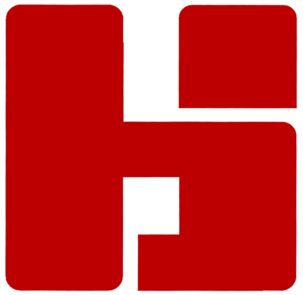


bajaj hindusthan ltd.

MAY 2005

CONTENTS

WORLD SUGAR

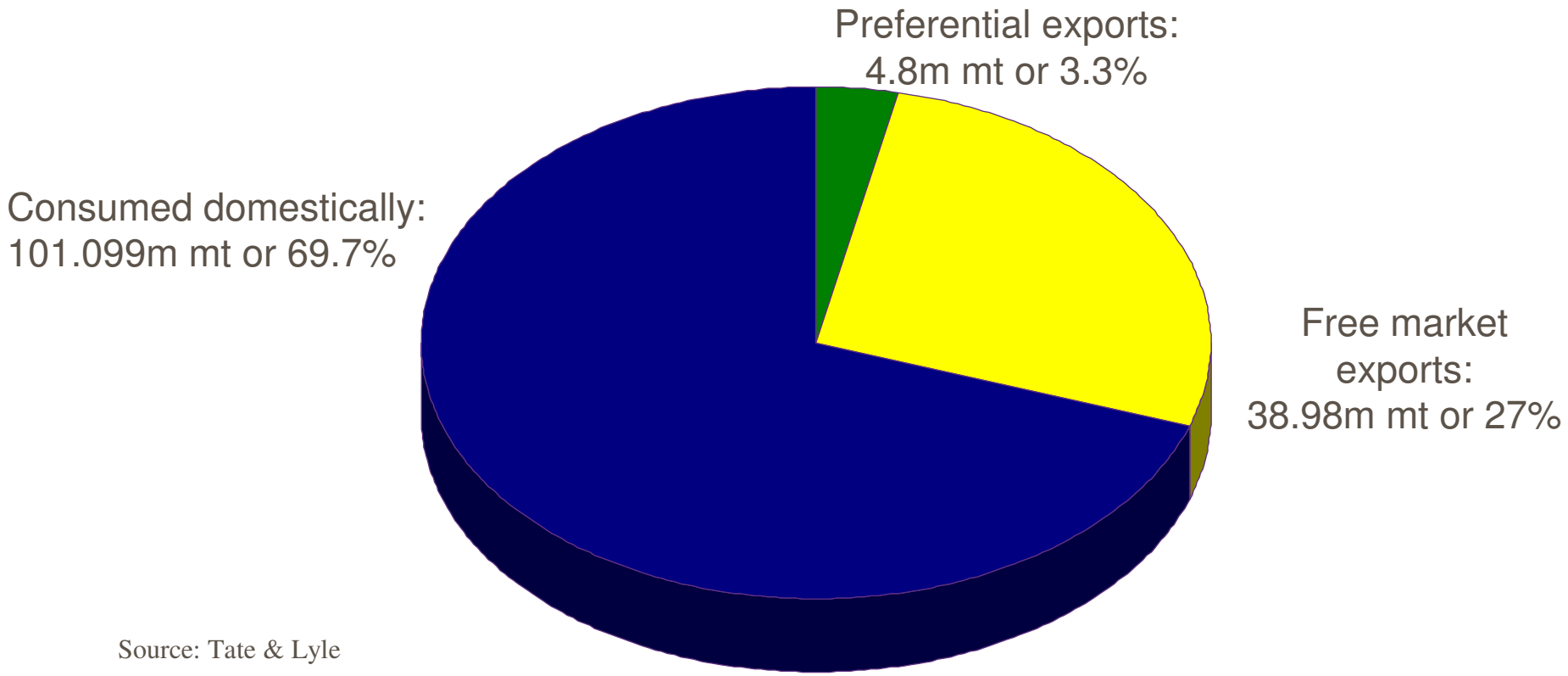
- Produced in more than 100 countries
- About 75% is produced from sugarcane
- Beet sugar has gone down from 40% in 1990 to 25% in 2003
- The cost of sugar from cane is less than the cost of sugar from beet
- About 70% of production is consumed in the country of origin
- The balance 30% is traded on world markets
- Almost 33% of export market is controlled by Brazil, 15% EU, 13% Thailand and 12% Australia.

Source: International Sugar Organisation

Consumed where produced

WORLD SUGAR MARKET

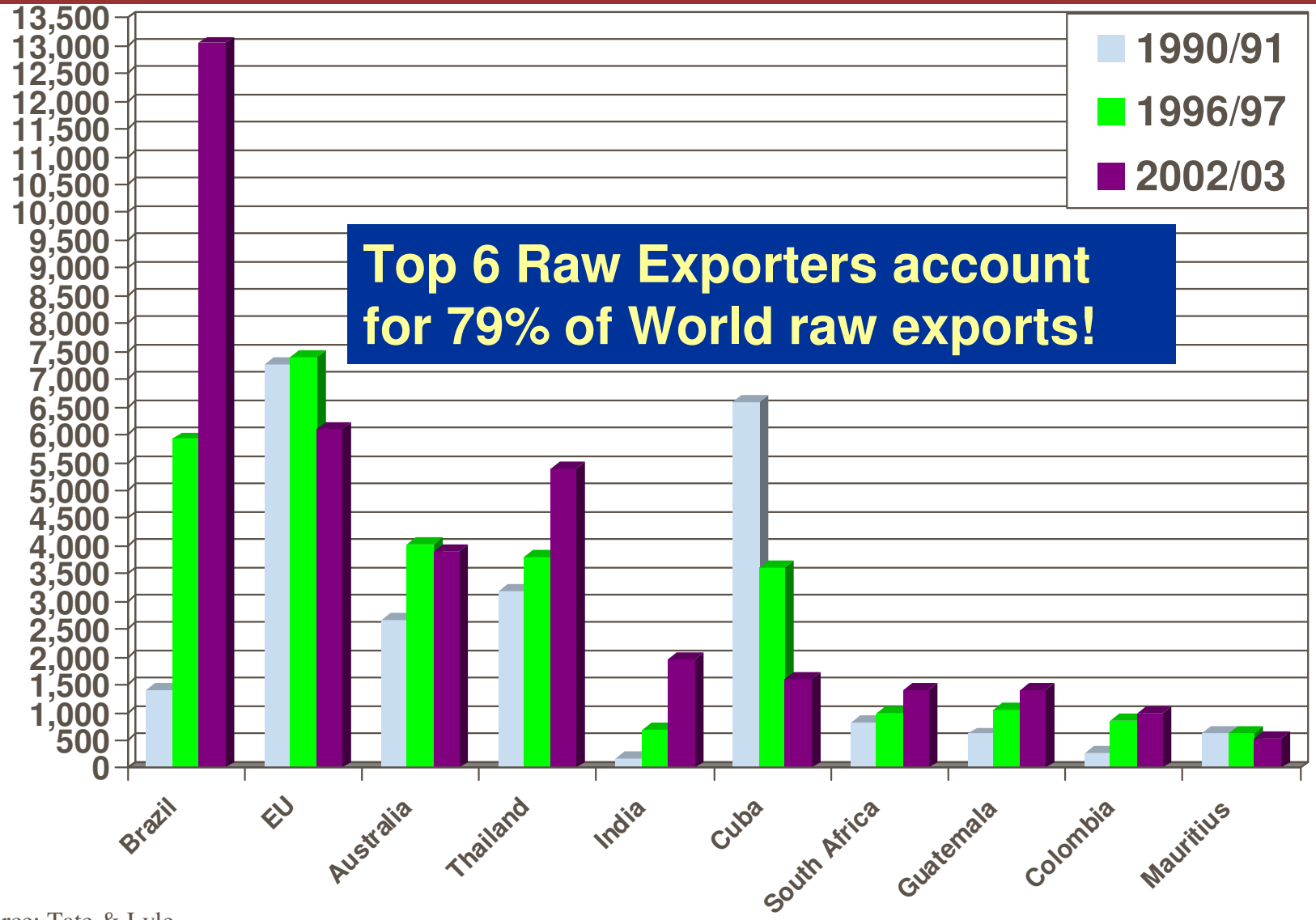
DISTRIBUTION OF WORLD SUGAR SUPPLIES
2002/3 (Oct/Sept)



Source: Tate & Lyle

TOP 10 EXPORTERS

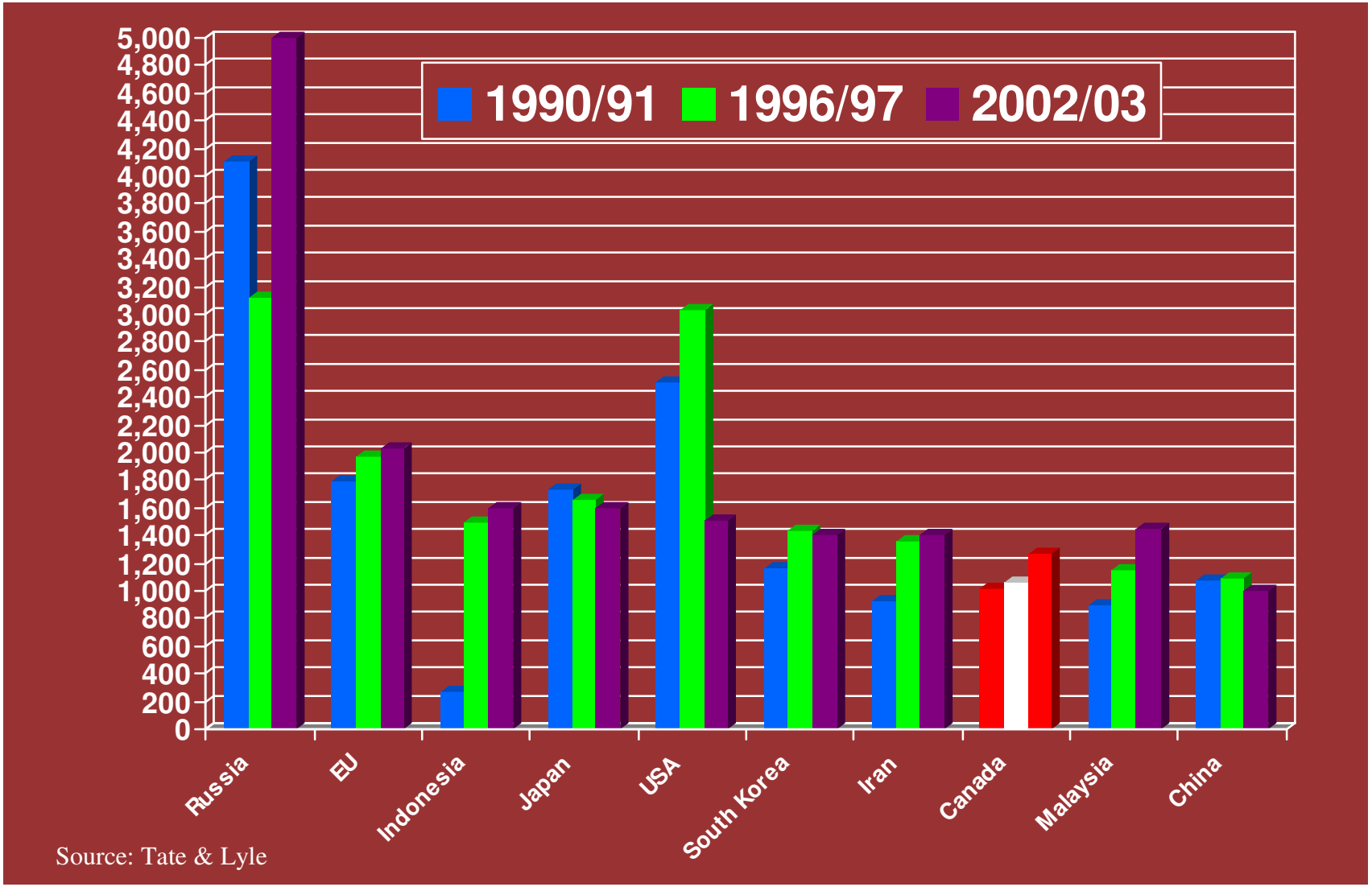
(000 Metric Tonnes - raw value)



