

TMC's ROLE IN TRANSFORMING THE INDIAN COTTON ECONOMY



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TMC - A Veritable Success Story

A multi-pronged GoI initiative for all-round development of cotton economy

- # Farmers benefited by increased income through enhanced productivity
- # Mills getting better and cleaner cotton that enables them to compete globally
- # Ginners & Traders benefited from
 - increased volume of cotton processed and from the improved quality of processing

Goals of TMC

- # Development of better varieties of cotton and of production technologies
- # Transfer of technologies from research farms to farmers' fields
- # Development of cotton market infrastructure
- # Modernization of the ginning industry

Attainments of TMC

- # Evolution of many high-yielding and better quality varieties
- # Development of Bt cottons and their phenomenal spread into farms across the country
- # Widespread adoption of modern agricultural technologies to enhance yield and reduce pesticide consumption

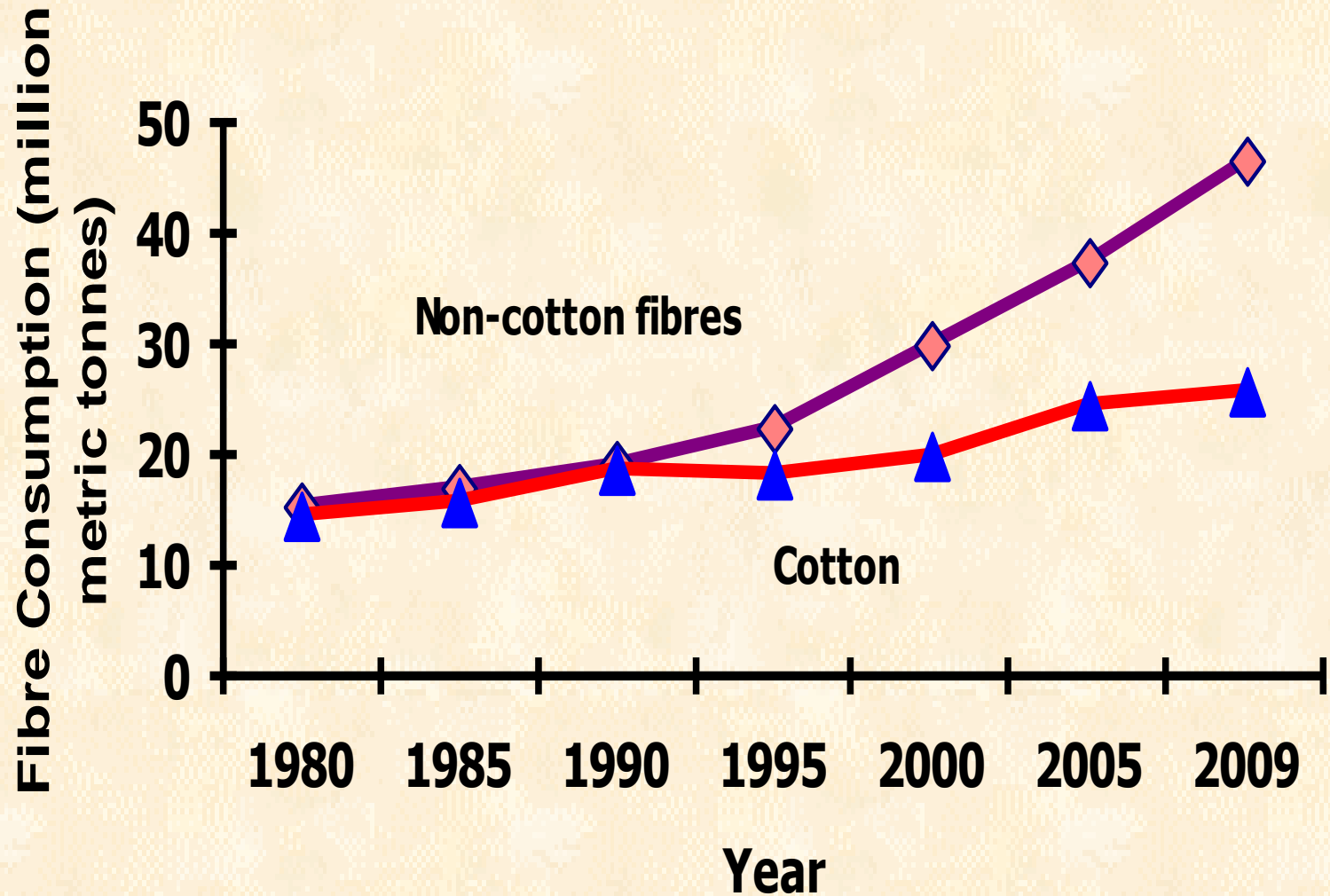
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- # Establishment of 250 cotton markets with modern facilities that ensure purity and cleanness of cotton and fair deal to farmers
- # Setting up/modernization of as many as 1000 composite G & P factories that will process Indian cotton into low-trash contamination-free bales.

