Fertilizer Market in India

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Facts about India

Agriculture is livelihood to 58% of the country's population. Country has 2nd Largest Arable land.

Monsoon Dependent. Rainfall influences fertilizer consumption & agriculture production.

Agriculture growth : Average 4% per annum.

Sustainable use of Agri-nutrients playing an important role in increasing productivity.

Demography on increasing trend. 17% of World population.

Income avenues, increasing average absorption and rise in average calorie intake.

Food grain production expected to marginally increase from 252.02 Mill MT (2014-15) to 252.22 Mill MT (2015-16).

Horticulture Production has outpaced Food grain production. (Est. 283 Mill MT in 2015-16)

Global leader in production of Pulses (~18 Mill MT) and Milk (~140 Mill MT).

One of the largest producer of Coarse Cereals (~43 Mill MT) and Oilseeds (~27 Mill MT) in the World.

Strength of high acreage of farming (~194 Mill ha) and involvement of major chunk of population in farming (~263 Million).

<table>
<thead>
<tr>
<th>Commodities</th>
<th>% Share Globally</th>
<th>Rank</th>
<th>Behind</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>13</td>
<td>Second</td>
<td>China</td>
</tr>
<tr>
<td>Rice</td>
<td>22</td>
<td>Second</td>
<td>China</td>
</tr>
<tr>
<td>Pulses</td>
<td>25</td>
<td>First</td>
<td></td>
</tr>
<tr>
<td>Groundnut</td>
<td>20</td>
<td>Second</td>
<td>China</td>
</tr>
<tr>
<td>Potatoes</td>
<td>12</td>
<td>Second</td>
<td>China</td>
</tr>
<tr>
<td>Onion (Dry)</td>
<td>22</td>
<td>Second</td>
<td>China</td>
</tr>
<tr>
<td>Vegetables &amp; Melons</td>
<td>11</td>
<td>Second</td>
<td>China</td>
</tr>
<tr>
<td>Fruits</td>
<td>12</td>
<td>Second</td>
<td>China</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>18</td>
<td>Second</td>
<td>Brazil</td>
</tr>
<tr>
<td>Milk</td>
<td>18</td>
<td>First</td>
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</tr>
</tbody>
</table>

Source: FAO 2013
India’s Agri Export share to total National Exports has increased from 9.7% (2010-11) to 12.7% (2014-15).

Agri Export share in International market has increased from 1% to 2.5% over the period.

India’s Share in Global Agriculture Export Trade 2014 valued at US$ 43 Billion (US$ 1430 Billion by major 15 Exporters).

Indian Export in 2015-16 stood at US$ 261 Billion.

Rice, Cotton, Spices, Meat & preparations, Sugar and Oil Meals are some of the major exportable Agri commodities.

West Asia comes under top 5 destinations for Agriculture products exported by India.

India Exports benefit from Government Policies.

Source : APEDA
Global Demand for Agriculture produce continue to rise.

Expansion of farmland and Investment in raising environmentally sustainable agricultural products through efficient use of fertilizers has to come in future.

Agricultural produce from countries having exportable surplus is essential for eradicating undernourishment and overall Development of Society.

Developing countries in Asia and Latin America, reeling under population pressure, forced to increase fertilizer consumption to feed their masses.
Issues Confronting Indian Agriculture

Small and fragmented land-holdings – 67% of Landholdings below 1 hectare.

Higher Agriculture Productivity - Key challenge.

Fertilizer Use per hectare significantly lower than neighbouring countries.

Strong agricultural prices and farmer margins - A pre-requisite for increased agricultural productivity.

Optimal fertilizer consumption is necessary for future yield increase provided it is available at a price which farmer can afford.
Productivity gaps in states having higher crop production and contribution towards National food grain production.

Linkages are needed between crop productivity and fertilizer consumption along with adoption of package of practices.
Increased Focus on Agriculture Sector

Global Economic growth @ 3.9% pa in the Medium Term. Indian economy growing @ 7.3% to 7.8% pa.

Government aggressively focusing on Agriculture.