Source: Tate & Lyle

TOP 10 IMPORTERS

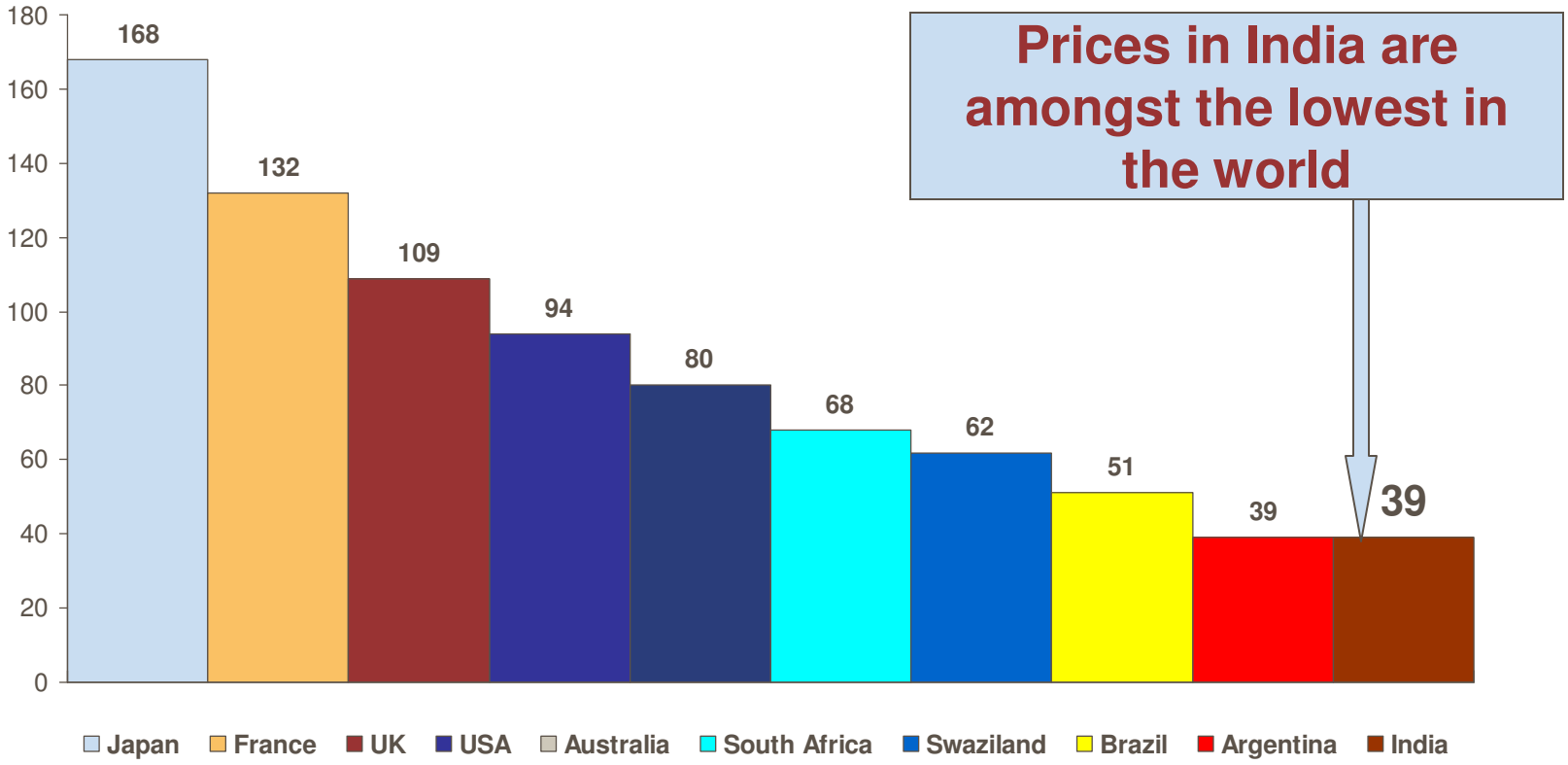
(000 Metric Tonnes- raw value)



Source: Tate & Lyle

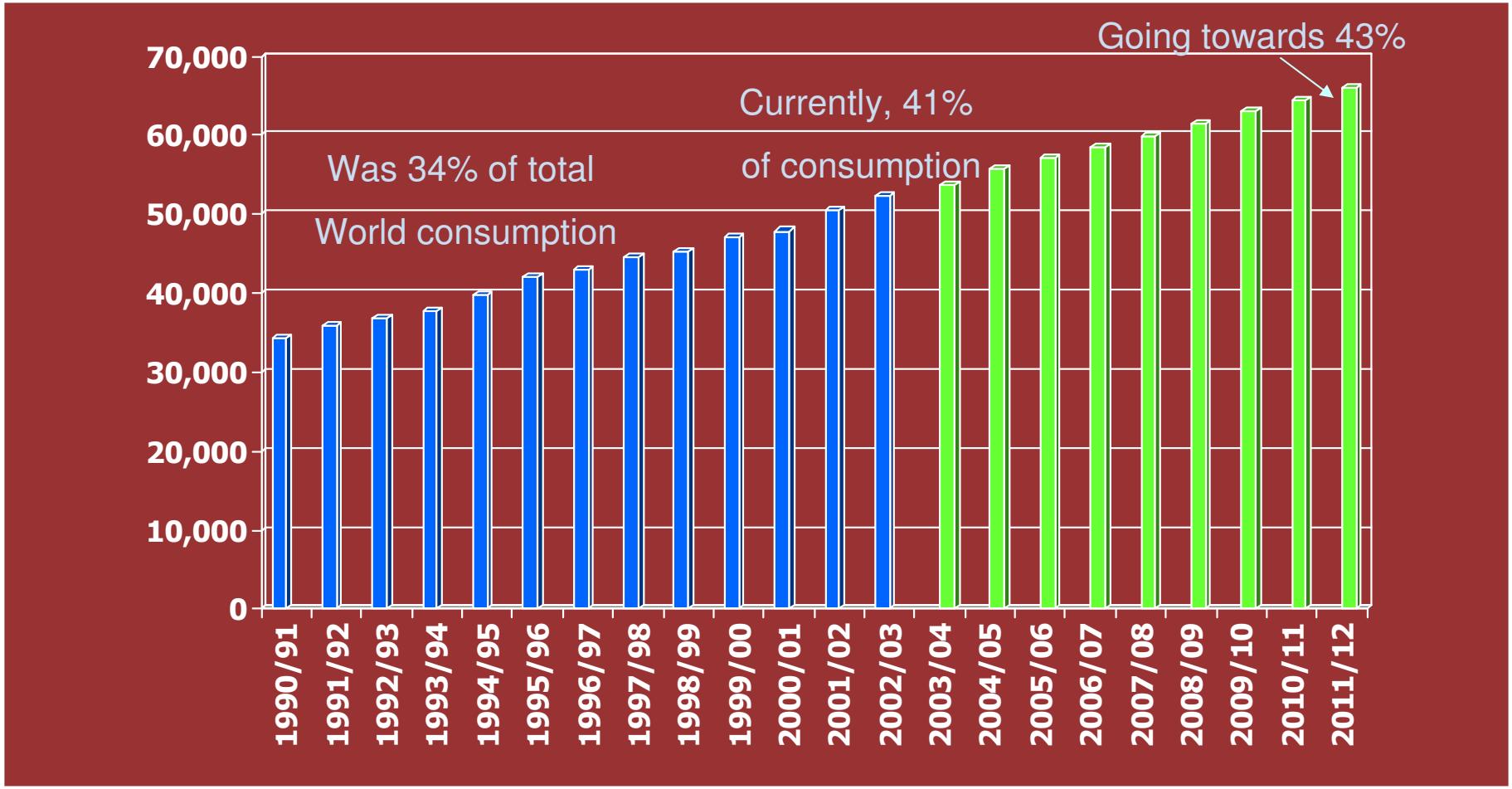
INTERNATIONAL RETAIL PRICE

US Cents per Kg – 2003 Sugar Season



Source: International Sugar Organisation

GROWTH IN CONSUMPTION IN ASIA



Source: Tate & Lyle

SUBSIDIES & TARIFFS ON SUGAR – WTO IMPACT

Country	Subsidy (Rs./Kg.)	Tariff %
India	**0**	**60% + Rs. 0.85/kg. CVD**
European Union	23	300%
Brazil	3	55%
Mexico	6	173%
Thailand	4	104%

- **India has lowest subsidies in the world**
- **India has amongst the lowest import duties in the world**

Source: International Sugar Organization, BHL

WORLD SUGAR DEMAND-SUPPLY SCENARIO

Sugar production (million tonnes, centrifugal sugar, raw value)				
Year	**2001**	**2002**	**2003**	**2004**
Total Africa	9.1	9.9	9.2	10.3
Cuba	*3.7*	*3.5*	*2.3*	*2.5*
Total Central America	13.6	13.2	12.1	12.2
USA	*7.8*	*6.8*	*8.0*	*7.8*
Total North America	7.9	6.9	8.0	7.9
Brazil	*20.3*	*23.6*	*26.0*	*28.5*
Total South America	27.3	31.0	33.7	35.8
India	***19.9***	***19.5***	***21.7***	***13.6***
Total Asia	42.3	47.0	53.1	45.0
Total Oceania	5.1	6.0	5.7	5.8
EU	*19.2*	*22.0*	*19.9*	*20.3*
Total Europe	26.1	28.4	26.7	27.1
WORLD TOTAL	**131.4**	**142.4**	**148.5**	**144.1**
Sources: ISO Statistical Bulletin; US Department of Agriculture; FIRS, F O Licht; LMC estimates				

Sugar consumption (million tonnes, centrifugal sugar, raw value)				
Year	**2001**	**2002**	**2003**	**2004**
Total Africa	12.0	12.8	13.0	14.0
Total Central America	7.8	8.1	8.4	8.4
USA	*9.1*	*9.1*	*8.8*	*9.2*
Total North America	10.4	10.3	10.1	10.5
Brazil	*9.8*	*10.5*	*10.2*	*11.1*
Total South America	16.2	17.0	16.8	17.8
India	***17.3***	***20.0***	***18.6***	***20.9***
Total Asia	51.2	55.8	56.9	61.2
Total Oceania	1.4	1.4	1.4	1.5
EU	*17.5*	*17.6*	*17.5*	*17.5*
Total Europe	30.8	31.1	31.1	30.8
WORLD TOTAL	**129.8**	**136.5**	**137.7**	**144.2**
Sources: ISO Statistical Bulletin; US Department of Agriculture; FIRS, F O Licht; LMC estimates				

