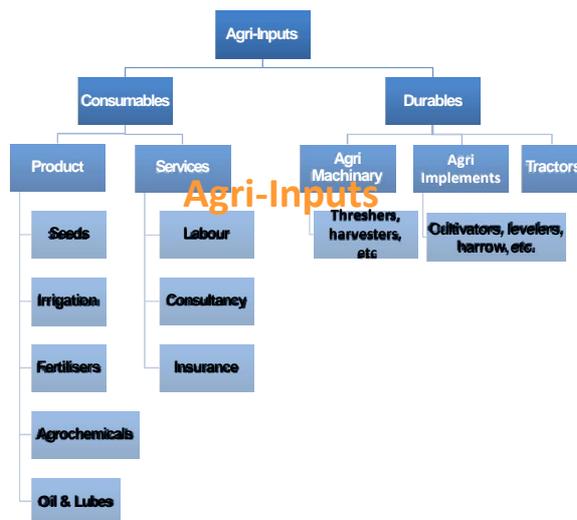


# **Agri-Input Marketing**

## Understanding Agri-Input Market

- Classification
- Nature of demand
- Marketing environment
- Marketing mix

## Classification

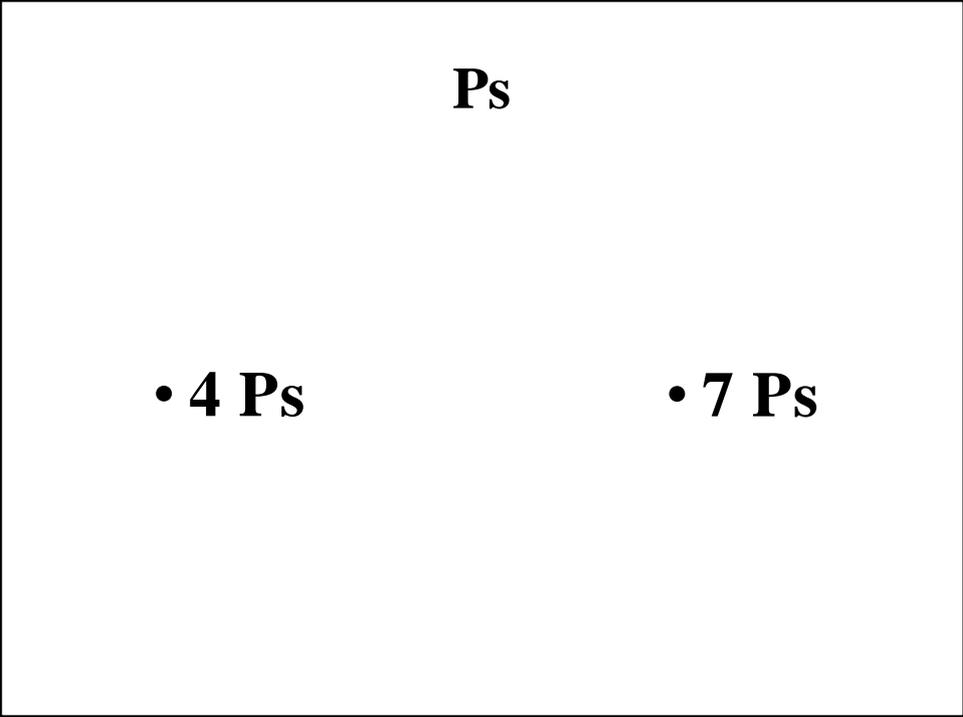
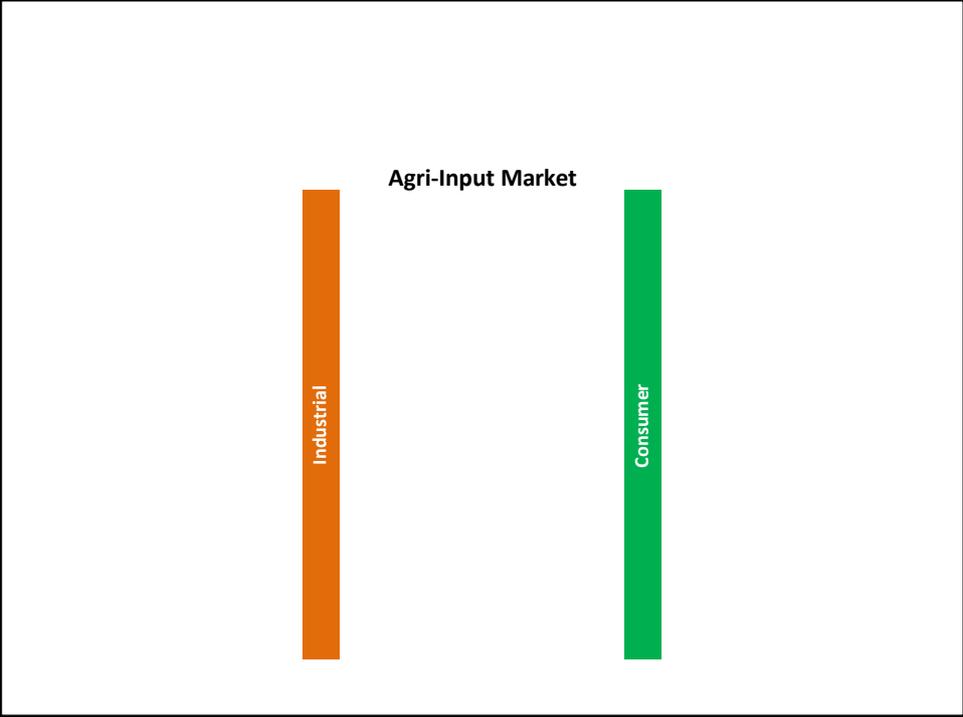


## **Nature of Demand**

- Derived
- Complementary
- Dependant
- Relatively inelastic
- Dynamic
- Recurring
- Seasonal

## **Characteristics**

- **Industrial goods**
- **Consumer Goods**



**7Ps**      **7Cs**

## **4Ps - Marketing Mix**

- **Price**
  - Both industrial and agri-inputs share similar response
  - Both the users are concerned about quality and price. Balance
- **Product**
  - Both users are more concerned and interested to know the tech. aspects and performance
  - Both seek product knowledge and advisory

## 4Ps - Marketing Mix

- **Place**

- No. of channel members
- Network intensity
- Role of channel members
- Demand creation/generation by channel

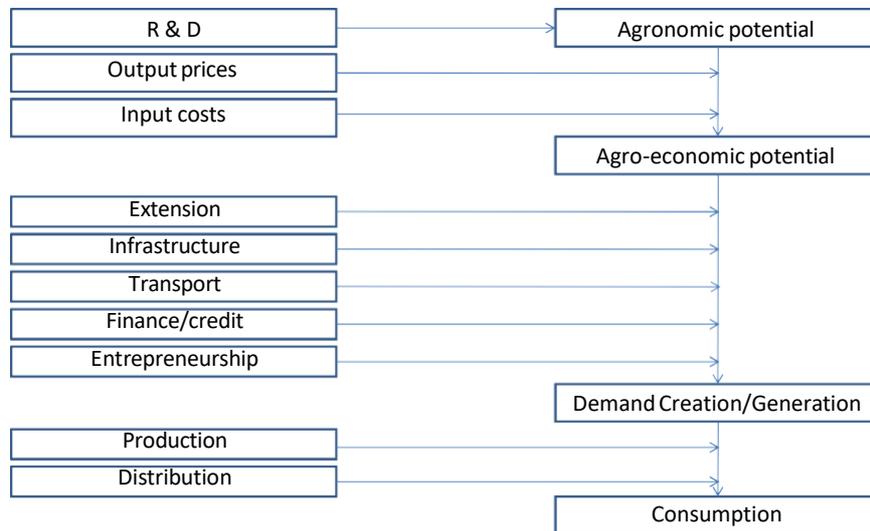
- **Promotion**

- BTL Vs ATL
- Intensity

## Characteristics

	Consumer	Industrial	Agri-Inputs
Product		*	*
Place	*		*
Price	*		*
Promotion	*	*	*
People		*	*
Physical Env.		*	*
Process		*	*

## Marketing Model for Agri-Inputs

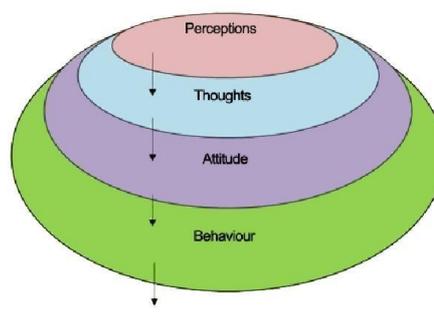


## Marketing Environment

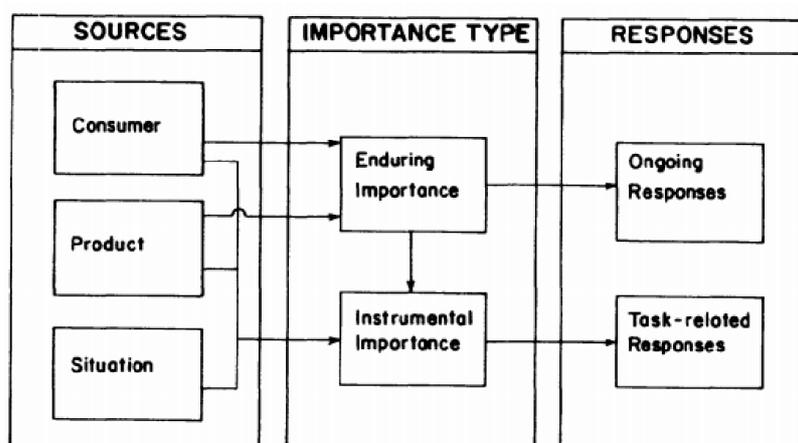
- Farmers perception
- Demand creation
- Consumption

# Farmers Perception

- Why does the farmer use inputs
  - Usefulness
    - Agronomic potential
      - Derived
      - Complimentary
      - Package
        - » Demand?



# A Model of Product Importance



## **Demand Creation/Generation**

- Demand
  - Input cost
    - Input price
    - Input cost
  - Incremental output value
    - cost
      - **Agro-economic potential of the Agro-input**

## **Demand Creation/Generation**

- Strategies
  - Pull or Push
    - 
    - 
    -
  - Consumer oriented or Trade oriented

## Distribution

- Example

- No of products – 10

- Packs – 6

- Regions/states – 10

- Dealers – 17207

- Farmers - 9.87 million

- 2 times a year

Fertilizer Sold in 2016-17  
541.69 LMT

No. of Companies : 160

No. of Wholesalers : 22370

No. of Retailers : 263939

<http://mfms.nic.in>

## Fertilisers

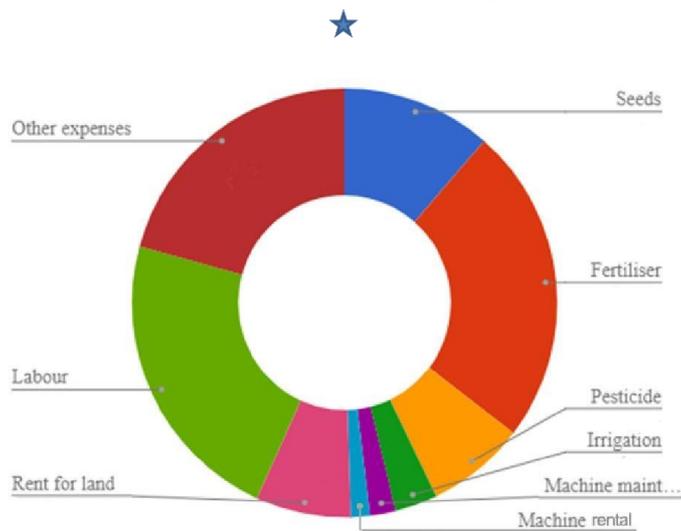
# Agribusiness

## Input Business

## Output Business

- Agrochemicals
  - PPC
    - Insecticides
    - Fungicides
    - Antibiotics
    - Nematicide
  - Herbicides
  - PGR
- Fertilisers
- Seeds
- Machinery
- Finance

