



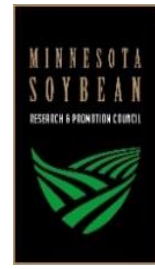
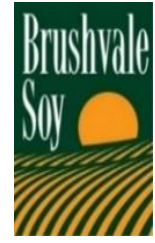
# Indian Soybean meal- Demand /Supply

**Pawan Kumar,  
Consultant, USSEC  
North & East India,  
Nepal,**

U.S. SOY FOR A GROWING WORLD

- We Represent
  - U S farmers
  - U S Industry
  - U S Department of Agriculture
  
- We work on finding new applications of soy & Implement in market
  
- We also do marketing of Soy and establish trade linkage wherever demand exist





James Farrell & Co. Established 1920



Michigan Soybean Promotion Committee www.michigansoybean.org



Funded by the Illinois soybean checkoff.



# The Asia Subcontinent Region (ASC)

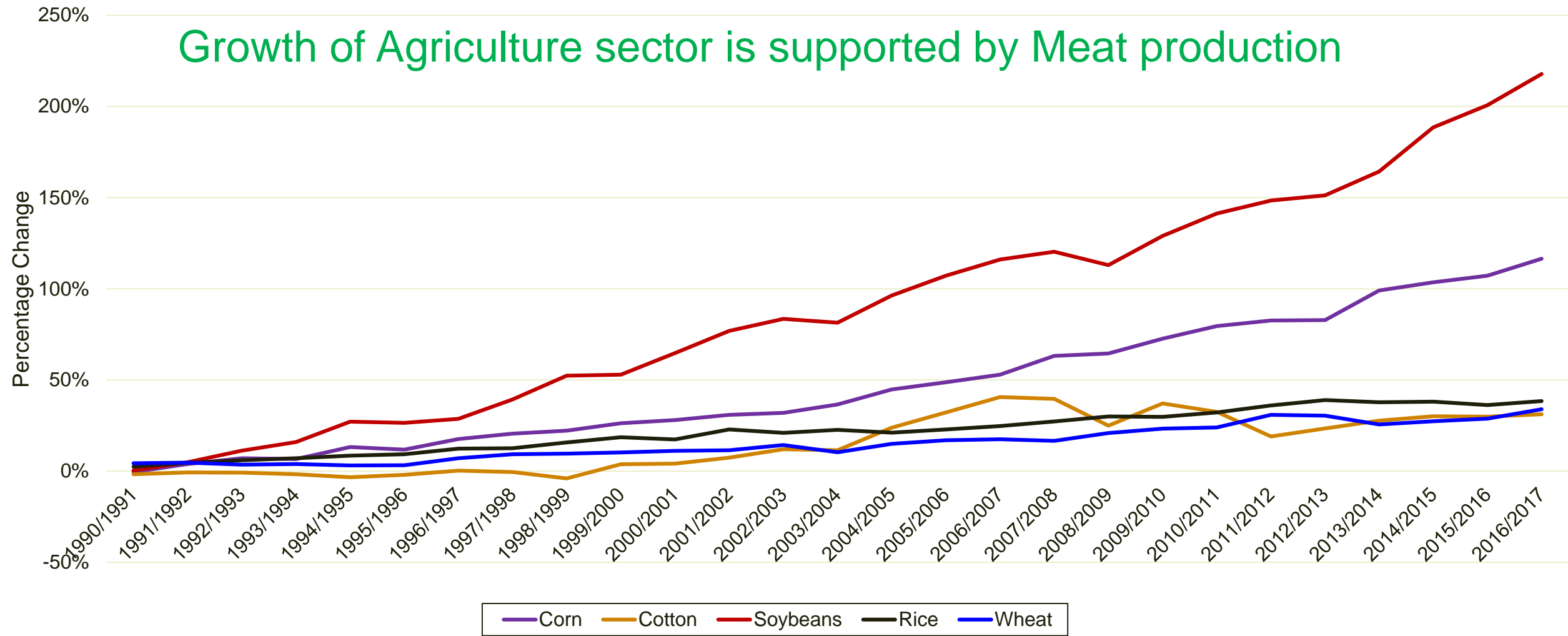
India

- Bangladesh, Sri Lanka, Pakistan and Nepal
- We have to export to these countries
- We are suppliers in their need