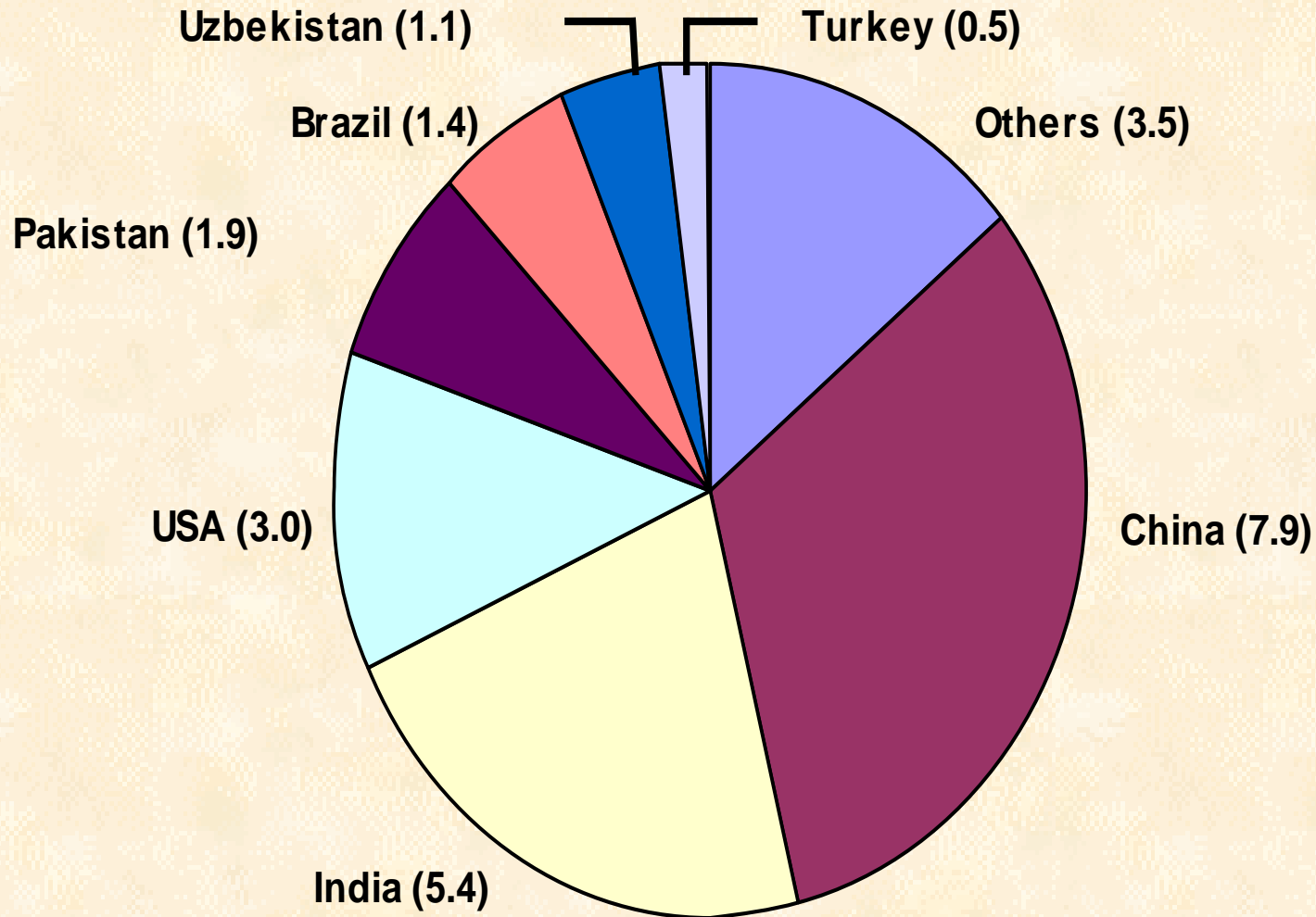
Cotton in World Economy

- # King cotton rules the world of textiles.
- # Economy of over 80 countries relies on cotton.
- # Cotton is cultivated in 32 mha.
- # Annual production: about 25 mt
- # Cotton constitutes about 36% of fibre consumption.