# Cost Breakup



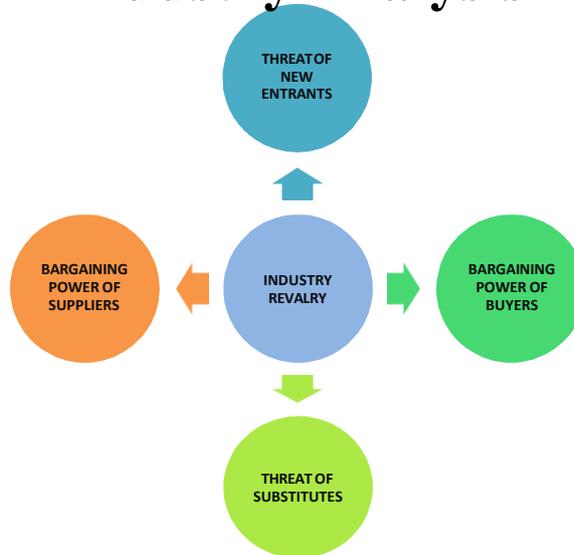
## **Fertilisers**

**Synthetic or natural** products applied to **soil or to the foliage**, supply **certain essential nutrient** to the plant for nutrition and growth are known as **Fertilisers, Chemical Fertilisers or Commercial Fertilisers.**

## **Salient Features**

- Contributes 40-50% of the agricultural productivity
- 3<sup>rd</sup> highest fertiliser production
- Over 120 units
  - 57 -Large
  - 64 -Medium

## Industry Analysis



## Classification

- **Source**
  - Organic
  - Inorganic
- **Physical property**
  - Solid
  - Liquid
- **Packaging/Usage**
  - Bulk
  - Specialty
- **Ingredients**
  - Complete
  - Incomplete
- **Chemical Property**
  - Straight
  - Mixed
  - Complex

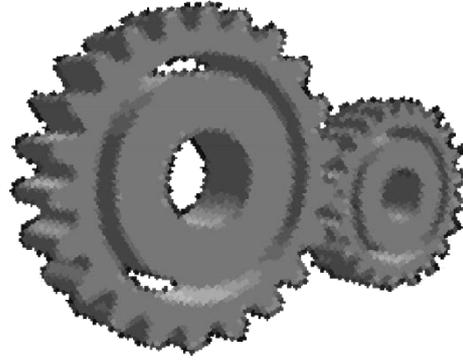
## **What?**

- What is the need for fertilisers?
- What is the need of the plant/crop?
- What is supplied by the fertilisers?

## **Industry Makeup**

- Consumer/Customer
- Channel
- Importers
- Manufacturers
- State Governments
- Government of India

# Industry Evolution



## THE PAST 50 YEARS

- New born independence
- Famine of 50s
- 80% population dependent on agriculture
- Contribution of agriculture to GDP-50%
- National insult PL 480
- Need to embark on crash programme on all fronts

### Policy Requirements

- Land reforms & consolidation
- Development work on seeds
- Irrigation
- Fertilizers
- Infrastructure

## THE PAST 50 YEARS

### POLICY REQUIREMENT

- Land reforms & consolidation
- Development work on seeds
- Irrigation
- Fertilizers
- Infrastructure

## HISTORY

**1977**

Introduction of **RPS**

**1973**

Rise in import prices after oil price hike

**1972**

GoI specifies **Area Quota** for fertilisers under **ECA**

**1966**

Distribution control relaxed; focus on building good distribution system, PVT sector investment encouraged

**1957**

**Fertiliser Control Order** made effective

**1956**

Industrial policy recognises fertiliser as core sector. Fertiliser control pool created.

## HISTORY

<b>January 2011</b>	Nutrient Based Subsidy (NBS)
<b>October, 2006 January, 2011</b>	New Pricing Scheme (NPS) Stage- III
<b>March, 2004 March, 2006</b>	New Pricing Scheme (NPS) Stage- II
<b>April 1, 2003</b>	New Pricing Scheme (NPS) Stage - I
<b>March 31, 2003</b>	RPS dismantled
<b>October 1994</b>	Ammonium chloride, Ammonium sulphate and CAN were also removed
<b>August 1992</b>	Phosphahtic and potassic fertilizers were removed from the RPS system

## RETENTION PRICE SCHEME

- Recommended by Marathe Committee
- RPS Introduced in Nov.1977
- RPS covered N and Pfertilizers.
- Aimed at providing secured environment to attract investment

## RPS - Salient Features

- Unit specific retention price fixed
- Cost of raw material, utilities and conversion cost determined and fixed
- Capital related charges included
- Cost determination at normative level
- Pricing period cycle – 3 Years
- Escalation de escalation considered quarterly

F. No. 23011/17/2016-MPR Government of India Department of Fertilizers ...			No. 23011/12/2017-MPR भारत सरकार Government of India उर्वरक विभाग Department of Fertilizers		
Shastri Bhawan, New Delhi Dated the 17 <sup>th</sup> April, 2017			Shastri Bhawan, New Delhi Dated the 16 <sup>th</sup> April, 2018		
<b>OFFICE MEMORANDUM</b>			<b>OFFICE MEMORANDUM</b>		
Subject: Implementation of the Nutrient Based Subsidy (NBS) policy for Phosphatic and Potassic (P&K) Fertilizers and revision in the NBS Rates for 2017 - 18.			Subject: Implementation of the Nutrient Based Subsidy (NBS) policy for Phosphatic and Potassic (P&K) Fertilizers, revision in the NBS Rates for 2018 - 19 and other issues.		
The undersigned is directed to convey that per Kg subsidy on nutrients, namely Nitrogen (N), Phosphate (P), Potash (K) and Sulphur (S) contained in P&K fertilizers covered under NBS Policy for the year 2017-18 applicable from 1 <sup>st</sup> April 2017 shall be as under:			The undersigned is directed to convey that per Kg subsidy on nutrients, namely Nitrogen (N), Phosphate (P), Potash (K) and Sulphur (S) contained in P&K fertilizers covered under NBS Policy for the year 2018-19 applicable from 01 <sup>st</sup> April 2018 shall be as under:		
S. No	Nutrients	NBS (Rs. per Kg of Nutrient)	S. No	Nutrients	NBS (Rs. per Kg of Nutrient)
1	N	18.989	1	N	18.901
2	P	11.997	2	P	15.216
3	K	12.395	3	K	11.124
4	S	2.240	4	S	2.722

2. The per MT subsidy on various grades of P&K fertilizers covered under FCO and NBS Policy for 2017-18 applicable from 1 <sup>st</sup> April, 2017 shall be as under: -			2. The per MT subsidy on various grades of P&K fertilizers covered under FCO and NBS Policy for 2018-19 applicable from 01 <sup>st</sup> April, 2018 shall be as under: -		
S. No	Name of fertilizers	NBS Rates for 2017-18	S. No	Name of fertilizers	NBS Rates for 2018-19
1	DAP : 18-46-0-0	8937	1	DAP : 18-46-0-0	10402
2	MOP : 0-0-60-0	7437	2	MOP : 0-0-60-0	4674
3	SSP : 0-16-0-11	2166	3	SSP : 0-16-0-11	2734
4	NPS 20-20-0-13	6488	4	NPS 20-20-0-13	7177
5	NPK 10-26-26-0	8241	5	NPK 10-26-26-0	8730
6	NP 20-20-0-0	6197	6	NP 20-20-0-0	6923
7	NPK 15-15-15	6307	7	NPK 15-15-15	6766
8	NP 24-24-0-0	7437	8	NP 24-24-0-0	8188
9	AS: 20.5-0-0-23	4408	9	AS: 20.5-0-0-23	4501
10	NP 28-28-0-0	8676	10	NP 28-28-0-0	9553
11	NPK 17-17-17	7375	11	NPK 17-17-17	7991
12	NPK 19-19-19	8242	12	NPK 19-19-19	8966
13	NPK 16-16-16-0	6941	13	NPK 16-16-16-0	7259
14	NPS 16-20-0-13	5729	14	NPS 16-20-0-13	6421
15	NPK 14-35-14	8593	15	NPK 14-35-14	9529
16	NPS 24-24-0-8*	7437	16	NPS 24-24-0-8*	8186
17	MAP : 11-52-0-0	8327	17	MAP : 11-52-0-0	9881
18	TSP : 0-46-0-0	5519	18	TSP : 0-46-0-0	6008
19	NPK 12-32-16	8101	19	NPK 12-32-16	8517
20	NPK 14-28-14	7753	20	NPK 14-28-14	8464
21	NPKS 15-15-15-09	6709	21	NPKS 15-15-15-09	7031

\* Subsidy on Sulphur not included

Grades of Fertilizers	
DAP : 18-46-0-0	14-28-14-0
MAP : 11-52-0-0	14-35-14-0
TSP : 0-46-0-0	15-15-15-0
MOP : 0-0-60-0	AS: 20.3-0-0-23
16-20-0-13	20-20-0-0
20-20-0-13	28-28-0-0
23-23-0-0	17-17-17-0
10-26-26-0	19-19-19-0
12-32-16-0	SSP(0-16-0-11)

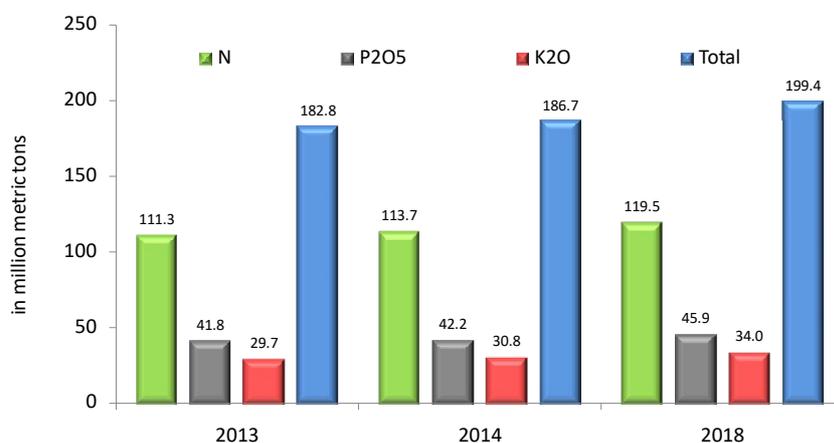
Grades of Fertilizers	
DAP (18-46-0-0)	15-15-15-0
MAP (11-52-0-0)	17-17-17-0
TSP (0-46-0-0)	19-19-19-0
MOP (0-0-60-0)	Ammonium Sulphate (20.6-0-0-23)
SSP (0-16-0-11)	16-16-16-0 (w.e.f. 1.7.2010)
16-20-0-13	15-15-15-9 (w.e.f. 1.10.2010)
20-20-0-13	24-24-0-0 ( w.e.f. 22.6.2012)
20-20-0-0	DAP Lite(16-44-0-0) (w.e.f. 1.2.11)
28-28-0-0	24-24-0-8 (wef 12.11.13 to 14.2.15) without subsidy on S
10-26-26-0	DAP 4S (w.e.f. 25.2.13 to 7.11.13) without subsidy on S
12-32-16-0	DAP Lite-II(14-46-0-0) (w.e.f. 30.8.2011 to 29.8.2012)
14-28-14-0	MAP Lite (11-44-0-0) (w.e.f. 30.8.2011 to 29.8.2012)
14-35-14-0	13-33-0-6 (w.e.f. 30.8.2011 to 29.8.2012)

SOLUBLE FERTILIZERS	
S.No	Particulars
1	Krista – K (KNO <sub>3</sub> )
2	CaNO <sub>3</sub>
3	19:19:19
4	20:20
5	SOP (0-0-50-17)