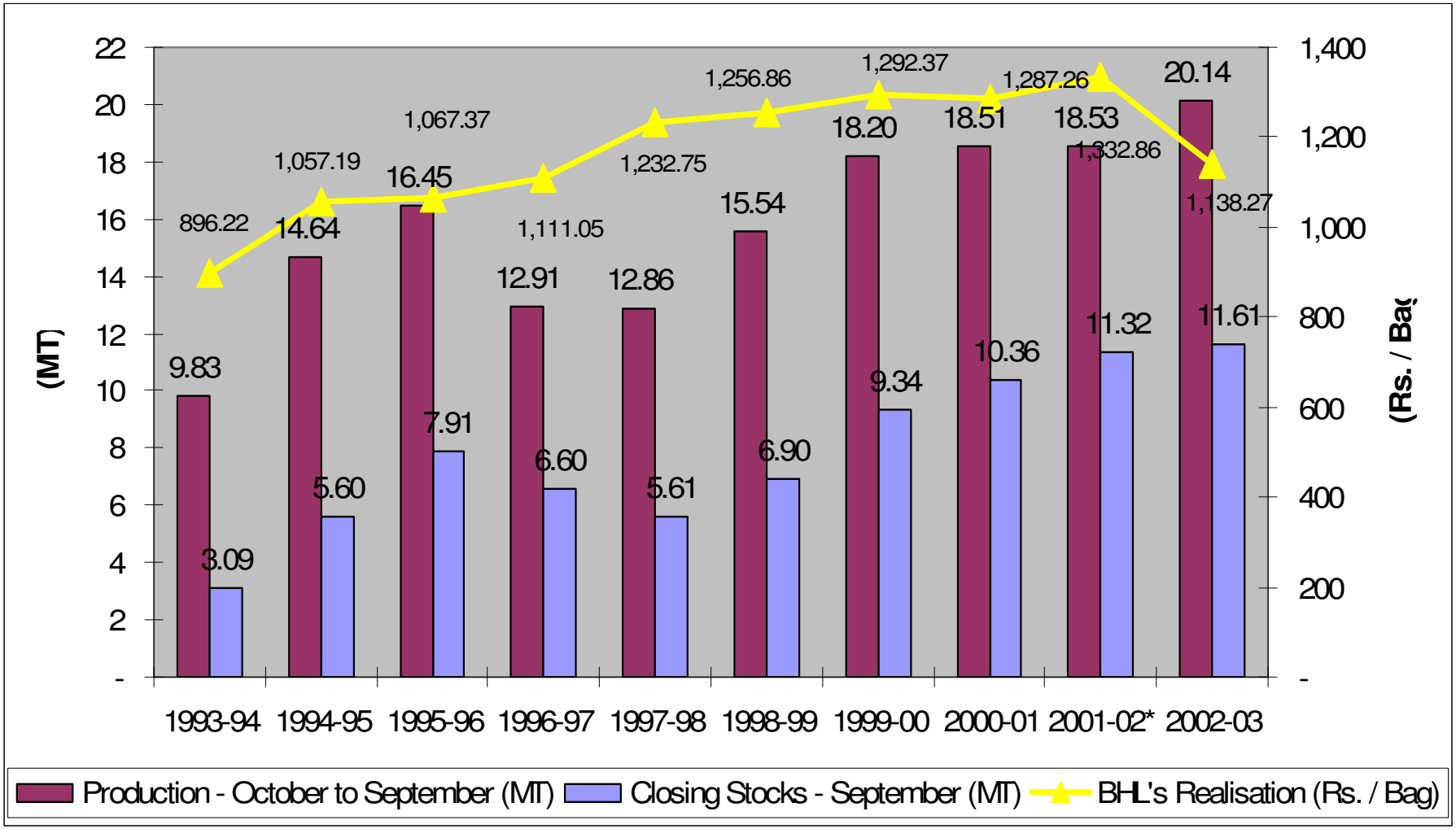
INDIAN SUGAR INDUSTRY

- 507 established sugar factories (340 non-operational)
- Around 60% are under co-operatives and corporations controlled by state governments
- **Annual turnover – Rs. 35,000 crore (US$8 bn.)**
- Capital employed – Rs. 55,000 crore (US$ 12.5 bn.)
- Payment to farmers – Rs. 24,500 crore (US$ 5.6 bn.)
- Production has grown at 5.46% CAGR, consumption at 4.46% over the last decade

Source: BHL, ISMA, Tuteja Committee Report

Large industry

INDIA'S PRODUCTION, STOCKS vs. BHL'S REALISATIONS



Source: ISMA, BHL

INDIAN SUGAR INDUSTRY

- Industry is ***NOT*** Political
  - Cane price increase is applicable to all
  - Lowest incidence of government levies (approx 7%)
  - Imports not a threat even at 0% duty
  - CAGR in MSP of Cane lower that for other food grains
  - The present condition of the industry is self created and not due to any political largesse / interference

Not a political industry

INDIAN SUGAR INDUSTRY

- Present state due to
  - No maintenance and or modernization
  - No new investments by most of the players
  - Delayed payment to cane growers
  - Myopic outlook
  - Capital market unfriendly

Problems self created

INDIAN SUGAR INDUSTRY

Wholesale Price Index - Commodities Basket		
Commodities	**Weightage**	
Primary Articles (98 Items)		
Food Articles	15.40	
Non Food Articles	6.14	
Minerals	0.48	22.02
Fuel, Power, Light & Lubricants (10 Items)		
Coal & Mining	1.75	
Mineral Oils	6.99	
Electricity	5.49	14.23
Manufactured Products (318 Items)		
Sugar	**3.62**	
Other Food Products	7.92	
Beverages, Tobacco & Tobacco Products	1.34	
Textiles	9.80	
Wood & Wood Products	0.17	
Paper & Paper Products	2.04	
Leather & Leather Products	1.02	
Rubber & Plastic Products	2.39	
Chemical & Chemical Products	11.93	
Non Metallic Mineral Products	2.52	
Basic Metal, Alloy & Products	8.34	
Machinery & Machine Tools	8.36	
Transport Equipments & Parts	4.30	63.75
Total		**100.00**

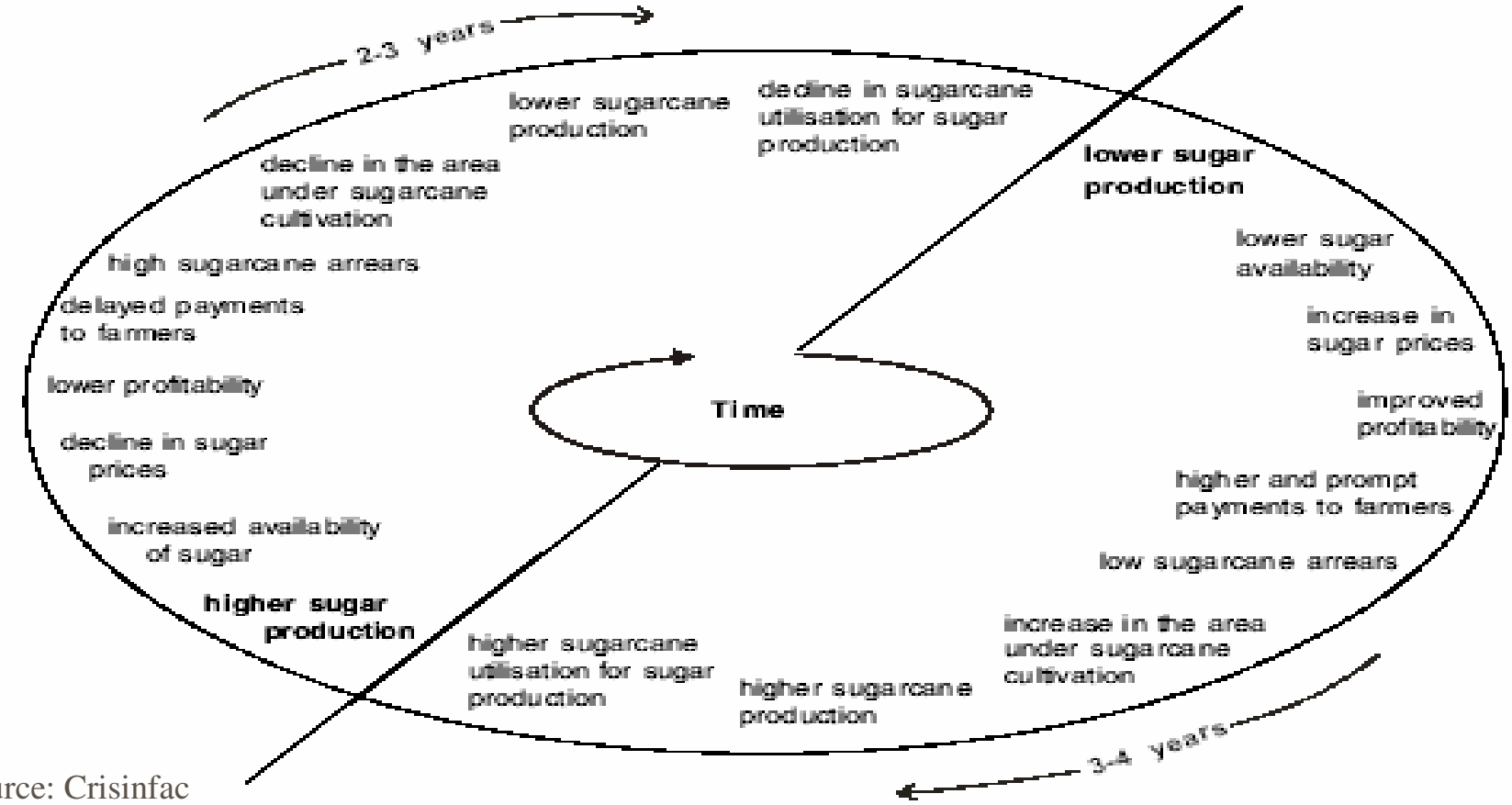
Source: World Development Indicators, Government of India

Impact of Sugar Price Increase				
Assumptions				
Per Capita Income	620	US $ / Annum		
Per Capita Income (@ Rs.45 / $)	27,900	Rs. / Annum		
Per Capita Income	2,325	Rs. / Month		
No. of Members in a Family	5			
Family Income	11,625	Rs. / Month		
Per Capita Consumption of Sugar	18.00	Kg. / Annum		
Per Capita Consumption of Sugar	1.50	Kg. / Month		
Family's Sugar Requirement	7.50	Kg. / Month		
Retail Sugar Price	20.00	Rs. / Kg.		
Family's Total Exp. (80% of Income)	9,300	Rs. / Month		
Family's Expense on Sugar	150	Rs. / Month		
Which is	1.61	% of Family's Total Exp.		
If Sugar Prices Increase by (Rs./Kg.)	**0.50**	**1.00**	**1.50**	**2.00**
Impact on Family's Exp. Budget				
Rs. Per Month	3.75	7.50	11.25	15.00
Monthly Exp. Up by (%)	**0.04**	**0.08**	**0.12**	**0.16**
Impact on Wholesale Price Index				
Sugar Price Increased by (%)	2.50	5.00	7.50	10.00
Weightage of Sugar in WPI (%)	3.62	3.62	3.62	3.62
WPI Up by (Points)	**0.09**	**0.18**	**0.27**	**0.36**

Sugar largely price inelastic

STILL AT THE START OF THE UPCYCLE

Cycle duration 5-7 years from peak to trough



Source: Crisinfac

Upcycle just beginning

KEY SUCCESS FACTORS IN SUGAR INDUSTRY

- **SIZE**
  - Economies of scale
  - Only large and efficient units will survive
- **LOCATION**
  - Proximity to sugar cane (UP and Maharashtra)
  - Proximity to markets (Sugar deficient States)
- **EFFICIENCIES**
  - Profitability critically hinges on recoveries, throughput and control over manufacturing costs
- **RELATIONSHIP MANAGEMENT**
  - Farmer relationship
  - Prompt payment to the farmer is very essential

Size and efficiency will matter

FACTORS AFFECTING CANE CULTIVATION

- **Soil** – Sandy Loam soil
- **Climate** – Warm and Humid
- **Temperatures** – Between 20 to 40 degree Centigrade
- **Rainfall** – Between 700 mm to 1200 mm
- **Seed Selection** – Quality and Treatment of seeds
- **Mill Support** – Support / Subsidies for seed procurement and treatment, irrigation, fertilizers, pesticides, harvesting, transportation, infrastructure development (road, power), etc.

