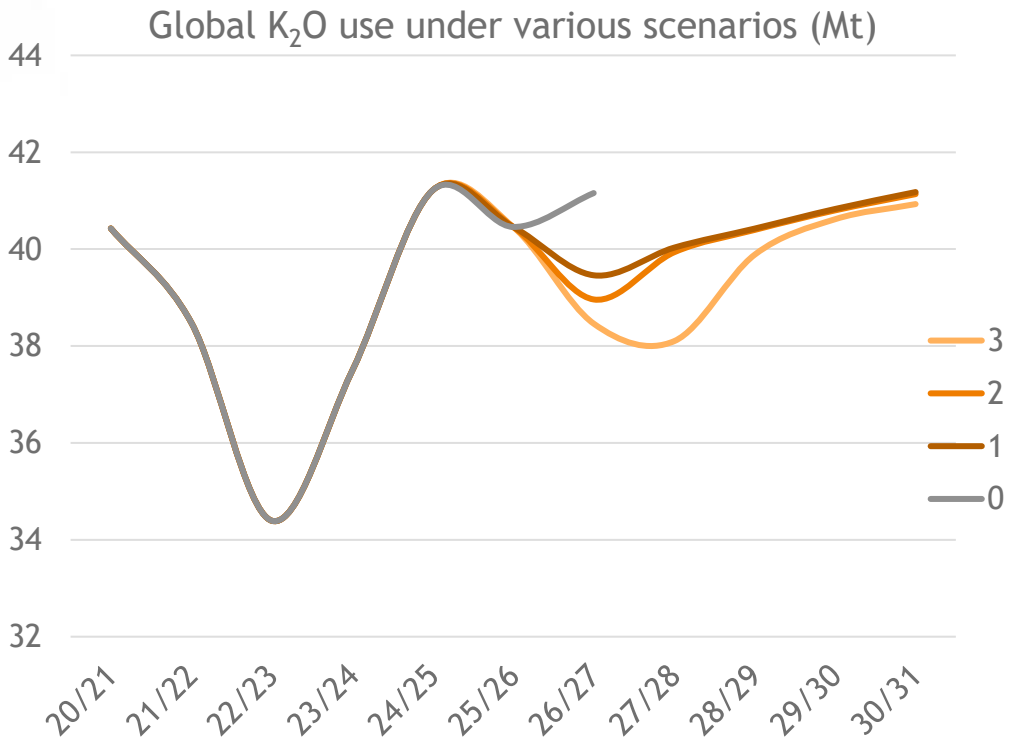


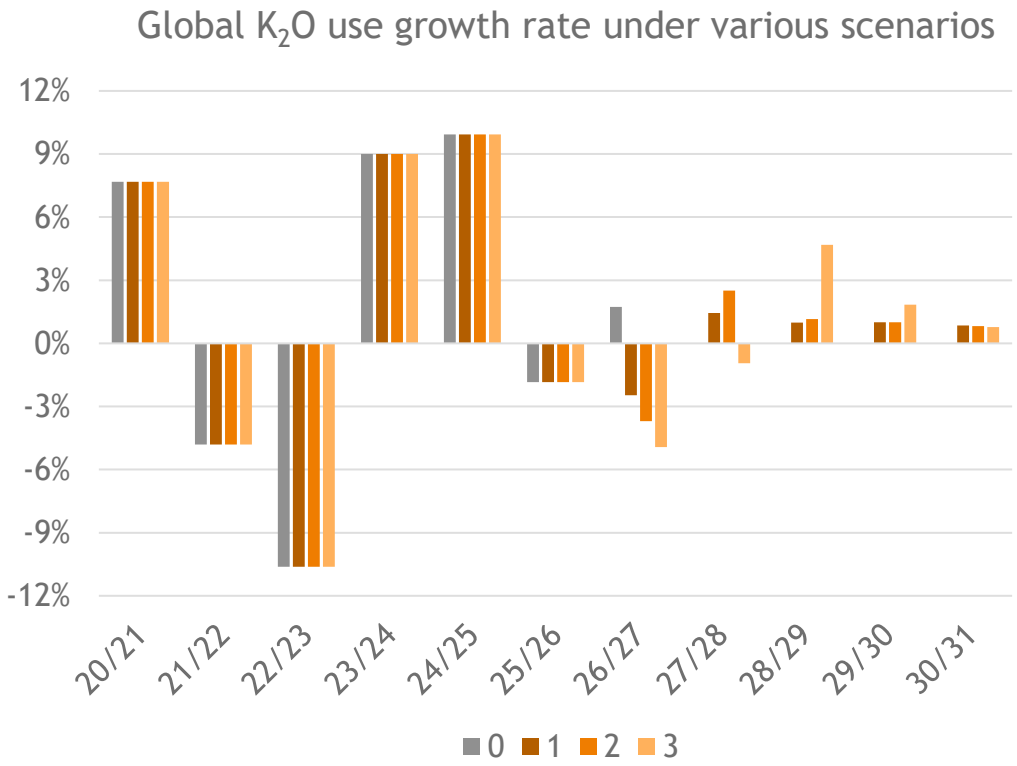
Source: IFA

Scenario analysis for 2025/26-2030/31

Global K_2O use is projected to fall less sharply than P_2O_5 use but with an equally prolonged recovery

Although potash supply is not directly exposed to the Strait of Hormuz trade route, potassium fertilizer use could suffer collateral damage if farmers prioritize the application of nitrogen, and a stronger burden of phosphorus costs, limiting overall cross-nutrient affordability. Potassium use has undergone two years of growth on the back of positive affordability, and although the recovery period would be a similar timeframe as phosphorus, demand is not expected to fall as strongly. By 2030, potassium demand is forecast to reach ~41 Mt across the three scenarios.