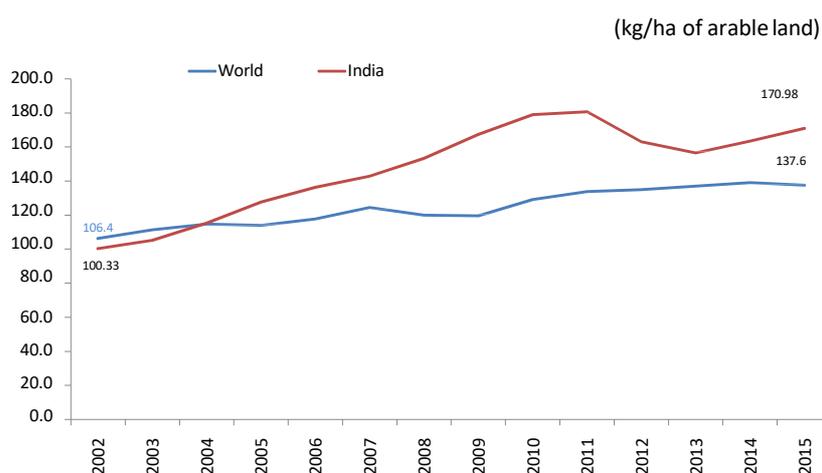
MICRONUTRIENTS	
S.No	Particulars
1	Photosal Garden mix
2	Rose mix
3	Micronol
4	Jayamin
5	Coconut micronutrient
6	Zinc Sulphate
7	Copper Sulphate
8	Magnesium Sulphate
9	Manganese Sulphate
10	Ferrous Sulphate
11	Neem cake
12	Borax (10 %)
13	Borax (20 %)

## Global Consumption of Fertilizer by Nutrient



IFA

## Global Fertilizer Consumption

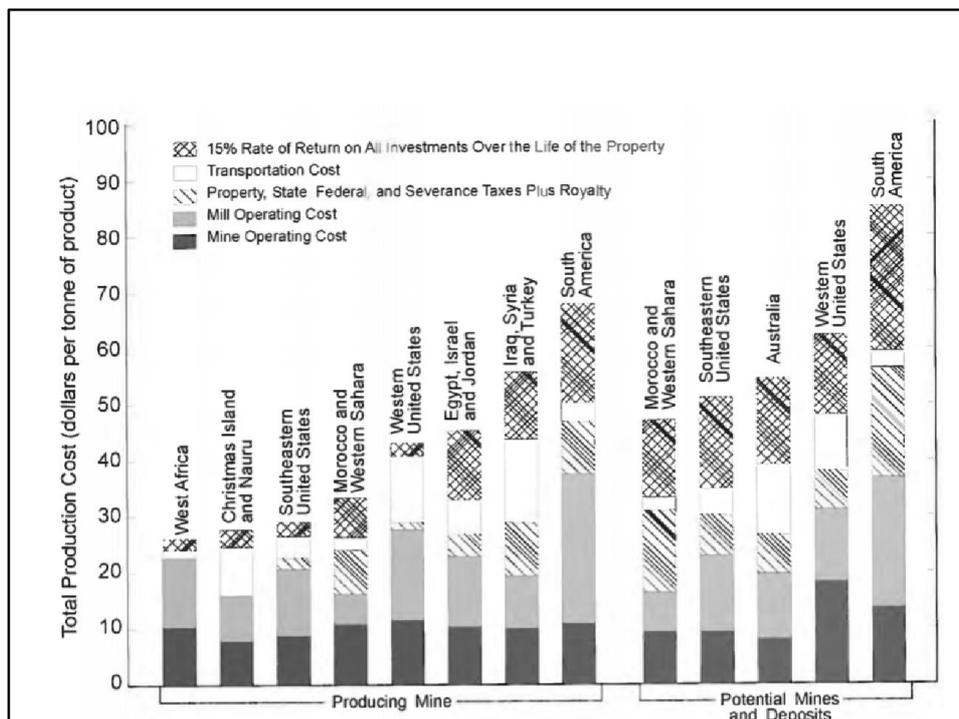


Worldbank

## Regional and Subregional share of World Increase/Decrease in Fertilizer Consumption & Supply, 2014-2018

	N	N	P	P	K	K
<b>Africa</b>						
North Africa	2.5	19.7	2.1	37.4	0.5	
Sub-Saharan Africa	5.4		2.0		5.3	
<b>Americas</b>						
North America	4.8	14.1	2.7	-6.6	2.2	53.3
Latin America & Caribbean	17.6	7.4	26.1	3.7	24.3	
<b>Asia</b>						
West Asia	57.7	4.1	8.1	57.6	7.3	24.9
South Asia	42.1	24.5	3.4	62.8	31.3	2.6
East Asia		29.1	30.6	19.0	35.3	56.3
						12.0
<b>Europe</b>						
Central Europe		3.3	0.9	2.9		2.8
West Europe		-1.5		0.3		2.0
East Europe & Central Asia		9.0	16.0	5.9	3.0	6.0
						34.8
<b>Oceania</b>						
		1.3	0.4	0.5		0.4

<http://www.fao.org>



## Production and Reserves of Potash

in million tonnes

Country	Production	Reserves
Canada	12.0	1,000
Russia	7.2	500
Belarus	6.4	750
China	6.2	360
Germany	2.9	150
Israel	2.2	270
Jordan	1.3	270
Chile	1.2	150
Spain	0.7	44
United States	0.5	210
United Kingdom	0.5	40
Brazil	0.3	24
Other countries	0.5	90
<b>World total</b>	<b>42.0</b>	<b>3,900</b>

## Industry Drivers

- Government Policy
  - EXIM
  - Subsidy
  - FCO
  - Output Market
- Production
  - Raw Material
  - Location
- Marketing
  - Distribution
    - Primary
    - Secondary
    - Warehousing
  - Seasonality

## Government Policy

- EXIM Policy
  - Import
  - Export
- Subsidy
  - Production
  - Transport
  - Payment
- ECA
  - FCO
    - Grades
    - Quality
    - MRP
    - Movement
- Output Market
  - Policy
  - Regulated markets
  - Traders
  - MSP

## Government Policies

- Essential Commodity Act - 1955
- Fertiliser Control & Movement Order – 1985
  - Production
  - Packaging
  - Movements
  - Labeling
  - Selling
  - Reporting
- The Legal Metrology Act, 2009 # No. 1 of 2010
  - The Standards of Weights And Measures Act -1976
-



## Production

- Raw Material
  - Sourcing of Raw Material
    - Imported – RP,S and MOP
    - Quality, Cost, Time
  - Production Efficiency
    - Use of cheap and efficient technology
    - The value addition very limited
- Geographic
  - Location of Plant
    - Complex units limited to east & west coast
    - Urea units in the East (3.15) North (79), West (95) and South India (30)– Lakh MT
  - Markets – Across the country



# Inventory

## The Necessary Evil

- Inventory Management
  - Cost of warehousing
  - Cost of capital
  - Opportunity cost
  - Deterioration of quality
    - Physical Quality
    - Chemical Quality

# Channel

- Questions
  - How to reach the consumers
  - How to control costs and save time
  - How to build a competitive advantage
- Decisions
  - Types
    - Indirect distribution
    - Direct distribution
    - Intensive distribution
    - Selective distribution
    - Exclusive distribution
  - Development
  - Management
    - Service
    - Motivation
    - Conflict

## Credit

- Channel Credit
  - Assessment – no records available
    - Geographic location
    - Dealer
      - Personal standing
      - Period in business
      - Type of firm – proprietor, partnership, etc
      - Types of business – multiple business
      - Infrastructure
        - » Warehouse – Nos. & capacity
        - » Vehicles
        - » Manpower – skilled, semi-skilled & unskilled

### Credit contd...

- Sales - Retail Vs Wholesale
  - Financial
    - » Own investment
    - » No. of banks operating
    - » Banker opinion
  - Past record - U and others
    - » Sales volume
    - » Payment schedule
    - » Relationship
- Limit finalisation
- Control
- Indicators
  - Delay in payment
  - Cheque dishonour
  - Under cutting
  - Diversification – no synergy

## Market Scenario

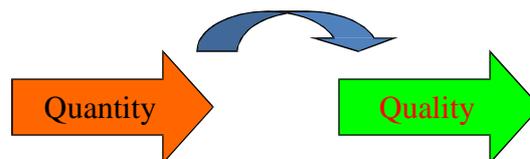
- Channel
  - Investment is shrinking
  - Number of players increasing
  - Profit margins reducing
- Farmer Purchasing power
  - Very poor growth rate
- Customer spread
  - 593 Districts
  - 6.38 lakh villages
  - 1273 Lakh farmers
- Changing requirements
  - Dependant on crop
    - Crop coverage – climate, price etc
    - Soil status
  - Season
  - Government policy
    - Restrictions

## TRENDS

Focus is shifting from  
maximizing yield

to

maximizing value by meeting a specific quality  
standard with a minimum of reject.



## 2

Focus is shifting from single products to creating value through a balanced, crop specific plant nutrition concept



## 3

Crop Competence will become more and more crucial, but even more so the capacity to transmit the superior knowledge to the end user (the farmer)



## 4

### Environmental and ecological factors gain importance

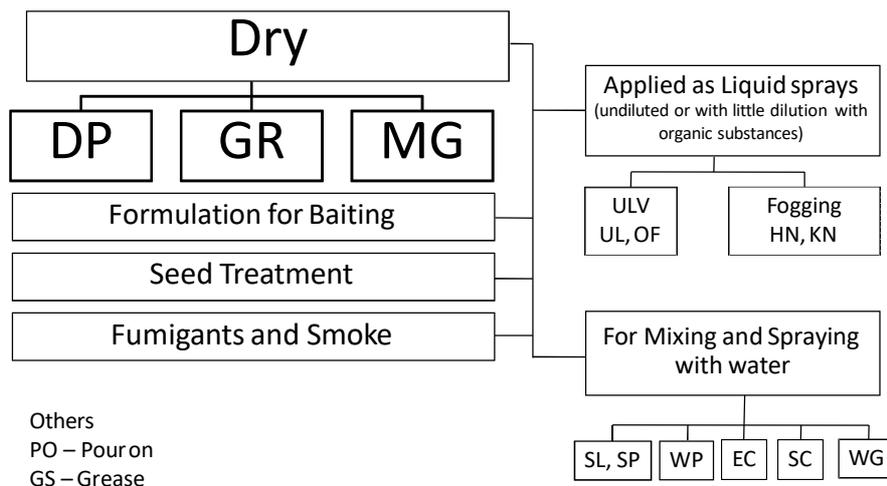
- Will lead to continued growth in fertigation (5-6% p.a)
- Could mean a clear growth in foliar application as means of optimal application
- More attention to localised inputs such as placement
- Continued focus on transparency in the value chain

## **Agrochemical & Crop Protection Industry**

# CLASSIFICATION

- Chemical Nature
  - Organic
    - Natural - Rotenone and pyrethrum
    - Synthetic - permethrin, malathion, glyphosphate etc
  - Inorganic
- Target Pest
- Chemistry
  - Organochlorines – Chlordane, DDT
  - Organophosphates - Malathion
  - Carbamates - Propoxur
- Mode of Action
  - Stomach toxicants
  - Contact toxicants
  - Fumigants
  - Systemic toxicants
  - Chemical repellents

# CLASSIFICATION - FORMULATION

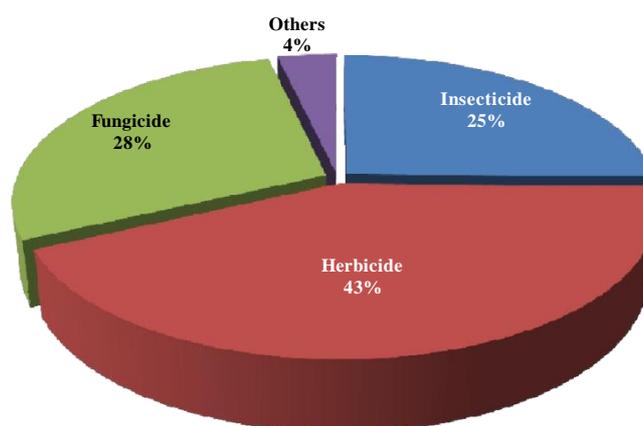


## Global Agrochemical Market

(\$ million)