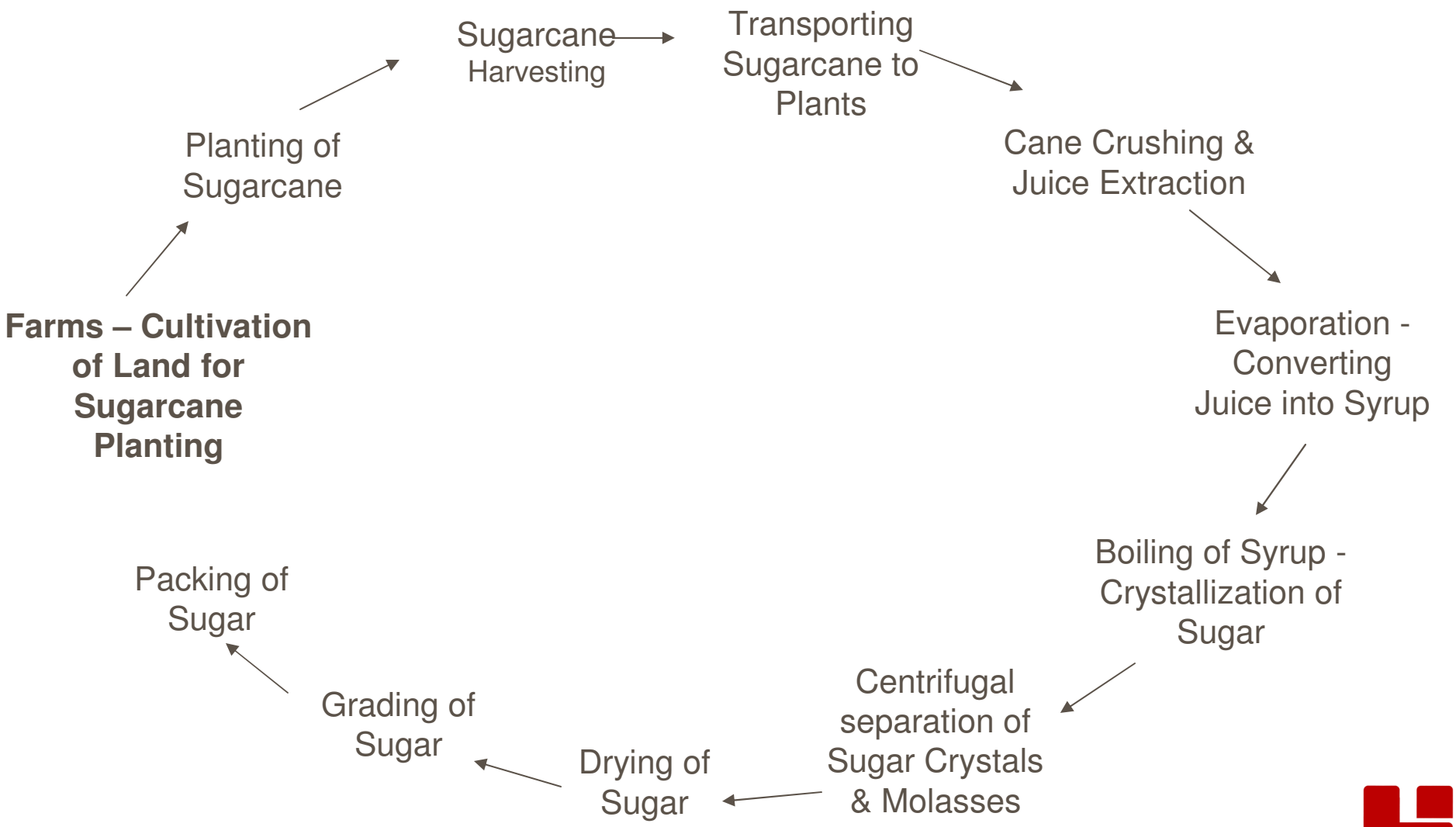
SUGARCANE – VARIETIES & CROP CYCLE

- Early Maturing Variety – 10 to 11 month crop
- General Variety – 11 to 12 month crop
- Late Maturing Variety – 12 to 14 month crop
- Planting - Anytime except from May to September
- In UP cane planting is done during 2 periods –
  - 80% during 15th February to 30th April (Spring planting)
  - 20% during 15th September to 20th October (Autumn planting)
- Once planted, can produce crop for 3 to 6 years
  - First year crop is called “Plant Crop”, and thereafter
  - 1st Ratoon, 2nd Ratoon, 3rd Ratoon and so on

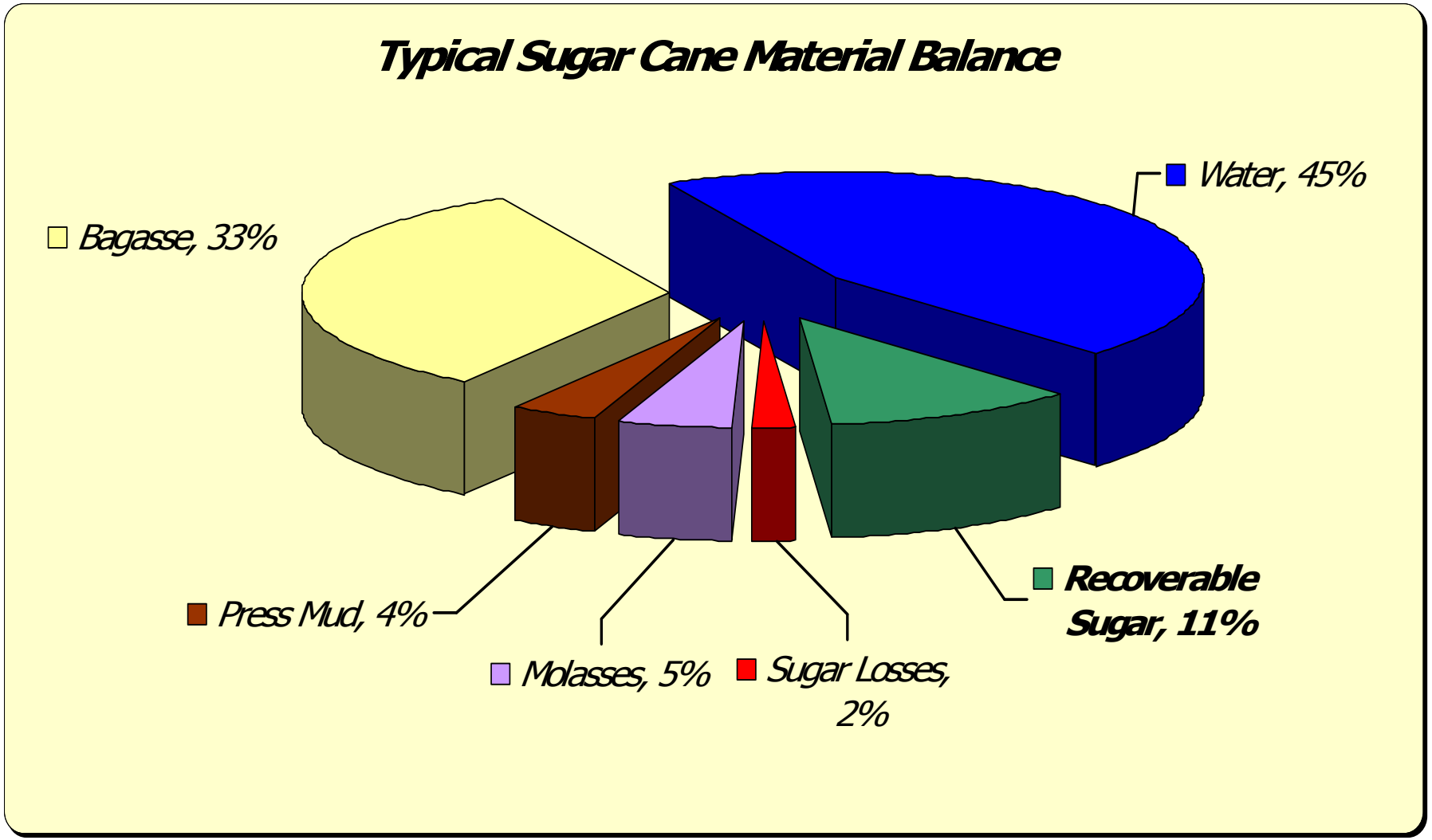
MODES OF CANE TRANSPORT

	Bullock Carts	Tractors	Trucks
Distance	Short (< 5 Km)	Medium (< 10 Km)	Long (10 to 50 Km)
Weight	2 to 3 Tonnes	4 to 7 Tonnes	12 to 20 Tonnes
Plying Limitations (Roads)	No Roads Needed	No Roads needed	Need Good Roads
Transit Time	Very High	Medium	Low
Driage % (Sugar Loss)	High	Medium	Low
Unloading Speed	Low – Manual	Medium - Semi Mechanized	Fast -Mechanized
Investment and Operating Costs	Low – Small Farmers	Medium – Big Farmers	High – Generally Operated by Mills