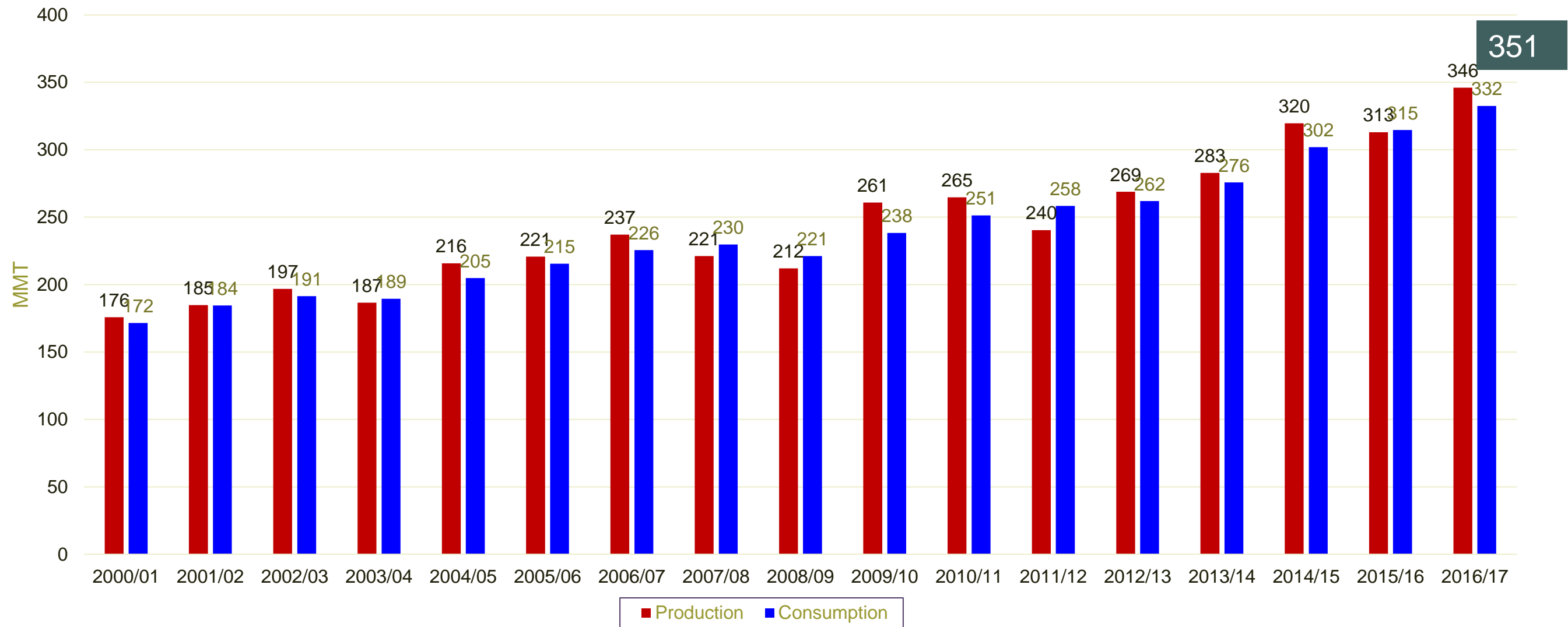
**Global Demand Growth for Corn, Cotton, Soybeans, Rice and Wheat  
2000/01 – 2015/16 and USDA Forecast for 2016/17**

Soybeans Demand Up 218%, Corn Up By 117%, Wheat Up Only by 34%

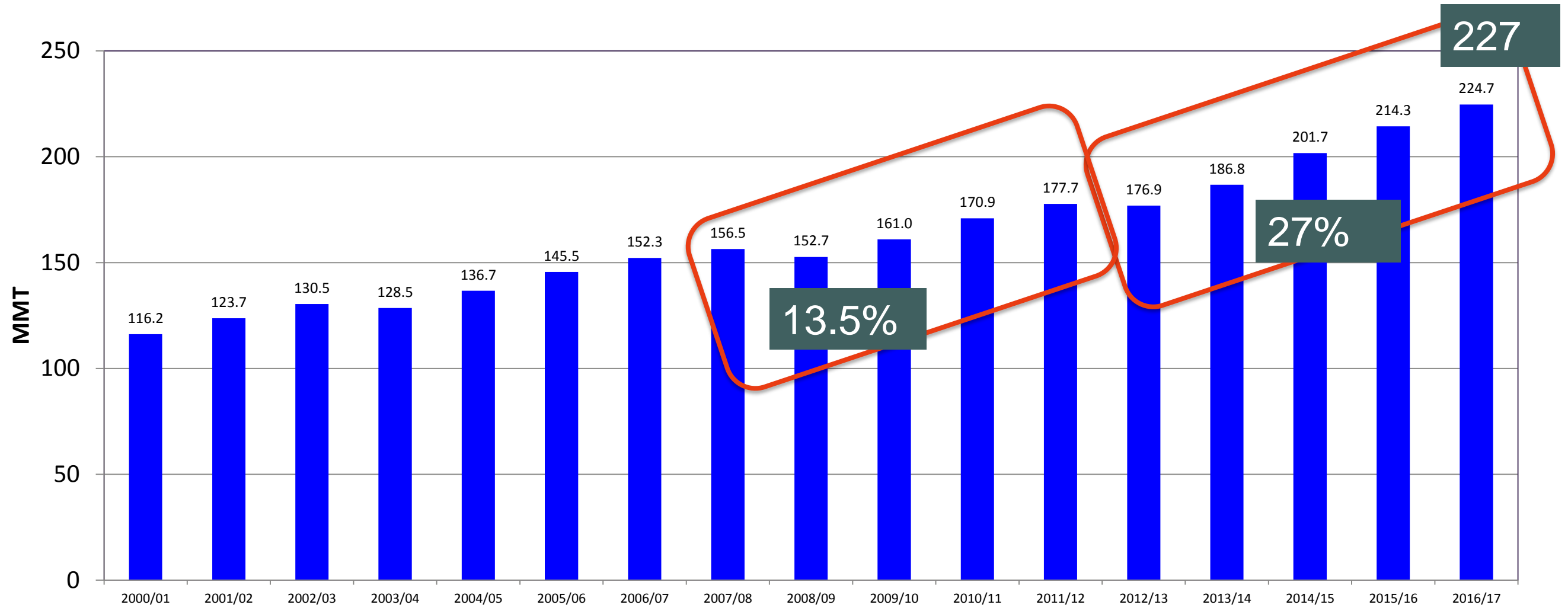




# Global Production and Consumption of Soybeans



# Global Soymeal Consumption



- **What is actual demand of This region**



## AVERAGE FOOD & PROTEIN AVAILABILITY

	Kg	Protein Av.
Grain	91	4.38
Pulses	7	1.15
Meat	43	10.68
Egg	10.2	1.27
Fish	13	2.15
Milk	116	4.45
<b>Total</b>		<b>24.08</b>