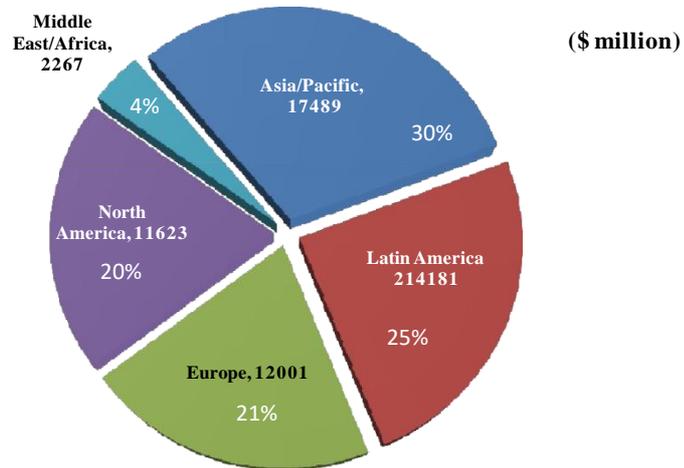
Market segment	2017	% change	2018
Crop protection	54,319	5.6	57,561
Non-crop pesticides	7,311	3.0	7,538
<b>Total</b>	<b>61,630</b>	<b>5.3</b>	<b>65,099</b>

## Crop Protection Market by Category

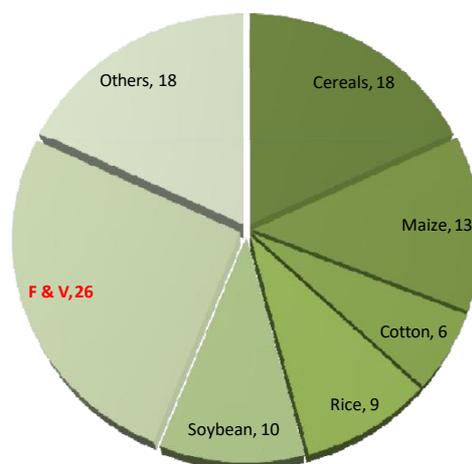


Source: [www.agrow.com](http://www.agrow.com)

## Geographical share of Global Crop Protection Industry 2018



## Global PPC Market by Crops



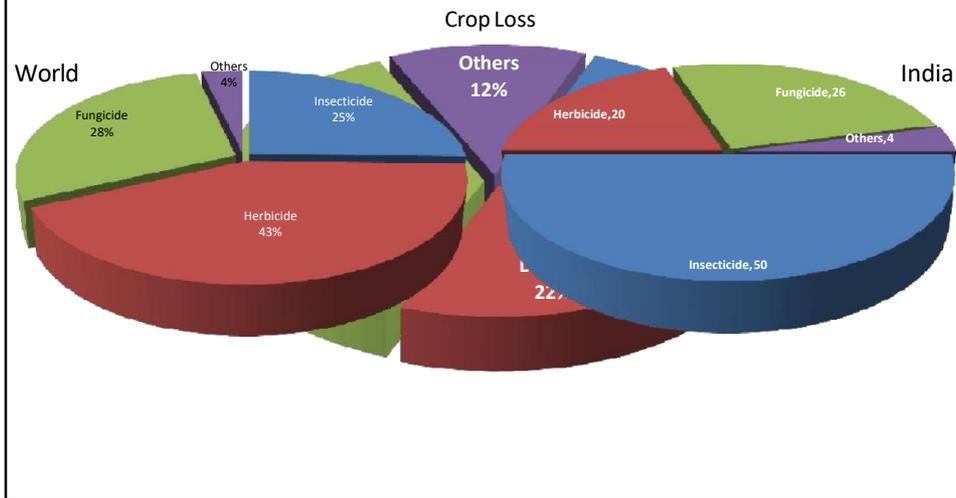
## Industry Structure

- Agrochemicals
  - Technical grade manufacturers - 125,
  - Formulators - 800 and
  - Distributors - 1,45,000
  - 4<sup>th</sup> Largest producer
  - Major exporters of agrochemicals

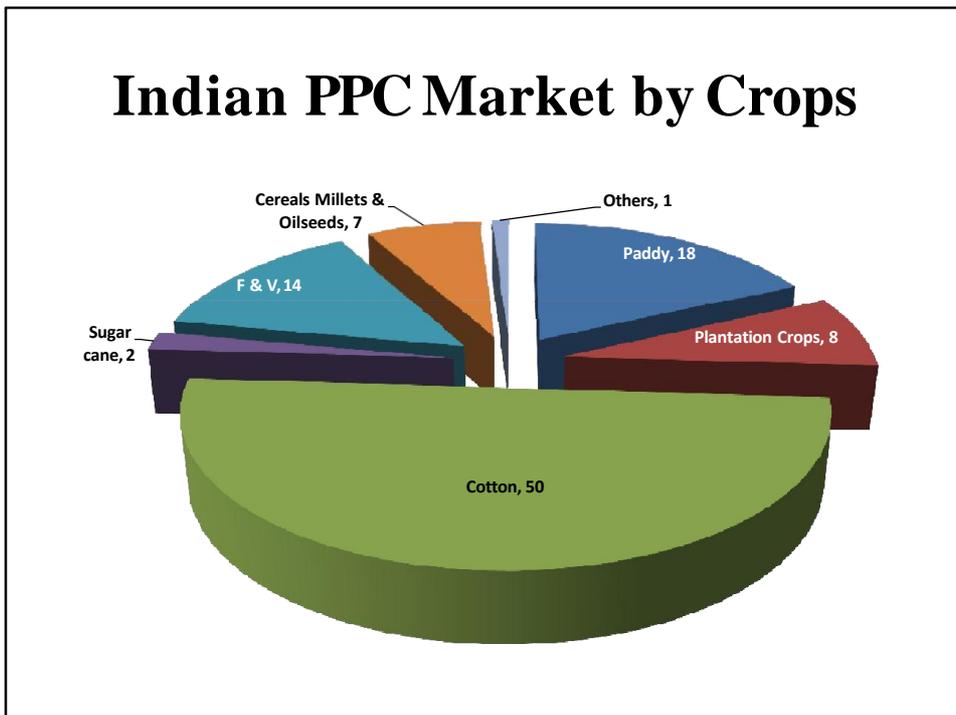
## India

- About **20%-40%** crop production is lost due to insects, weeds and diseases.
- Crop protection chemicals usage is one of the lowest and erratic in the global scenario.
- Consumption of pesticides in
  - India is 0.6 Kg/ha as compared to
  - World average is 3kg/ha.
  - Highest is 17kg/ha.

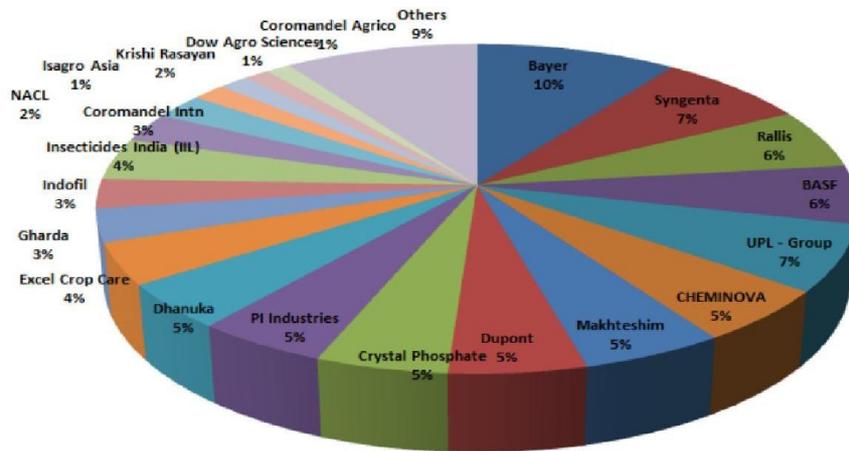
## Indian Crop Protection Industry



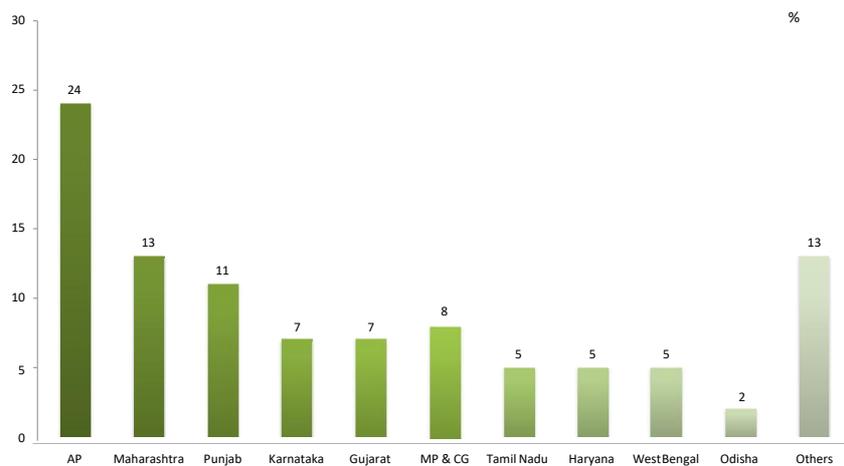
## Indian PPC Market by Crops



## Company wise Market Share



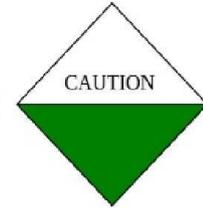
## State wise PPC Consumption



- It can take
  - 10 years and
  - cost over € 200 million to turn an interesting molecule into a product that farmers can use.
- What's more, there are no guarantees. A potential product can fail at any point along the way - 1:1,00,000 rule .

## **Laws & Acts**

- [The Insecticides Act, 1968](#) and
- [Insecticides Rules, 1971](#)
  - Regulate the import, registration process, manufacture, sale, transport, distribute and use of insecticide in India.
- [Central Insecticides Board & Registration Committee \(CIB & RC\)](#)
  - All insecticides (pesticides) have to necessarily undergo the registration process before they can be made available for use or sale.

Extremely toxic	Highly toxic	Moderately toxic	Less toxic
Colour:- Red	Colour:-Yellow	Colour:- Blue	Colour:- Green
Toxicity:- Skull & Pison	Toxicity:- Pison	Toxicity:- Danger	Toxicity:- Caution
Oral LD50 :- 1-50	Oral LD50 - 51-500	Oral LD50 - 501-5000	Oral LD50 - >5000
DermalLD50 :- 1-200	DermalLD50 - 201-2000	DermalLD50 - 2001-20,000	DermalLD50 - >20,000
			

## Other Uses

- Pest Control Services
  - Household pest control
    - Fly
    - Rodents
    - Mosquito
    - Ant
- Disinfestation of
  - Ships
  - Aircrafts
  - Trains
  - Buses
- Stored grain pest control/management

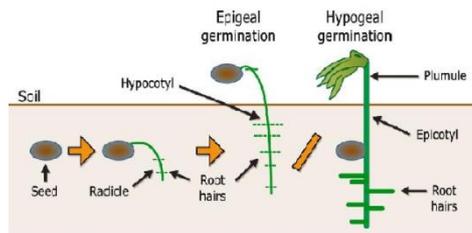
# Indian Seed Industry

## Definition

- Any part of the plant used for crop cultivation may be defined as seed in agriculture.
- **Botanically**
  - A seed may be define as a mature ovule consisting of an embryonic plant (dormant) together with a store of food, all surrounded by a protective coat.