SUGAR PRODUCTION PROCESS

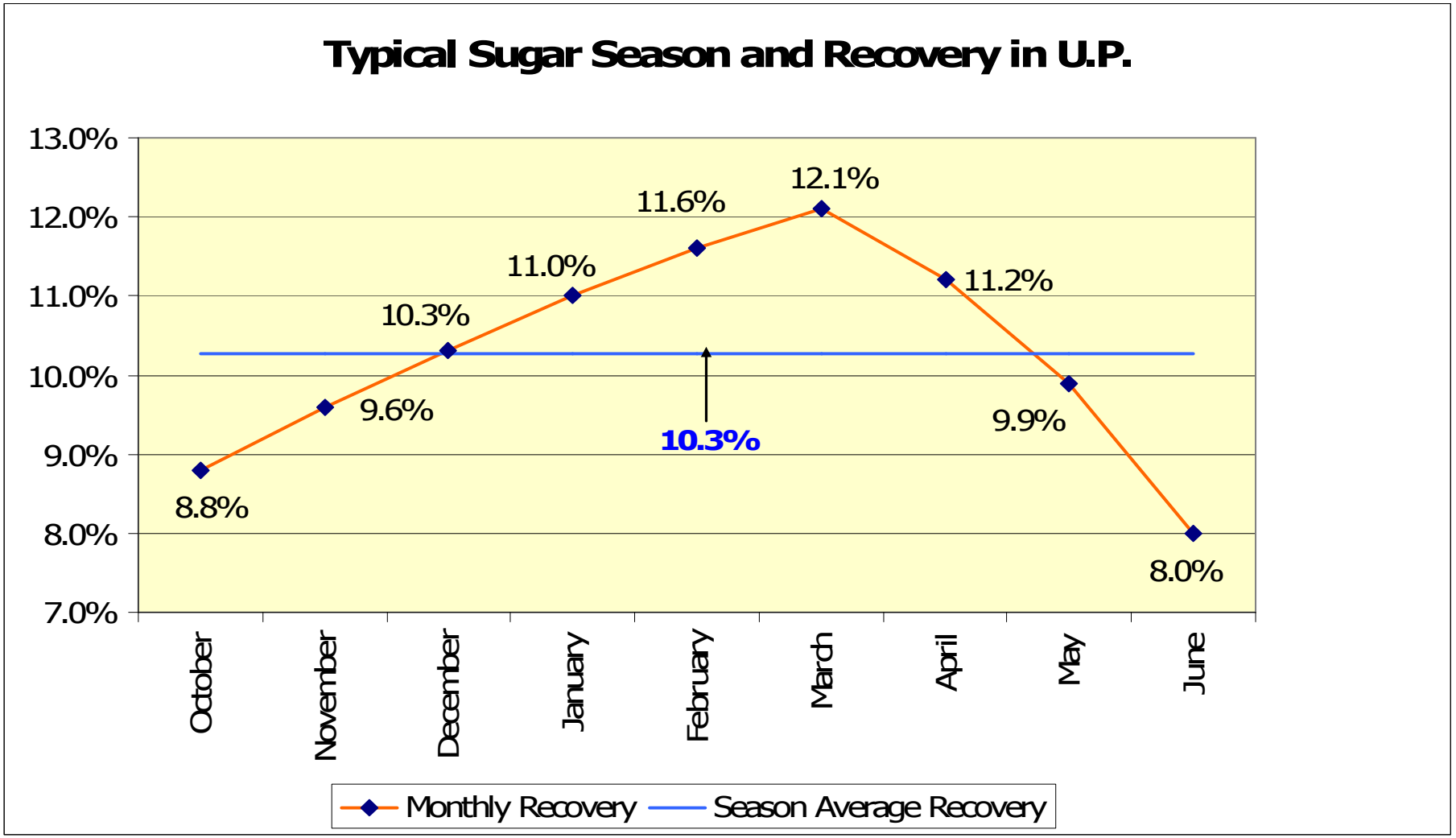


SUGAR CANE MATERIAL BALANCE



Source: BHL

TYPICAL SUGAR SEASON AND RECOVERY



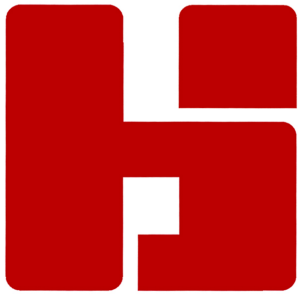
Source: BHL

KEY OPERATIONAL PARAMETERS

- **Capacity Utilisation**
  - Crushing rate (Tonnes / Day)
  - Duration of the season (Number of days)
- **Cane Drawal**
  - Cane crushed by plant vs. total cane produced in plant's area (%)
- **Breakdowns and Stoppages**
  - No cane, mechanical or electrical faults
  - Imbalance in the capacities of various sections of the plant
- **Sugar Recovery (%)**
  - Extraction of sugar from sugarcane
- **Sugar Losses (%) (Total sugar in sugarcane less sugar recovery)**
  - Residual sugar in bagasse, press mud and molasses

RISKS

- **Environmental Risks**
  - Climatic conditions such as monsoons, droughts etc.
- **Substitution Risks**
  - Crop switching due to non-receipt of timely payment
  - Crop switching due to better realisations for alternate crops
  - Diversion of cane to Gur/Khandsari manufacturers
- **Regulatory Risks**
  - Fixation of arbitrary cane prices
  - Control of end product prices by the Government
  - Direct imports of sugar by the Government and subsidised sales to check domestic prices
- **Risks specific to Bajaj Hindusthan**
  - Timely project execution and within costs



THE DEMAND SUPPLY EQUATION

PER CAPITA CONSUMPTION OF SUGAR

COUNTRY / REGION	PER CAPITA CONSUMPTION IN KGS
Brazil	55
EU	37
Thailand	36
Australia	46
Cuba	51
SADC	21
India	**18**
China	7
USA	31

Source: International Sugar Organization

India - Huge potential

STATEWISE SUGAR CONSUMPTION

			(MMT)
States	**1991-92**	**2000-01**	**2003-04***
Maharashtra	1.83	2.60	3.04
Uttar Pradesh	1.64	2.26	2.64
Gujarat	0.86	1.22	1.43
Tamil Nadu	0.83	1.07	1.25
West Bengal	0.71	0.97	1.13
Andhra Pradesh	0.66	0.86	1.01
Punjab	0.61	0.85	0.99
Rajasthan	0.52	0.77	0.90
Karnataka	0.54	0.73	0.86
Madhya Pradesh	0.67	0.71	0.83
Bihar	0.58	0.64	0.75
Haryana	0.39	0.58	0.68
Kerala	0.45	0.57	0.67
Delhi	0.24	0.41	0.48
Assam & Arunachal	0.22	0.30	0.35
Orissa	0.20	0.27	0.32
Others	0.31	1.43	1.68
Total	**11.27**	**16.25**	**19.00**
Summary	**1991-92**	**2000-01**	**2003-04***
Eastern States	1.71	2.18	2.55
Western States	3.89	5.30	6.20
Northern States	2.88	4.09	4.79
Southern States	2.48	3.24	3.78
Others	0.31	1.43	1.68
Total	**11.27**	**16.25**	**19.00**
* Estimated			

Source: ISMA

GOVT. RECORDS UNDERSTATE THE PROBLEM

(Million tonnes)	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
Ratio											
Lew %	40	40	40	40	40	40	30	15	10	10	10
Free %	60	60	60	60	60	60	70	85	90	90	90
Releases (MMT)											
Lew Qty (MMT)	4.21	4.26	4.52	4.66	4.55	4.53	4.91	3.70	2.66	2.15	2.50
Free Qty (MMT)	7.12	7.81	8.51	9.05	9.23	9.33	10.33	11.63	12.13	11.30	14.60
Total Releases	11.32	12.07	13.03	13.71	13.78	13.86	15.23	15.33	14.78	13.45	17.10
Imports	2.00	0.20	0.00	0.00	0.90	1.00	0.00	0.00	0.00	0.00	0.00
Total Supply	13.32	12.27	13.03	13.71	14.68	14.86	15.23	15.33	14.78	13.45	17.10
Total Demand	11.96	12.27	13.12	13.79	14.72	15.22	16.10	16.25	16.52	18.38	18.50
Demand Supply Gap (+/-)	**1.36**	**(0.00)**	**(0.10)**	**(0.08)**	**(0.04)**	**(0.36)**	**(0.87)**	**(0.92)**	**(1.74)**	**(4.94)**	**(1.40)**
Cumm. Gap (+/-)		**1.36**	**1.26**	**1.18**	**1.14**	**0.77**	**(0.10)**	**(1.02)**	**(2.76)**	**(7.69)**	**(9.09)**

Source: BHL, ISMA

- **Actual demand is more than the quota released – even as per Government records**
- **This excess demand means people are selling more than quota**
- **Consequently, the physical stocks would be lower than book stocks**

PRECARIOUS CLOSING STOCKS

- ***India is for the first time having a situation of very low closing stocks in the system and inevitable imports***

(Million Tonnes)

YEAR	OPENING STOCK	PRODUCTION	IMPORTS	CONSUMPTION	EXPORTS	CLOSING STOCK	% OF CONSUMPTION
1980-1981	0.645	5.147	0.153	4.970	0.060	0.915	18%
1981-1982	0.915	8.436	0.077	5.743	0.415	3.270	57%
1982-1983	3.270	8.230	-	6.488	0.425	4.587	71%
1983-1984	4.587	5.917	0.094	7.565	0.659	2.374	31%
1984-1985	2.374	6.143	1.187	8.093	0.032	1.579	20%
1985-1986	1.579	7.016	1.619	8.272	0.036	1.906	23%
1986-1987	1.906	8.501	0.953	8.687	0.020	2.653	31%
1987-1988	2.653	9.110	0.071	9.385	0.018	2.431	26%
1988-1989	2.431	8.752	-	9.936	0.018	1.229	12%
1989-1990	1.229	10.988	0.242	10.215	0.023	2.221	22%
1990-1991	2.221	12.046	-	10.714	0.223	3.330	31%
1991-1992	3.330	13.404	-	11.270	0.562	4.902	43%
1992-1993	4.902	10.609	-	11.875	0.411	3.225	27%
1993-1994	3.225	9.833	2.000	11.960	0.010	3.088	26%
1995-1995	3.088	14.643	0.200	12.270	0.063	5.598	46%
1995-1996	5.598	16.451	-	13.121	1.021	7.907	60%
1996-1997	7.907	12.905	-	13.792	0.419	6.601	48%
1997-1998	6.601	12.855	0.935	14.717	0.069	5.605	38%
1998-1999	5.605	15.541	1.003	15.224	0.022	6.903	45%
1999-2000	6.903	18.200	0.404	16.101	0.066	9.340	58%
2000-2001	9.340	18.511	-	16.245	1.244	10.362	64%
2001-2002	10.362	18.529	-	16.521	1.053	11.317	69%
2002-2003	11.317	20.140	0.041	18.384	1.500	11.614	63%
2003-2004	11.614	13.800	0.700	18.500	0.300	7.314	40%
2004-2005E	7.314	12.000	-	19.240	-	**0.074**	**0%**
2005-2006E	0.074	16.000	-	20.010	-	**(3.936)**	**-20%**
2006-2007E	(3.936)	19.000	-	20.810	-	**(5.746)**	**-28%**
2007-2008E	(5.746)	21.000	-	21.642	-	**(6.388)**	**-30%**
2008-2009E	(6.388)	22.500	-	22.508	-	**(6.396)**	**-28%**
2009-2010E	(6.396)	24.000	-	23.408	-	**(5.804)**	**-25%**

Source: BHL, ISMA

SUPPLY VARIABLES

- Area under cane
- Sugarcane yield
- Crop switching
- Climatic conditions
- Sugar recovery
- Imports ??

At times beyond control

CANE COMPETES WITH OTHER CROPS

Minimum Support Price Trend

Minimum Support Price	1980-81	2001-02	Increase times	CAGR
Gram	145	1100	7.59	10.7%
Arhar	190	1320	6.95	10.2%
Moong	200	1320	6.60	9.9%
Urad	200	1320	6.60	9.9%
Groundnut	206	1340	6.50	9.8%
Sunflower	183	1185	6.48	9.8%
Cotton	304	1675	5.51	8.9%
Wheat	117	610	5.21	8.6%
Paddy	105	530	5.05	8.4%
Jute	160	785	4.91	8.3%
Sugarcane	**13**	**62.05**	**4.77**	**8.1%**
Jowar, Bajra & Ragi	105	485	4.62	8.0%
Soyabean	183	795	4.34	7.6%
Maize	180	485	2.69	5.1%
Barley	200	500	2.50	4.7%
Safflower	575	1200	2.09	3.7%
Copra	1600	3300	2.06	3.7%
Rapeseed/Mustard	600	1200	2.00	3.5%
Tobacco	13.25	26	1.96	3.4%
Toria	570	1065	1.87	3.2%
Sesamum	850	1400	1.65	2.5%
Niger seed	720	1100	1.53	2.1%

Source: Government of India

DEMAND VARIABLES

- Population growth
- Rise in income level
- Consumer preference for sugar v/s jaggery
- Amongst the lowest per capita consumption

Sustainable demand growth

POTENTIAL DEMAND FOR SUGAR

The maximum India has ever produced

	Year	Demand based on historical growth rate of 4%
		(Million MT)
1	2003-04	18.50
2	2004-05	19.24
3	2005-06	20.01
4	2006-07	20.81
5	2007-08	21.64
6	2008-09	22.51
7	2009-10	23.41
8	2010-11	24.34
9	2011-12	25.32
10	2012-13	26.33
11	2013-14	27.38
12	2014-15	28.48
13	2015-16	29.62
14	2016-17	30.80
15	2017-18	32.04
16	2018-19	33.32
17	2019-20	34.65
18	2020-21	36.04
19	2021-22	37.48

