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Growing with trust

# Sustainability Challenges in Indian Sugar Sector

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# Significance of the Sector

- **Located in rural heartland, directly contributes to rural economic development**
  - Supporting 50 mn farmers & their families
    - ~Rs. 90,000 crs cane price paid in 2017-18
  
- **One of the most environment friendly industry**
  - Supplying ~ 3000 MW eco-friendly bagasse based energy (Potential 4000-5000 MW)
  - Mainstay of ethanol blending program (presently ~ 5%)
  
- **Significant position in the global sugar space**
  - Largest consumer and second largest producer in the world
  - World sugar prices impacted by India's Export/Import decisions



## Current Status

### ➤ **Glut in the market (India & Global)**

- Globally ~ 10mt surplus largely contributed by India & Thailand
- India surplus at ~ 7mt, next year production estimated at ~ 35mt
  - Storage concerns of sugar in ensuing season
  - Prices have fallen below the cost of production
- Industry in deep losses

### ➤ **Cane arrears ~ Rs 15000 crore, highest so far**

- Next season is even more challenging

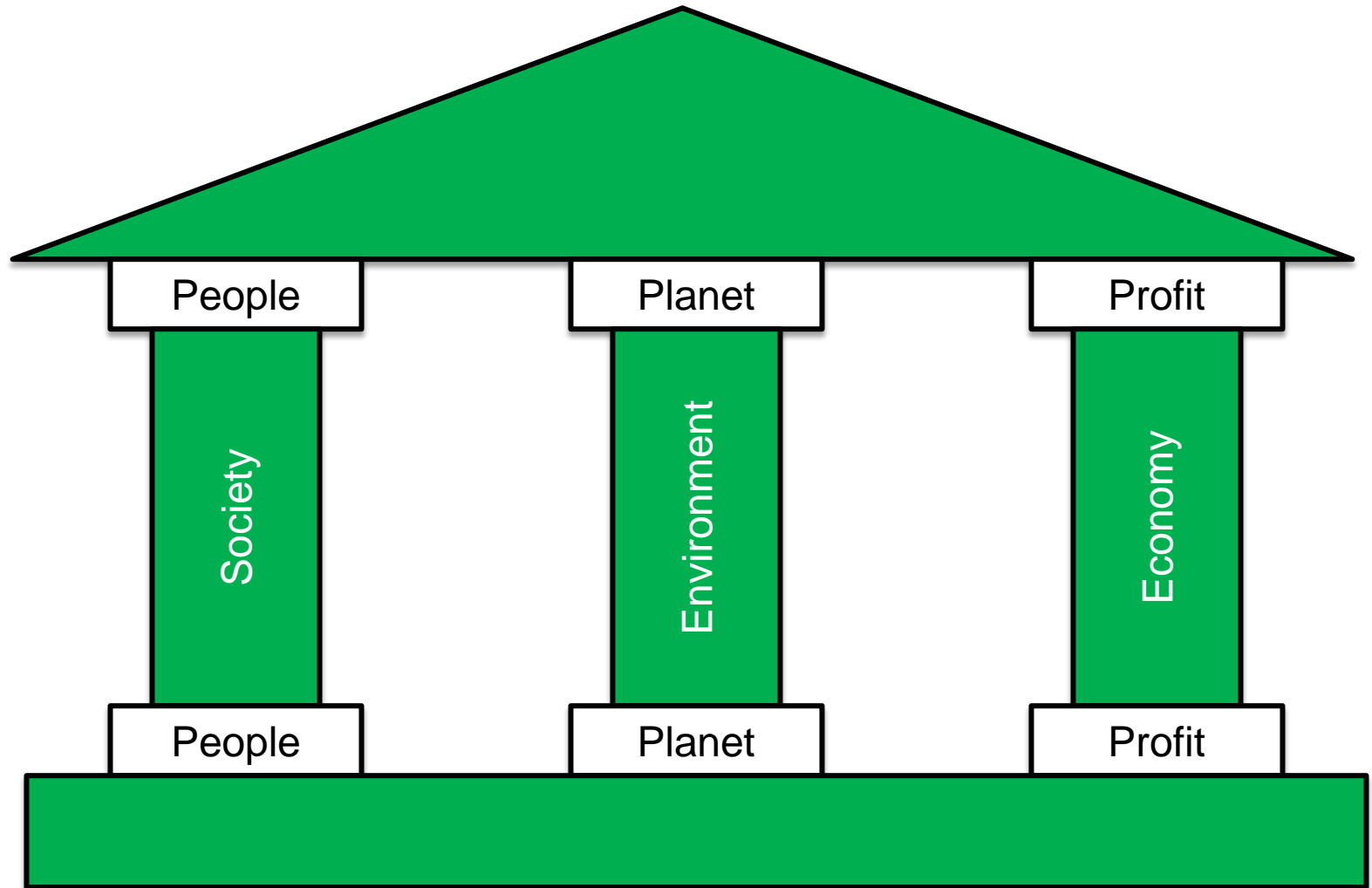
### ➤ **Surplus scenario likely to continue**