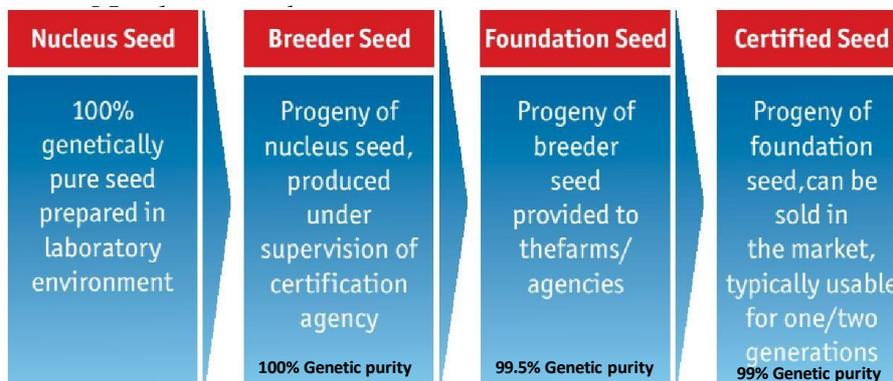
# Classification

- **Agriculture**
  - True seed
  - Vegetative seed
- **Cotyledons**
  - Dicotyledonous
  - Monocotyledonous
- **Germination**
  - Hypogeal
  - Epigeal
- **Botanically**
  - Naked seed
  - Covered seed



# Classes of Seeds

There are 4 generally recognized classes of seeds



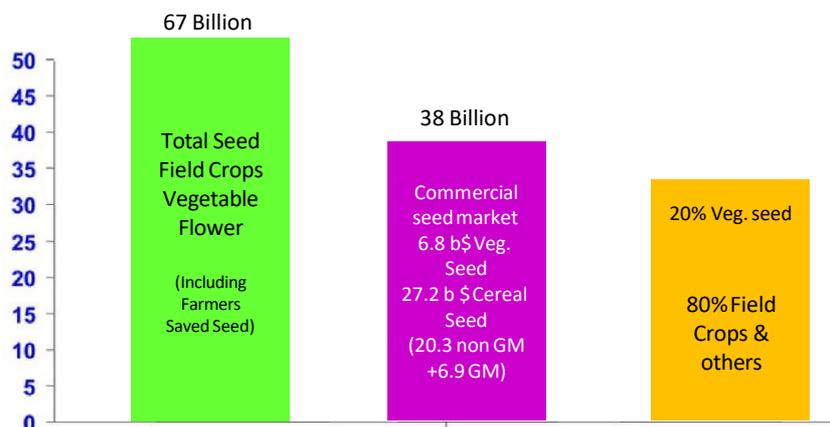
## Certified & Truthful Labeled Seed

Certified seed	Truthfully Labeled Seed
It is the progeny of foundation seed.	Produced by cultivators, private seed companies.
Certification is voluntary. Quality guaranteed by certification agency.	Truthful labeling is compulsory for notified kind of varieties
Applicable to notified kinds only	Applicable to both notified and released varieties
It should satisfy both minimum field and seed standards	Tested for physical purity and germination
Seed certification officer, seed inspectors can take samples for inspection	Seed inspectors alone can take samples for checking the seed quality.

## Global Scenario

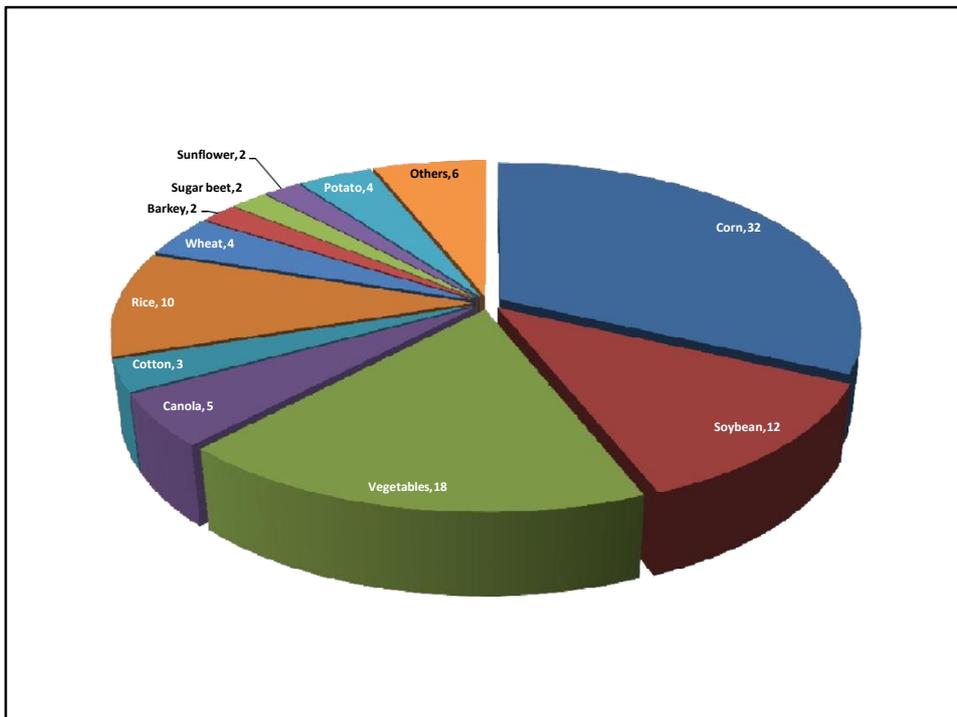
- Increasing global seed market
- Growing use of hybrid seed
- Growing international seed trade
- Increasing number of regulations
- Increasing number of multinational companies

## The World Seed Market



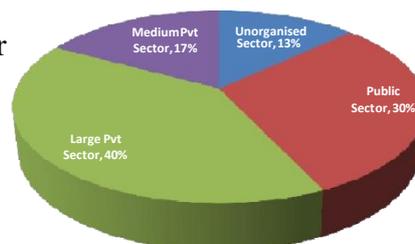
## The World Seed Market

- Market estimated to grow at same rate crossing USD92 billion by2020
- USA, France, China, Brazil and India contributing to 70 % of total global market
- International seed business grown three times over last decade



## Indian Scenario

- Fifth largest seed market – 5% of global market
- Growth rate of 12%
- Dominated by open pollinated seeds
- Approx. 200 Pvt Co & 14 Govt. organizations
- Total Seed Industry is worth about 14000 cr
  - Cereal - 6000cr
  - Cotton -2000cr
  - Rice OP and hybrids - 1000 cr
  - Maize - 800 cr
  - Vegetable - 1500 cr

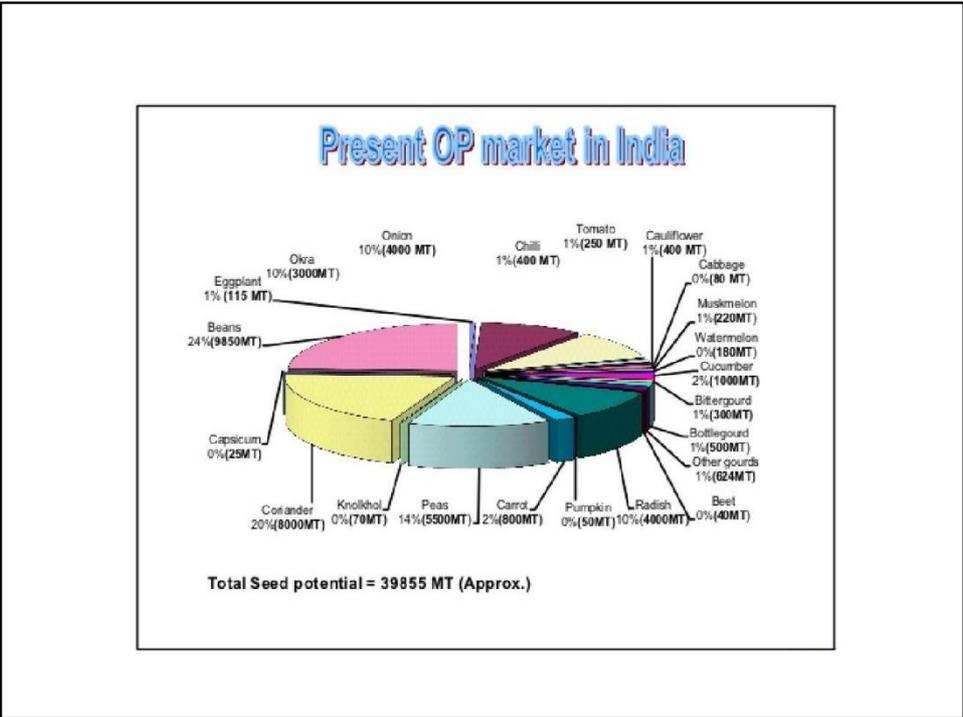


## **The Seed Industry - A Time Line**

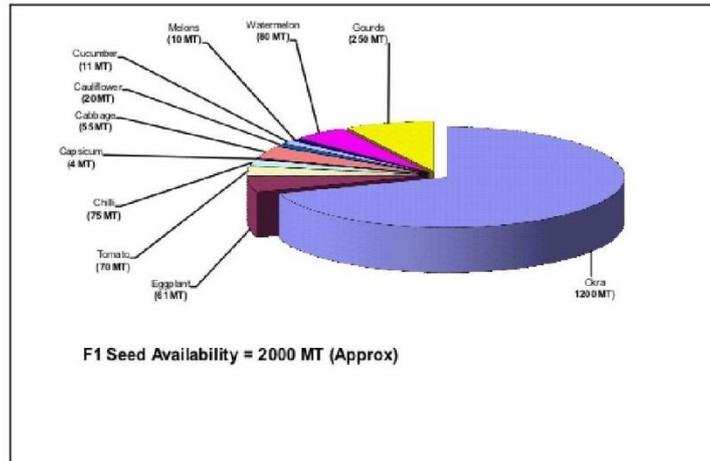
- **Pre independence**
  - No organized seed production
  - Very few seed companies– Suttons and Sons in Kolkata
  - Royal commission of Agriculture (1925) recommended spread of improved varieties and seed distribution
- **Post independence**
  - National Seed Corporation (NSC) in 1963
  - The Seeds Act, 1963 (1966)
  - New Seeds Policy, 1988

## **Public vs. Private**

- The Indian public sector seed industry used to dominate the private sector in the very beginning
- The situation is quite reversed currently
- Seeds of the private hybrids are forming a significant portion of the total vegetable seed market
- Most of the public sector varieties and hybrids are replaced by private sector varieties and hybrids, seed production of which is solely done by the particular manufacturers



## Present F1 market in India



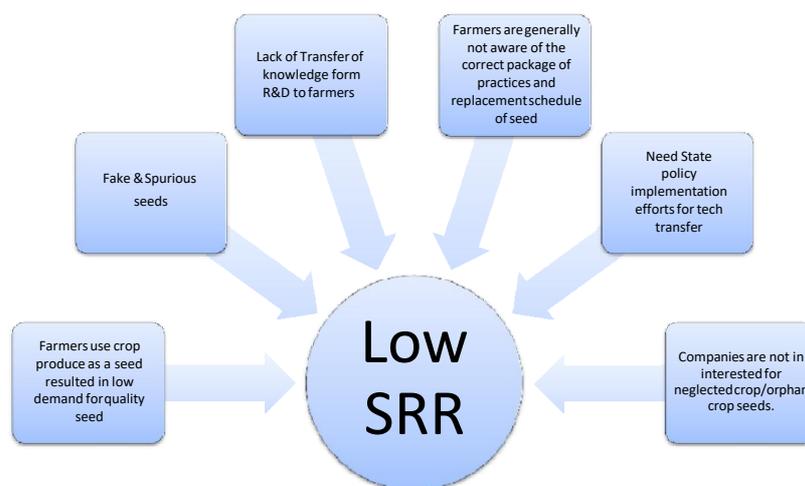
## Concerns

- Long production time
- Very wide range of requirement
- Cumbersome registration process
- Markets very competitive
- Seasonal demand
- Perishable product line
- Vulnerable to environmental forces
- Quality assurance
- Cash flow –long
- Inventory management
- Unlike cereals, vegetable seeds are not the edible portions
- Large area of land for seed production

## SRR in Different Crops and States

Crop	National Average SRR	Highest SRR		Lowest SRR	
		%	State	%	State
Paddy	33	82	AP	9	Uttarakhand
Wheat	25	42	Maharashtra	11	J&K
Maize	50	100	Karnataka	5	Orissa
Jowar	26	65	AP	11	Tamilnadu
Bajra	63	100	Gujarat	29	Karnataka
Sunflower	43	100	AP	8	MP

## Reasons for Low SRR



## **Terminator technology**

- Terminator technology is the genetic modification of plants to make them produce sterile seeds. They are also known as suicide seeds.
- Patented in the US by subsidiary of Monsanto – Delta and Pine Land Company
  - GURTs - Genetic Use Restriction Technologies
    - V- GURTs – terminator technology
    - T – GURTs – traitor technology