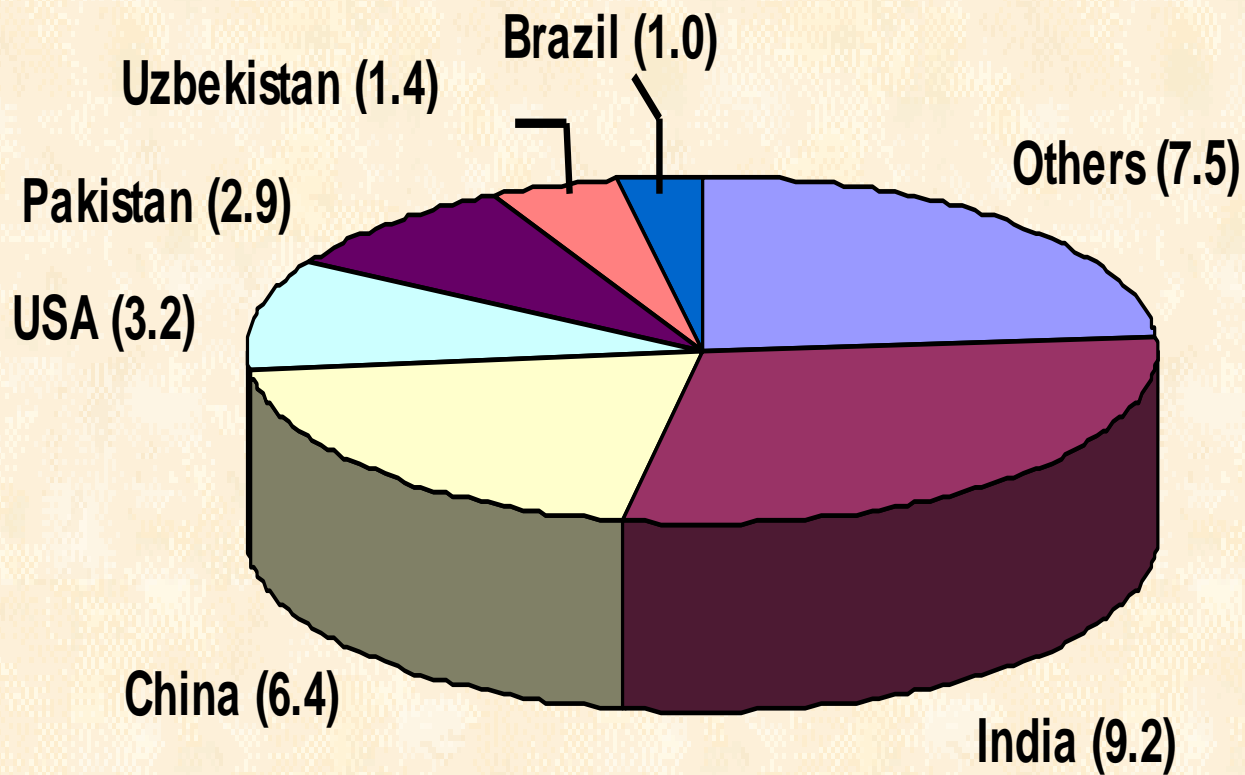
World Fibre Consumption over the Years



