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INTERNATIONAL FERTILIZER ASSOCIATION

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Public Summary
Short-Term Fertilizer Outlook 2024 – 2025

IFA Market Intelligence Service

This report is a summary of IFA's Short-Term Outlook, prepared by the Market Intelligence Service to accompany IFA's Short-Term Outlook Presentation and Data File, which are available to IFA members.

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Notes and definitions:

- ✓ Volumes in this report are expressed in product and nutrient metric tonnes. Product tonnes refer to the physical weight of the product in question while nutrient tonnes reflect the N, P_2O_5 and K_2O content of nitrogen, phosphate and potash fertilizers respectively. Data followed by N, P_2O_5 and K_2O refer to nutrient tonnes.
- ✓ The terms nitrogen, phosphate and potash are used to denote groups of nutrient-bearing fertilizers which are produced and traded globally. The terms nitrogen, phosphorous and potassium refer to the nutrients required by plants.
- ✓ Annual periods refer to the calendar year unless stated otherwise, and when FY precedes a year, it refers to the Fertilizer Year. The reference period used to report fertilizer consumption varies depending on the country. Countries report fertilizer consumption statistics in 12-month periods that start either in January or in another month.
- ✓ In this report, "fertilizer year" (FY) refers to all 12-month periods. FY 2022 refers to the year starting in January 2022 for most countries in Latin America, Africa, East and Southeast Asia and Eastern Europe & Central Asia (EECA). For other regions including North America, West & Central Europe (WCE) and South Asia, FY 2022 started in Q2 or mid-2022 and will end in Q2 or mid-2023. Fertilizer years do not always match crop marketing years used to report statistics on crop area, yield and production.

BACKDROP TO THE FERTILIZER OUTLOOK

The short-term outlook for fertilizers is presented in the context of the events of a rapidly changing world, underpinned by the complex intersection of global and local factors, and between industry-specific and cross-commodity trends. Global politics, economics, conflicts and environmental pressures have all impacted the fertilizer market in recent years, although supply chains and global integration have proved resilient overall.

A fertilizer demand recovery played out in 2024, driven by improved farmer affordability and the successful rerouting of trade despite physical disruptions, sanctions and protectionist measures from major exporters.

In parallel, the world has faced higher costs of doing business, with continued higher interest rates and tight working capital for businesses. Challenges in project financing plus changing government priorities, have slowed and/or delayed some decarbonization investment plans in the last 12 months, which have impacted the capacity outlook.

The geopolitical landscape was uncertain heading into 2025, especially with the Presidential handover in the US and Donald Trump having been elected on a strong mandate to make sweeping changes to foreign policy and relationships with world leaders. In particular, the US' relationships with China and Russia plus its approach to low carbon investment could significantly impact the fertilizer market.

Despite global political change, major governments continued to show strong support to agriculture and fertilizers in 2024. This has supported supply chains and propelled the fertilizer demand recovery, resulting in the market being less volatile than in previous years and in comparison to other commodities.

Fertilizer affordability remains a key determinant of farmer application rates, although there are diverging confidence levels between farmers in different regions, with those in India and Latin America being more optimistic about their expected profit levels than those in Europe and North America.

SUPPLY FORECAST

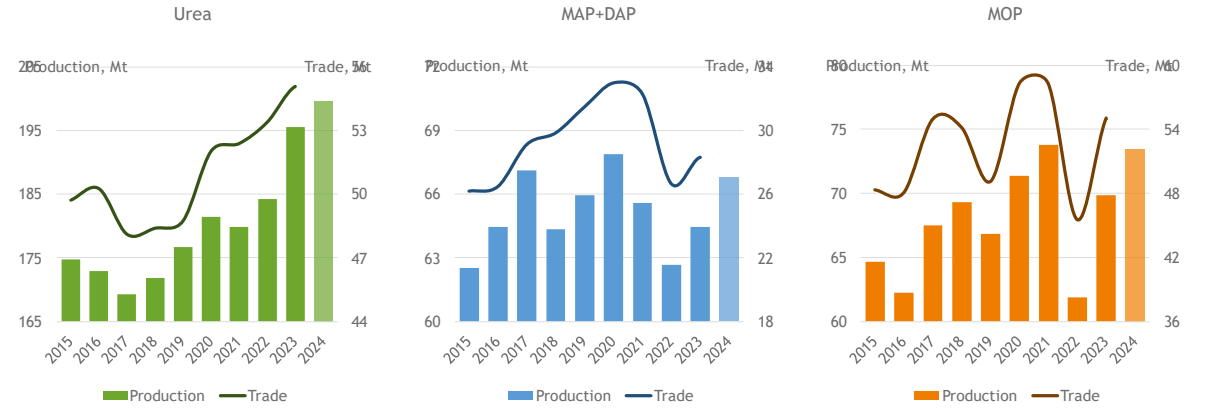
Total nutrient production volumes continue upward trend