- Comparative economics of sugarcane is better
- Better Yield & recovery in North India of Co0238 cane variety
- Cane acreage increasing in spite of cane arrears

**Surplus scenario likely to continue !!**



# Pillars of Sustainability



**Socially Responsible, Environmentally Sustainable,  
Economically Viable**

# Challenges

## Environment

- Depleting fresh water resources
- Soil health deterioration
- Chemical inputs imbalance

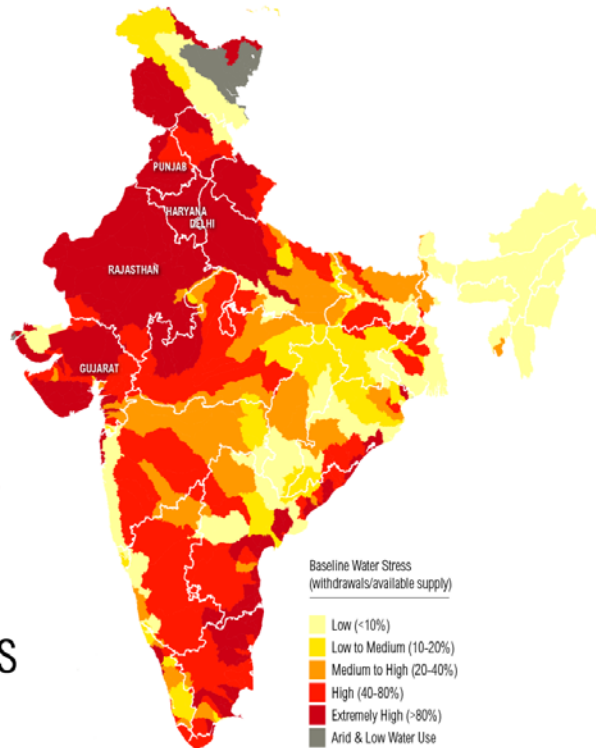
## Economy

## Society



# Depleting Fresh Water Resources

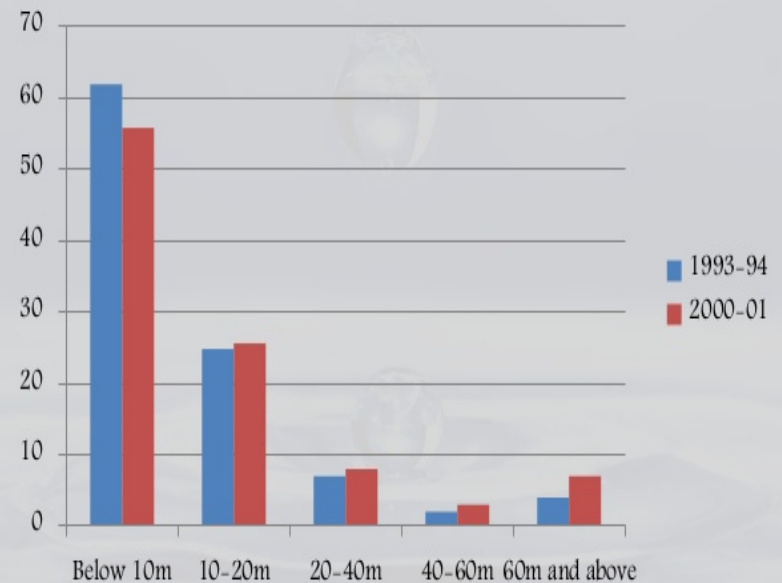
**54%**  
of India  
Faces  
**High to  
Extremely  
High**  
Water Stress