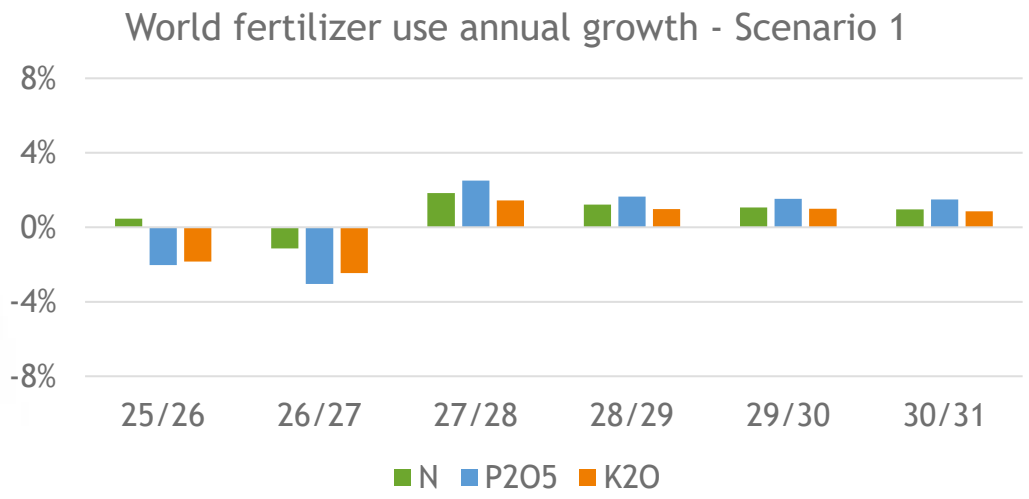


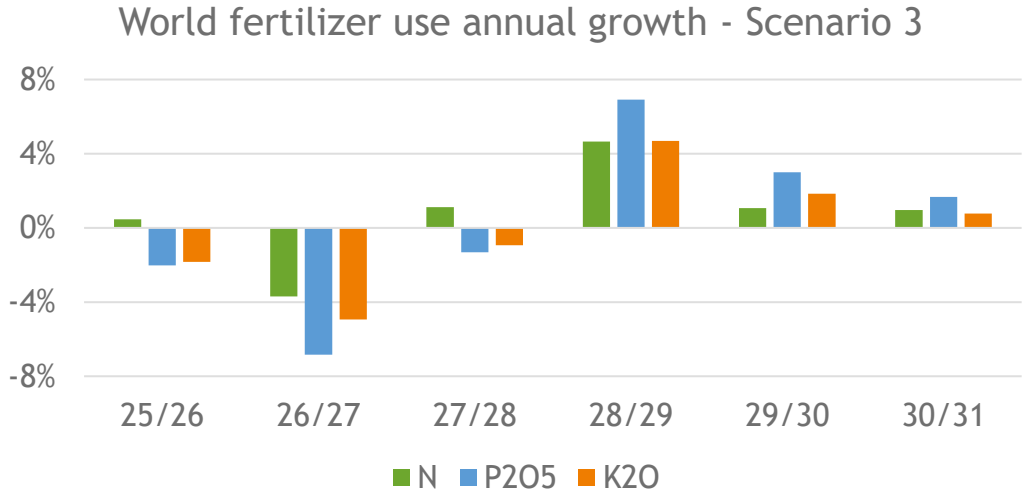


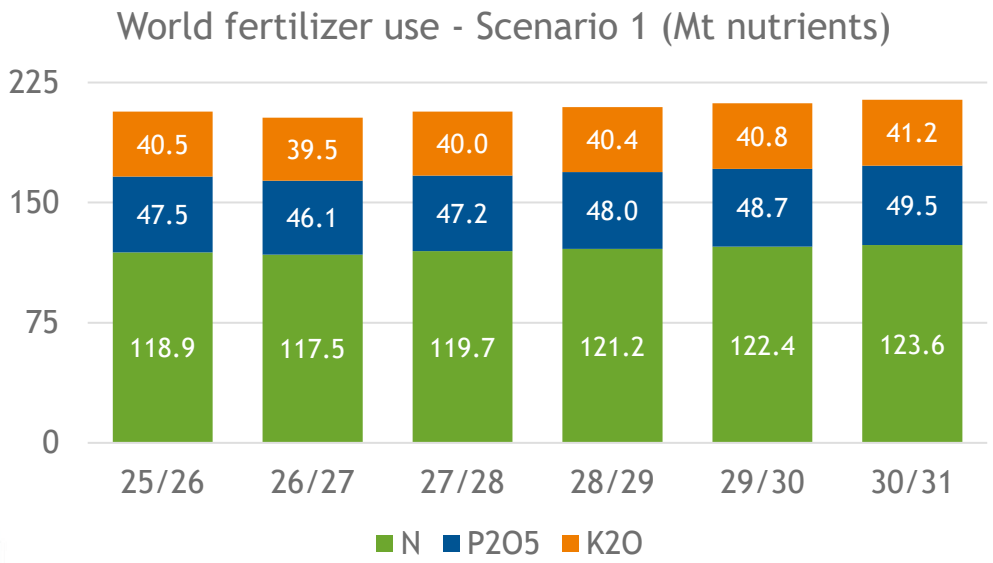
Source: IFA