Based on IFA's short-term supply survey conducted in Q4 2024, global ammonia production is estimated to expand by 2% to 189.8 Mt. Urea output is expected to grow by 2% in 2024 to reach a record level of 199.7 Mt. All regions except EECA and South Asia are expected to record higher production levels compared to 2023, notably West Asia (+1 Mt) and East Asia (+2.8 Mt), driven by significant growth in China.

Phosphoric acid production is estimated to rise by 4% to 88.4 Mt in 2024 and MAP+DAP production is expected to mirror the year-on-year trend (+4% to 66.8 Mt). Despite the continuous recovery, global MAP+DAP production is not expected to return to 2020 levels. China and Morocco are expected to drive global growth, adding 2 Mt and 1.1 Mt MAP+DAP production respectively in 2024. Output in West Asia and North America is expected to show a slight decrease in 2024.

Global potash production is expected to recover by 5% in 2024 to 73.5 Mt, led by recovering production in Russia and the continued ramp up of new supply in Laos. North America is also expected to record higher production as a result of incremental output increases from Canadian mines.

2024 production and trade estimates



2024 production: **200 Mt (+2.1%)**
2024 trade: **55 Mt (-0.5%)**

2024 production: **67 Mt (+3.6%)**
2024 trade: **28 Mt (-2.6%)**

2024 production: **73 Mt (+5.1%)**
2024 trade: **58 Mt (+5.6%)**

Source: IFA *2024 data reflects preliminary estimates

Nitrogen capacity growth leads the way while phosphate and potash are more muted

IFA's forecasts of capability (the measure of theoretical supply based on typical maximum operating rates) begin with announced capacity increases.

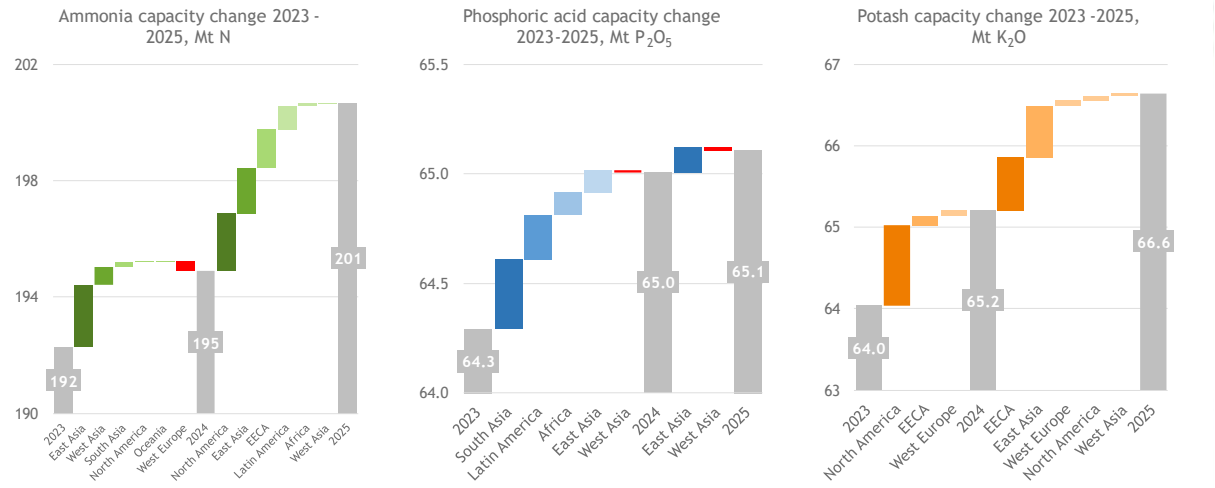
Ammonia capacity is forecast to increase by 4% between 2023 and 2025 reaching 200.7 Mt N. Nitrogen capacity growth is centered in low-cost regions, namely Russia where natural gas-based projects are already under construction, and the US where tax incentives have dramatically improved the economics of investing in blue ammonia (when CO_2 is sequestered using carbon capture and storage). In addition, new production units are expected to be commissioned in Iran and China to meet growing domestic fertilizer and industrial demand.