[www.indiawatertool.in](http://www.indiawatertool.in)

 WORLD RESOURCES INSTITUTE

## Falling water table (All-India)



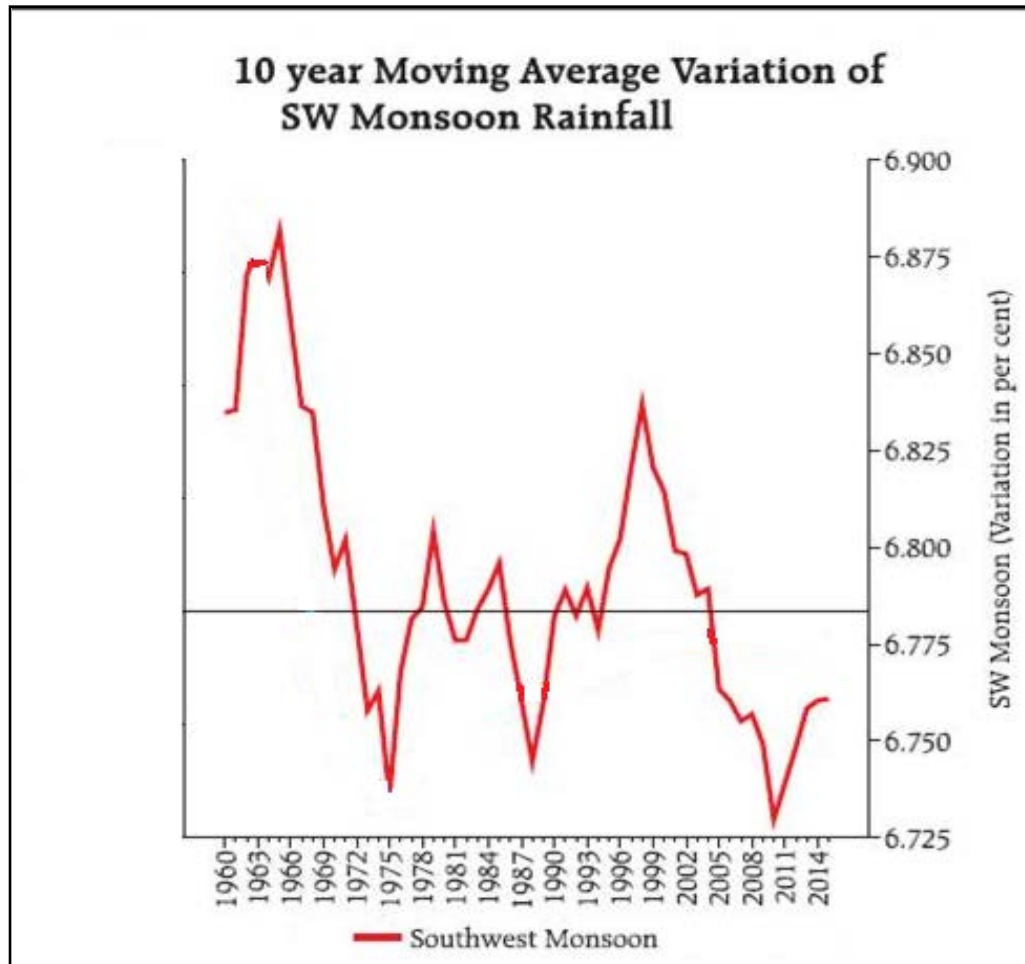
Source: Ministry of water resources



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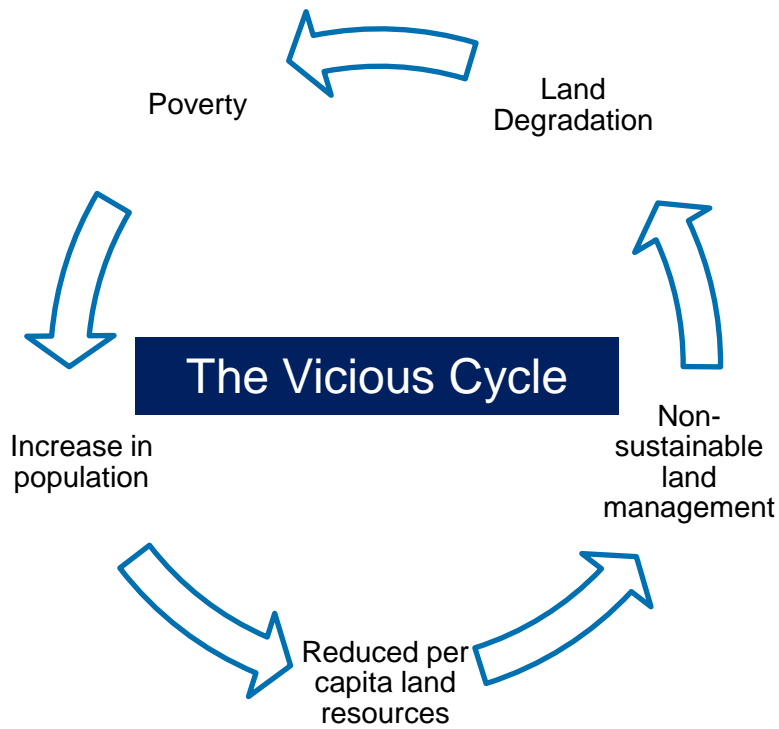
# Depleting Fresh Water Resources cont..



Source- RBI Bulletin on Monsoon

**Water conservation is the only solution**  
*“जल है तो कल है”*

# Soil health deterioration



## Loss of Organic Carbon

- Lack of recycling of crop residue
- Excessive tillage
- Lack of use of bio-fertilizers and FYM
- Indiscriminate use of chemical fertilizers
- Soil erosion



