

Cotton – A New Way Forward

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The Context

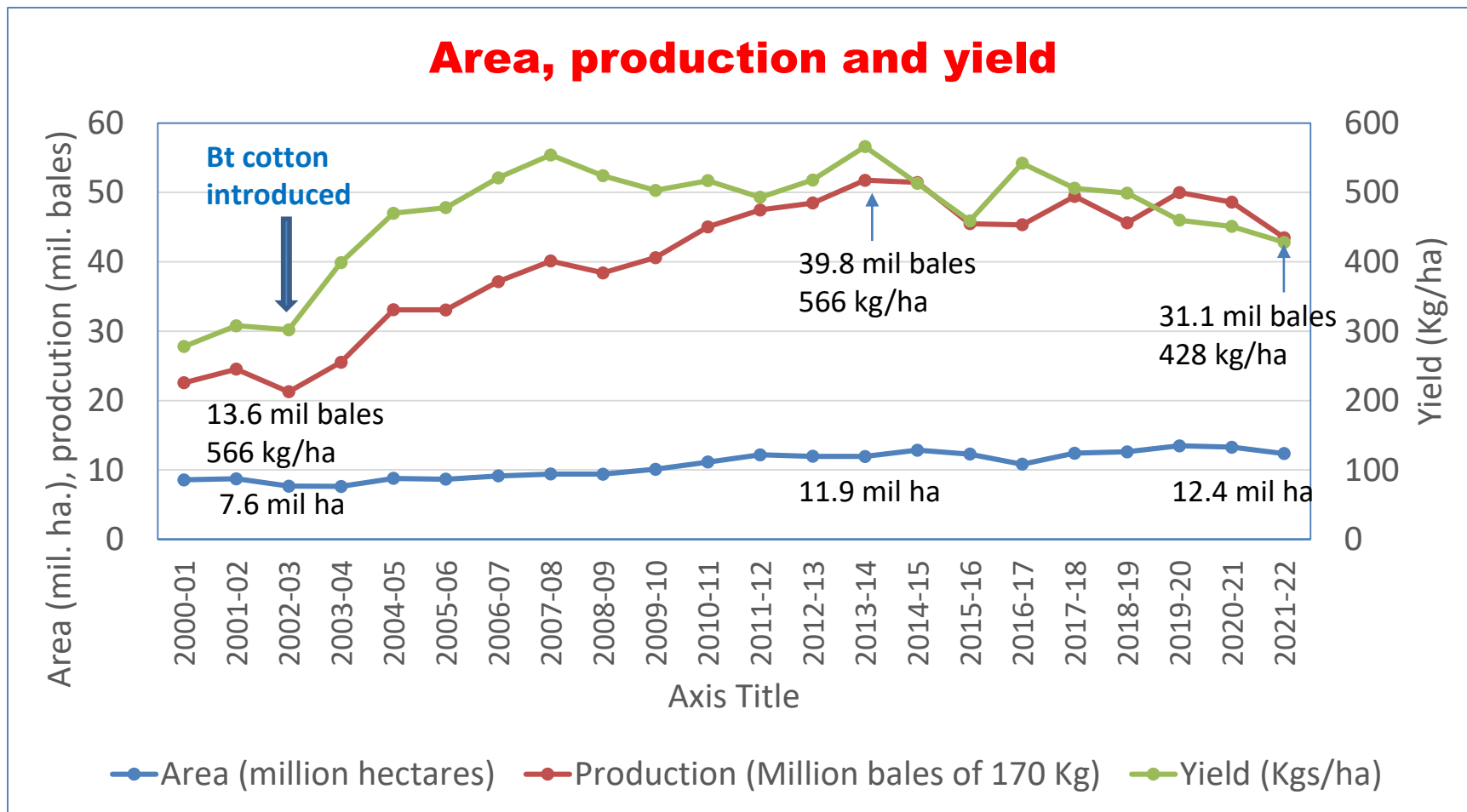
A Success Story

Bt Cotton – Disruptive Innovation

- **The area under Bt cotton increased from 7.6 to 12.0 m ha**
- **The cotton production almost tripled from 13.6 m bales to 40.0 m bales in 2013-14**
- **The yield increased from 300 kg/ha to 550 kg/ha (currently 445 kg/ha)**
- **Pesticide consumption got reduced by 35 %**
- **Income of 5 million cotton farmers increased 2-3 fold**
- **Export of cotton had touched US \$ 4.0 billion**