IFA includes 1.3 Mt N of green ammonia (produced using carbon-free renewable energy) projects expected to come onstream by the end of 2025, and a much larger volume of prospective green ammonia capacity is under consideration (5.3 Mt N by 2028) given its vast potential as a sustainable source of nitrogen as well as adjacent energy market opportunities as a hydrogen carrier.

Phosphoric acid capacity is forecast to rise to 65.1 Mt P_2O_5 in 2025, a timid 1% increase from 2023. Capacity additions are mainly expected to take place in North Africa with smaller increases expected in India and Brazil.

Potash capacity is projected to reach 66.6 Mt K_2O in 2025, 4% higher than in 2023. New mines in Laos and existing mine expansions in Russia are forecast to be the major contributors to this growth, followed by incremental capacity increases in Canada and Spain.

2023-2025 capacity additions and closures



Source: IFA

Capability is expected to be driven by a combination of the capacity expansions outlined above and changing assumptions in output of disrupted countries.

- **Nitrogen** capability is forecast to increase from 163.0 Mt N in 2023 to 171.1 Mt in 2025, a 5% growth rate. The key drivers are low-cost projects in Iran, Russia and the US, import-displacement plants in India and a cycle of capacity expansion in China, including ammonia green plants.
- **Phosphate** capability is forecast to rise to 55.3 Mt P_2O_5 in 2025, 2% higher than in 2023. Capability growth will be mainly driven by capacity additions in North Africa as well as the commissioning of new small-scale capacities in Brazil, India and China totalling around 0.9 Mt between 2023 and 2025.
- **Potash** capability is forecast to increase from 52.1 Mt K_2O in 2023 to 54.4 Mt K_2O in 2025, a 4% growth rate. After a strong recovery in 2023 (primarily driven by Belarus and Russia's recovering export capacity) max. operating rates are expected to stay at steady levels in 2024 and 2025. Capability growth is expected to be primarily driven by capacity expansions by existing producers in Russia and Laos, and to a lesser extent by small-size expansions of existing capacities in Canada and Jordan.

FERTILIZER CONSUMPTION FORECAST

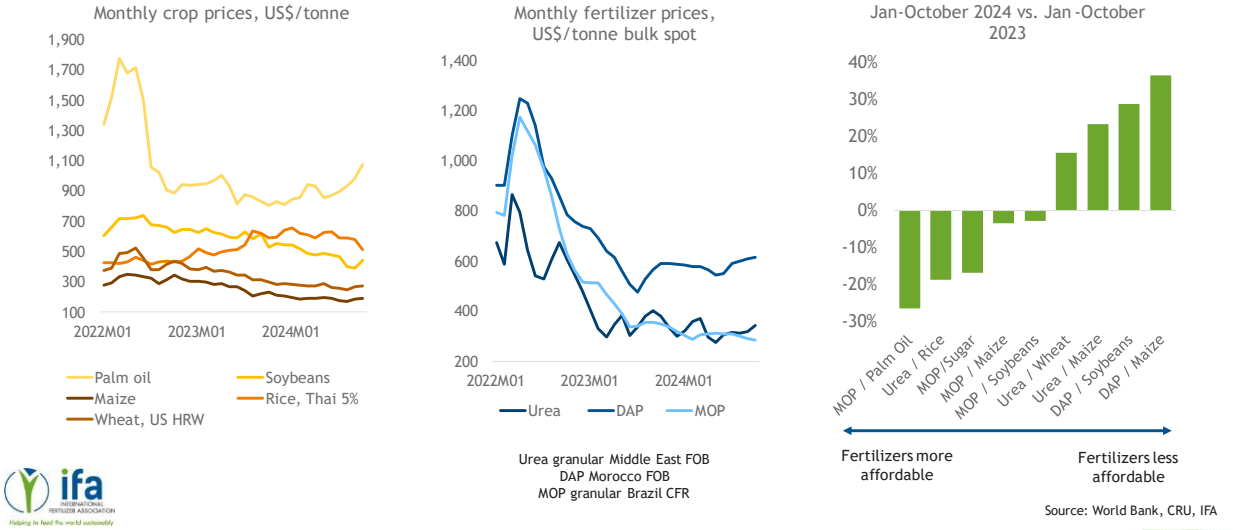
IFA's methodology for preparing global fertilizer demand outlooks is based on a survey of around 50 country experts, representing roughly 90% of global fertilizer consumption. The results of this survey are complemented with agricultural and trade data, as well as recent market information.