# Chemical Inputs Imbalance

## Overdose of chemical fertilizer

- Will make it difficult for plants to absorb other nutrients
- Will change the pH of the soil

## Overdose of Insecticides and Pesticides

- Presence of residue in final product
- Will kill the beneficial insects
- Health risk for farmers at exposure

Ground Water Gets Polluted



# Challenges

## Environment

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- Chemical inputs imbalance

## Economy

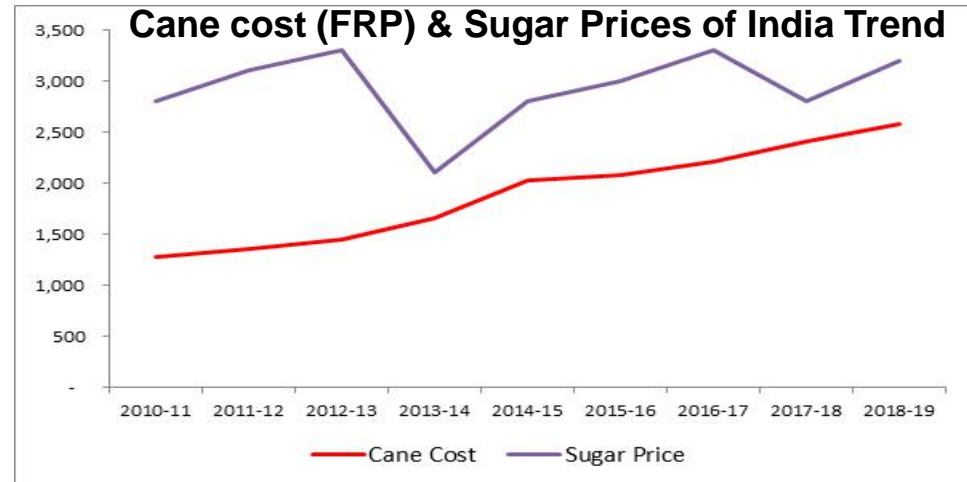
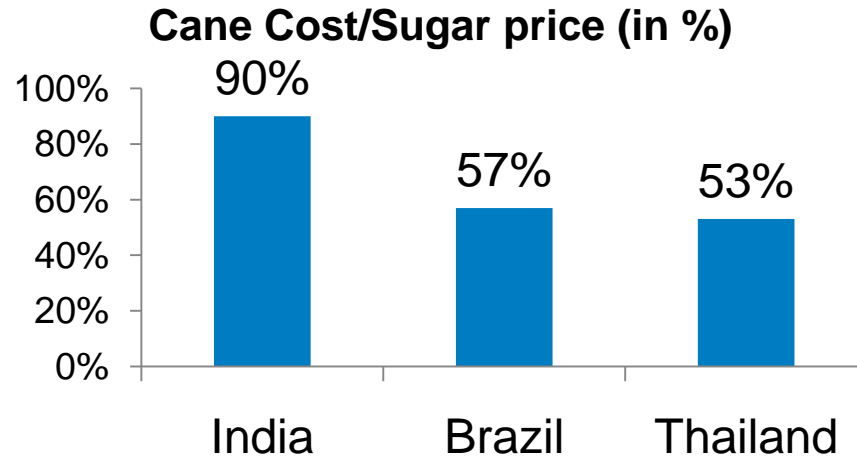
- Global Glut
- Imbalance in sugar input & output prices
- Negative public perception in sugar cons.