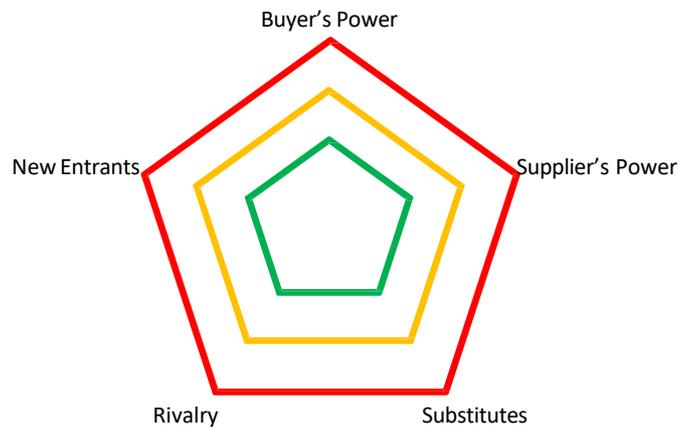
## **PPVR & FR**

- Act passed in 2001
  - Right 1: Access to seed
  - Right 2: Benefit sharing
  - Right 3: Compensation
  - Right 4: Reasonable seed price
  - Right 5: Farmers' recognition and reward for contributing to conservation
  - Right 6: Registration of farmers' varieties
  - Right 7: Prior authorization for the commercialization of essentially derived varieties
  - Right 8: Exemption from registration fees for farmers
  - Right 9: Farmer protection from innocent infringement

# Seed Testing

- Sampling
  - Field
  - Laboratory
- Analysis of seed in the laboratory
  - Purity analysis of seed lot is considered under two factors
    - Testing the cleanliness of seed lot and
    - Testing the genuineness of the cultivar – genetic purity
      - Morphological Tests – Grow out test
      - Chemical Tests
      - Biochemical Tests - Electrophoresis
      - Molecular markers – Gene / DNA
  - Test Wt.
  - Moisture
  - Viability - TZtest
  - Germination and
  - Vigour

## Industry Analysis



## Seed Regulation in India

Seed Regulations & Seed related laws in India	Key Points
Seeds Act (1966)	Passed by the Indian Parliament in 1966 was designed to create a 'Climate' for making good quality seed available to cultivators. The major legislative measures involved under the Act are Seeds rules framed in 1968, Seeds (Control) order, formulated in 1983 after including seeds as an essential commodity. Seeds of food crops, oil crops, cotton seeds, seeds of cattle fodder and all types of vegetative propagating material are included under the act. A total of twenty five clauses have been mentioned in the act. The legislation could be broadly divided into two groups i.e. <b>Sanctioning legislation</b> and <b>Regulatory legislation</b> . Post the enactment of Seed Act in 1966 and framing of seeds rules in 1968 amendments were brought to the Seed Act in 1972, 1973, 1974 and 1981.
Seeds (Control) Order, 1983	The inclusion of seeds as an essential commodity item under the Essential Commodity Act, 1955 brought the Seeds (Control) Order. The ministry of civil supplies earlier has declared the seed for sowing or planting materials of food crops, fruits, vegetables, cattle fodder and jute to be essential commodities in exercise of power conferred by Section 2(a) of Essential Commodities Act, 1955. The order confers power to the Central Govt. to control, and regulate production, supply and distribution of essential commodities.

Seed Regulations & Seed related laws in India	Key Points
New Seed Development Policy (NSDP) 1988-89	The New Seed Development Policy was formulated to provide Indian farmers with access to the best available seeds and planting materials of domestic as well as imported quality. The policy permits the import of selected seeds under Open General License (OGL), to make available to the farmers high quality seeds to maximize yield and productivity. The policy allows import under OGL of items such as seeds of oilseed crops, pulses, coarse grains, vegetables, flowers, ornamental plants, tubers, bulbs, cuttings and saplings of flowers.
Protection of Plant Varieties and Farmers Right Act, 2001	The Protection of Plant Varieties and Farmers Rights Act, 2001 (and rules, which were released in 2003), provide for the protection of intellectual property rights of seed manufacturers, who are required to register /notify the seed which they want to be placed under protection. After due diligence, and establishment of the fact, protection is granted to the variety for a period of 15 years. This legislation ensures not only the protection on intellectual property rights of the company incurring the cost of research and development (in the market at large), but also those of the farmer whose land is being utilised for the production of the concerned seeds.
National Seed Policy, 2002	National seeds policy was formulated in the year, 2002 to provide an appropriate climate for the seed industry to utilize available and prospective opportunities, safeguarding the interest of farmers and conservation of the biodiversity. The policy raised India's share in the global seed trade by facilitating advanced scientific aspects such as biotechnology to farmers and as a result, in March 2002, the first transgenic Bt. cotton was approved for commercial cultivation in India.

Seed Regulations & Seed related laws in India	Key Points
Protection of Plant Varieties Rules, 2003	The rules were enforced for the smooth implementation of the Act, 2001. The rules provide detailed procedures while applying for protection, ways of administering the national gene fund, procedure on application for compensation, procedure to alter the denomination of a registered variety, procedure for cancellation of certificate and all other procedures to be implemented as per the provisions given in the PPV & FR Act, 2001
Seed Bill 2004	With a view to repealing and replacing the Seed Act 1966, the Seed Bill 2004 was introduced. Among others, one of the notable exemptions provided in the Bill with regard to farmers' seed was: <b>"Nothing in this Act shall restrict the right of the farmer to save, use, exchange, share or sell his farm seeds and planting material, except that he shall not sell such seed or planting material under a brand name or which does not conform to the minimum prescribed limit of germination, physical purity, genetic purity"</b> . An amended Seed Bill was introduced in 2008 has not been enacted thus far. Therefore, the Seed Act 1966 and its amendments are still in force.

## Bill 2004 and PPV & FR Act, 2001

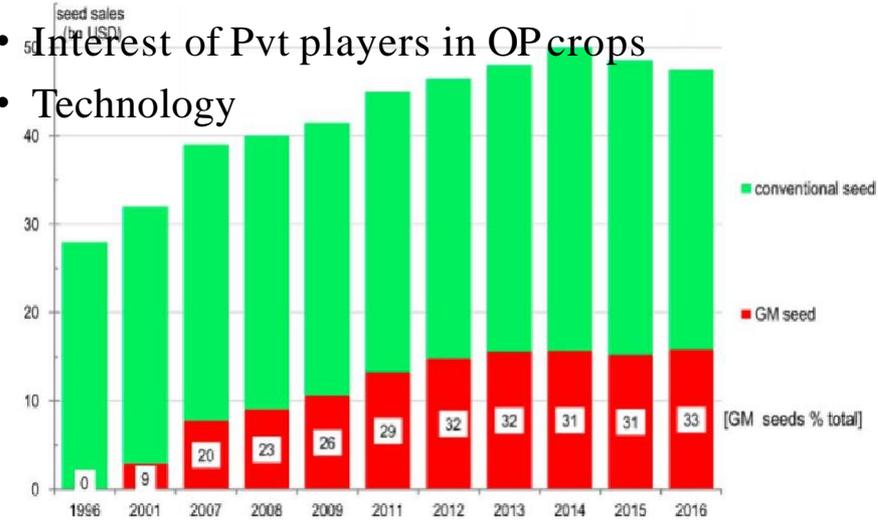
Seed Bill 2004	PPV & FR Act, 2001
Farmer has to claim compensation from a consumer court and redressal under the Consumer Protection Act, 1986	Farmer get compensation from the PPV authority which is all the more simpler
Does not require the declaration of origin of variety along with pedigree details	Requires the declaration of origin of variety along with pedigree details
Does not grant any recognition to the contribution of farmers	Provides rewards for farmers contribution and also the benefit sharing
Seed dealers are not under any obligation to provide reasonable seed supply to farmers	Provides compulsory licensing which safeguards the interests of farming community to ensure adequate seed supply at reasonable price on the Government.
Grant of provisional registration is considered a major draw back	No such provisions have been given

## Statutory bodies of Indian Seed Industry

Statutory Body	Function
State Seed Certification Agencies (SSCA)	Responsible for seed certification in the concerned states. Make field inspections and conduct seed tests required for seed certification.
Central Seed Certification Board (CSCB)	Advises the state governments and their SSCAs on the matters of seed certification.
State Seed Certification Board (SSCB)	Supervises the activities of its SSAs.
Protection of Plant Varieties and Farmers Rights Authority (PPV & FRA)	Central body that sets distinctiveness, uniformity and stability (DUS) test guidelines for the registration of 57 crop species covering cereals, pulses, millets, oilseeds, spices, vegetables, flowers, medicinal plants and fibre crops. The authority receives applications under three broad headers; new varieties, existing or extant varieties which existed prior to the existence of the Act, and farmer varieties.
National Seed Research and Training Centre (NSRTC)	Located at Varanasi and is the Central Seed Testing Laboratory (CSTL) under Seeds Act and also a Referral laboratory for courts in India.