Cotton Production Trend



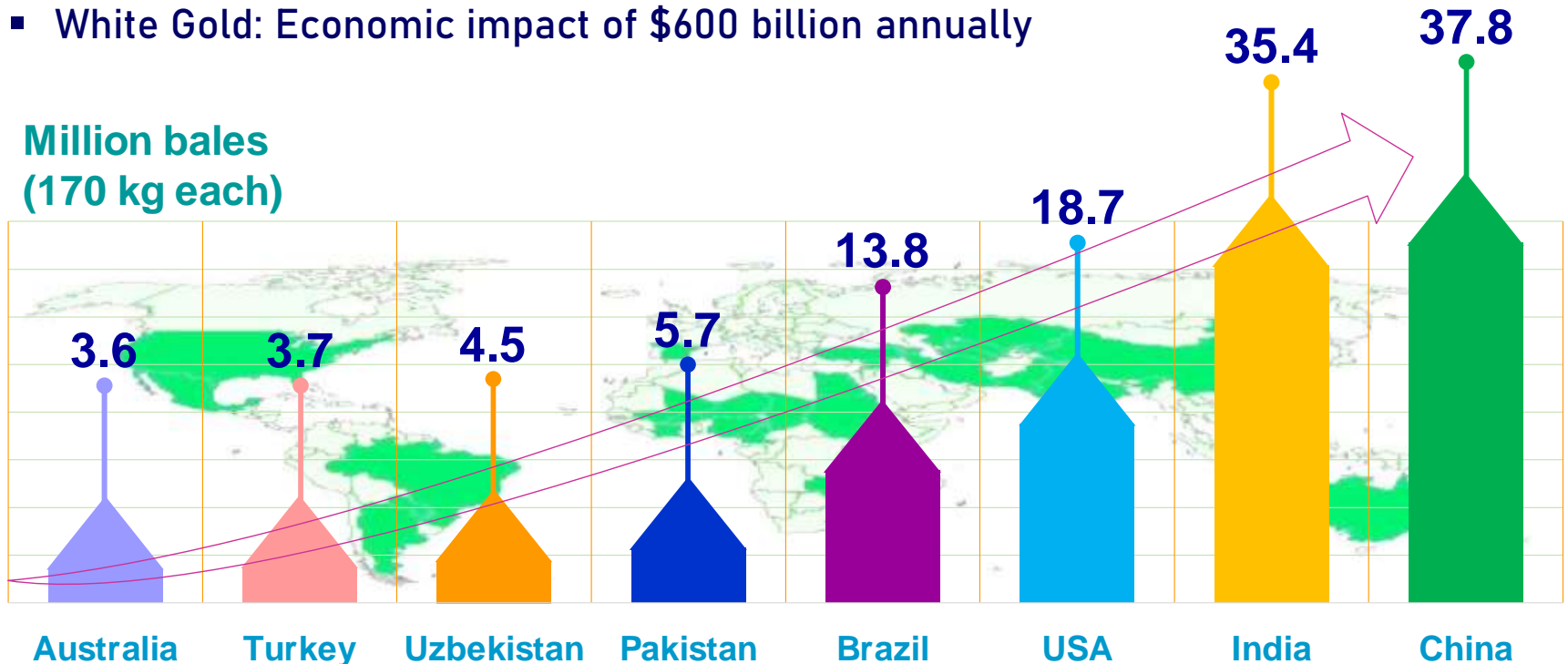
Source of data: Cotton Corporation of India (18/05/2023)

Cotton Global Scenario

(Source: USDA Report 2021)

- 25.12 Million tonnes of lint annually worth \$12 billion
- Backbone of world textile trade
- White Gold: Economic impact of \$600 billion annually

Million bales
(170 kg each)



Comparison of India's Cotton Yield with the World Average (Kg/Hectare)



Source: India: Office of Textile Commissioner, World: ICAC

Average Yield

Cotton Yield of Major Cotton Producing Nations for 2021-22 (Kg/Hectare)