## Society



# Imbalance in sugar input & output prices

- Globally cane cost to sugar prices are as low as <60%
  - Recoveries upto 13% (Brazil)
  - Cane prices lower than India by ~ 30%
  
- No parity between India's sugar prices and cane price (FRP)



## Negative public perception in sugar cons.

### Sugar taxes being imposed

- Colombia - 20%
- France - 16%
- UK - 12-18%(Proposed)

### Negative Public Perception

- FMCGs planning to cut sugar % in their products
- Sugar consumption related to health problems



# Challenges

## Environment

- Depleting fresh water resources
- Soil health deterioration
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## Economy

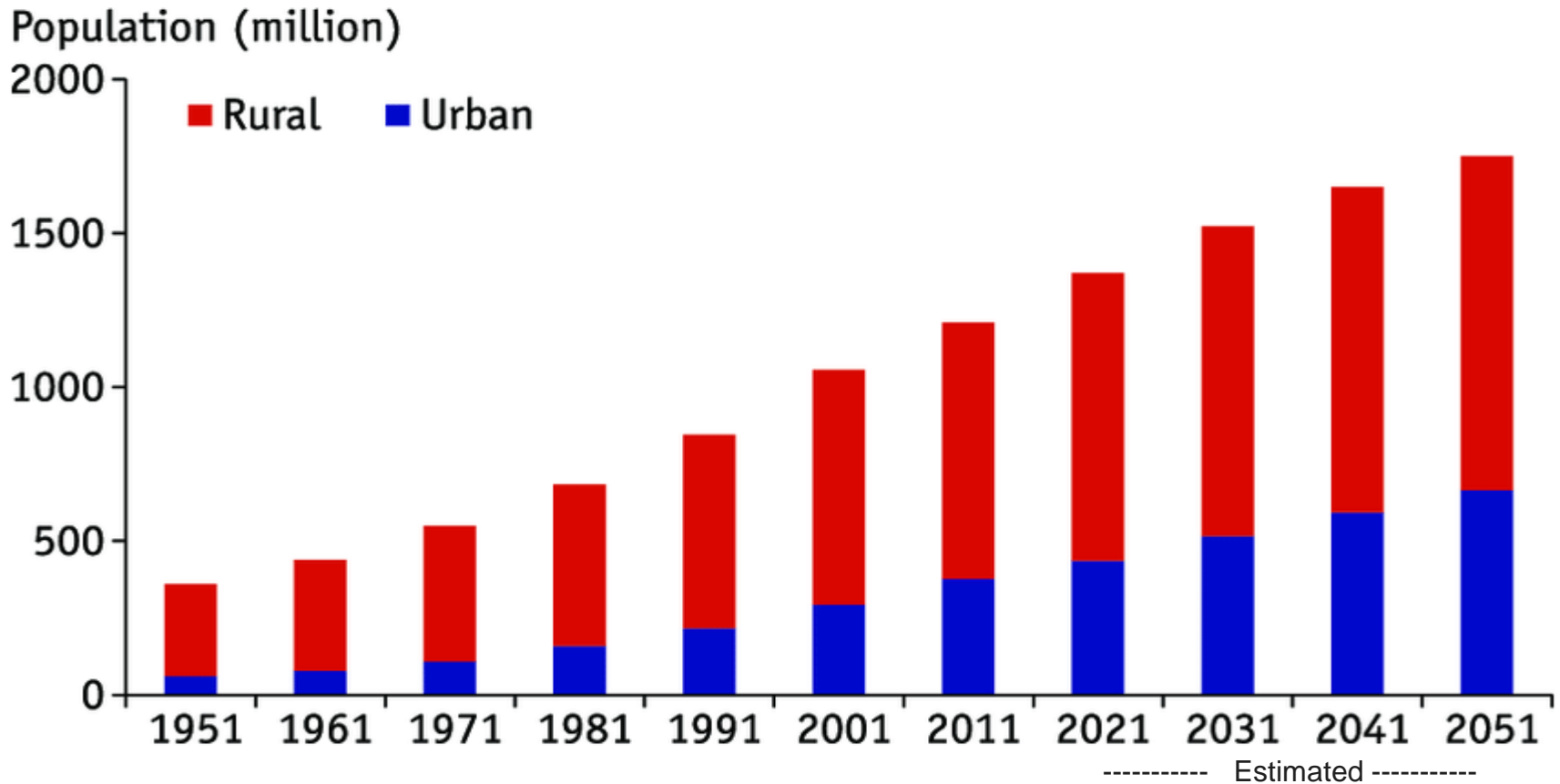
- Global Glut
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## Society