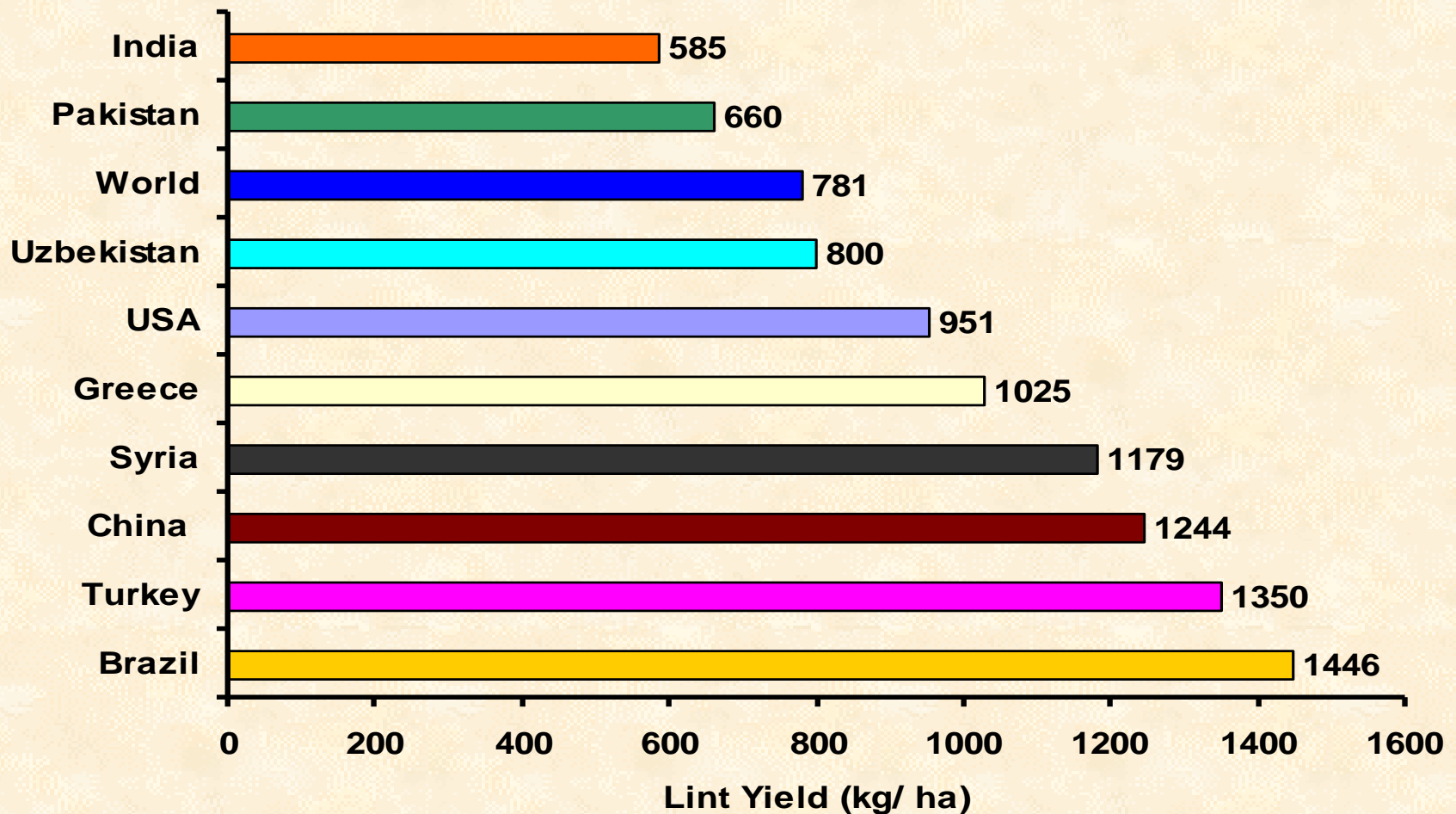
World Cotton Production in 2008-09 (million mt)