World average requirement is 25.5kg

# GLOBAL MEAT PRODUCTION & PER CAPITA CONSUMPTION

## Global Meat Consumption

	2013...	14	15	16
<b>Production</b>	<b>304.2</b>	<b>308.5</b>	<b>311.8</b>	<b>320</b>
<b>Poultry</b>	<b>105.4</b>	<b>107</b>	<b>108.7</b>	<b>116</b>
<b>Pork</b>	<b>112.4</b>	<b>114.3</b>	<b>115.5</b>	<b>116.7</b>
<b>Beef</b>	<b>67</b>	<b>67.7</b>	<b>68</b>	<b>68.8</b>
<b>Mutton</b>	<b>13.7</b>	<b>13.9</b>	<b>14</b>	<b>14.1</b>

	Meat	Egg	Fish	Milk
India	5.5	4.7	7.4	121
Pak	18	1	6.2	190
BG	9.69	2.7	20.8	30
SL	13	6.1	13	45
NP	16	3.2	9.4	38
<b>WA</b>	<b>43</b>	<b>10.2</b>	<b>13</b>	<b>116</b>

## Per capita consumption

	2013.....	14	15	16
<b>World</b>	<b>42.9</b>	<b>42.9</b>	<b>42.9</b>	<b>43</b>
<b>Developed</b>	<b>76.2</b>	<b>75.9</b>	<b>76.1</b>	<b>76.4</b>
<b>Developing</b>	<b>33.5</b>	<b>33.7</b>	<b>33.7</b>	<b>33.9</b>
<b>Poultry</b>	<b>14.86</b>	<b>14.88</b>	<b>14.9</b>	<b>15.1</b>
<b>Pork</b>	<b>15.85</b>	<b>15.89</b>	<b>15.95</b>	<b>16.05</b>
<b>Beef</b>	<b>9.44</b>	<b>9.41</b>	<b>9.39</b>	<b>9.39</b>

# DEMAND AND SUPPLY OF PROTEIN IN ASC

Country	Population	Per capita requirement	Total digestible protein requirement (Million ton)	Availability
Bangladesh	168 M	23.7	3.9	2.4
India	1280 M	23.7	30.3	22
Nepal	28 M	21.9	0.61	0.4
Pakistan	199 M	25.5	5.07	4.3
Sri Lanka	26 M	22.6	0.58	0.45
<b>TOTALS</b>	<b>1701 M</b>		<b>40.46</b>	<b>29.5+10.6</b>





# IF YOU WANT TO PRODUCE 10.6 PROTEIN

We have enough of energy supply to fulfill 840 Trillion K Cal requirement

	Current production (MMT)	May require (MMT)	How Much Soy required + other sources of protein required (MMT)
Milk	201	265	3.9 soy + 35.7 other protein meal
Chicken	7.28	39	27.3 soy+ 13.6 other protein meal
egg	5.9	81.5	11.6 soy +34.8 other Protein meal
Pulses	26.1 Including Import	64	

# IF YOU WANT TO PRODUCE 10.6 PROTEIN

Let us try a combination of these 4 main sources of Protein

	Current production (MMT)	25 % protein from all sources (MMT)	Protein sources required for feed (MMT)
<b>Milk</b>	<b>201</b>	<b>66.2 (30%)</b>	<b>0.97MMT soy+8.9 other sources of Protein</b>
<b>Chicken</b>	<b>7.28</b>	<b>9.75 (133%)</b>	<b>6.8 soy+3.4 other sources of protein</b>
<b>Egg</b>	<b>5.9</b>	<b>20.37 (345%)</b>	<b>2.9 soy+8.7 other sources of protein</b>
<b>Pulses</b>	<b>26.1</b>	<b>16 (60%)</b>	

# IF YOU WANT TO PRODUCE 10.6 PROTEIN

Let us try a combination of these 4 main protein sources

	May require	25.8%	Protein sources required for
Milk			0.97MMT soy+8.9MMT other sources of Protein
Chicken		9.75MMT	6.8MMT soy+3.4MMT other sources of protein
Egg	81.5MMT	20.37MMY	2.9MMT soy+8.7MMT other sources of protein
Pulses	64MMT	16MMT	

**10.6MMT soy  
21MMT other Protein meal is required**



# IF YOU WANT TO PRODUCE 10.6 PROTEIN

Let us try a combination of these 4 main protein

	May require	25.8%	Land required for
Milk			MMT other
Chicken			MMT other
Egg			MMT other
Pulses	64MMT	16MMT	

**10.6**

**21M**

**Historically we have Produced 32-38.5MMT oilseed +3MMT**

**Can we double it ...???? Do we have Land...???**

**required**



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**9 of 10 Indians lack adequate protein, Mumbaikars score high**