- Labour scarcity
- Food security



# Urbanization



Source- PWC report on 5 global megatrends and researchgate

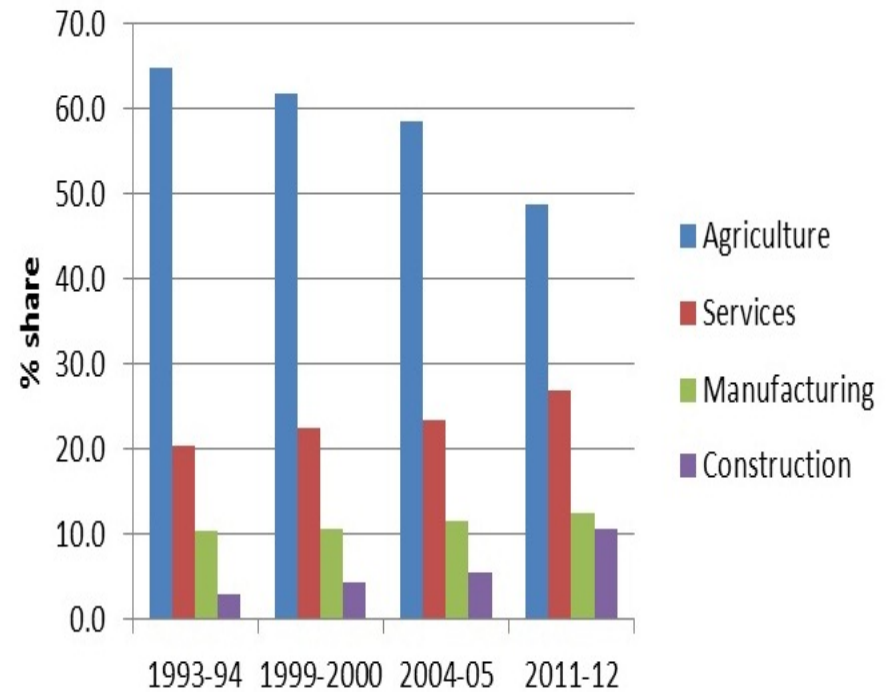
**Percentage of Urban population increasing @ 24%**

# Changing Preferences

## Career Preference of Rural Youth

Farmer	1.20%
Engineer	12%
Teaching	25%
Nursing and medical	18%
Any Govt. Job	13%
Others like business, skilled worker	30%

## Changes in employment share



Source: Study by NGO Pratham- Annual Status of Education Report (Aser) 2017

**Rural youths are opting out of agriculture**

# Food Security

## Resource Constraint of India

- 17.5% of the world's population now in India
- population will reach 1.6 billion by 2050.
- Only 4% of world's renewable water resources
- 2.6% of world's land area