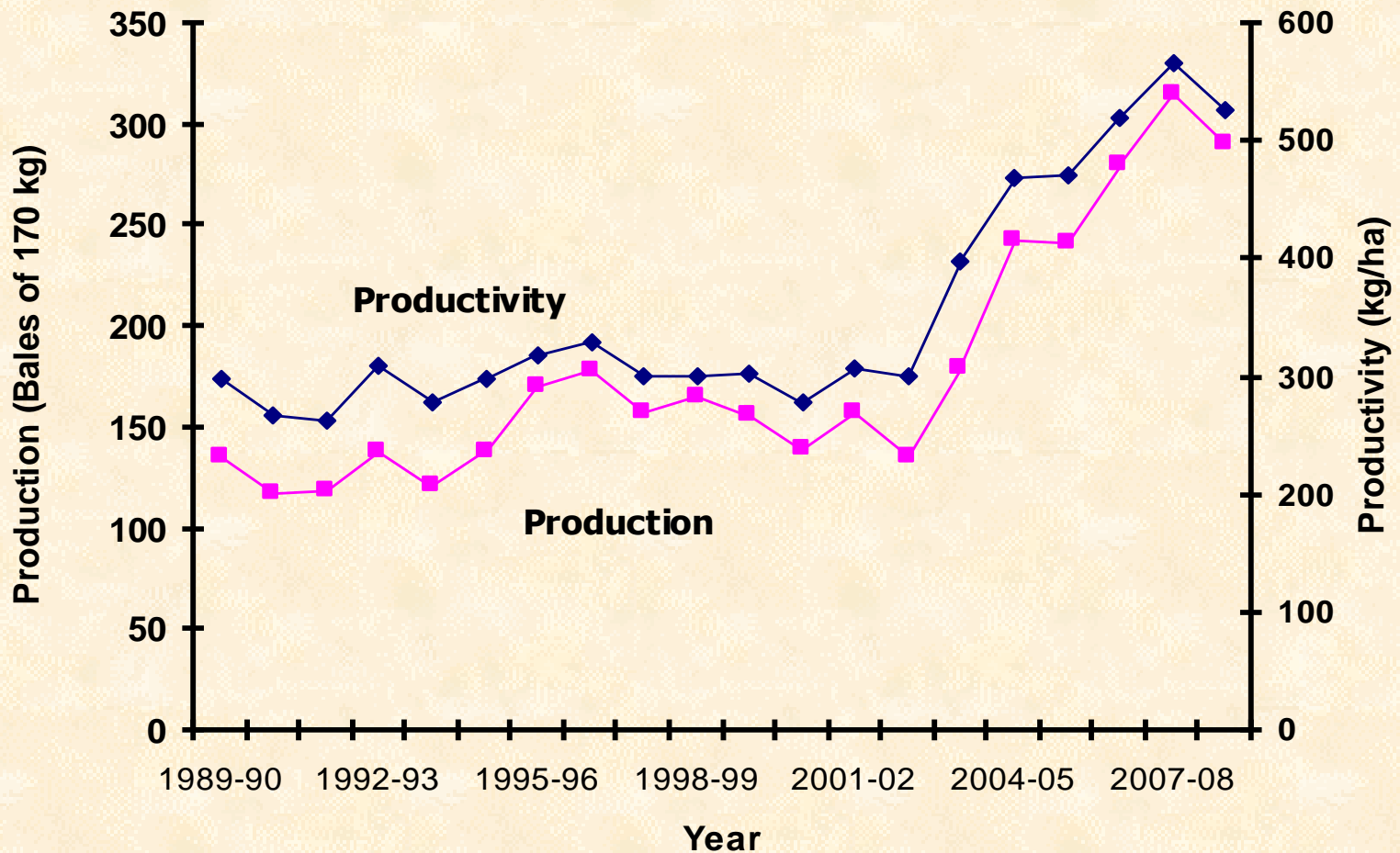
Area Under Cotton (mHa) in 2008-09



Cotton Yield in Major Countries (2008-09)



Indian Cotton in Recent Years



Deficiencies in Cotton Sector in Pre-TMC Years (1990-2000)

Stagnation of Production & Productivity

As already seen, production and yield stood still in India while other countries recorded spectacular yield increase. R & D efforts seemed to produce little impact in India.

Hybrids only Marginally superior

40% of area was occupied by hybrids which constituted only 45% of production.

Low Yield despite Irrigation in Northern States

Production declined from 1990 onwards in Punjab, Haryana and Rajasthan.

Weak Technology Transfer

- R & D showed results only in FLDs
- Farmers' plots performed poorly
- Extension efforts were weak, ineffective.

High Cultivation Cost

- High pest incidence promoted indiscriminate use of pesticides jacking up cost.
- 5% of cultivated land consumed 50% of pesticides.
- Farmers' profit dwindled.

Mixing of Varieties

- Too many varieties, farmers' freedom to choose seeds & small farm holdings promoted mixing of cotton at the farm, markets & ginneries.
- Bales remained unpredictable in cotton quality.
- Mills preferred imports.

Poor Fibre Attributes

- Indian cotton covered a wide staple spectrum (18mm-38mm).
- But strength, maturity & micronaire were not high.
- Yarns inferior in strength, uniformity and dyeing behaviour

Trash & Contamination in Cotton

- Poor infrastructure in markets & ginneries promoted contamination.
- Ginneries did not use precleaners or lint cleaners resulting in large trash content in baled cotton (5%-8%) as compared to foreign cotton (1-2%).
- Quality conscious mills were compelled to import cotton.