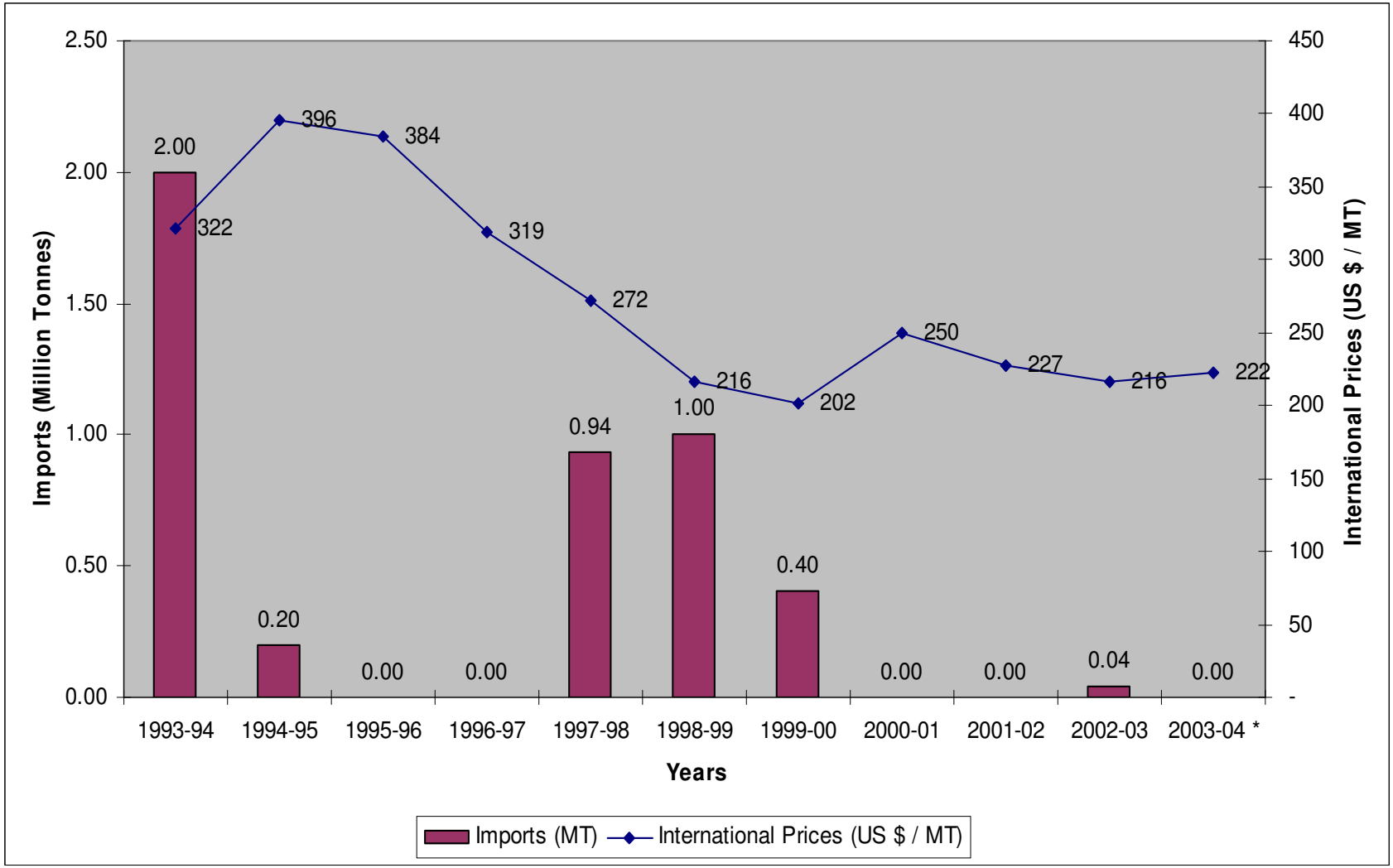
Source: BHL Estimates

IMPORTS THUS ARE INEVITABLE

Year	2003-04 (P)	2004-05 (E)	2005-06 (E)	2006-07 (E)	2007-08 (E)	2008-09 (E)	2009-10 (E)
Opening stock	116.14	73.14	0.74	(39.36)	(57.46)	(63.88)	(63.96)
Production	138.00	120.00	160.00	190.00	210.00	225.00	240.00
Imports	7.00						
Total Availability	**261.14**	**193.14**	**160.74**	**150.64**	**152.54**	**161.12**	**176.04**
Consumption *	185.00	192.40	200.10	208.10	216.42	225.08	234.08
Exports	3.00						
Total Consumption	**188.00**	**192.40**	**200.10**	**208.10**	**216.42**	**225.08**	**234.08**
Closing Stock	**73.14**	**0.74**	**(39.36)**	**(57.46)**	**(63.88)**	**(63.96)**	**(58.04)**
Closing Stock as % of Consumption	**40%**	**0%**	**-20%**	**-28%**	**-30%**	**-28%**	**-25%**
YOY PRODUCTION Growth %	-31%	-13%	33%	19%	11%	7%	7%
YOY CONSUMPTION Growth %	1%	4%	4%	4%	4%	4%	4%

Source: BHL Estimates

INTERNATIONAL PRICES OF SUGAR & INDIA'S IMPORTS



Source: BHL, ISMA

LANDED COST OF WHITE SUGAR

	Import Dynamics					
	0% Duty			10% Duty		
C&F Price (US$ per tonne)	315	**335**	375	315	**335**	375
Import duty				32	**34**	38
Cost with duty	315	**335**	375	347	**369**	413
Port & incidentals	15	**15**	15	15	**15**	15
Importers' costs & margin (5%)	17	**18**	20	18	**19**	21
Landed cost (US$)	347	**368**	410	380	**403**	449
Rs. / US$	45	**45**	45	45	**45**	45
Landed Cost (Rs.)	15,593	**16,538**	18,428	17,081	**18,120**	20,199

Imports - Current duty 60%

LANDED COST OF WHITE SUGAR

C&F Price (US$/MT)	315	345	375
Landed cost at 0% duty (Rs.)	15,593	17,010	18,428
Landed cost at 10% duty (Rs.)	17,081	18,640	20,199
Landed cost at 20% duty (Rs.)	18,569	20,270	21,971
Landed cost at 30% duty (Rs.)	20,058	21,900	23,743
Landed cost at 40% duty (Rs.)	21,546	23,531	25,515
Landed cost at 50% duty (Rs.)	23,034	25,161	27,287
Landed cost at 60% duty (Rs.)	24,523	26,791	29,059

Imports - Current duty 60%

RAW IMPORT COST DYNAMICS AT 0% DUTY

	Current International price	Raw price for white at Rs. 15.75
Raw F.O.B. Price (US cents/Pound)	9.13	8.15
Raw F.O.B. Price (US$/MT)	201	180
Brokerage US$	2	2
Freight	70	70
Raw C&F Price	273	252
Rs./US$	45	45
Rupee cost	12,295	11,320
LC and other costs @1.5%	184	170
Clearing and Forwarding @2%	246	226
Inland freight, loading and unloading	500	500
Landed cost at mill	13,225	12,216
Processing loss @7%	926	855
Processing cost	2,000	2,000
White Cost at Mill	16,151	15,071
Inventory carrying cost for cost for 3 months @7%	283	264
Less: 10% levy realisation at Rs. 14/Kg.	(1,400)	(1,400)
Less: Molasses Realisation 7% @Rs. 3000/MT	(210)	(210)
COST OF BALANCE 90%	14,824	13,725
THEREFORE PER TON COST	16,471	15,250
ADD PROFITS @Rs.0.5 / KG.	500.00	500.00
EX MILL PRICE	**16,971**	**15,750**

Source: BHL Estimates

IMPORT LOGISTICS

	(Thousand Tonnes)				
NAME OF THE PORT	Liquid	Dry	Container	Gen. Cargo	TOTAL
KOLKATA	2,641	16,166	4,021	22,453	45,281
PARADIP	1,923	19,923	-	2,055	23,901
VISAKHAPATNAM	18,582	20,468	4,974	320	44,344
ENNORE					867
CHENNAI	8,920	12,300	7,220	5,240	33,680
TUTICORIN	1,293	7,933	2,428	4,452	16,107
COCHIN	-	-	11,920	1,652	13,572
NEW MANGALORE	9,897	6,278	37	1,289	17,501
MORMUGAO	1,750	25,740	100	280	27,870
MUMBAI	16,520	4,093	3,143	3,040	26,796
JAWAHAR LAL NEHRU	-	-	31,180	-	31,180
KANDLA	22,710	1,258	1,752	12,008	37,728
TOTAL	84,236	114,159	66,775	52,789	318,827

Source: Indian Ports Association, Department of Shipping

IMPORT LOGISTICS

NAME OF THE PORT	AVG TURN ROUND TIME (IN DAYS)		AVG PRE-BERTHING DETENTION (ON PORT A/C) (IN HOURS)		AVG OUTPUT PER SHIP BERTHDAY (IN TONNES)	
	2002-03	2003-04(P)	2002-03	2003-04(P)	2002-03	2003-04(P)
KOLKATA	4.47	4.29	0.07	0.07	2,889	3,384
HALDIA	3.02	2.84	3.60	3.43	7,531	8,280
PARADIP	3.37	3.43	10.32	5.14	10,763	10,257
VISAKHAPATNAM	3.72	3.33	3.12	1.18	10,591	11,712
ENNORE	2.24	2.11	1.56	1.66	26,779	32,777
CHENNAI	3.70	4.85	4.30	0.91	8,416	9,517
TUTICORIN	3.59	2.52	7.20	1.60	4,403	5,084
COCHIN	2.19	2.22	1.67	4.02	6,837	7,799
NEW MANGALORE	2.37	2.35	4.41	3.07	15,939	17,955
MORMUGAO	1.94	4.47	19.92	26.71	15,370	16,746
MUMBAI	5.06	4.07	3.60	3.64	5,170	5,911
JAWAHAR LAL NEHRU	2.28	1.85	11.76	8.24	8,226	9,845
KANDLA	5.94	5.06	16.80	11.06	8,862	8,659
TOTAL	3.69	3.45	6.90	4.86	8,455	9,079

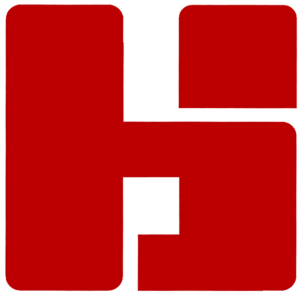
Source: Indian Ports Association, Department of Shipping

IMPORT LOGISTICS

- 114 million tonnes of dry cargo, coal, fertilizer and iron ore constituted 70%. Thus, other cargo (imports and exports) can at best be 34.3 million tonnes.
- Sugar imports take place during the off season
- Thus we have around 4 months available and the capacity aggregates 7.4 million tonnes net of exports
- Assuming 50% of this available capacity is used for sugar, Indian ports can at best handle 3.7 million tonnes of sugar imports
- This means at least one 30,000 tonne ship will have to discharge sugar at Indian ports every day for 4 months

PROGNOSIS

- Demand will exceed supply for the next couple of years
- Sugar prices will remain firm
- Exports will cease
- Imports a necessity
- *Growth opportunity for BHL*