## Trends

- Consolidation – M&A
- Interest of Pvt players in OP crops
- Technology

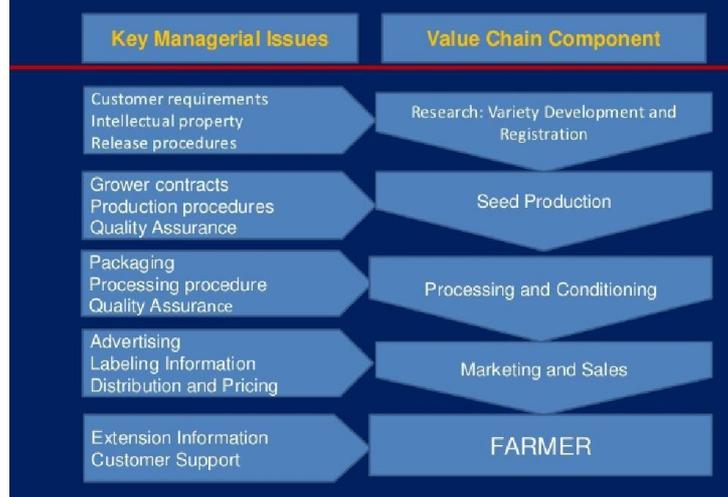


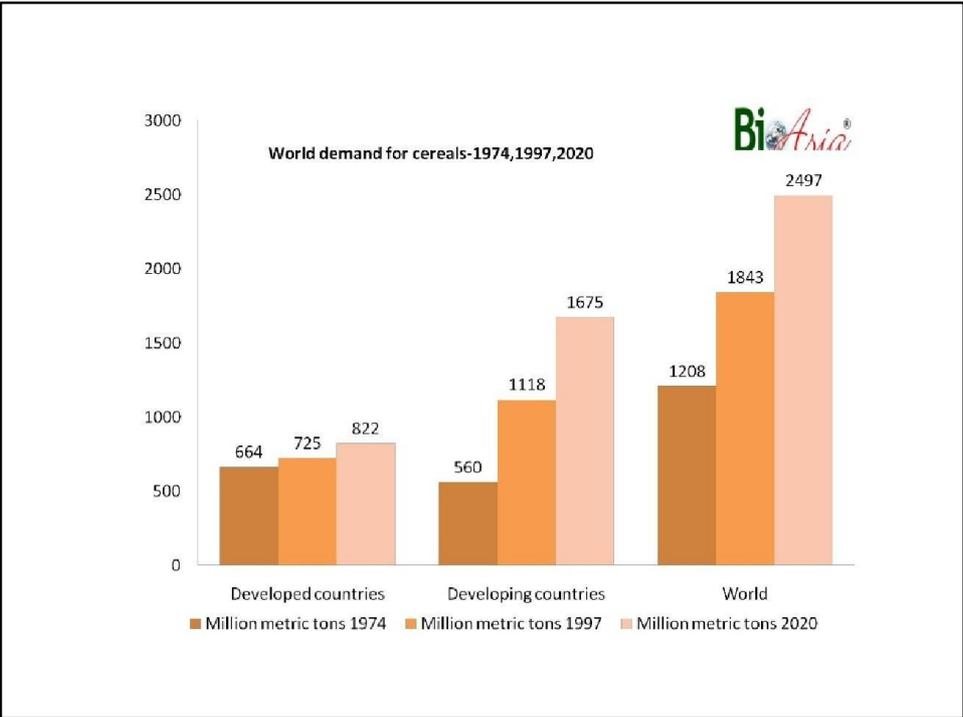
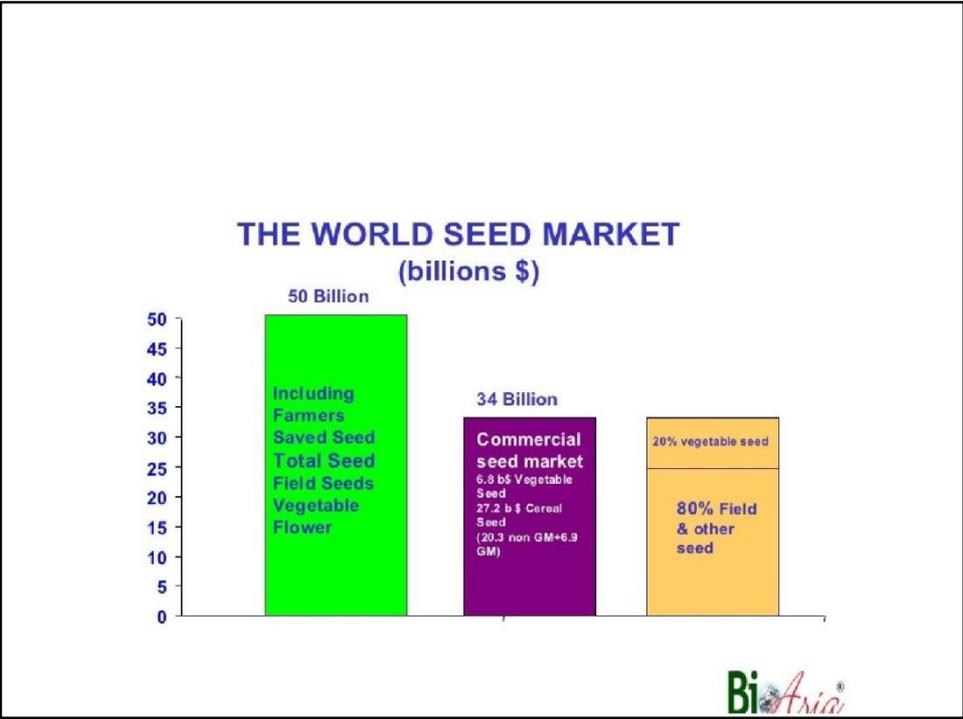
## Seed Processing

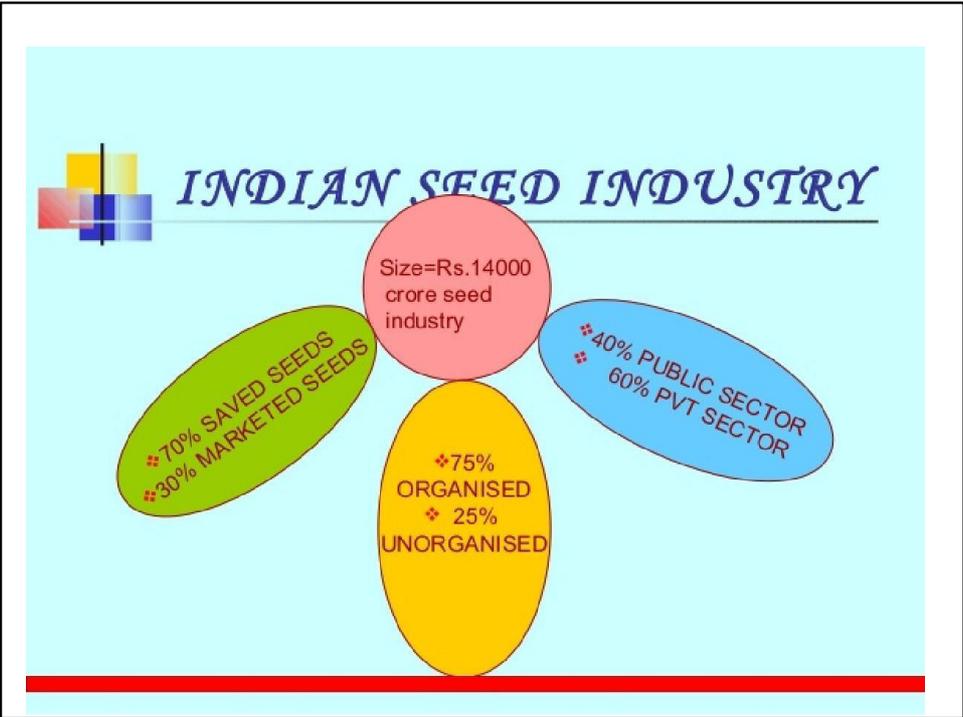
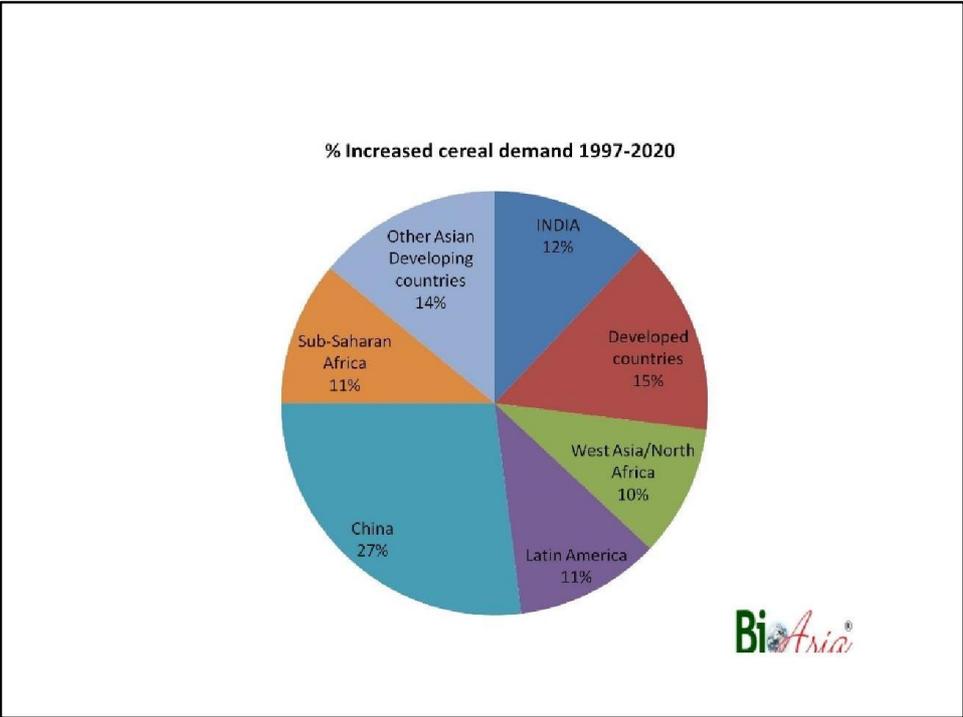
## Opportunities for seed business

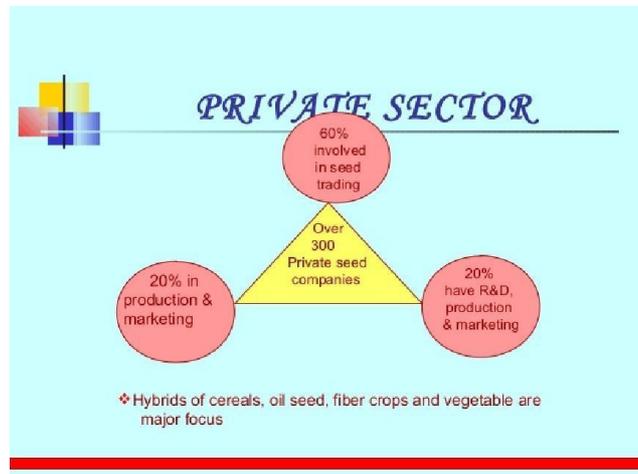
- Seed Replacement Rate is around 25% - huge gap in quality seed requirement
- Quality seeds will be main drivers of crop production
- Need for development of improved technologies
- Integration with other inputs like crop nutrition and protection
- Several business opportunities in each stage of the seed value chain

### KEY ISSUES









**SEED INDUSTRY**

- **COMPANIES WITH CORE COMPETENCIES AND PATENT RIGHTS WILL SURVIVE.**
- **DISTRIBUTION CHANNELS -REVERSED.**
- **INPUTS SUPPLY AT FARMERS' DOORSTEPS.**



## SEED INDUSTRY

---

- INCREASING SRR.
- FAST HYBRIDIZATION .
- MORE GMO CROPS.
- HYBRIDS MUST BE DISEASE RESISTANT BESIDE OTHER VALUE ADDITION.
- AWARENESS AMONG FARMERS INCREASING.



## FOCUS ISSUES OF FUTURE

---

- QUANTITY vs. QUALITY
- VOLUME vs. VALUE
- GMO vs. NON GMO
- SUBSISTENCE vs. COMMERCIAL
- AGRICULTURE vs. INDUSTRY





## IDEAL SEED COMPANY- FUTURISTIC

---

- CUSTOMER-CENTRED
- DYNAMIC ORGANIZATION
- INNOVATIVE & PROACTIVE RESEARCH
- AGGRESSIVE MARKETING STRATEGIES
- EFFICIENT PRODUCTION AND QUALITY MANAGEMENT
- ATTRACTIVE PACKAGING
- EXECUTION EXCELLENCE





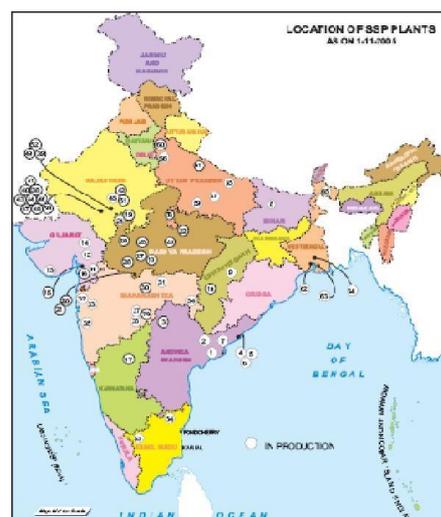
1. Buyer/User Behaviour
2. Market Segmentation
3. Product Management
4. Pricing Management
5. Brand Management
6. Channel Management
7. Rural Communication and Promotion
8. MIS
9. Logistics Management
10. Formulation of a Comprehensive Marketing Strategy

## Straight 'N' Fertiliser Plants



37

## Straight 'P' Fertiliser Plants



35

## Complex Fertiliser Plants



19

## Cost of Cultivation-Methodology

- Three stage stratified random sampling
  - THESIL – First stage
  - VILLAGE – Second stage
  - HOLDING – Third stage

## Cost of Cultivation

- **COSTA1 includes:**

Value of hired human labour  
Value of hired & owned bullock labour  
value of owned & hired machine labour  
Value of Seed (owned & purchased)  
Value of insecticides & pesticides  
Value of fertilizers  
Value of manure (owned & purchased)  
Irrigation charges  
Land revenue & other taxes  
Interest on working capital  
Depreciation on implements & farm buildings

## Cost of Cultivation

- $\text{COSTA2} = \text{COSTA1} + \text{Rent paid for leased-in-land}$
- $\text{COSTB1} = \text{COSTA1} + \text{Interest on owned capital assets (excluding land)}$
- $\text{COSTB2} = \text{COSTB1} + \text{Rental value of owned land} + \text{rent paid for Leased-in land}$

## **Cost of Cultivation**

- $\text{COSTC1} = \text{COSTB1} + \text{Imputed value of family labour}$
- $\text{COSTC2} = \text{COSTB2} + \text{Imputed value of family labour}$
- $\text{COSTC3} = \text{COSTC2} + 10\% \text{ of costC2}$



## **Cost of Production**

Cost of Cultivation

v/s

Cost of Production

## **Trends in Cost of Cultivation**

- Structure of cost of cultivation has changed for all crops in all the states over time
- In case of paddy and wheat:
  - share of purchased inputs particularly fertilizer and irrigation has increased significantly
  - share of labour has decreased particularly in advanced states.