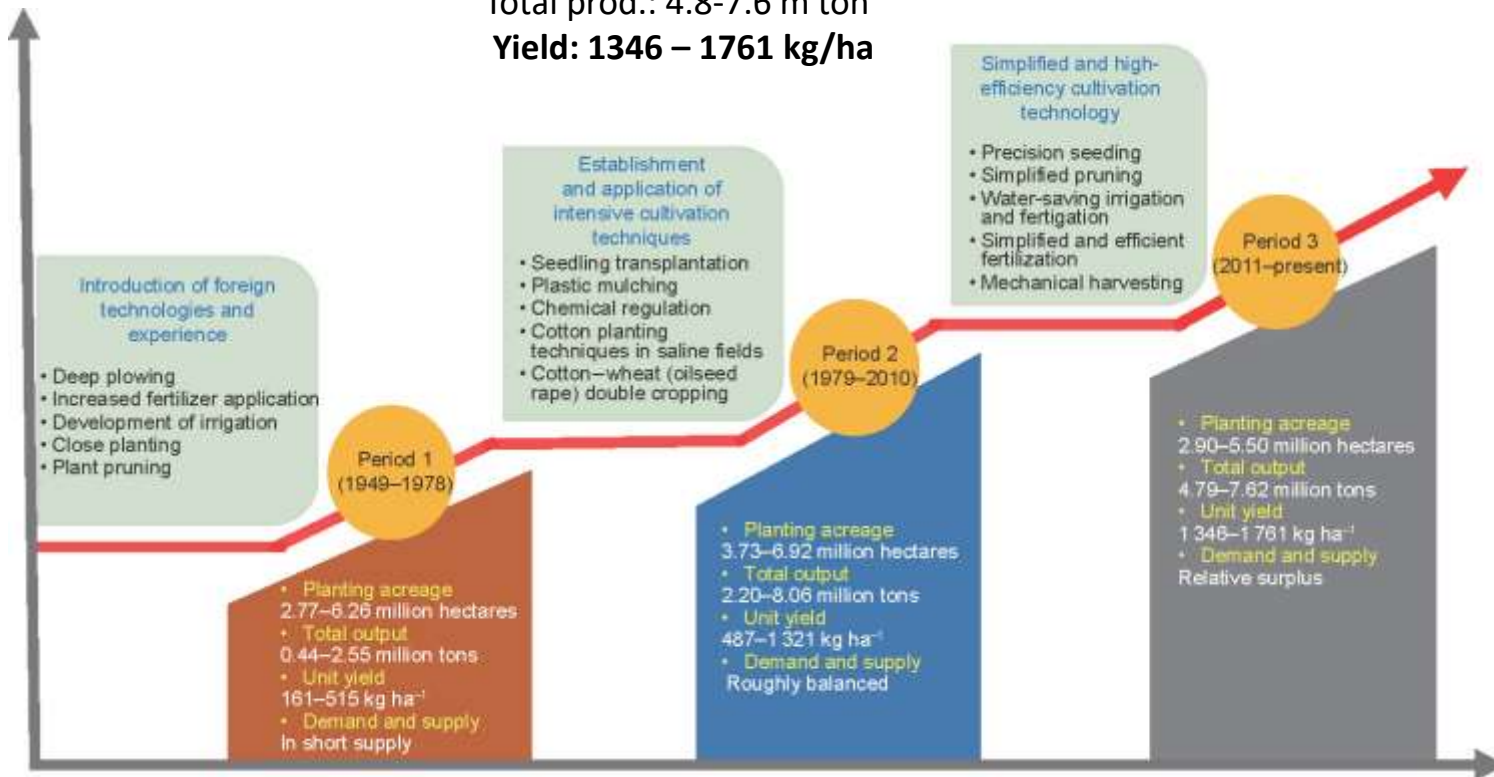


Source: India: Office of Textile Commissioner, Other Countries: ICAC

Cotton Strategy - China

2011 - 2022

Acreeage: 2.9-5.5 m ha
 Total prod.: 4.8-7.6 m ton
 Yield: 1346 – 1761 kg/ha



Lu FENG, et al. 2022. Cotton cultivation technology with Chinese characteristics has driven the 70-year development of cotton production in China. Journal of Integrative Agriculture. 21: 597-609

Challenges:

- **Global:**

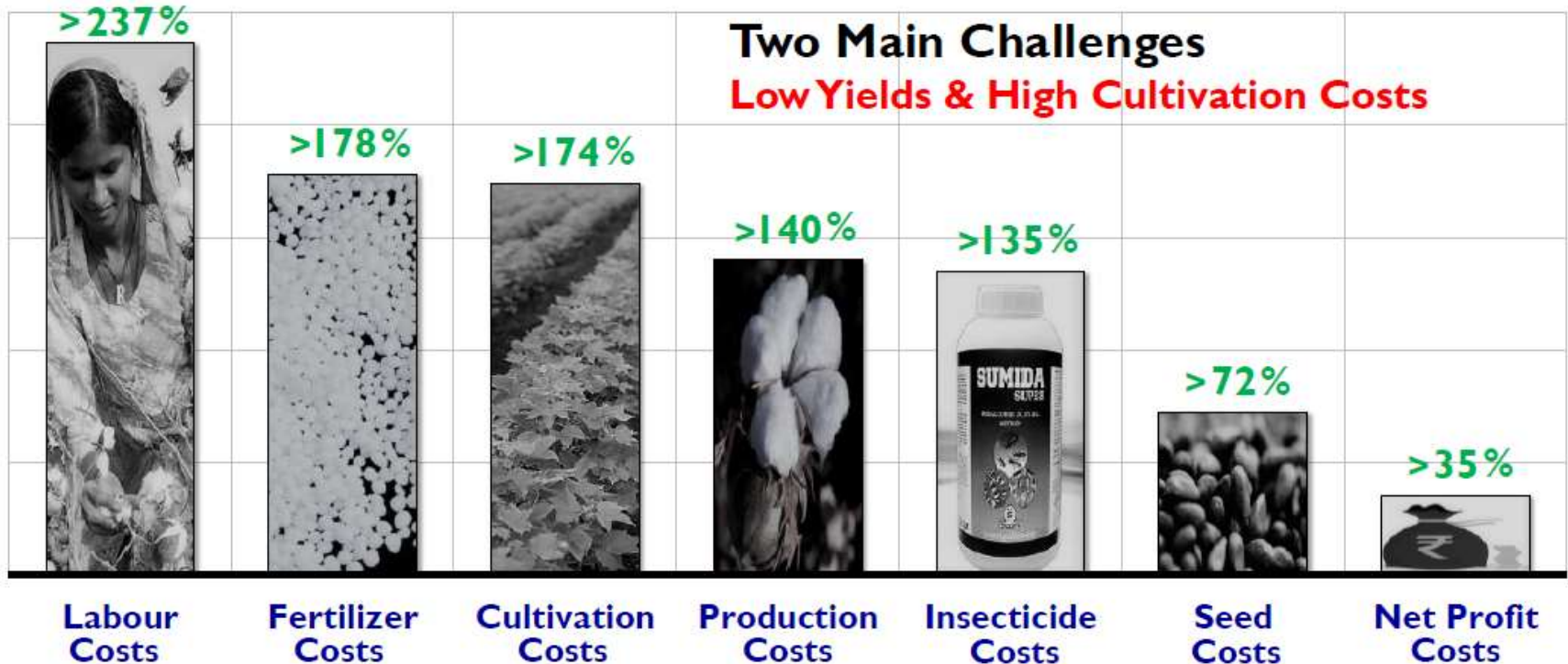
- Global average yield (768 kg/ha) higher compared to Indian average (455 kg/ha)
- Low ginning outturn (33-35%) against 40-45% in other countries
- Demand rising for traceability of production source, organic cotton, labelling, fair trade practices and sustainable agricultural practices

- **National:**

- Resurgence of bollworm, sucking pests and virus diseases
- 72% production in low and medium productivity (<300-450 kg/ha) areas, mainly rainfed
- Increasing labour and input costs

Indian Cotton

Despite 35% irrigated area & Adoption of best available technologies, Indian lint yields have been low with a 15-yr average of 511 kg/ha with a global rank of 37.



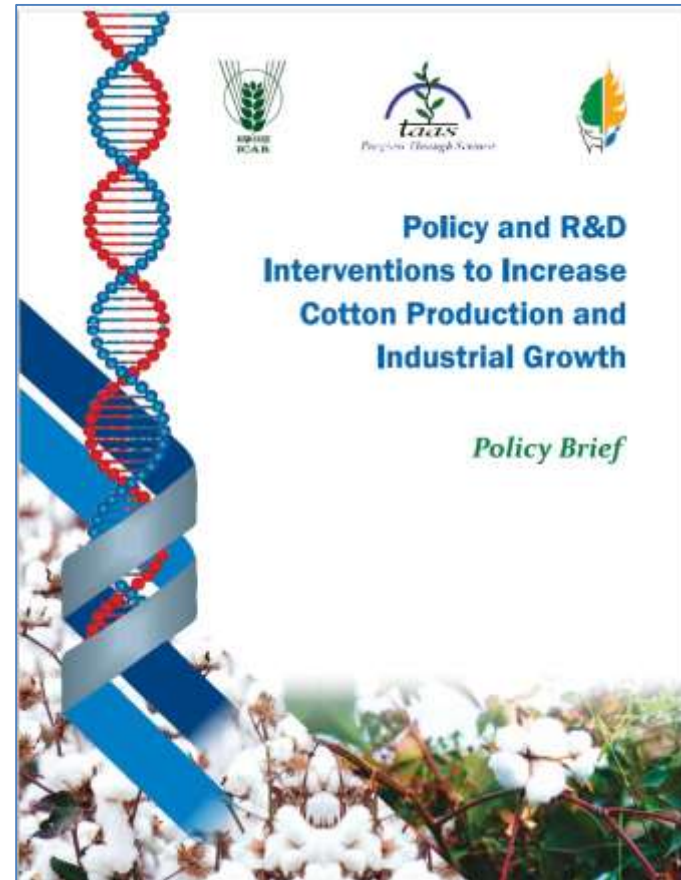
(Source: Kranthi, 2019)

What Do We Need ?