UNDERSTANDING THE STRUCTURAL CHANGE IN INDIAN SUGAR INDUSTRY

LARGEST SHORTFALL EVER

Sugar Year	Production of Sugar						
Oct to Sept	Million Tonnes	Increase/ (Decrease)	% Change	High year	Low year	Fall from previous peak	Fall from previous peak %
1980-81	5.147		20.79%	1980-81			
1981-82	8.437	3.290	63.92%				
1982-83	8.229	(0.208)	-2.47%				
1983-84	5.917	(2.312)	-28.10%		1983-84	(2.520)	-29.87%
1984-85	6.144	0.227	3.84%				
1985-86	7.016	0.872	14.19%				
1986-87	8.502	1.486	21.18%				
1987-88	9.110	0.608	7.15%	1987-88			
1988-89	8.752	(0.358)	-3.93%				
1989-90	10.988	2.236	25.55%				
1990-91	12.047	1.059	9.64%				
1991-92	13.404	1.357	11.26%	1991-92			
1992-93	10.609	(2.795)	-20.85%				
1993-94	9.833	(0.776)	-7.31%		1993-94	(3.571)	-26.64%
1994-95	14.643	***4.810***	***48.92%***				
1995-96	16.451	1.808	12.35%	1995-96			
1996-97	12.905	***(3.546)***	***-21.55%***				
1997-98	12.855	(0.050)	-0.39%		1997-98	(3.596)	-21.86%
1998-99	15.539	2.684	20.88%				
1999-00	18.200	2.661	17.12%				
2000-01	18.511	0.311	1.71%				
2001-02	18.529	0.018	0.10%				
2002-03	20.145	1.616	8.72%	2002-03			
2003-04	13.800	***(6.345)***	***-31.50%***				
2004-05 (E)	11.700	(2.100)	-15.22%			**(8.445)**	**-41.92%**

Source: ISMA

CANE & SUGAR PRODUCTION DATA

Sugar Year	Area Under Cane	Cane Production	Cane Yield	Sugarcane Crushed		Production of Sugar		Sugar Recovery	Duration Season
Oct to Sept	000' Hect	Lakh Tonnes	Tonnes/ Hectare	Lakh Tonnes	% of Total Cane	Lakh Tonnes	% Change	% of Cane	Avg Days
1980-81	2,667	1,542	57.80	516	33.46	51.47	20.79	9.98	105
1981-82	3,193	1,864	58.40	873	46.83	84.37	63.92	9.66	173
1982-83	3,358	1,895	56.40	827	43.64	82.29	(2.47)	9.95	158
1983-84	3,110	1,741	56.00	590	33.89	59.17	(28.10)	10.02	111
1984-85	2,953	1,703	57.70	601	35.29	61.44	3.84	10.22	106
1985-86	2,849	1,706	59.90	686	40.21	70.16	14.19	10.23	116
1986-87	3,079	1,861	60.40	852	45.78	85.02	21.18	9.98	141
1987-88	3,279	1,967	60.00	939	47.74	91.10	7.15	9.70	152
1988-89	3,329	2,030	61.00	857	42.22	87.52	(3.93)	10.21	133
1989-90	3,438	2,256	65.60	1,111	49.25	109.88	25.55	9.89	158
1990-91	3,686	2,410	65.40	1,223	50.75	120.47	9.64	9.85	166
1991-92	3,844	2,540	66.10	1,340	52.76	134.04	11.26	10.02	173
1992-93	3,572	2,280	63.80	1,030	45.18	106.09	(20.85)	10.31	123
1993-94	3,422	2,297	67.10	983	42.79	98.33	(7.31)	10.00	111
1994-95	3,867	2,755	**71.30**	1,476	53.58	146.43	48.92	9.92	161
1995-96	4,147	2,811	67.80	1,748	62.18	164.51	12.35	9.42	181
1996-97	4,174	2,776	66.50	1,304	46.97	129.05	(21.55)	9.90	130
1997-98	3,930	2,795	71.10	1,292	46.23	128.55	(0.39)	9.95	123
1998-99	4,055	2,887	71.20	1,576	54.59	155.39	20.88	9.87	141
1999-00	4,220	2,993	70.90	1,785	59.64	182.00	17.12	10.20	152
2000-01	4,316	2,960	68.60	1,767	59.70	185.11	1.71	**10.48**	138
2001-02	**4,430**	2,984	68.20	1,803	60.42	185.29	0.10	10.27	138
2002-03	4,361	2,816	64.60	1,944	**69.03**	201.45	8.72	10.36	140

Source: National Co-operative Federation Sugar Magazine

POTENTIAL SUPPLY OF SUGAR (PRODUCTION)

Highest yield / hectare since 1980-81	71.30	MT / Hectare
Cane production at highest acreage & yield / hectare	316	MMT
Highest percentage of cane crushed since 1980-81	69.03	%
Cane crushing at highest drawal percentage	218	MMT
Highest recovery of sugar since 1980-81	10.48	%
Sugar production at highest recovery percentage	22.85	MMT
If production higher by 5 %	23.99	MMT
If production higher by 10 %	25.14	MMT

STRUCTURAL CHANGES – INDIAN SUGAR

- Since 1980-81 to 2002-03 sugar production has fallen for two consecutive years 3 times i.e. in 1982-83 and 1983-84, 1992-93 and 1993-94 and lastly in 1996-97 and 1997-98.
- In the last two falls, the actual tonnage shortfall has remained more or less constant at around 3.6 million tonnes. However, in the past two years, the fall has been very dramatic at 8.445 million tonnes which is a 42% fall from the previous peak.
- ***In order to regain the previous peak of 20.145 million tonnes, 8.445 million tonnes additional sugar needs to be produced.***

STRUCTURAL CHANGES – INDIAN SUGAR

- ***This will entail crushing of 116.78 million tonnes of additional crushing at 10.48% recovery and 69% drawal, the maximum achieved by India over the past 24 years.***

Cane required (million tonnes)	X	# Drawal %	X	@Recovery (%)	=	Sugar (million tonnes)
116.786	X	69%	X	10.48%	=	8.445

Drawal indicates the proportion of cane that a mill crushes in relation to the total cane grown in the command area.

@ Recovery is the amount of sugar that is extracted from a stick of cane

STRUCTURAL CHANGES – INDIAN SUGAR

Five year periods	Average cane acerage million hectares
1981-85	3.056
1986-90	3.195
1991-95	3.678
1996-2000	4.105
2001-2003	4.369

- ***In order to achieve the additional sugar production at 65 MT per hectare yield, the additional area under cane required aggregates 1.797 million hectares which is 41% more acreage***

STRUCTURAL CHANGES – INDIAN SUGAR

- ***This additional acreage does not seem practical as cane also competes with other crops whose Minimum Support Price have also increased and in many cases at a faster pace than cane e.g. wheat, paddy, jute, cotton etc.***
- ***There has been a steady increase in sugarcane prices every year and will continue to increase in the future too.***
- ***This means that sugar prices which have been in a band between Rs. 12-14 per kilo will have to move to a higher band of Rs. 18-20.***

bajaj hindusthan ltd.

A Profile

ABOUT US

Currently: (2003-2004)

Sugar Plants: 3 units

Sugar Capacity: 31,000 Tonnes Crushing per Day (TCD)

Sugar Production: 0.27 million Tonnes

Distillery Capacity: 140 Kilolitres (KL)

After Expansions: (2005-2006)

Sugar Plants: 6 units

Sugar Capacity: 52,000 TCD

Sugar Production: Approximately 1 million Tonnes

Distillery Capacity: 320 Kilolitres (KL)

BHL'S BUSINESS MODEL

- **BHL's business model is essentially volume and low cost based rather than price based**
- **More sustainable**
- **Lowest conversion cost**
- **Since there is no pricing power, only volumes and efficiency determine the winners**

Sustainable volume based business model

BHL'S COST COMPETITIVENESS

COST OF SUGAR PRODUCTION IN MAJOR PRODUCING REGIONS						
REGION	**BHL**	**PUNJAB**	**UP**	**MAHARASHTRA**	**KARNATAKA**	**TN**
Avg Recovery %	**10.00%**	9.60%	9.45%	10.75%	10.00%	9.40%
Cane price (Rs./Qtl. of cane)	**115.00**	111.50	115.00	145.50	118.00	104.65
Cane Cost (Rs./Qtl of sugar)	**1,150**	1,161	1,217	1,353	1,180	1,113
Conversion cost incl. return	**270**	669	593	547	580	647
Total cost of sugar production	**1,420**	**1,830**	**1,810**	**1,900**	**1,760**	**1,760**
Industry Average (Rs./Qtl.)		1,790				
BHL Average (Rs./Qtl.)		1,420				
BHL Advantage (Rs./Qtl.)		**370**				

Sources: ISMA Pre-budget memorandum for 2005-06 of 21-1-2005, BHL

BHL has clear cost advantage

OUR STRENGTHS

- ***Stick to our knitting***
- **Strong financials**
- **Size and economies of scale**
- **Operational expertise**
- **Strong second line of management**
- **Clear succession plan at all levels**
- **Strong Farmer relations**

Core competencies

BHL'S FINANCIALS

- Most of capital expenditure funded through internal accruals
- Capital expenditure borrowings prepaid
- Adequate provisions for contingencies made
- F1+ (highest) short term debt rating
- A+ rating for long term debt (Highest in the sugar industry)

Strong Balance Sheet

FY2004 PERFORMANCE

PRODUCTION				
	Unit	2003-04	2002-03	% CHANGE
Sugar	Tonnes	268,356	347,639	-22.80%
Industrial Alcohol	Kilolitres	24,286	19,873	22.20%

SALES							
		2003 -04			2002 - 03		
	Unit	Quantity	Value Rs. Million	Realisation* Rs. per unit	Quantity	Value Rs. Million	Realisation* Rs. per unit
Sugar	Tonnes	319,422	4,791.58	15,001	329,732	4,168.59	12,642
Alcohol	Kiloliters	21,805	422.32	19,386	21,919	317.03	14,463
Molasses	Tonnes	14,093	38.94	2,763	76,913	97.06	1,263

Improved realisations

FY2004 PERFORMANCE

CLOSING STOCKS							
		2003 -04			2002 - 03		
	Unit	Quantity	Value Rs. Million	Unit Cost Rs. per unit	Quantity	Value Rs. Million	Unit Cost Rs. per unit
Sugar	Tonnes	46,230	620.57	13,424	97,451	1,092.06	11,206
Alcohol	Kiloliters	4,175	16.49	3,950	1,818	6.30	3,465
Molasses	Tonnes	3,948	12.16	3,080	73,263	18.06	247

PROFIT & LOSS ACCOUNT

Particulars	(Rs. Crore)			
	2001-02 *	2002-03	2003-04	CAGR
TOTAL REVENUE	416.31	466.25	540.61	14%
EBIDTA	35.91	56.55	110.56	75%
EBIDTA%	8.63%	12.13%	20.45%	
Interest	11.11	6.74	13.58	
Interest %	2.67%	1.45%	2.51%	
Profit Before Tax	8.41	34.86	77.88	
Profit After Tax (PAT)	6.78	28.35	61.02	200%
PAT %	1.63%	6.08%	11.29%	
Earnings Per Share (Rs.)	1.2	3.2	7.0	
Dividend %	25%	25%	40%	

** Annualised and EPS adjusted for stock split*

Substantial increase in earnings

RATIOS

RATIOS	2001-02 *	2002-03	2003-04
EBIDTA / Turnover	8.62%	12.13%	20.45%
ROCE	9.06%	17.76%	20.00%
ROE	7.16%	23.26%	44.30%
Long Term Debt / Net Worth	0.02	0.48	1.72
Total Debt / Net Worth	0.90	1.48	2.34
Net Cash Accruals / Total Debt	0.22	0.23	0.24
Net Cash Accruals / Long Total Debt	8.67	0.71	0.32
Current Ratio	1.08	1.11	0.96
Inventory Turnover (Days)	208	124	70