**Cane most remunerative crop leading to** (Source CACP calculation 2017-18)

- Monoculture

## Land Resource Usage

### Food



### Fiber



### Fodder

### Fuel

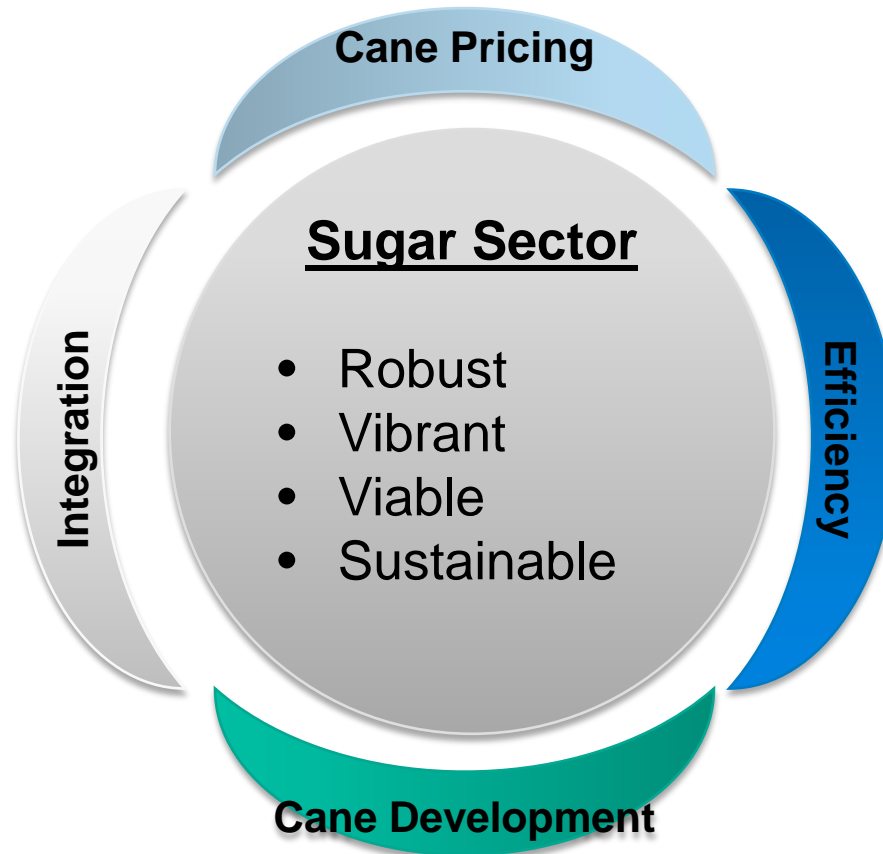


# Our Vision Sustainability



Cane Price Linkage/ Revenue sharing formula & Farmer welfare fund

1. Cogeneration
  - Need continuous support
2. Ethanol/ Molasses
  - Movement rules simplification
  - Promotion of 2G Ethanol & ethanol from B Heavy molasses
3. Refinery



1. Technology up gradation/ Energy Saving
  - Steam reduction
  - Power reduction
  - High pressure boilers

Focus on productivity (Yield, Recovery)  
Breeding of good varieties  
Soil Health/ mechanization, Water management

# Way Forward

## ➤ Policy Makers

- Rational Cane pricing formula/ Farmer welfare fund
- Support to Ethanol & Cogen sector
- Supportive policies (Sugar Export & Sugar Prices - MSP)
- Adoption of Model Land Leasing Act of NITI Aayog
- Invest in sugarcane research – For robust pipeline of promising varieties
- Integrating sugarcane development program with State/ Central Govt policies like RKVY, PMKSY (Drip irrigation), Sub mission on mechanization etc.

## ➤ Sugar Factories

- Own development of catchment area – catalyst role
- Dissemination of knowhow to farmers – Strong extension network & use of modern technological tools like IT, Tablets etc.
- Making soil health & water conservation programs integral to cane development
- Working closely with farmers in project and mission mode
- Downstream integration & diversification



Thank you