TNN | Jun 3, 2015, 03:44 AM IST

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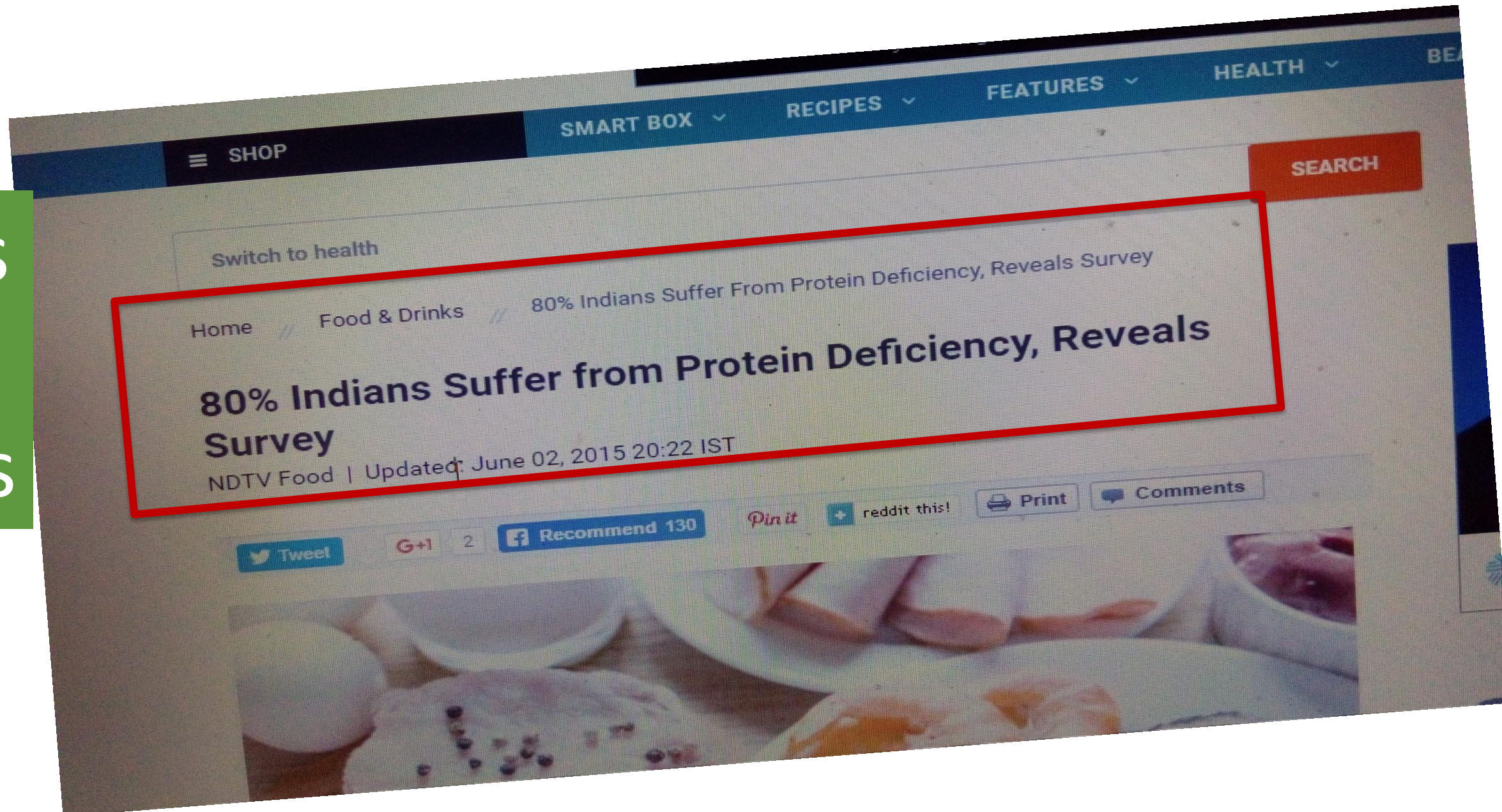
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MUMBAI: The typical Indian meal,



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The screenshot shows a web browser displaying a news article on the LiveMint website. The URL in the address bar is [www.livemint.com/Politics/fif5xU1F83eGZ5FV1vfPcP/Protein-deficiency-in-rural-India-worrying.html](http://www.livemint.com/Politics/fif5xU1F83eGZ5FV1vfPcP/Protein-deficiency-in-rural-India-worrying.html). The page features the LiveMint logo and navigation menus for various categories like Home, Companies, Industry, Politics, Money, Opinion, Lounge, Multimedia, Consumer, and Sports. The main article is titled "Protein deficiency in rural India worrying" and is categorized under "ECONOMY AND POLITICS" and "INDICATORS". The author is Paromita Shastri, and the article was first published on June 12, 2007, at 12:20 AM IST. The article text begins with "Falling protein intake of rural Indians should be of greater concern rather than declining calorie consumption or rising fat content in urban diets, say nutrition experts and economists." To the right of the article is a Harvard Business School advertisement for "Driving Growth Through Innovation —India" from August 8-11, 2016, with an "APPLY NOW" button. Below the article is a Microsoft Cloud advertisement. The Windows taskbar is visible at the bottom of the browser window.



News  
&  
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*Indian Medical Gazette* — APRIL 2015

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Clinical Survey

**Protein Consumption in Diet of Adult Indians :  
A General Consumer Survey (PRODIGY)**

*Manish Mahajan, Senior Manager, Medical Affairs,  
Nutricia International Private Limited,  
Centrium Gate 1, Level 4, L.B.S Road, Kurla (West), Mumbai.*