Technology Mission on Cotton (TMC)

- # Fast-track solution for the myriad problems in cotton production & processing sectors
- # Launched in February 2000, the scheme has four components:

Mini Mission I	Cotton Research & Tech. Generation Nodal Agency: ICAR
Mini Mission II	Transfer of Technology & Development Nodal Agency: DAC-MOA
Mini Mission III	Development of Market Infrastructure
Mini Mission IV	Modernization/upgradation of G&P factories Nodal Agency: MM-III & IV - MOT

Specific Objectives of TMC

- # To ensure availability of quality cotton to textile industry & improve income of cotton growers by
 - Increasing production & productivity
 - Reducing cultivation cost
 - Render cotton farming more profitable
 - Improve quality of cotton in respect of staple length, mic & strength so that it is acceptable to textile industry

To reduce contamination of cotton by

- Improving the infrastructure of cotton markets and introducing management practices
- Upgrading the ginning industry with modern machines and civil infrastructure

TMC's Duration

- # Initially meant for a 5-year term starting with 2000
- # Repeated extensions accorded in later years
- # TMC Mini Missions are in their 10th year
- # Mini Missions III & IV Scheduled to end in March 2010

Mini Mission-I: Programme Highlights

Broad Objective : Improvement of production, productivity & quality through R & D endeavours

Nodal Agency : **ICAR**

Mini Mission-II: Programme Highlights

Broad Objective	: Technology transfer
Nodal Agency	: Dept. of Agril. & Co-op. MoA
Implementing Agency	: Dte of Cotton Dev.
Other Participants	: State Depts. Of Agril. Also ICAR, SAUs, CCI, KVKs, Trade, Co- operatives, NGOs

MM-II: Noteworthy Achievements

Increase in Area:

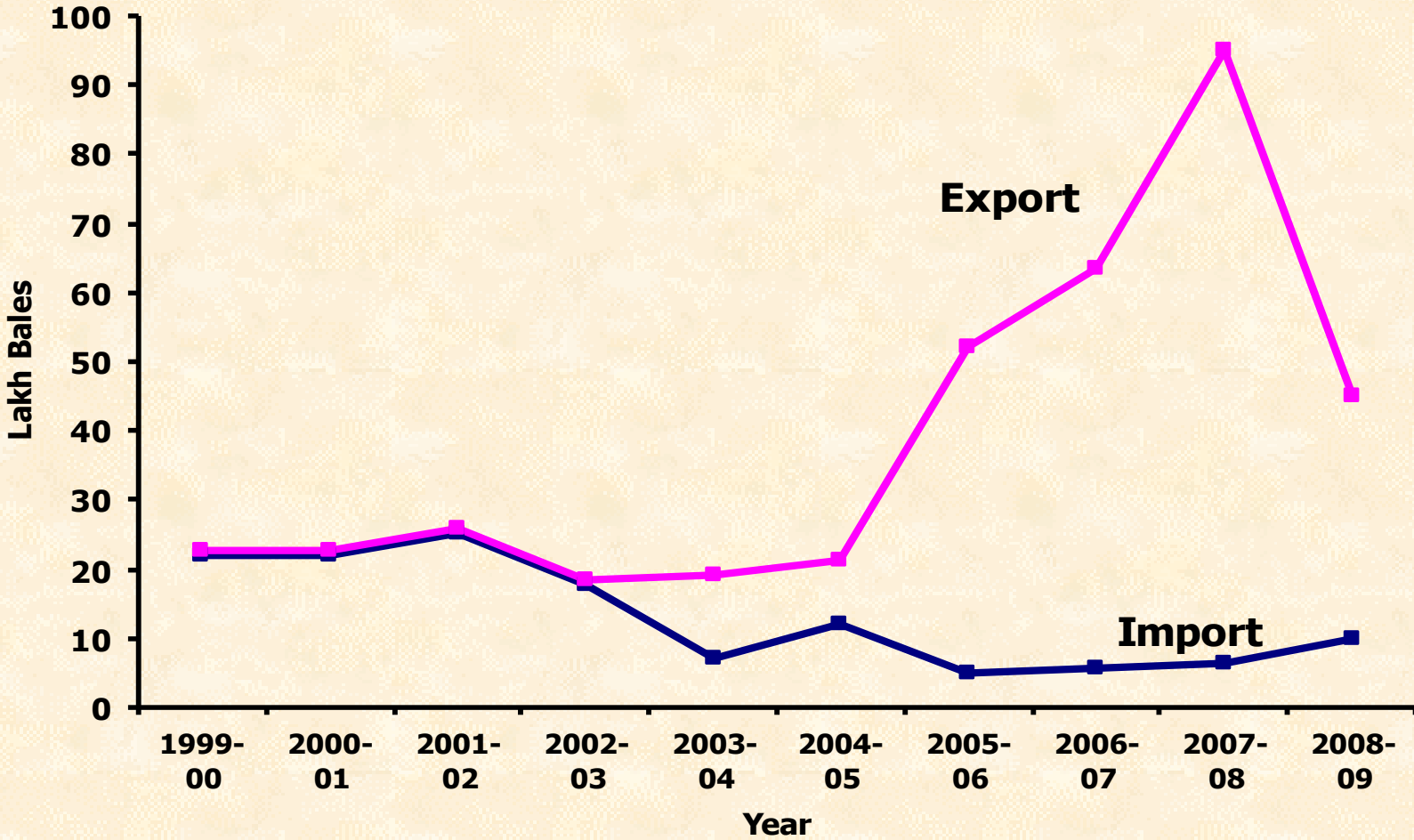
- Area before launch of TMC: 85-87 lakh ha
- Area in 2008-09: 95 lakh ha