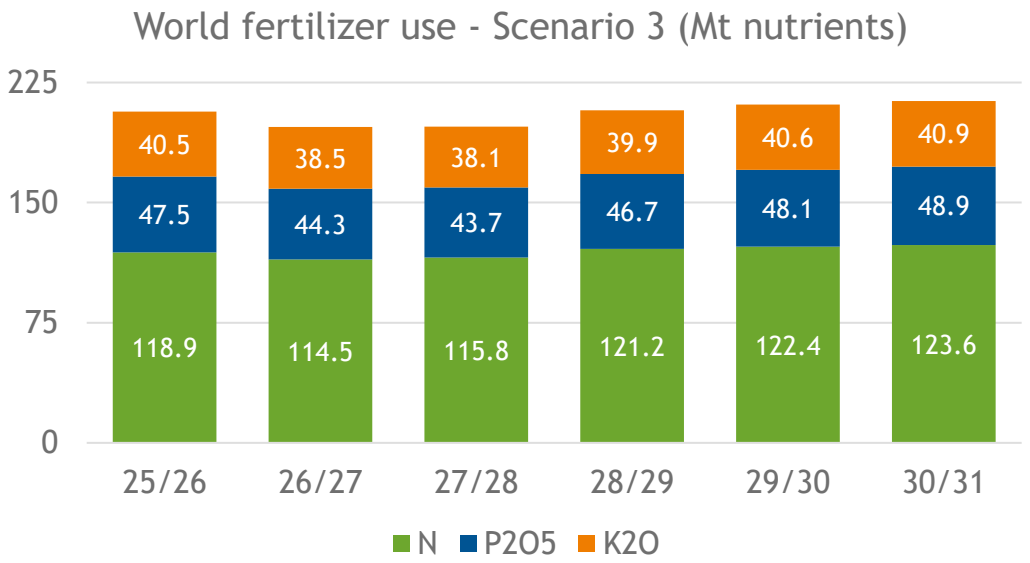
Scenario analysis for 2025/26-2030/31

Will it be a brief or a long cycle of fall and recovery in fertilizer use?





