Indian Chem 2018
Indian Agrochemical Market Scenario and opportunities

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Vice President,
Dhanuka Agritech Ltd.
India - Country Of Vast Opportunity

Indian Agriculture

Global Outlook

Indian Agrochemicals Market

Government Thrust and Support
INDIA – COUNTRY OF VAST OPPORTUNITY

1.34 Billion
2nd LARGEST

1.7%
EXPECTED TO BE MOST POPULATED IN NEXT 10 YRS

25%
WORLD’S RURAL POPULATION IN INDIA

156 Mil Ha
WORLD’S 2nd LARGEST
TOTAL ARABLE LAND

329 Mil Ha
7th LARGEST IN WORLD
TOTAL LAND

POPULATION

1.34 Billion
2nd LARGEST

POPULATION GROWTH

RURAL POPULATION

All these are strong demand drivers for Agricultural products

Source: FAOSTAT (as on 26.12.2016), World Bank data
Largest country by total area with 2.4% share of world’s land

Largest Agriculture area with 11% share of the total arable land of world

Source: FAOSTAT (as on 26.12.2016)
Highest Population in the world with 17.6% share of world population

Highest number of people living in Rural areas with 25.6% share of world’s rural population of total population is directly dependent on agriculture

Source: FAOSTAT (as on 26.12.2016)
World population is expected to reach more than **9 billion** by **2050** from 2.5 billion in 1950.

However world **arable land** is reducing continuously from 0.52 ha per person to **0.2 ha per person** which is a matter of concern.

We have to increase global average productivity to feed rising population.
Low value for India due to small farm holdings and low productivity

Agriculture value added per worker is a measure of agricultural productivity. Value added in agriculture measures the output of the agricultural sector.

Agriculture (% GDP) includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production.

Source: http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS
Crop Protection – Brazil surpassing the USA as No 1 market in 2017

Key changes

- Brazilian CP market increased by 14% and takes the No.1 spot from the USA
- India surpassed Argentina and France in market value as those markets declined and India grew


India has emerged as 5th largest in Domestic CP Market

Kleffmann Group ©2018
There is growing trend of sourcing both formulated product and technical material from India.

As China relook into their regulatory and environment laws, India can emerge as the main sourcing country for Crop Protection products.
INDIA : GLOBAL PERSPECTIVE

Good

- Fastest growing economy
- 4th largest producer of crop protection chemicals globally.
- Robust regulatory system in place
- Per-capita consumption of chemicals is still lower. Opportunity to Grow
- Increasing population, decreasing per capita availability of arable land & focus on increasing agricultural yield.
- Pool of scientific talent; strong R&D capabilities
- Strong manufacturing skills

Suggested improvements

- Improve enforcement and stewardship
- Incentive for bringing in new products/innovation-Encourage RD
- Ease of doing business

India Can become major sourcing hub for Crop Protection products
In world, India accounts for 7.68% of global agricultural output. Per hectare productivity is very low at 3 MT per hectare vs world average of 4 MT per hectare due to lack of scientific methods of agriculture.

**Indian Agriculture**

Source: FAOSTAT (as on 26.12.2016)
India grows the highest number of crops in the world
## AGRICULTURAL PRODUCTIVITY IN INDIA

<table>
<thead>
<tr>
<th>CROP</th>
<th>AREA RANK</th>
<th>GLOBAL PRODUCTIVITY (MT / HA)</th>
<th>INDIA PRODUCTIVITY (MT / HA)</th>
<th>GAP IN PRODUCTIVITY (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton</td>
<td>1</td>
<td>1.34</td>
<td>0.96</td>
<td>28</td>
</tr>
<tr>
<td>Soybean</td>
<td>5</td>
<td>2.4</td>
<td>1.1</td>
<td>54</td>
</tr>
<tr>
<td>Rice</td>
<td>1</td>
<td>5.0</td>
<td>3.0</td>
<td>40</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>2</td>
<td>70.6</td>
<td>70.4</td>
<td>0.3</td>
</tr>
<tr>
<td>Maize</td>
<td>4</td>
<td>5.6</td>
<td>2.6</td>
<td>54</td>
</tr>
<tr>
<td>Tomato</td>
<td>3</td>
<td>28.0</td>
<td>19.6</td>
<td>30</td>
</tr>
<tr>
<td>Potato</td>
<td>3</td>
<td>18.0</td>
<td>19.9</td>
<td>-11</td>
</tr>
<tr>
<td>Groundnut</td>
<td>1</td>
<td>1.3</td>
<td>0.9</td>
<td>31</td>
</tr>
<tr>
<td>Onion</td>
<td>2</td>
<td>19.4</td>
<td>16.1</td>
<td>17</td>
</tr>
<tr>
<td>Pulses</td>
<td>1</td>
<td>9.9</td>
<td>6.6</td>
<td>33</td>
</tr>
</tbody>
</table>

Opportunity to help farmer to Grow More and Grow Better

Source: FAOSTAT (as on 26.12.2016), agricoop.gov.in
Losses in Indian Agriculture amount to USD 50 Billion, i.e., 12.46% of Total Agricultural output – USD 401.3 Billion.