Increase reflects farmers' confidence boosted by MM-II steps.

Increase in Productivity:

- Before TMC: Yield stagnant at 300 kg/ha
- Yield in 2008-09: 524 kg/ha
- Increase in Production:
- Before TMC: Stagnant at 150 lakh bales
- Production in 2008-09: 290 lakh bales

MM-II Achievements contd...



Export at all-time high at 85 lakh bales in 2007-08
Import down to 6-10 lakh bales

- # Farmers are making increasing use of new technologies.
- # Higher yield, better fibre quality reported by farmers.
- # Farmers' profit margin has increased.
- # Bt cotton area has risen to 67% of area under cotton in 2007-08.
- # Bt area estimated at 85% in 2008-09

Bt Cotton Area (lakh ha) in States

<i>State</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007-08</i>
Andhra Pradesh	0.038	0.054	0.712	0.904	6.570	10.01
Madhya Pradesh	0.014	0.133	0.861	1.362	3.020	4.71
Gujarat	0.091	0.417	1.259	1.493	4.070	
Maharashtra	0.120	0.218	1.615	5.088	16.550	13.00
Karnataka	0.021	0.030	0.343	0.293	0.800	26.00
Tamil Nadu	0.003	0.076	0.120	0.170	0.320	0.40
Punjab				0.704	2.810	0.48
Haryana				0.107	0.420	5.57
Rajasthan				0.023	0.050	2.79
Total	0.287	0.928	4.910	10.144	34.610	63.34

Reduced Pesticide Consumption Reported in Some States

State	2003-04	2006-07	% decrease
Tamil Nadu	25.83	22.55	13
Karnataka	2000.0	1220.48	39
Rajasthan	975.74	778.92	20
Andhra Pradesh	1360.0	585.0	57

Source: State Departments of Agriculture through DOCD

Mini Mission-III: Programme Highlights

Broad Objective	: To develop cotton markets with appropriate infrastructure such that contamination is averted
Nodal Agency	: CCI
Infrastructure Provided	: Road, CC platform, sheds, godowns, parking space, weigh bridge, fire fighting system, farmers' rest rooms, canteen, FIC, grading lab., supply shop

GoI Assistance for Cotton Markets

- # **New Markets:** 60% of cost
up to Rs.150 lakh
- # **Improvement:** 60% of cost
up to Rs.90 lakh

TMC's Target: 250 markets

Projects Completed: 190

MM-III Highlights contd...

State	Sanctioned	Completed
Punjab	19	14
Haryana	20	18
Rajasthan	14	14
Madhya Pradesh	28	28
Gujarat	45	32
Maharashtra	50	37
Andhra Pradesh	48	27
Karnataka	13	10
Tamil Nadu	4	4
Orissa	9	6
Total	250	190

Mini Mission-III: Market Yards Financial Targets & Achievements

Target	:	250 market yards
Projects approved	:	250
Project cost of 250 markets	:	Rs.489.48 crore
GoI share of 250 projects	:	Rs.253.36 crore
No. of completed projects	:	190
Payment of GoI share made to APMCs	:	Rs.177.73 crore

The 250 modernized markets will be able to handle almost all the cotton produced in India without the risk of contamination during handling at the yards.