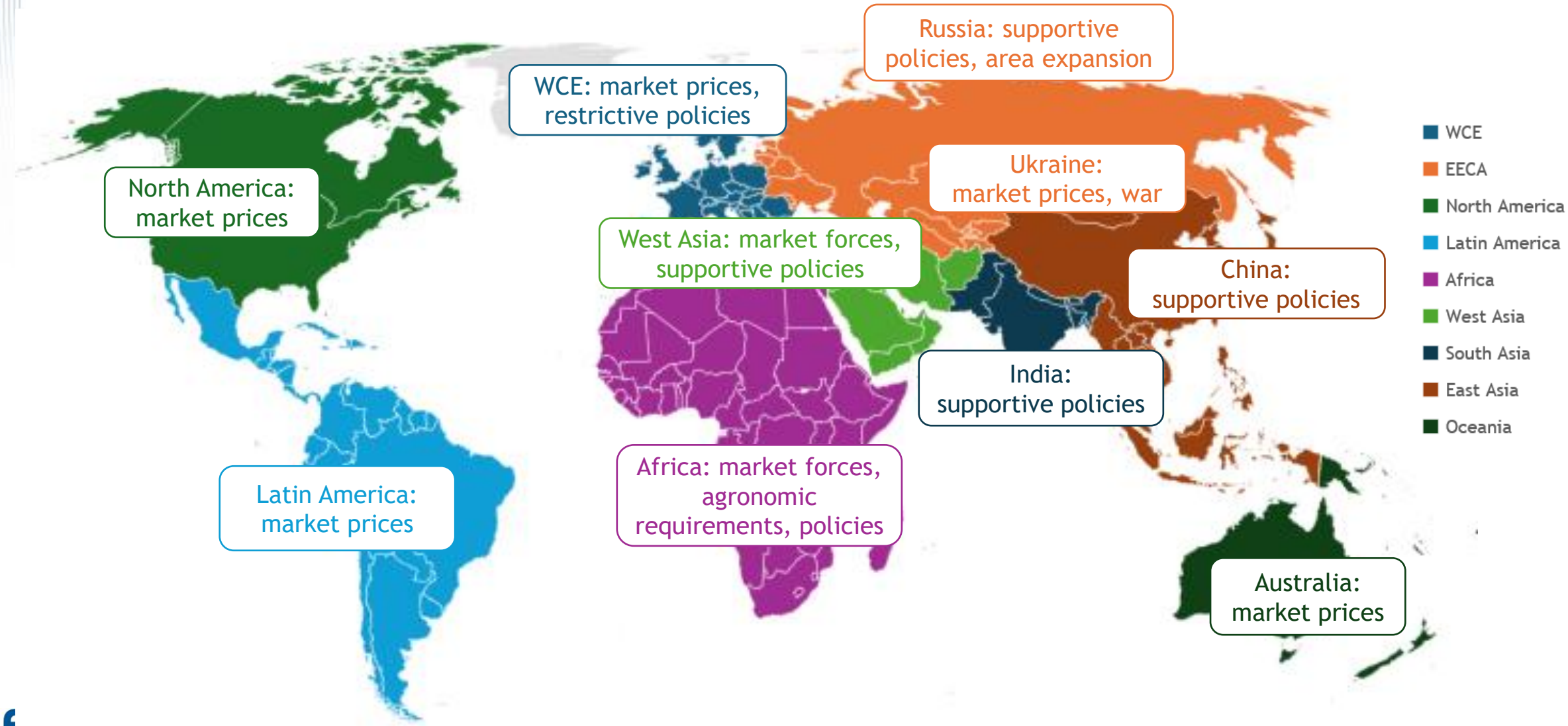




ifa INTERNATIONAL FERTILIZER ASSOCIATION
Helping to feed the world sustainably

Source: IFA

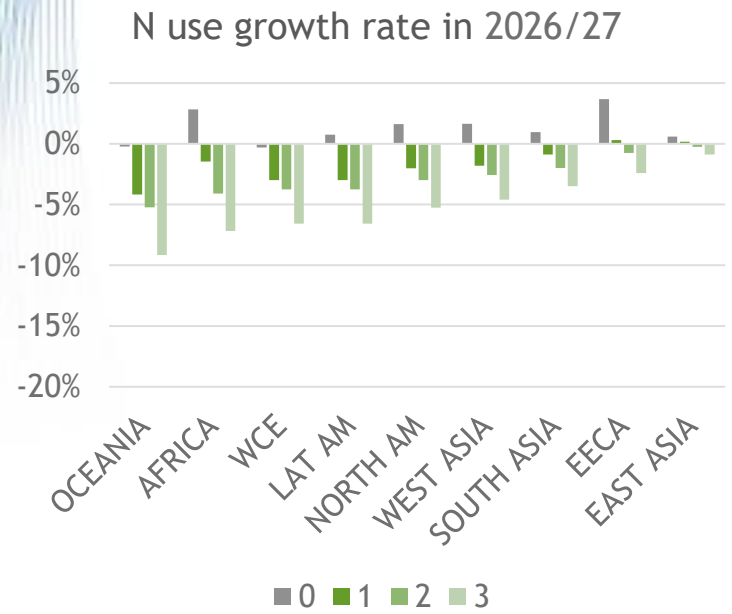
Scenario analysis for 2025/26-2030/31
Key drivers of fertilizer use beyond weather