Source: World Bank national accounts data, agricoop.nic.in
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INDIAN AGROCHEMICALS MARKET

Domestic Market Size of India @72 INR per USD

Brazil market size is 5 times the market size of India

Brazil’s agricultural area in comparison to India (Higher consumption of Agrochemicals)

There is huge opportunity for Indian market to grow fast with expected CAGR - 8%

Source: World Bank national accounts data, TSMG report
INDIAN AGROCHEMICALS MARKET

EXPECTED MARKET SIZE IN BILLION USD @8% CAGR

<table>
<thead>
<tr>
<th>Year</th>
<th>Market Size (Billion USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>2.5</td>
</tr>
<tr>
<td>2018</td>
<td>2.7</td>
</tr>
<tr>
<td>2019</td>
<td>2.9</td>
</tr>
<tr>
<td>2020</td>
<td>3.1</td>
</tr>
<tr>
<td>2021</td>
<td>3.4</td>
</tr>
<tr>
<td>2022</td>
<td>3.7</td>
</tr>
</tbody>
</table>
Highest Crop losses due to weeds (37% share) and very low usage of herbicides (20% share)
Indian Agrochemical – Value - Export - Import

Export of agrochemicals (Technical and formulations) is very high compared to Import resulting into TRADE SURPLUS.

Net Export of agrochemicals continuously increasing and acting as an export driver.

The Export of agrochemicals is playing a significant role to counter trade deficit in Chemicals Sector.

Source: Ministry of Chemical & Fertilizer, GOI
REQUIREMENT OF INDIAN AGROCHEMICAL INDUSTRY

- Newer and **Safer products**
- **Integrated** Agrochemical Plants
- **Export** Oriented Plants
- **Fast Registration** of New Technology
GOVERNMENT THRUST ON AGRICULTURE

Prosperous farmers for a prosperous nation

Modi Government continuously striving for holistic development of Indian agriculture

Agricultural schemes yielding remarkable results

e-NAM
- 455 Mandis are now live on e-Nam across 13 States
- Over 48 lakh farmers registered on the platform

Soil Health Cards
- More than 9 crore Soil Health Cards have been dispatched

Under ‘Per Drop More Crop’
- 15.94 lakh hectares brought under micro irrigation from 2015-2020

Doubling of farmers’ income by 2022
- *Rs.16,094.13 crore funds released to achieve this goal
  *As on 3 August 2017

Source: Ministry of Agriculture and Farmers Welfare
## Government Thrust on Agriculture in India

**MSP Sees A Hike Up To 53%**

<table>
<thead>
<tr>
<th>Crop</th>
<th>Current MSP</th>
<th>Earlier MSP</th>
<th>Hike %</th>
<th>Current MSP</th>
<th>Earlier MSP</th>
<th>Hike %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine Paddy</td>
<td>1,770</td>
<td>1,590</td>
<td>11.3%</td>
<td>3,399</td>
<td>3,050</td>
<td>11.4%</td>
</tr>
<tr>
<td>Common Paddy</td>
<td>1,750</td>
<td>1,550</td>
<td>12.9%</td>
<td>6,249</td>
<td>5,300</td>
<td>17.9%</td>
</tr>
<tr>
<td>Maize</td>
<td>1,700</td>
<td>1,425</td>
<td>19.3%</td>
<td>5,388</td>
<td>4,100</td>
<td>31.4%</td>
</tr>
<tr>
<td>Tur</td>
<td>5,675</td>
<td>5,450</td>
<td>4.1%</td>
<td>4,890</td>
<td>4,450</td>
<td>9.9%</td>
</tr>
<tr>
<td>Urad</td>
<td>5,600</td>
<td>5,400</td>
<td>3.7%</td>
<td>5,150</td>
<td>4,020</td>
<td>28.1%</td>
</tr>
<tr>
<td>Jowar</td>
<td>2,430</td>
<td>1,700-1,725</td>
<td>42.9%</td>
<td>5,450</td>
<td>4,320</td>
<td>26.1%</td>
</tr>
<tr>
<td>Bajra</td>
<td>1,950</td>
<td>1,425</td>
<td>36.8%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ragi</td>
<td>2,897</td>
<td>1,900</td>
<td>52.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moong</td>
<td>6,975</td>
<td>5,575</td>
<td>25.1%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: CNBC TV 18 News report
GOVERNMENT THRUST ON AGRICULTURE IN INDIA

Crop Insurance
Scheme for farmers

PRADHAN MANTRI FASAL BIMA YOJANA
Minimum Premium, Maximum Insurance for Farmer Welfare

Assistance to farmers
- 60 days' interest on select farm loans will be borne by the government
- 3 crore Kisan credit cards to be converted to RuPay cards

Credit Facilities for Farmers

Source: india.gov.in
EASE OF DOING BUSINESS

Infrastructure Development

Defined Chemical Zones and Special Economic Zones are available

Make in India – to benefit companies setting up their facilities in India
EASE OF DOING BUSINESS

India’s ‘Ease of Doing Business’ Rankings

1. Source: World Bank
2. 2018 Ranking Measures Period Between June 2016 & May 2017; Same Pattern for Each Year
INDIAN MARKET OPPORTUNITY

Opportunity to establish new chemical plant in India

Availability of Qualified and skilled manpower at reasonable cost

We invite you to come to India for your business expansion and growth
CONCLUSION

- India has vast opportunity available due to its population and high dependence on agriculture.
- India is 2nd highest in agricultural production globally, but per hectare productivity is low.
- Indian agrochemical market has high potential to grow for both domestic consumption as well as for exports.
- Tremendous support from government for agriculture and for supporting business in India.
- Favorable environment for agrochemical companies to set up operation in India and bring new safer chemistry to Indian market.
Thank You