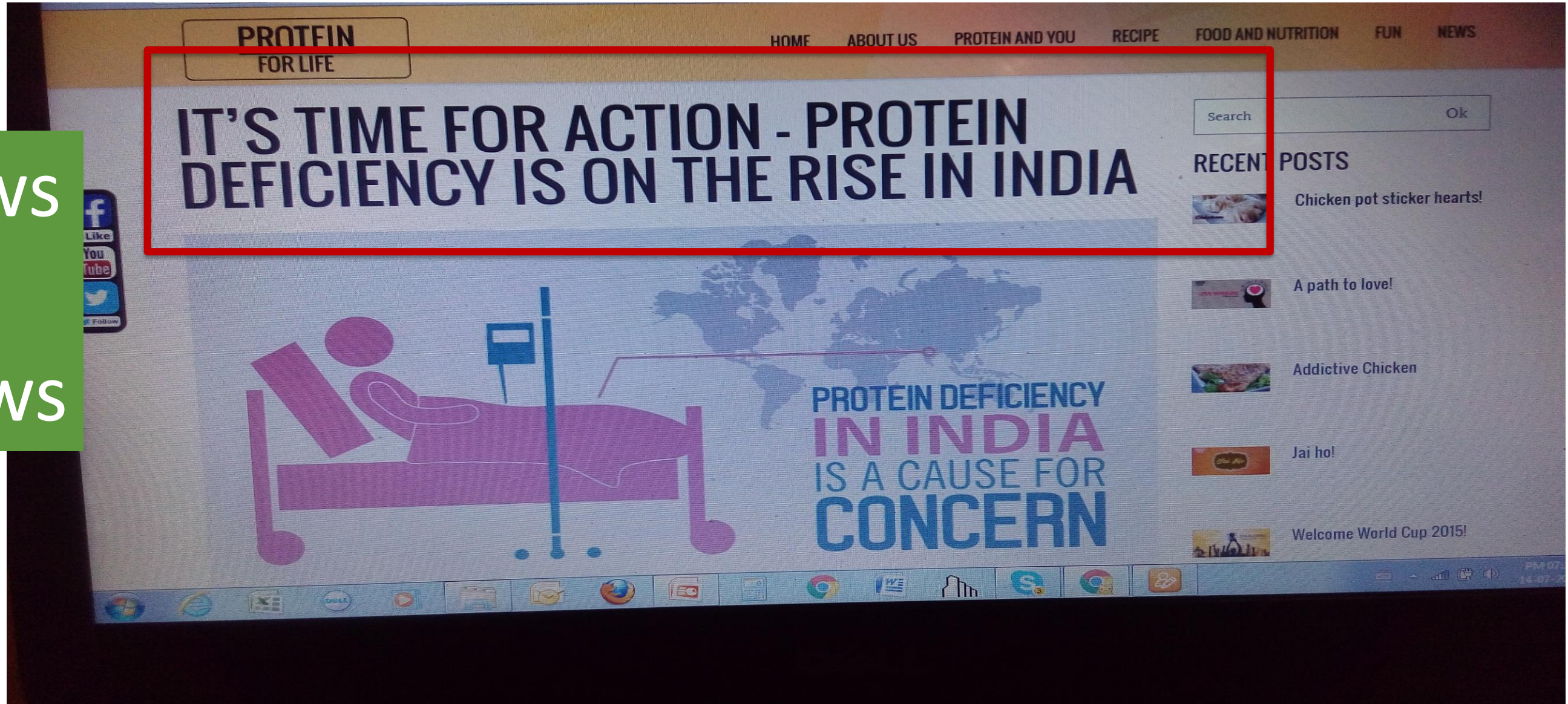
**Abstract**

A PROtein consumption in Diet of adult Indians, a consumer surveY (PRODIGY) was conducted in seven major cities in 1260 respondents across India in order to assess the consumer understanding of protein in their day

size of 1260. The consumer target group was identified as males and females (non-pregnant and lactating) between age of 30-55 years and socio-economic class A and B at seven major cities of India (Ahmedabad, Delhi, Chennai, Kolkata, Lucknow, Mumbai and Vijaywada), regardless of diet preferences were randomly selected. The sample spread



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www.hindustantimes.com/health-and-fitness/get-this-a-whopping-80-of-indians-suffer-from-protein-deficiency/story-U9ZFhjh0k1hTv71veGnb9M.html

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## Get this! A whopping 80% of Indians suffer from protein deficiency

IANS, Mumbai | Updated: Jun 03, 2015 14:44 IST



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## PLEASE THINK.....

Developed countries are over consuming protein- They should optimize their consumption and spare for rest of world and save their health.

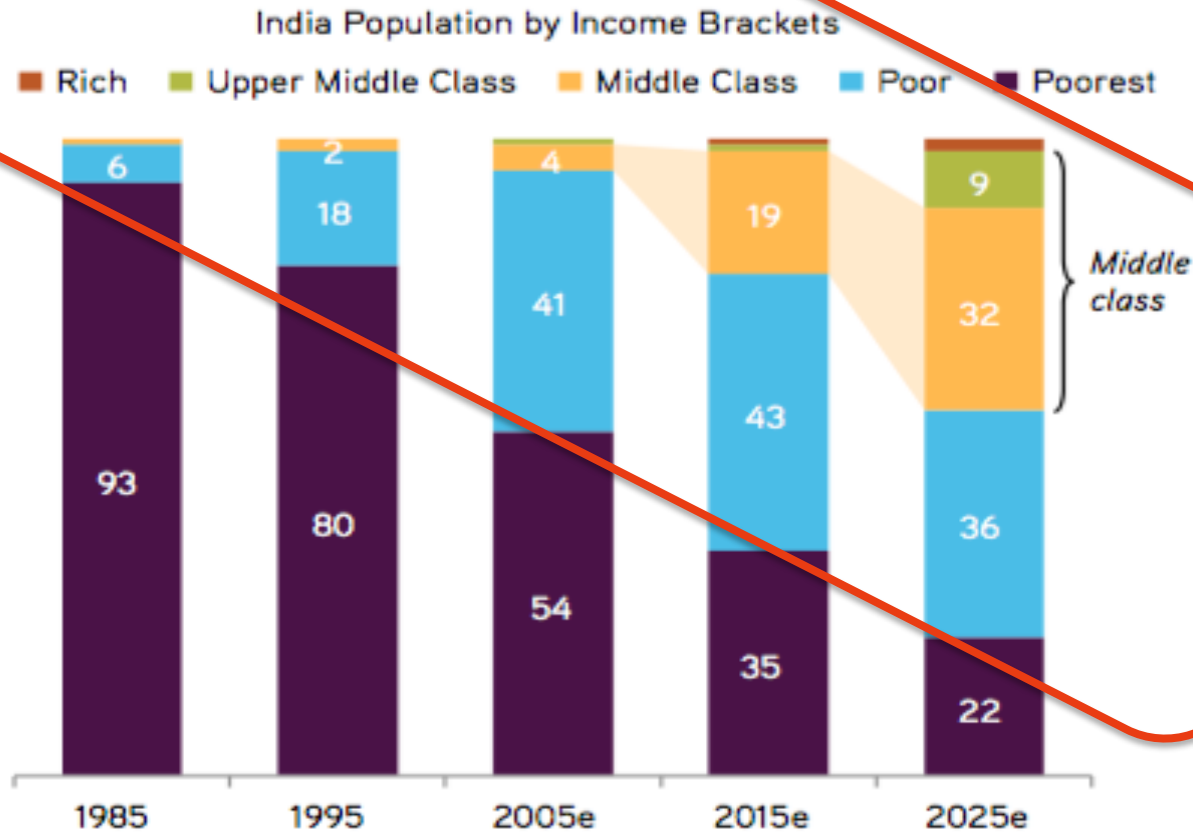
More than 60% of the countries including 5 ASC countries are protein deficient, **presents huge Task of protein production**