Global fertilizer consumption is expected to exceed previous record in FY 2025

After declining for two consecutive years, global fertilizer use (N + P_2O_5 + K_2O) is forecast to increase by 4.3% in FY 2023, 2.5% in FY 2024, and 2.2% in FY 2025. Total consumption is forecast at 205 Mt nutrients in FY 2025, well above the previous record of 201.5 Mt in FY 2020.

Significant variations in affordability explain most of the decline and subsequent recovery in global fertilizer use. Between mid-2021 and mid-2022, global fertilizer prices increased more than most crop prices, causing a drastic decline in fertilizer affordability that directly affected fertilizer purchases. Between mid-2022 and mid-2023, the opposite trend took place: fertilizer prices fell faster than most crop prices, resulting in much improved fertilizer affordability and use. Variations in fertilizer affordability have been more moderate since mid-2023, but significant differences appeared between nutrients. On one hand, prices of K_2O and N fertilizers remained attractive relative to crops (particularly K_2O for oil crops and N for rice), while affordability of P fertilizer products weakened further due to a partial rebound in P fertilizer prices.

In a generally lower crop price environment, farmers face more affordable K_2O and N products and less affordable P_2O_5 products



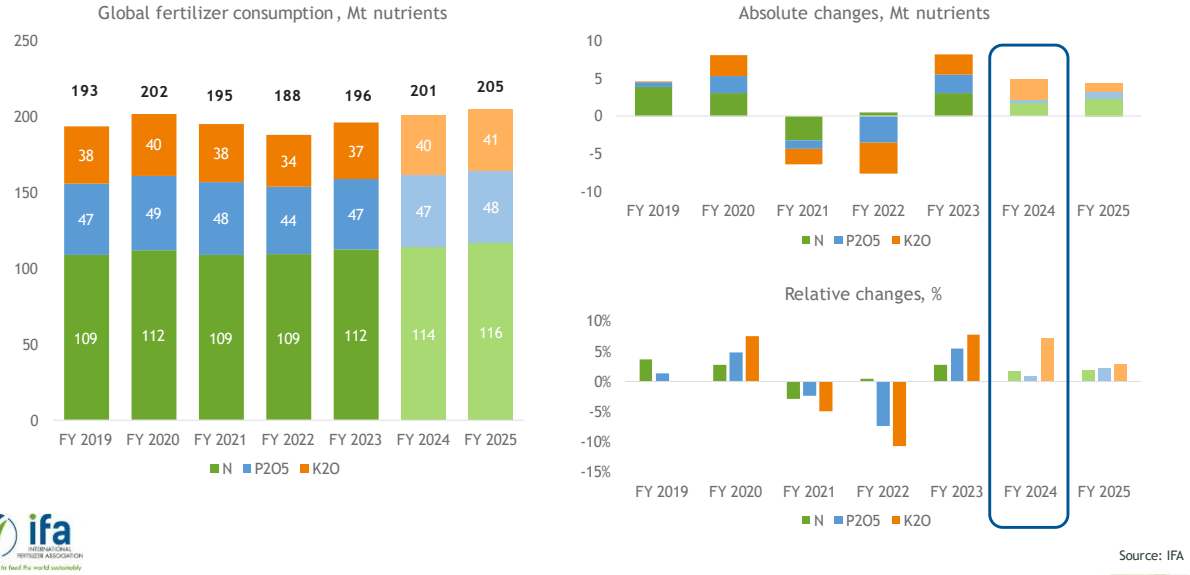
The recovery in fertilizer consumption has also been supported by government measures lowering the fertilizer prices paid by farmers, in particular N products such as urea.