Soil health and Environmental concerns are being addressed.

Budget allocation of US $ 5370 Million for Agriculture and Farmers Welfare.

Allocation of US$ 777 Mill for Micro-Irrigation and Watershed Development. Bringing 2.85 million hectares under irrigation

Support to Organic Farming/ City Compost.

Allocation of US$ 820 Mill to provide Farmers with Crop Insurance.
FERTILIZER UPDATE - INDIA
Fertilizer contribution 40-50% in Crop productivity.

Higher Farm gate price reduces fertilizer consumption and Food grain production.

Fertilizer inventory increased on account of 02 consecutive droughts in past two years.

Well timed contingency measures and promotion of better crop varieties restricted loss in production.

Good Monsoon this year. Food grain production targeted at 270 Mill MT in 2016-17 (7% rise).
La Niña occurrence favoured rains (~1216 mm) during the year 2010.

Area sown for food grain production increased by 4% and fertiliser consumption by 6% in 2010-11.

Monsoon rainfall likely to be above 106% of LPA in 2016. (LPA is 89 cm.)

Actual Rainfall was 715.2 mm against normal rainfall of 735.5 mm- departure by 3% (till 3rd Sep).

Net Area sown during Kharif Season has increased to 101.9 Mill ha (increase by 4.7% over last year).

Fertiliser consumption may witness an increase ??.

Price affordability an important concern.
**Fertilizer Policy Update - India**

- Government taking various steps to increase Domestic production and improve fertilizer availability in the country.
- Domestic Price guidelines 2014 introduced to align variations in Gas prices US$ 4.205 – 5.75 per MMBTU (Pre-2014).
- Gas Price Pooling w.e.f 01st June 2015 to incentivise Urea production at healthy Energy efficiency.
- Strong Commitment by Government for Revival of Old Fertilizers Units – Foundation Stone laid for two 1.3 Mill MTPA Urea project (Gorakhpur and Ramagundam)
- Mandatory production of Neem Coated Urea and Incentive for Secondary /Micro Nutrients.
- Nutrient Based Subsidy rates revision on periodical basis to lower the Subsidy burden.
- Possibility for Decanalisation of Urea imports.
- Direct Benefit Transfer (DBT) of Subsidy to farmers for greater efficiency in both Production and Distribution of fertilizers.
Nitrogenous Fertilizer – Downtrend in Domestic Gas Prices -India

Gas price has been aligned with the Gas price in Gas-surplus economies of US, Canada.

Global decline in Gas prices has reduced Gas price from US$ 5.05 to US$ 3.06 per MMBTU.

Cost Competitiveness with the Global prices. Favourable economics encouraging domestic production on equivalent Gas prices.

Gas Prices likely to further reduce to US$ 2.5 per mmbtu effective Oct’16. Urea production cost to reduce further.
Nitrogenous Fertilizers – Downtrend in Imported RLNG Prices

Feedstock for Nitrogenous fertilizer (Ammonia-Urea) is largely Natural Gas except for China.

Urea manufacturing Units benefitting from low Oil prices.

India benefitted as it pays through an Oil-linked pricing formula. Lower Oil prices lowered Gas prices.

RasGas, Qatar constitutes 70% of the total LNG (Gas) imported in India.

RasGas Contract Price renegotiation resulted in decline in RLNG prices since Jan’16 (from US$ 13.3 to US$ 5.6 per MMBTU).

Indian RLNG price now determined based on 03 months Crude average. (Earlier – 60 months).
Gas Price Pooling Policy for Urea and likely Scenario

Fall in Domestic Gas prices and RLNG – Gas Pool Price on downtrend.

Gas Price Pooling has resulted in increased domestic Urea production at lower production cost.

Highest ever Urea production of 24.5 Mill MT witnessed last year. Urea Import has lowered to certain extent.

Instances where Indigenous production was cheaper than Import Parity Price (IPP).

Urea Import Prices on the downtrend. Aggressive Price offered recently in last tender.