Mini Mission-III: Noteworthy Achievements

Contamination Averted	:	Mills now satisfied
Fair Deal for Farmers	:	Auction system insisted on by TMC has brought transparency
General Market Atmosphere	:	Appreciated by farmers

Mini Mission-IV: Programme Highlights

Broad Objective	:	Modernization of existing ginneries Setting up of new units
Nodal Agency	:	CCI
Norms for a Modern Unit	:	Gins, precleaner, lint cleaner, conveyor system for kapas, lint and seeds, modern bale press, moisturizers, weigh bridge, cemented storage spaces for kapas, lint & seeds, fire hydrants, water tanks, CC road, boundary wall, etc.

GoI Assistance for Ginneries

Large Units (24 gins)	:	25% of cost up to Rs.20 lakh
Small Units (12 gins)	:	25% of cost up to Rs.15 lakh
Automatic Bale Press	:	25% of cost up to Rs.7 lakh
HVI Machine	:	25% of cost up to Rs.4 lakh

TMC's Target: 1000

Projects Completed: 857

MM-IV Highlights contd...

State	Sanctioned	Completed
Punjab	19	17
Haryana	07	06
Rajasthan	02	00
Madhya Pradesh	53	41
Gujarat	557	509
Maharashtra	314	247
Andhra Pradesh	34	19
Karnataka	15	11
Tamil Nadu	03	01
Orissa	08	05
Diu (U.T.)	1	1
Total	1013	857

Mini Mission-IV: G & P Units Financial Targets & Achievements

Target	:	1000 G & P units
Projects approved	:	1013
Project cost of 1000 units	:	Rs.1432.19 crore
GoI share of 1000 projects	:	Rs.224.74 crore
No. of completed projects	:	857
Payment of GoI share made to G & P units	:	Rs.144.03 crore

The 1000 TMC-modernized G & P factories will be able to process 75-80% of India's cotton into low trash, contamination-free bales.

Factories modernized with TUFs assistance and own funding will be able to process the remaining 20-25%

MM-IV: Noteworthy Achievements

- # Increased processing speed (productivity)
- # Improved ginning quality (minimal fibre length loss)
- # Reduced trash
- # Diminished contamination
- # Perfect packing of bales
- # Facilitation of quality bales marketing by immediate testing on HVI

Premium price for bales

- Traders get higher price for cotton due to improved quality of processing.
- Job workers earn more per bale.

Enhanced reputation

- Patronage of reputed mills
- Speedier recovery of dues

Reduced labour woes

- Automation has reduced labour requirement (from 125 to 25 per unit).
- No production loss/ hassles from absenteeism

Impact of TMC

- # Programmes under MMs-I, II, III & IV have been implemented with remarkable zeal by respective nodal agencies.
- # Synergy provided by the four MMs has served to transform the Indian cotton economy.

Rising dominance of Bt cotton

- 2007-08: 67% of area
- 2008-09: 85% of area (estimated)

Decline in pesticide use

- Pre-TMC years: 55% of chemicals used in cotton farms
- Today: only 35%

Farmer empowered

- Functioning of markets more disciplined
- Transactions transparent
- Prices commensurate with cotton quality

Contamination curbed in markets

- 90% of Indian cotton transacted in clean ambience
- Cotton emerges contamination-free.

Jubilant Ginning Industry

- Productivity & efficiency of ginneries improved
- Profitability increased

Clean cotton for textile industry

- Ginner's mindset changed by TMC
- Many ginneries being set up through TUFS, NABARD schemes or own funding
- Almost 100% of Indian cotton will soon be processed in modern gins.

Looking Forward

- # TMC, despite some of the gaps left, has transformed India's cotton economy.*
- # The impact of TMC will be felt more and more in the years to come.*

- # *The TMC scheme of the Govt. of India has been a success story.*
- # *It has brought immense benefit to farmers, ginneries, cotton traders and consuming mills through mammoth infrastructure created/stabilized across all cotton growing States.*
- # *The country can march further into the 21st century with pride, optimism and confidence.*

Future Steps

- # The Govt. of India had introduced a scheme for grading/certification of modernized G & P factories.*
- # The Textiles Committee has been entrusted this task.*
- # The grade certificate will enable traders & mills to select ginneries as per their quality needs.*

Thank You !