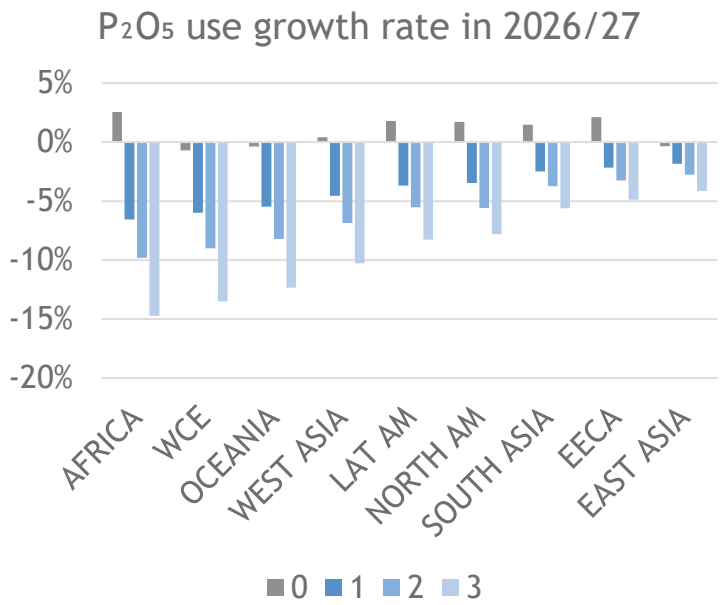


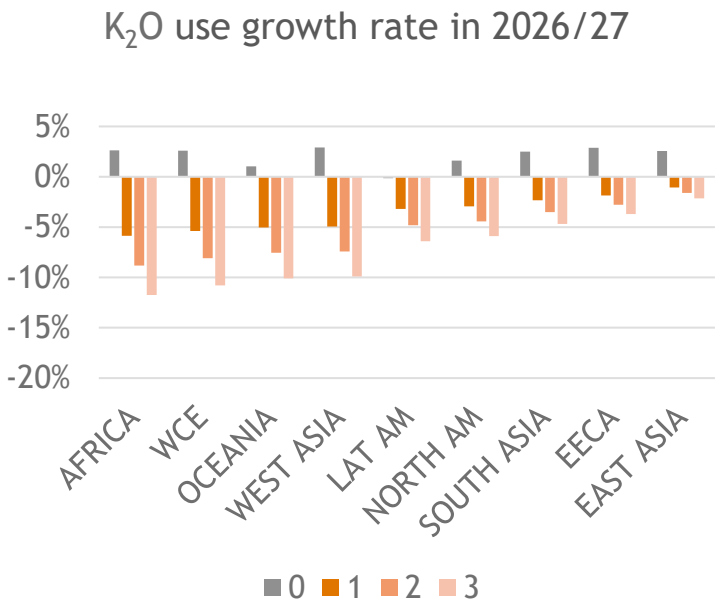
INTERNATIONAL FERTILIZER ASSOCIATION
Helping to feed the world sustainably

Source: IFA

Scenario analysis for 2025/26-2030/31
The most impacted regions have limited government buffers

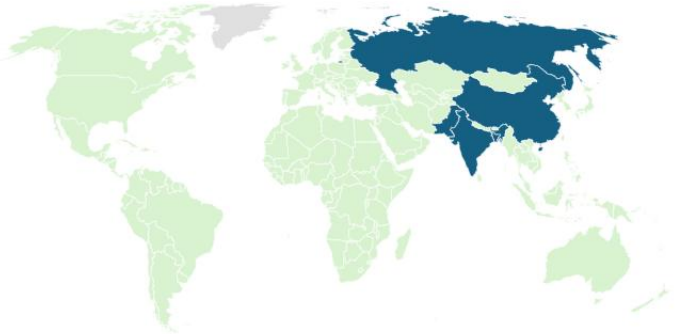






Sustained affordability shocks raise risks to application rates in import-dependent regions, with potential implications for yields and food price volatility. Countries with market-driven agricultural sectors are more exposed to affordability shocks and are therefore more at risk of decline in the forecast scenarios. Countries with high levels of government support through subsidies and market intervention are more insulated from global shocks and are not expected to experience as severe declines under the three scenarios.

- Highest exposure: Oceania, Africa, WCE, Latin America, North America, West Asia.
- Lowest exposure: East Asia, South Asia, EECA.