Fluctuations in fertilizer use have not been evenly spread across nutrients due to varying price movements and differences in government support by product.

Use of N, essential for crop yields and supported by some governments for food security reasons, decreased by 3% to 109 Mt in FY 2021 before stabilizing in FY 2022 and recovering to the previous level of 114 Mt in FY 2023. Demand for phosphorus and potassium, two nutrients less essential to short-term growth in cereal production and less supported by governments, declined more significantly and for longer. P_2O_5 use decreased by 2.4% in FY 2021 and again by 7.4% in FY 2022, reaching 44.2 Mt, while K_2O use fell by 5% in FY 2021 and by 10.7% in FY 2022, reaching 34.3 Mt. The subsequent recovery was strong for both nutrients in FY 2023 (46.6 Mt and 37 Mt respectively), but in FY 2024 the divergence in affordability is expected to slow growth in P_2O_5 use (to 47 Mt) and boost growth in K_2O use (to 39.6 Mt). In FY 2025, growth rates are expected to converge with slower growth for K_2O and stronger growth for P_2O_5.

Comparing the record expectations for N + P_2O_5 + K_2O fertilizer use in FY 2025 to the previous record reached in FY 2020, global N use is expected to be 4% higher at 116 Mt, global K_2O use 1% higher at 41 Mt, and global P_2O_5 use 2% lower at 48 Mt.

After a rebound across all nutrients in FY 2023, strong growth continues for K_2O in FY 2024 while P_2O_5 use slows sharply



Source: IFA

Asia drives growth in fertilizer use

Between FY 2023 and FY 2025, growth in fertilizer use is expected to be driven by East Asia (26%), followed by South Asia (19%), Latin America (19%), and EECA (16%). East Asia contributes as 48% to K_2O consumption growth and 19% to N use growth, but slows P_2O_5 consumption growth. South Asia is the major contributor to consumption growth for N (25%) and P_2O_5 (37%). Eastern Europe and Central Asia (EECA) plays an important role in the growth in use of N (20%) and P_2O_5 (23%), and contributes 8% to K_2O use growth.

Growth in N use is concentrated in Asia and EECA

Asia and EECA account for a large share of the additional 4 Mt of N fertilizers expected to be consumed worldwide from FY 2023 to FY 2025. Indeed, the top five contributing countries – India (almost 1 Mt N), Russia (almost 0.5 Mt N), China, Indonesia and Ukraine – represent 54% of global growth. In the top four countries, most farmers pay fertilizer prices below the level of the international market as a result of government support.

In **India**, the government heavily supports urea purchases by ensuring a Maximum Retail Price (MRP) far below international prices and unchanged for at least 10 years, at 242 rupees / 45 kg or 268 rupees / 50 kg.

In **China**, the government reinforced its food security objectives after the Covid crisis and in response to stagnant output of several grain crops. One of the results is that maize area recently expanded, boosting the use of N. In addition, the government implemented policies to prevent domestic fertilizer price increases by controlling exports of urea and MAP/DAP from late 2021. After several years of decline in N use driven by domestic policies to improve fertilizer efficiency, N use rose in FY 2022 and is expected to continue rising until FY 2024.

In **Indonesia**, the government has encouraged an expansion in maize area and provides subsidized fertilizers (urea and NPK) to smallholder farmers for selected crops. In 2024, the government doubled the quantity of subsidized fertilizers from 4.7 Mt products to 9.55 Mt products, around two thirds of domestic fertilizer consumption.

In **Russia**, the main fertilizer producing companies have followed government recommendations to keep fertilizer prices fixed since 2022.