# Theoretical Demand Vs Practical Demand

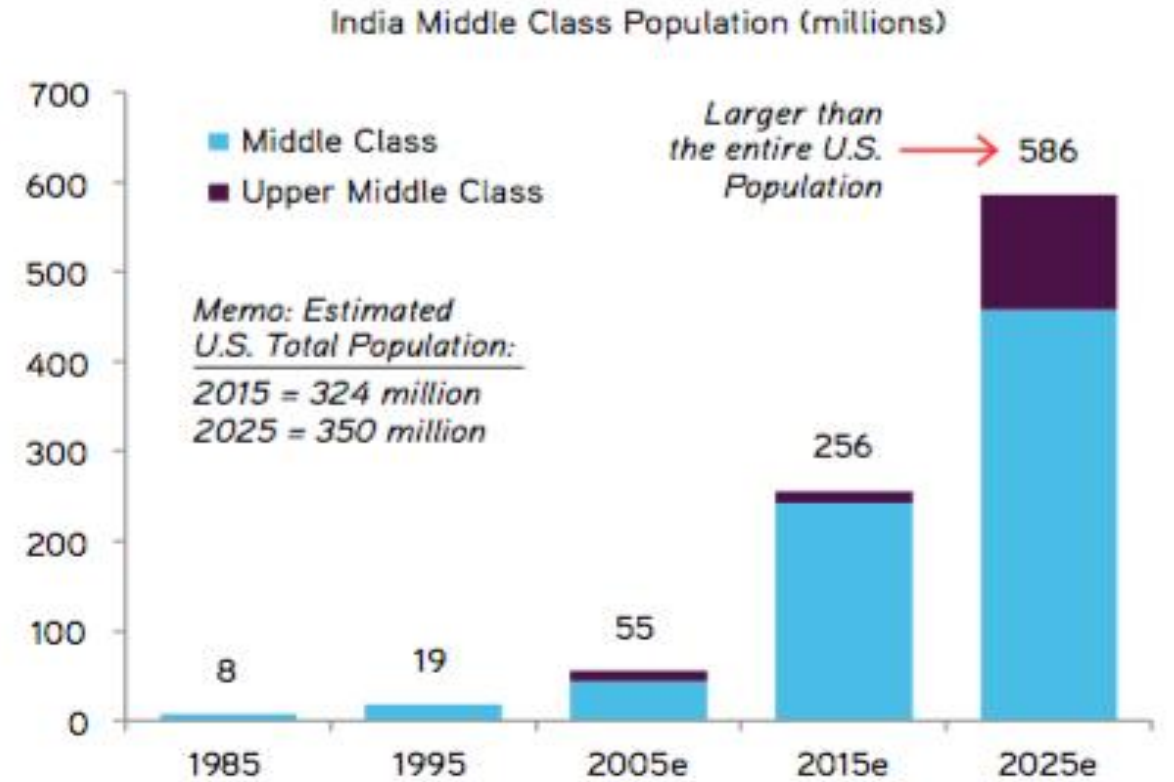


# Middle class population – a driver in India

The Middle Class in India Is Expected to Be 41% of the Population by 2025...



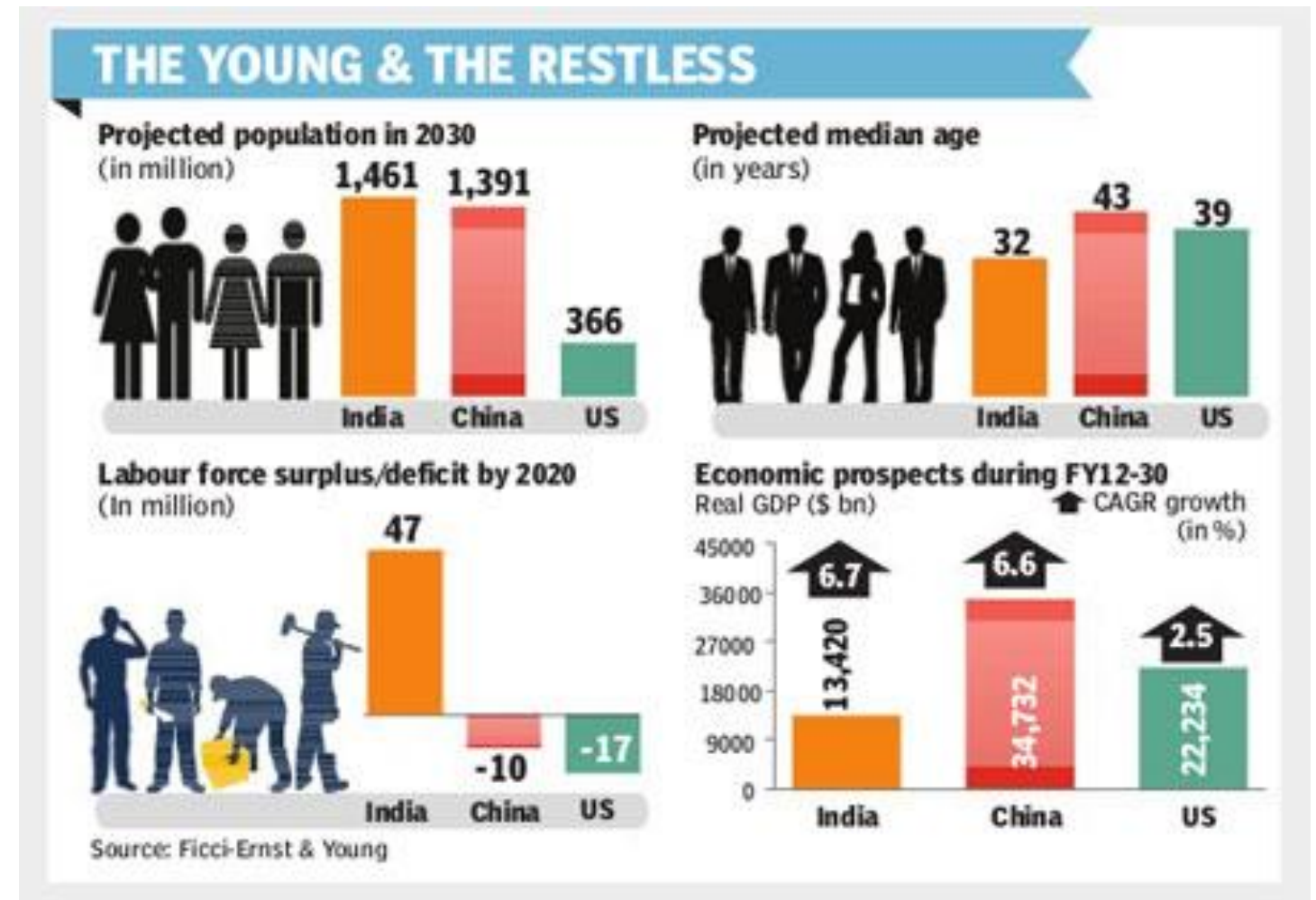
...and in Absolute Numbers, India's Middle Class Population May Soon be Larger Than the Entire U.S. Population