*(*Annualised)*

Healthy

H1 FY2005 PERFORMANCE

	(Rs. Crore)		
Particulars	**Current Year 6 Months 31.12.2004**	Previous Year 6 Months 31.12.2003	**% Change**
Total Revenue	**232.14**	**200.23**	**15.94%**
Total Expenditure	156.92	161.99	
EBIDTA	**75.22**	38.24	**96.71%**
EBIDTA %	***32.40%***	*19.10%*	
Interest	10.26	6.62	
Depreciation	15.09	9.15	
Profit before Tax	**49.87**	**22.47**	**121.94%**
Provision for Taxation	18.23	7.99	
Profit after Tax	**31.64**	**14.48**	**118.51%**
PAT %	***13.63%***	***7.23%***	

Accelerated Growth

GOING FORWARD

- **MORE THAN DOUBLE CAPACITY IN 2 YEARS**
  - Mergers and Acquisitions
  - Green field projects

Where growth is an ethos

GREEN FIELD PROJECT

- Set up a 7,000 TCD sugar plant near Meerut, UP
- Investment of Rs. 155 crore (US$ 34 million) funded by Rs. 50 crore (US$ 11 million) internal generations and Rs. 105 crore (US$ 23 million) debt and
- *Completed in a world record time of seven and half months against industry norm of 15-18 months*
- Competitive capital cost per ton – Rs. 221,500

Speedy project execution

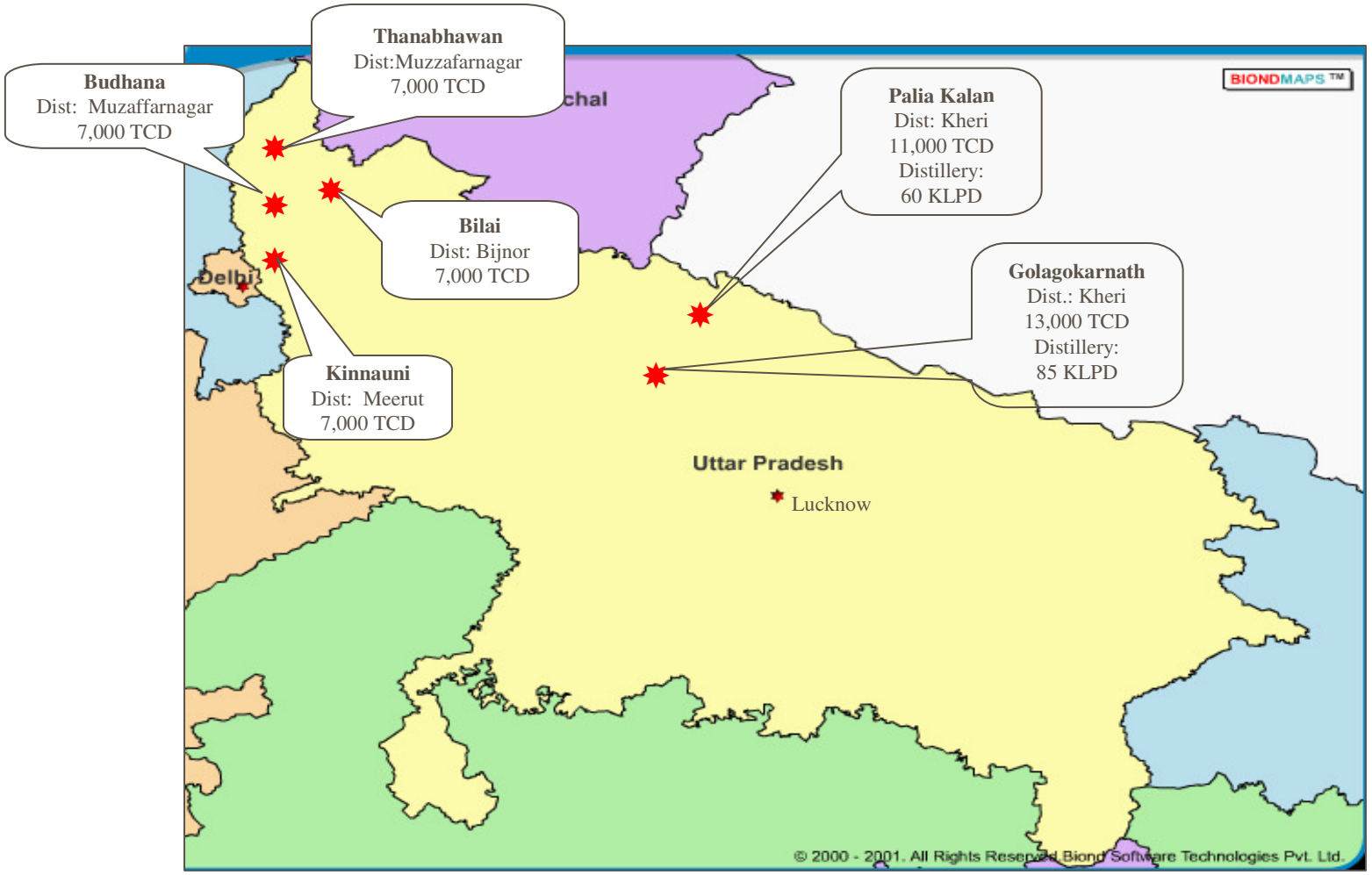
PROJECT COST COMPETITIVENESS

- New projects at lower capital cost due to:
  - New projects have no refinery
  - Better negotiations and longer gestation compared to Kinnauni wherein delivery criteria was of utmost importance
  - Single vendor responsibility for project execution

FISCAL INCENTIVES

- The Government of Uttar Pradesh has announced a new sugar policy to attract investments in this sector, the salient features of which encompass
  - 5 year tax concessions for investments more than Rs. 350 crore and 10 years for investments more than 500 crore in sugar manufacturing assets
  - investments have to be made before 2007
  - incentives include tax concessions on purchase of sugar cane, society commission on cane, freight subsidy on cane and sugar, 10% capital subsidy, waiver of entry tax on sugar, stamp duty on land purchase and other state taxes and duties
  - **BHL will be a beneficiary as it will invest over Rs. 500 crore by 2006**

PRESENCE



Multi location operations in Uttar Pradesh

CANE GROWING AREAS IN UP

LOCATIONAL ADVANTAGES

- Yields are the highest in Western U.P.
- High recovery cane varieties
- Proximity to sugar markets
- Adequate cane to double capacities

CANE AVAILABILITY AND POTENTIAL

MUZZAFARNAGAR DISTRICT - WEST U.P.						
Year	Production	Crushed	Drawal %	Drawal % (after BHL)		
	(Lac Qtls)	(Lac Qtls)	(before BHL)	Year 1	Year 2	Year 3
2004	1,396.69	580.84	41.59	**53.04**	**55.91**	**58.77**
2003	806.47	382.37	36.14			
2002	761.18	378.74	49.76			

BIJNOR DISTRICT - WEST U.P.						
Year	Production	Crushed	Drawal %	Drawal % (after BHL)		
	(Lac Qtls)	(Lac Qtls)	(before BHL)	Year 1	Year 2	Year 3
2004	1,326.22	479.31	36.14	**42.17**	**43.68**	**45.19**
2003	1,349.38	553.30	41.00			
2002	1,070.31	510.75	47.72			

BHL New Projects Capacity Utilization: Year 1-65%, Year 2-80%, Year 3-100%

CULTURABLE AREA, CANE AREA & NO. OF FARMERS – UP & BHL'S 6 PLANTS

Total culturable area in UP	9,250,000	Lac Hectares
Culturable area for BHL's 6 Plants	341,050	Lac Hectares
Percentage	3.69	%
Area Under Cane Cultivation		
Total area under cane cultivation in UP	2,450,000	Lac Hectares
Area under cane cultivation for BHL's 6 plants	232,000	Lac Hectares
Percentage	9.47	%
Number of Farmers		
Total number of farmers in UP	3,200,000	
Number of farmers for BHL's 6 plants	323,000	
Percentage	10.09	%

PROJECT FINANCIALS

❑ Funding Pattern

	Rs. Crore
Project cost	400
Equity funding	200
External debt funding	200
Project Debt : Equity Ratio	1:1

WHY NOT POWER FOR BHL

- Power being commoditised
- Economies of scale
- Lower realisation per unit in UP
- SEBs and PPA issues
- Inverse correlation between bagasse and sugar
- Bagasse economics
- Capital allocation sugar v/s power

Rewards not commensurate with the risks

WHY NOT POWER FOR BHL

Bagasse Cost (Rs./MT)	**500**	**600**	**700**
Bagasse Cost/Unit of Power	1.25	1.50	1.75
Bagasse handling	0.10	0.10	0.10
Repairs & Maintenance	0.25	0.25	0.25
Employee Costs	0.10	0.10	0.10
Capex Interest @ 8%	0.47	0.47	0.47
Depreciation @ 10%	0.59	0.59	0.59
WCC 12% (3 month delay payment)	0.07	0.07	0.07
TOTAL	**2.83**	**3.08**	**3.33**
Present Power Realisation (Rs./Unit)	2.61	2.61	2.61
Cash Profit/(Loss)	**0.37**	**0.12**	**(0.13)**
PBT	**(0.22)**	**(0.47)**	**(0.72)**
20MW Power Plant - 9MW for sale			
Incremental Investment (Rs. Crore)	29		
ROCE	15%	11%	7%
PBT (Rs. Crore)	(1.08)	(2.30)	(3.53)
Current Bagasse Realisation	**Rs.800-Rs.1,200 / MT**		

Rewards not commensurate with the risks

WHY NOT POWER FOR BHL

Power economics at current bagasse realisations			
Bagasse Cost (Rs./MT)	**800**	**1,000**	**1,200**
Bagasse Cost/Unit of Power	2.00	2.50	3.00
TOTAL COST	**3.58**	**4.08**	**4.58**
Present Realisation	2.61	2.61	2.61
Cash Profit/(Loss)	**(0.38)**	**(0.88)**	**(1.38)**
PBT	**(0.97)**	**(1.47)**	**(1.97)**
ROCE	**-7%**	**-16%**	**-24%**
TOTAL LOSS (Rs. Crore)	**(4.75)**	**(7.20)**	**(9.65)**

Bagasse availability and cost depends on cane availability and will be cyclical. Thus, power earnings cannot be linear.

Rewards not commensurate with the risks

WHY NOT POWER FOR BHL

Asset allocation sugar versus power

Sugar Versus Power				
Capital cost for 7,000 TCD	140			
Equivalent power plant MW for Rs. 140 crore investment	43			
Units for sale (Crore)	23			
Sugar profit - PBT (Rs. Crore)	15			
Bagasse cost (Rs. / MT)	**200**	**250**	**300**	**400**
Power profit - PBT (Rs. Crore)	12	9	7	1

Better returns in sugar than power

OUR FINANCIAL CALENDAR

EVENT	Time Frame
Financial Year End *	September 30
1st Quarter Results	Last week of January
2nd Quarter Results	Last week of April
3rd Quarter Results	Last week of July
4th Quarter and Annual Audited Results	End December

** Changed from March to September to reflect performance of a full sugar season and for greater transparency*

Timely and transparent

BHL - AFTER NEW PROJECTS

- # 1 in India
- # 3 in Asia
- # 3 in any one country
- Amongst the top 15 in the world

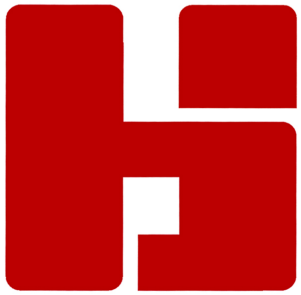
Leader

SUMMARY

Summary

- Consumption growing at 4.46% p.a. on a base of 19 million tonnes
- *Demand to double in 18 years*
- Investments of over Rs. 30,000 crore (US$ 6.7 bn.) will be needed at current cost, to meet demand
- *Bajaj Hindusthan views this as a growth opportunity*

Huge potential



Thank you for your time