1. Increased Production: 40m bales by 2026
45m bales by 2030
2. Doubling the Yield – around 900 -1000 kg/ha
3. Cotton farming to be more efficient and profitable
 - Cotton transplanting and micro-irrigation
 - Use of herbicides and defoliant
 - High density planting system (HDPS)
 - Mechanisation and clean picking/processing

National Workshop on Enabling Technological and Policy Interventions to Increase Cotton Production and Stimulate Industrial Growth

- Held jointly by TAAS, ICAR and NAAS on 25th February
- 85 key stakeholders participated
- Inaugurated by Dr Ramesh Chand
- A policy brief based on outcome of the workshop has been circulated.



Recommendations

1. To expedite approval of BGII RRF

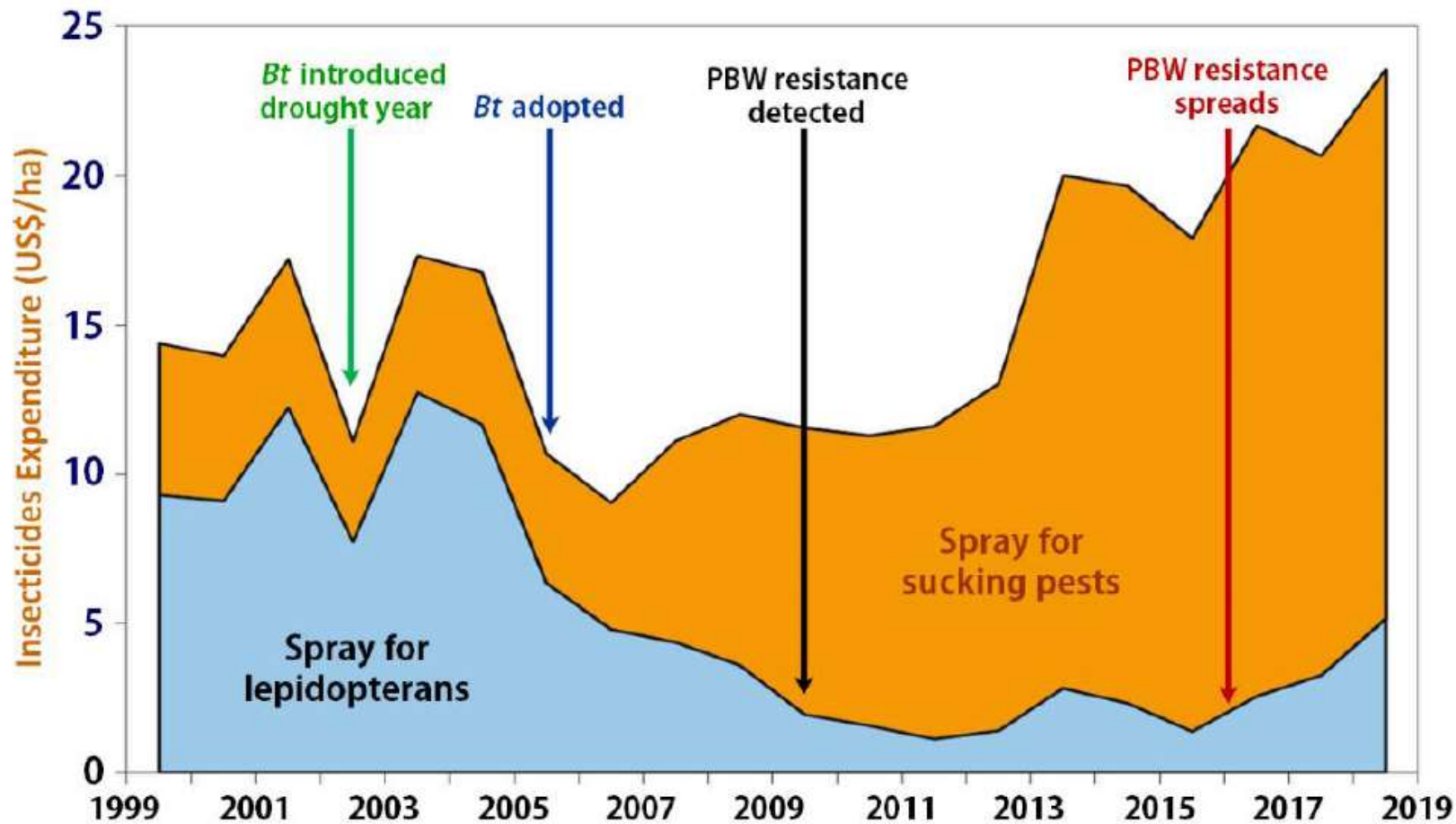
Bollgard II Roundup Ready Flex:

- For insect resistant and herbicide tolerant cotton (cry1Ac, cry2Ac, cp4-epsps)
- Trials carried out since 2012-13
- Data reviewed by DBT sub-committee/RCGM
- GEAC/GoI to take urgent decision
- Reports of unauthorized cultivation of HT cotton

No need for State NOC

- To conduct confined field trials after approval by GEAC/GoI

Expenditure on Insecticides For Cotton Production



Source: Kranthi and Stone, 2020

Technology Needed:

**To meet Farmers Demand – there is illegal sale
15% area covered - 7 m packets sold last year
Spread of unauthorized Bt/Ht cotton**

2. Establishment of Cotton Development Board

On lines similar to Coffee, Tea, Rubber, Silk Boards:

To decide policy, development and trade related issues under one umbrella

3. Establish a Technology Mission on Cotton (Phase II)

Phase I from 2000-2010

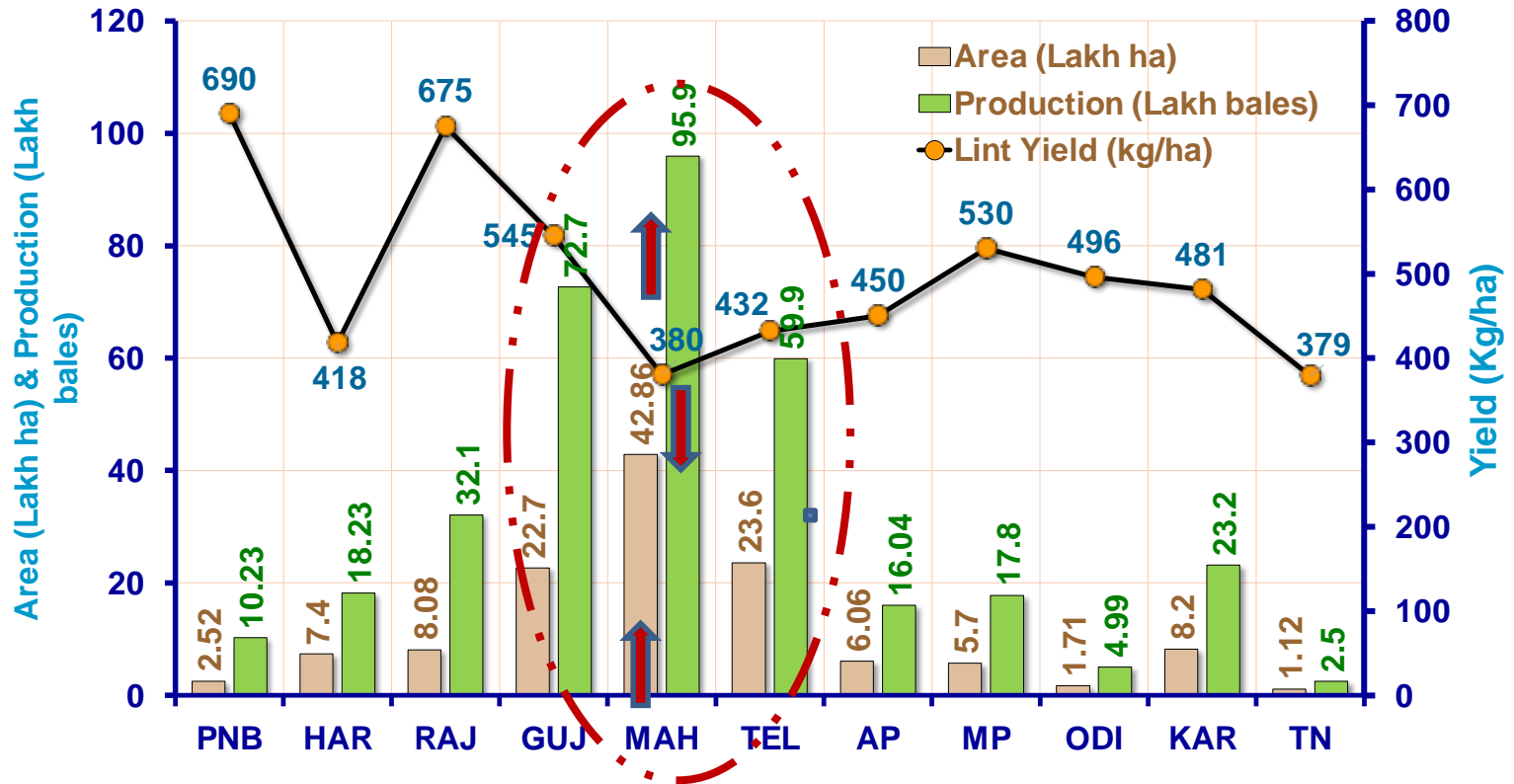
- To increase productivity, reduce production cost, improve quality and have efficient marketing
- Incentives for efficient crop production and protection – to farmers, service providers and the industry
 - To promote cotton transplanting and micro-irrigation
 - To scale adoption of HDPS and use of herbicides, defoliant & mechanisation
- To encourage targeted production of speciality cotton