ifa INTERNATIONAL FERTILIZER ASSOCIATION
Helping to feed the world sustainably

Source: IFA

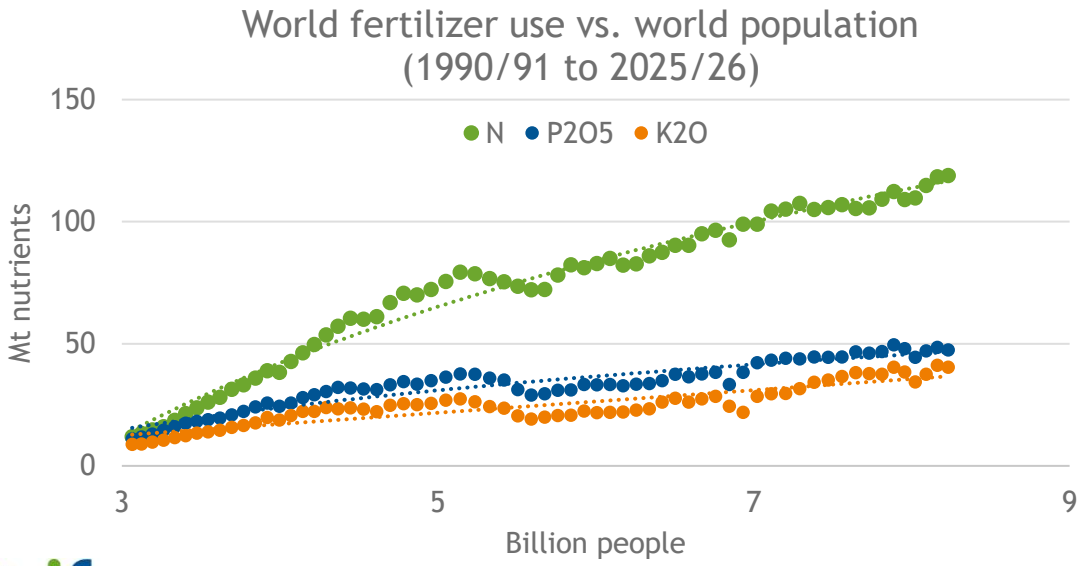
Key takeaways

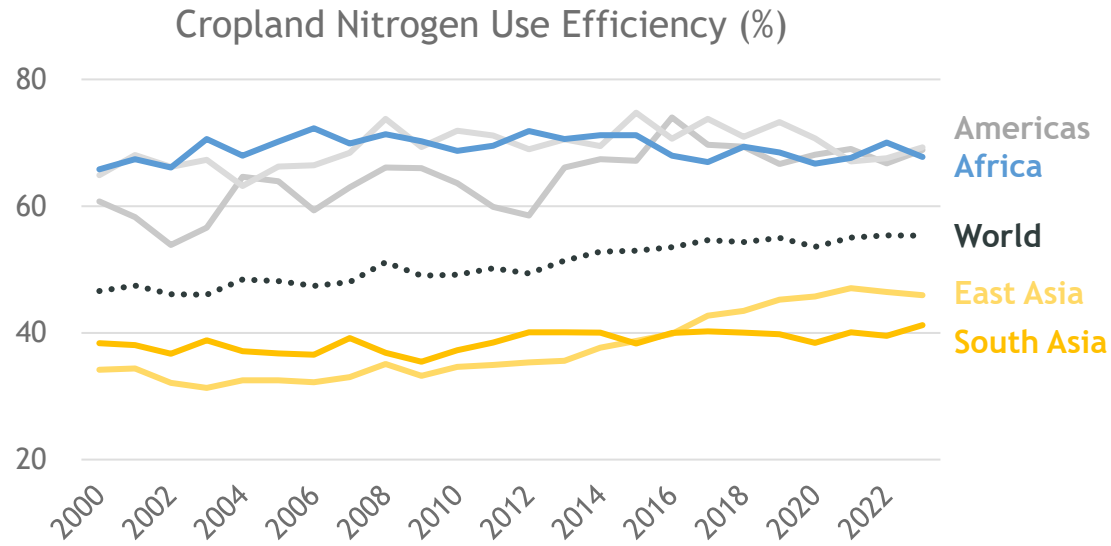
Medium-term outlook

- Capacity investment is forecast to increase in pace in 2026-2030 compared to 2021-2025 across nutrients.
- Decarbonization trends continue, at differing paces:
  - Wave of green ammonia cancellations
  - Electrification has received a short-term sentiment boost, but will it change direction of investment?
- Medium-term demand drivers such as population growth and productivity gains remain intact, subject to potential rebasing in response to short-term disruption.

Short-term outlook

- Length and severity of Strait of Hormuz disruption will be primary driver of short-term market dynamics.
- Even products not highly exposed to the route could be impacted through:
  - Raw material cost escalation
  - Rising freight costs
  - Cross-nutrient affordability
- Some regions such as Africa have less room to adapt to reduced fertilizer application.





Source: IFA, FAO

ifa
INTERNATIONAL FERTILIZER ASSOCIATION

Helping to feed the world sustainably

Find more resources at
www.ifastat.org