East Asian palm oil-producing countries lead the recovery in K_2O use

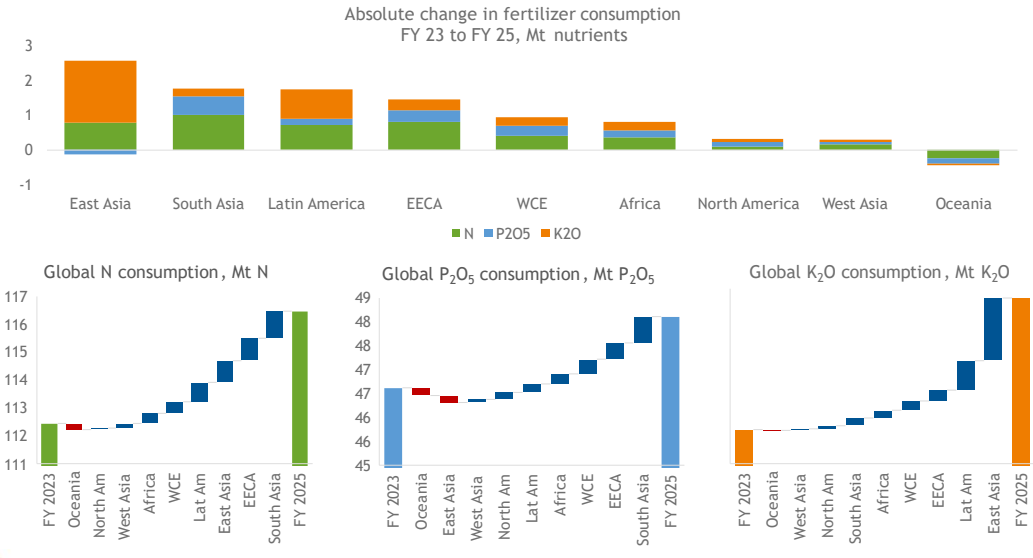
East Asia is expected to account for half of the 10% growth in global K_2O use from FY 2023 to FY 2025. Within East Asia, 54% of the growth is in palm oil-producing countries and 30% in China, with the rest of Southeast Asia accounting for the rest. Some Northeast Asian countries are also expected to reduce their K_2O use slightly.

Palm oil-producing countries (Indonesia and Malaysia) benefited in 2024 from rising palm oil prices and lower MOP prices. This is expected to boost their K_2O consumption by 34% (0.8 Mt). Growth in K_2O use is expected to continue in FY 2025, albeit more slowly, driven by slowing growth in the Indonesian oil palm area while its rubber tree area is converted to the crop.

P_2O_5 use declines in Latin America in FY 2024 due to lower affordability

Global P_2O_5 use is expected to grow modestly in FY 2024 (+0.8%). Consumption growth in WCE and EECA are expected to be partly offset by declines in Latin America, Oceania and East Asia. The largest decline is expected in Latin America. In 2024, farmers have faced a situation opposite to that experienced by East Asian palm oil producers: soybean prices declined while MAP price increased, resulting in reduced affordability to apply P_2O_5 on soybeans. Since about two-thirds of phosphorus used in Brazil are typically applied on soybean fields, poor affordability has driven down total P_2O_5 use. The same situation arose for maize, which accounts for over 10-15% of P_2O_5 use in Brazil. Furthermore, dry conditions caused partly by El Niño have affected the Brazilian soybean crop in Mato Grosso. Despite a larger planted area, soybean production is expected to decline by 6% compared to the previous year.

East Asia drives the recovery in fertilizer use, particularly K_2O



Source: IFA

Fastest growth in fertilizer use is expected in EECA and Africa

East Asia drives short-term global fertilizer consumption growth, but EECA and Africa are expected to be the most dynamic regional markets, growing by 15% and 11%, respectively, between FY 2023 and FY 2025.

After a 70% fall in fertilizer use in Ukraine in FY 2022 (from 2.8 to 0.9 Mt) due to the start of the war, consumption partly recovered in FY 2023 to 1.5 Mt and is expected to continue growing in FY 2024 to 1.7 Mt and FY 2025 to 1.8 Mt. However, this remains lower than pre-2022 consumption levels, which averaged 2.6 Mt from FY 2017 to FY 2021. In Russia, fertilizer use grew strongly

in FY 2022 (+22% to 5.3 Mt), dropped to 4.8 Mt in FY 2023 due to weather issues, and is expected to grow firmly in FY 2024 and FY 2025. Overall, EECA fertilizer use is expected to return to 11.3 Mt in FY 2025, the same level as in FY 2020.

In Africa, stronger growth in fertilizer use is expected in Sub Saharan Africa (SSA) than in the more mature North African market. Growth is expected to be particularly strong for K_2O, as well as for P_2O_5 in FY 2025 due to an expected switch from NPS to DAP in Ethiopia.

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