## Young Population – 5 ASC countries account for 56%

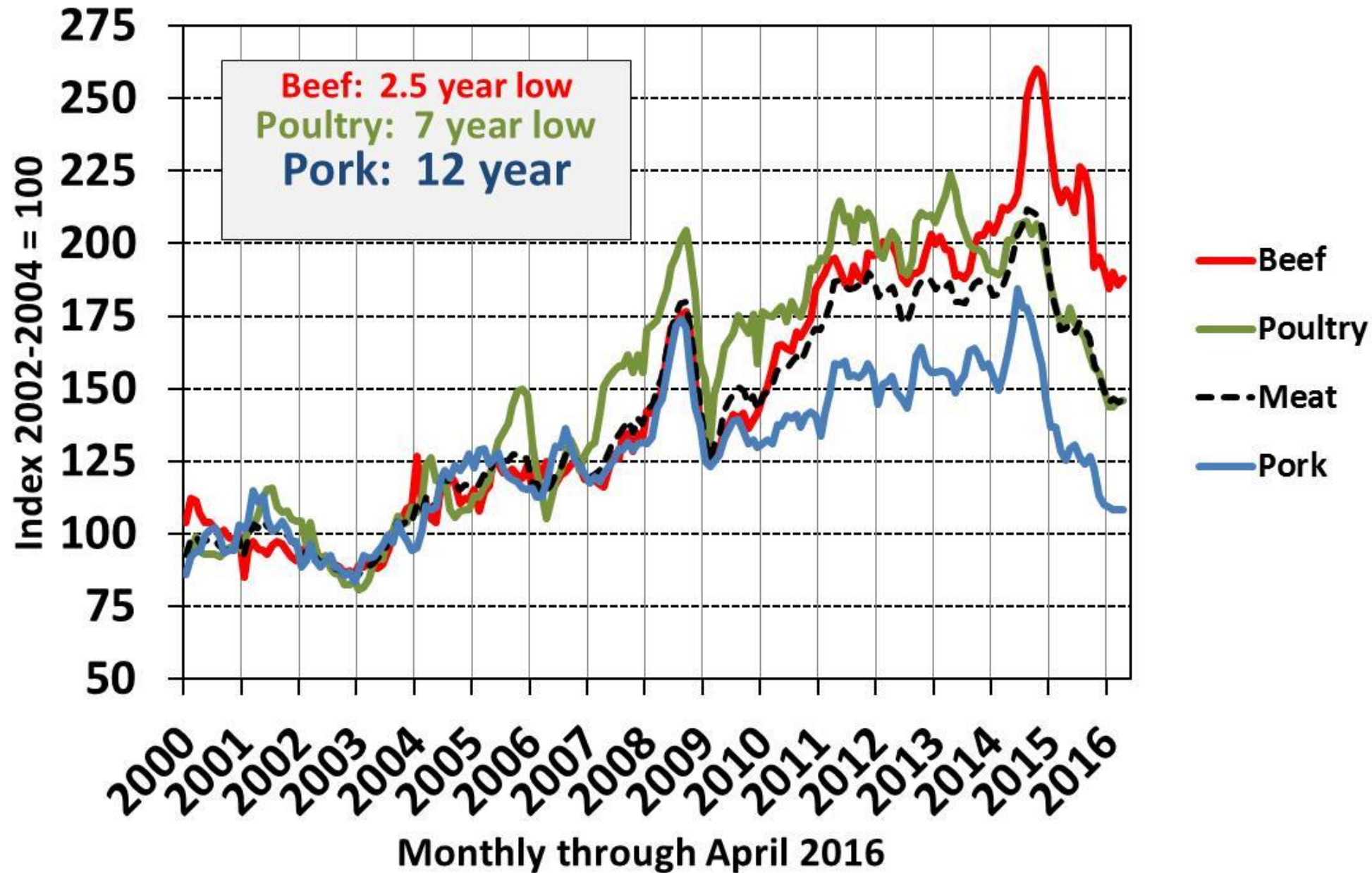
Country	Young population (10-24 year band)
India	356 million ←
China	269 million
Indonesia	67 million
U.S	65 million
Pakistan	56 million ←
Bangladesh	48 million ←