Low Gas Prices and Urea IPP to reduce Subsidy on Urea by approx. US$ 1650 Million this fiscal.
Price Affordability - An Important Dimension

Subsidy component on Urea is approx. 70% while Subsidy on P&K fertilizer is 30%.

Low MRP has resulted in higher Urea consumption (+3.5% growth).

P&K fertilizer consumption affected on account of higher MRP.

Raw Materials for P&K fertilizer fully Imported. Price Volatility directly impacts farm gate prices.

Higher US$-INR Parity increases the P&K fertilizers MRP.

Imports getting delayed on failed negotiations. Dilemma for Indian manufacturers.
Steering the Fertilizer Industry through Challenging Times

### Phosphoric Acid Imports for DAP/NPK Production - India

<table>
<thead>
<tr>
<th></th>
<th>Phosphoric Acid (CFR India)</th>
<th>Ammonia (CFR India)</th>
<th>Conversion Cost</th>
<th>DAP Cost of Production</th>
<th>Prevailing DAP Price (CFR India)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All figures in US$ per MT</td>
<td>545</td>
<td>600</td>
<td>240</td>
<td>240</td>
<td>340</td>
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<td>340</td>
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Imported DAP CFR India Price lower by US$ 85 per MT (2016-17 vs 2015-16) for NBS Price fixation.

Forex Parity depreciation effectively reduced the DAP Price by US$ 50 per MT.

Post Q1 2016, DAP Price in India have gone down to US$ 340 per MT.

However, Phosphoric Acid price in India reduced from US$ 715 per MT to US$ 600 per MT for 2nd & 3rd Qtr. 2016.

On prevailing Indian DAP CFR India Price, Phosphoric Acid should be ~US$ 545 per MT based on formula.
DAP Prices - India

DAP Indigenous Cost of Production is higher by about US$ 25 per MT over Imported DAP.

Companies carrying Inventory of 8.8 Mill MT DAP/ NPK as on 1\textsuperscript{st} August 2016.

Manufacturers have already absorbed additional burden of US$ 25 per MT on blocked Inventories through reduction in Farmgate Price.

High cost of Inventories, sellers reluctance to further lower the Farmgate Prices.

DAP Imports in 2016-17 are likely to be lower.
WEST ASIA CONTRIBUTION TO INDIAN FERTILISER IMPORTS
West Asia – A Major Exporter to India

West Asia – a resource rich region for Nitrogenous and Phosphatic fertilizers.

Ample availability pushed the region to increase their production capacities, to cater to high demand of fertilisers in nearby South and East Asia.

Fertilizer Export Potential - 50% of Installed Capacity (~47 Mill MT).

Ammonia, Urea, Rock Phosphate, Phosphoric Acid and DAP – Main Export Commodities.

Region exports more than 10 Mill MT fertilizers Raw Material/Intermediates/Finished Product to India.
Decline in West Asia Share - Ammonia

West Asia dominated Ammonia trade with almost 85% (1.7 Mill MT) share in 2010. Black Sea (Russian/Ukranian) Export to India was nil.

Over time, West Asia share has declined. Ammonia Export from Black Sea has reached 18% to meet the total Indian Demand of 02 Mill MT.

Natural Gas prices in Black Sea region higher than prices in West Asia.

West Asia Ammonia prices are higher compared to Black Sea/ Latin American prices.

Despite higher cost of production, Black Sea offering lucrative prices to penetrate Indian market.

Source : IFA/ Fertiliser Week
Opportunity for West Asia – Ammonia (Indian Region)

Yuzhny, Black Sea – Trade Centre for Ammonia.

Russian and Ukrainian supplies mainly to USA, Europe and Mediterranean - Netbacks are highest.

West Asia supplies to South Asian region.

Demand-Supply in South Asia was almost in a balanced situation in 2013.

Increasing demand in South Asian region. Opportunity for West Asia with price competitiveness.

Higher CFR India prices may leverage better margins to Black Sea/Latin America suppliers.
Decline in West Asia Share – Urea (Indian Region)

WA dominated Urea trade to India in 2009 with almost 73% share (3 Mill MT). China share - 10% (0.5 Mill MT).