## **Trends in Cost of Cultivation**

- In case of Sugarcane, Jute and Cotton:
- Human labour continues to be the most important item of cost about
  - 30 % in S. Cane and Cotton
  - > 50 % in Jute



## Trends in Cost of Cultivation

- The cost of cultivation (Rs/ha) also varies significantly across states for all crops.

### For Paddy:

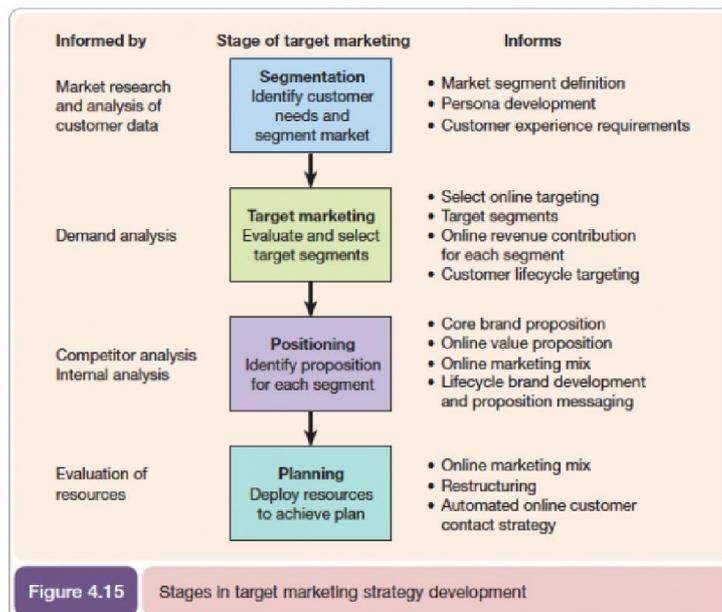
A.P.– 22797, PUNJAB– 19126, ORISSA– 11646

### For Wheat:

PUNJAB– 19479, U.P.– 13343, M.P.– 10260

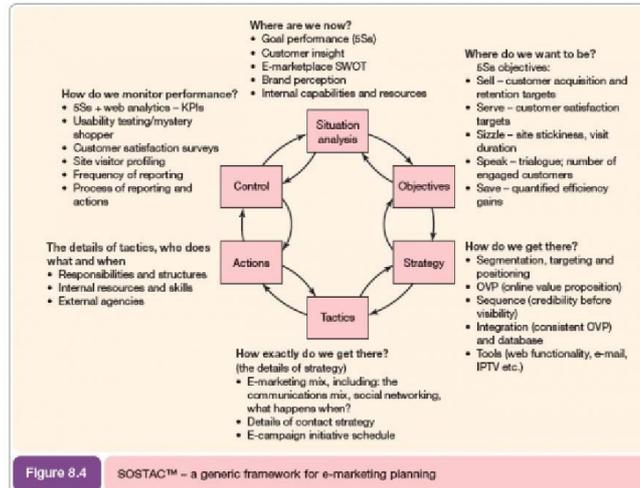
### For S.Cane:

A.P.– 45758, HARYANA– 24824, MAHARASHTRA – 40274, U.P.-26148

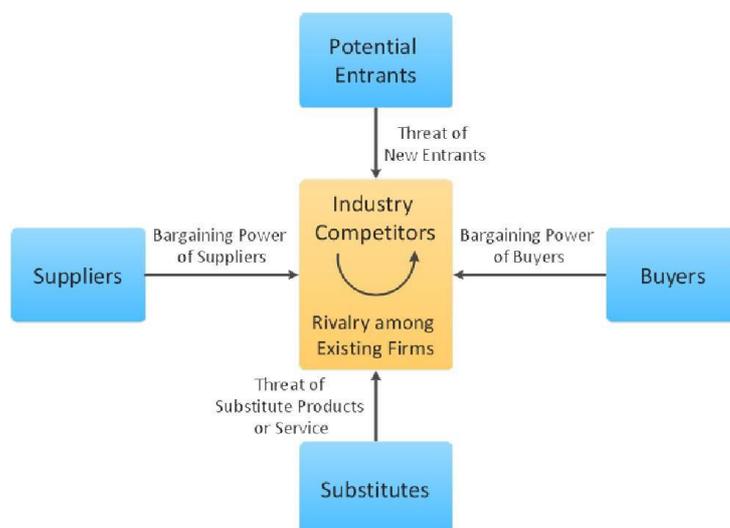


# PR Smith's SOSTAC® Model

This acronym stands for Situation, Objectives, Strategy, Tactics, Actions, Control and is a framework used when creating marketing plans.



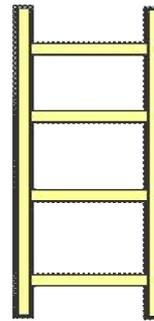
# Porter's 5 Force Model



# Loyalty Ladder

As with continuums of behaviour such as **UACCA**– *Unawareness, Awareness, Comprehension, Conviction, Action*, or **AIDA**– *Awareness, Interest, Desire, Action*, the loyalty ladder begins from a point where the consumer has **Not Yet Purchased**, then he or she buys the product for the first time (**Trialist**), if the trial has been a success he or she returns to buy again and again (**Repeat Purchaser**) and finally the consumer buys no other brand (**Brand Insistent**).

The Loyalty Ladder



Turning a prospect into an advocate

## Exercise – The Loyalty Ladder

### Farley's Irish Dream

Farley's Irish Dream is a brandy-based liqueur (i.e. a sweet and creamy alcoholic drink) that is popular in most parts of Canada. It is associated with the sports of skiing, bobsleigh and snowboarding. It is most well liked during the months of winter when it is seen as a warming and relaxing treat that is shared with friends and family after participating in winter sports. Farley's has decided to enter the European market, by targeting countries that have regions with a similar climate, and where the brand associations of winter sports can be exploited.

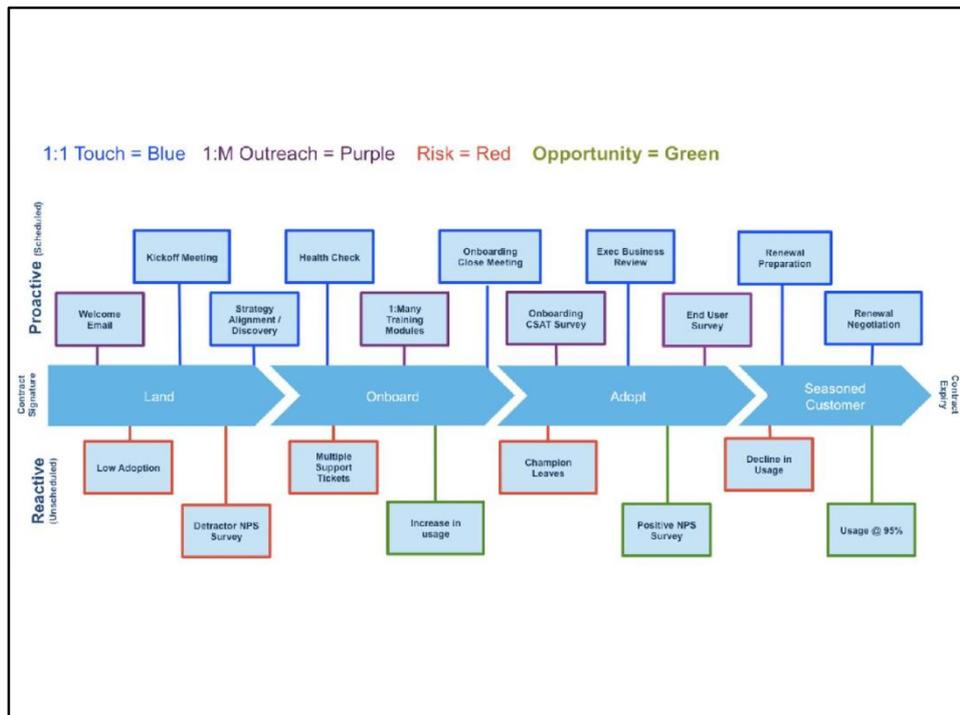


Farley's Irish Dream is a brandy-based liqueur (i.e. a sweet and creamy alcoholic drink) that is popular in most parts of Canada. It is associated with the sports of skiing, bobsleigh and snowboarding. It is most well liked during the months of winter when it is seen as a warming and relaxing treat that is shared with friends and family after participating in winter sports. Farley's has decided to enter the European market, by targeting countries that have regions with a similar climate, and where the brand associations of winter sports can be exploited.

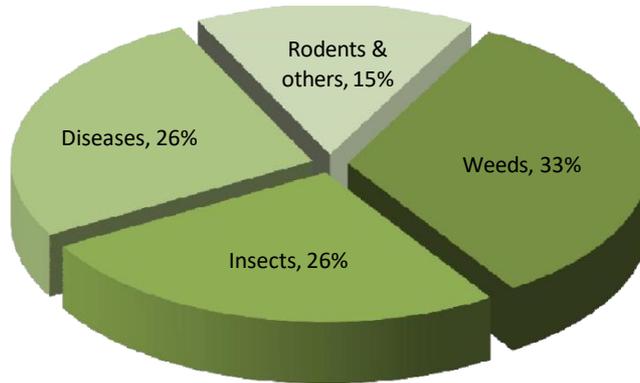
Recommend an integrated marketing communications campaign that will turn Prospects into Advocates in the new European markets.

## Recommendations for Farley's Irish Dream's launch into European markets

- **Prospect**
  - Sponsor well-known professional skiers, snowboarders and bobsleigh teams in order to gain some early awareness amongst prospects.
  - Employ a promotions agency that will visit top competitive events throughout Europe to hand out small trial bottles to prospects.
- **Customer**
  - Target bars, supermarkets and hotels in the winter sports regions. Here run sales promotions and distribute free merchandise such as ski hats, point-of-sale and drip trays carrying the Farley's brand.
- **Client**
  - Sponsor websites that carry news and information about ski resorts and their current climate. Get clients to register their e-mail address and mobile phone numbers for e-mail and text information about skiing conditions.
  - Begin a campaign that aligns the brand with aspiring, 25-40 year old professionals by advertising in targeted magazines.
- **Advocate**
  - This is the culmination of the previous three sections. Use text and e-mail to promote Farley's to advocates, and reward them for forwarding e-mail and texts to their friends (using viral techniques). Record data on the success of campaigns by individual advocate, and continue to develop innovative and fresh ideas to keep your valuable advocates loyal.

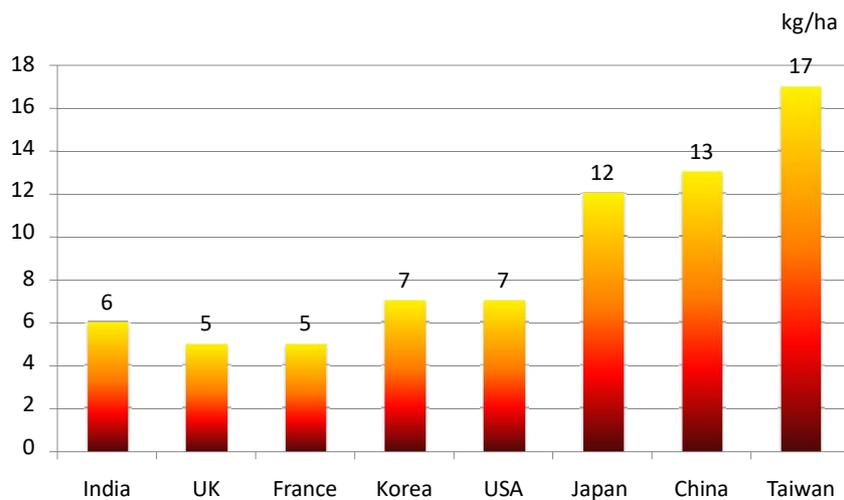


## Losses caused by Different Pests, FY12



Source: Industry Reports, Analysis by Tata Strategic

## Per capita Consumption of PPC



Source: Industry Reports, Analysis by Tata Strategic

- <http://www.indiachem.in/brochure/Presentation%20by%20Mr.%20Harsh%20Dhanuka-%20Dhanuka%20Agritech.pdf>
- <http://www.nuziveeduseeds.com/indian-seed-industry/>