Urgency for Mission on Cotton

Cotton Production Scenario

(Source: Indiatstat.com)



GAP: Maharashtra, Gujrat, Telangana, Rajasthan, Karnataka, Haryana, MP and Punjab

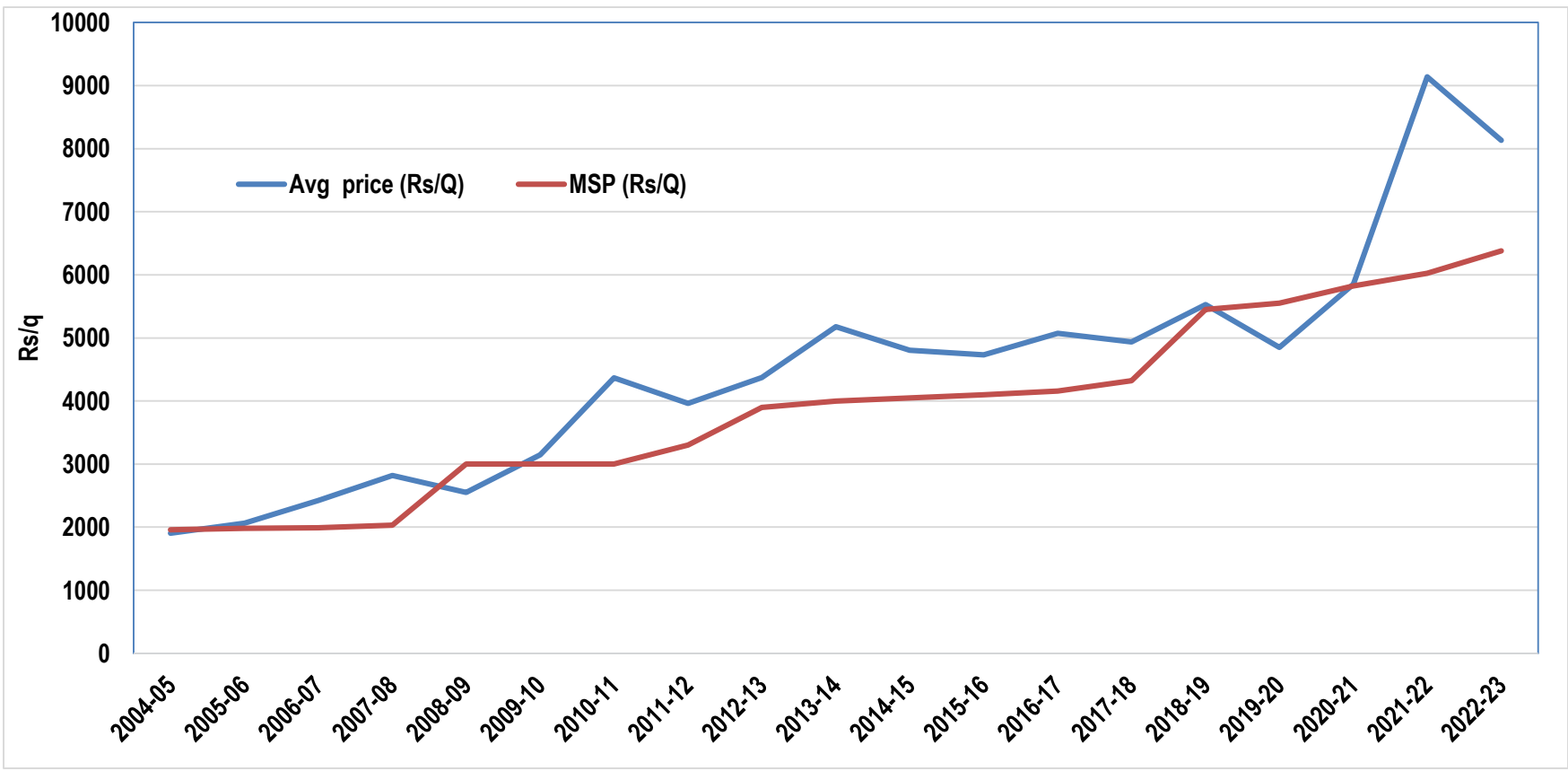
4. To provide an enabling environment for PPP