WA has freight advantage of US$ 6-8 per MT over China. Despite that, ME share has reduced over period.

Lower Urea production in West Asian countries (feedstock supply problems/plant outages).

China moved in swiftly. Higher Capacity addition based on Coal made Chinese Urea more competitive and cheaper with lower Coal prices.

Indian Urea Import 2015: China share 71% (6 Mill MT) and West Asia share 29% (2.5 Mill MT).

Export from West Asian countries to India more competitive with higher net-backs due to freight advantage. However, West Asian countries exited Indian Market and focussed on Latin America, SE Asia with lower net back.

Source: IFA/ Fertiliser Week
Urea demand increasing at CAGR of 3%.

Government committed to revive old Fertilizer Units.

India’s Urea production to increase in near term by 6.7 Mill MT supported by New Capacity, New Energy norms, lower Natural gas prices.

Indian Urea import to reduce from 8.7 Mill MT to 7 Mill MT in 2016-17.

Urea Import likely to reduce from current level of 8.7 Mill MT to 3 Mill MT in 2020-21.

IFA projects Global Potential Surplus of 18 Mill MT by 2020 excluding recent Capacity additions announced by GOI.

Global Exportable Surplus to increase due to low Import demand. Lower Urea prices expected due to excess Supply.
Steering the Fertilizer Industry through Challenging Times

West Asia Share in Exports to India – Phosphatic

New Phosphate capacities built up in Saudi Arabia. DAP Export potential has increased.

Export of Rock Phosphate has declined.

Global Processed phosphates Capacity to grow in China. Proximity to India will make it prominent player in setting prices globally.

Source: IFA/ Fertiliser Week
Capacity Growth higher than the Demand Growth.

Ammonia & Urea capacity increasing by 10% between 2015 and 2020 to reach around 230 Mill MT each.

Phosphoric Acid and Potash Capacity to increase by 13% and 22% over the period to reach 65 Mill MT each.

Nitrogen surplus to increase to 14.4 Mill MT (+3 Mill MT) by 2020 from current level.

Phos. Acid surplus to marginally increase to 4.2 Mill MT (+0.3 Mill MT) by 2020.

Potash Potential surplus to double, reaching 8 Mill MT (+4 Mill MT) by 2020.

Higher Capacity Utilisation may substantially increase the Surplus quantities.

Higher Surplus to impact the Global prices.

Emphasis on Nutrient Use Efficiency, Speciality Fertilizers to have significant effect in lowering the Demand and increasing Surplus.
West Asia Region playing a Pivotal Role in Food Security

World population growth- 2 Billion more people by 2030. Fertilizers crucial in ensuring access to sufficient, edible and nutritious food.

Changes in GDP and population distribution across the globe will inevitably have an effect on where food will be produced and consumed as well as the trade flows of food.

West Asia region population and economic growth can determine fertilizer consumption growth to the physical limit of its arable land size. Exports to continue.

West Asia region fertiliser exports to Agricultural regions are critical for ensuring Global Food security, additionally earning valuable export revenues.

Traditionally a major food importer, West Asia region has to increase its Market share in taming growing competition in fertiliser trade by developing closer relationship with Agriculture regions.

Gulf countries are strategic fit to India’s agenda of securing long term supplies of key fertiliser material/intermediates.
Affordable Fertiliser to Farmers is an influencing factor impacting fertiliser demand in India.

Government intervenes in Price Control and Supply Plans. Benchmarks Farm gate prices of P & K fertilisers directly or indirectly to ensure affordability.

Policy framework restricts domestic manufacturers to pass on Price impact to farmers. India seeks reasonable Prices for key intermediates to sustain domestic production.

Global Suppliers need to respond more conducively to situational demands.

Prices vary from ground reality and often influenced largely by demand of major importing countries.

Cartelisation and Monopolistic approach can destabilise business environment.

India calls for building trade relations aimed at Win-Win situation for all stakeholders.