- For new technology/trait development, we need to reconsider price control on seed, with no restriction on licencing of traits, and tax benefits for scaling new technologies
 - PVPFRA - need to revisit the new registration system
 - Research consortium of private companies with CICR and SAUs with clear understanding on ABS
 - Double the public and private sector investments on R&D

5. Ensuring higher MSP

To ensure higher MSP and a mechanism to sell cotton with better fibre quality at premium price

MSP and Average cotton price in India



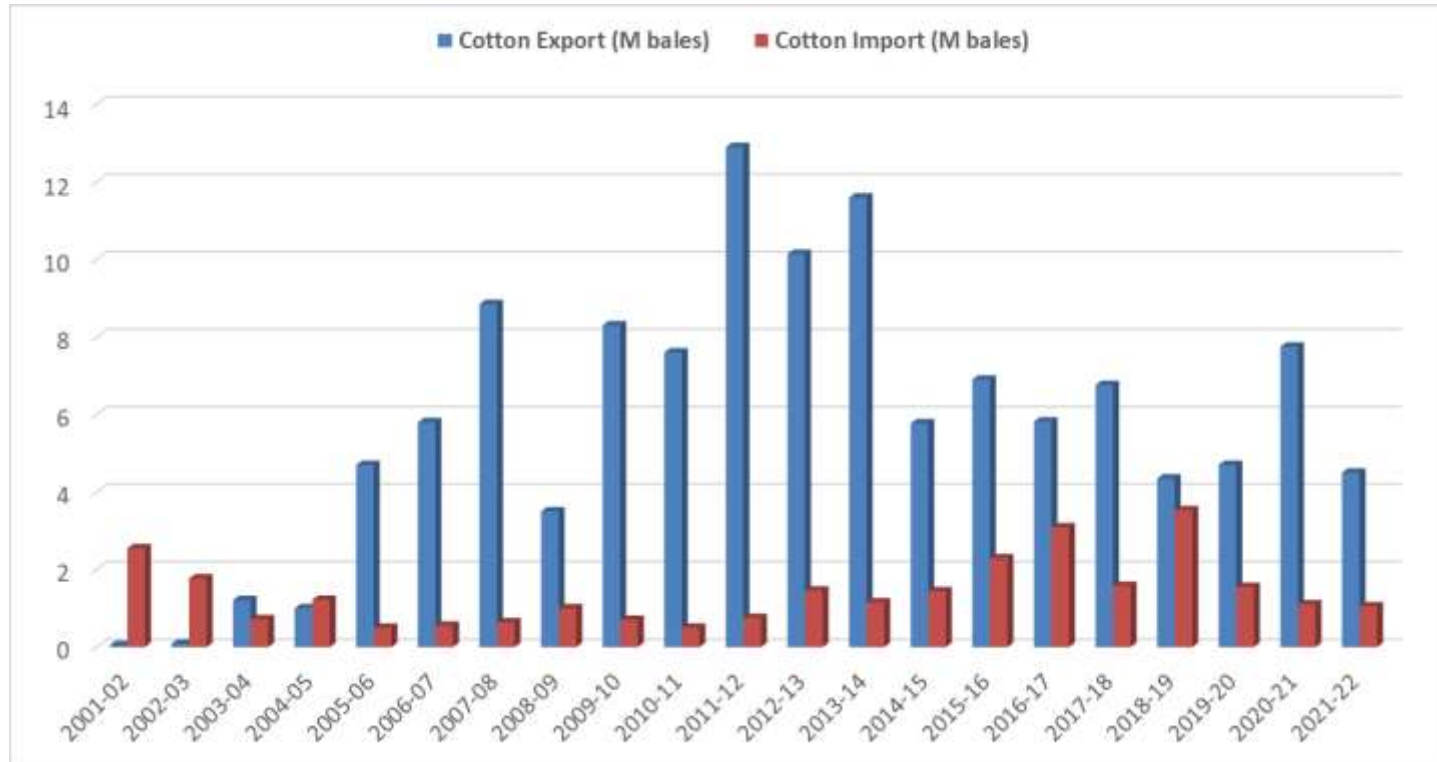
6. Variety registration and seed quality control

MOA&FW to ensure that under Seed Act only the high performing

GM varieties/hybrids are released for cultivation

- To increase public awareness on safe innovations (GM, Genome editing)
- PVPFRA - need to revisit the existing registration system

A Long Term Exim Policy Needed



To remain world leader

Thank you



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