Source: UN Population Fund (UNFPA) In: State of the World Population Report, 2014



Source: FICCI & Ernst & Young; in Financial Express 2013

# Global Meat Price Indices



Average GDP Growth in ASC is expected to be between 5.5-6% in next few years

---

By Protein education- we can exploit every bit of this demand



# Soy Meal Demand by 20-21



# ANIMAL FEED INDUSTRY

No of feed mills	tonnage
30090	1032MMT

**\$460 Billion Business**

Feed price came down

1.6% average growth last 5, years last year 3.7%

<b>Poultry</b>	<b>451.8</b>	<b>China</b>	<b>187</b>
Pig	272	USA	169
Ruminant	206.7	Brazil	68.93
Aqua	39.9	Mexico	33.88
Pet	25	India	31.86
others	16.2		

- No 1-Milk
- No 2-Fish
- No 2-Shrimp
- No 3-Egg
- No 4-Chicken
- No 5-Feed

India Production-11.4MMT+PY0.3=11.9 MMT

Crushing against use-domestic 4.05+ export 1.5= 5.55(6.8 MMT)

Used for Sowing- 1.3MMT

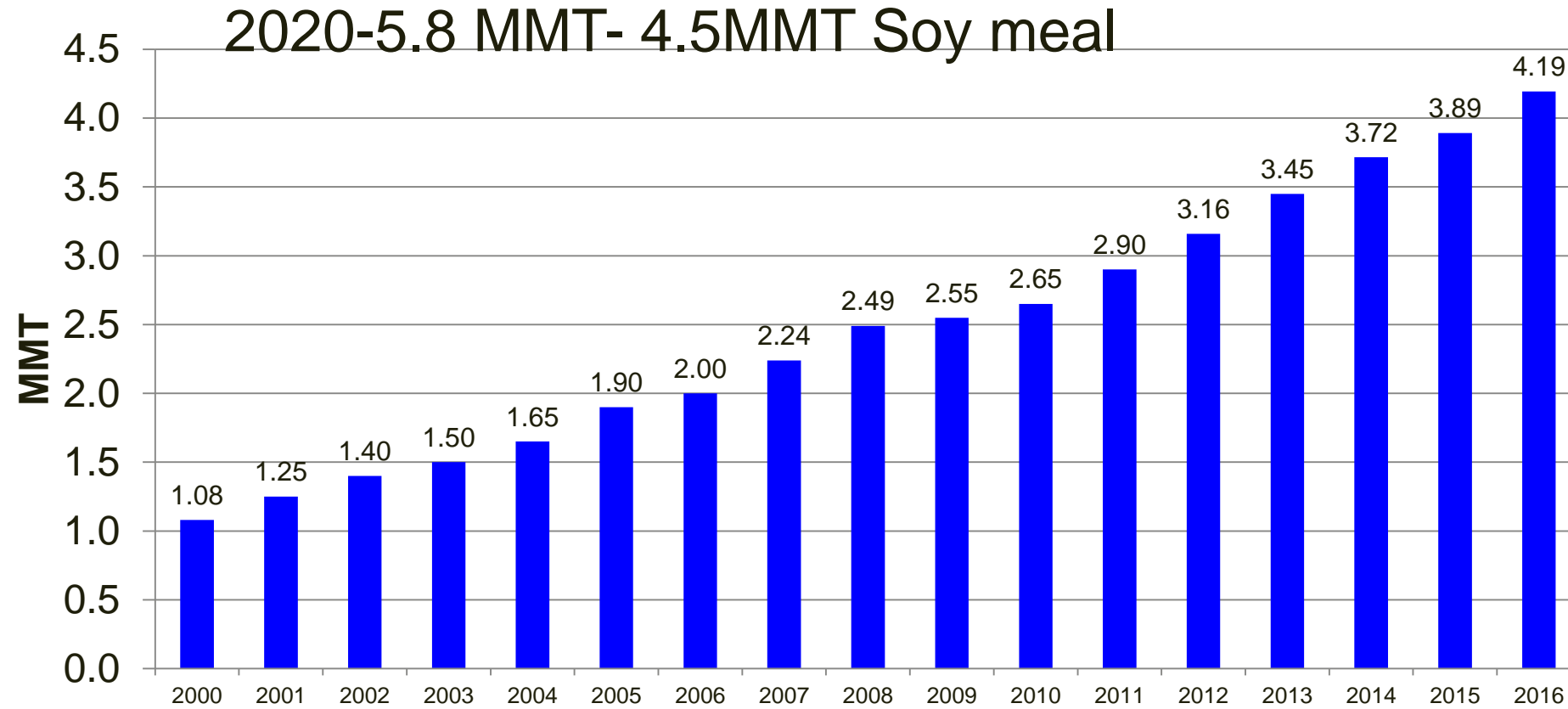
Stock in Hand-3.6MMT

Next 2.5 month Use- Domestic 1.2+ export 2 LT =1.4 (1.7 MMT)

Carry over -1.9 MMT.

# India's Production of Chicken 2000 – 2016

Growth last 5 Years/ 8.9%---9.1%---8.1%---4.5%--8.5%





# ASC aqua feed and soybean meal usage

Feed/SBM Use	2015	2017	2020
India Aqua Feed	1.46	2.14	2.80
India SBM use	0.408	0.692	0.913
BG Aqua Feed	1.50	2.33	3.54
BG SBM use	0.270	0.411	0.624
ASC Aqua feed Total	2.96	4.47	6.34
<b>ASC SBM Total</b>	<b>0.678</b>	<b>1.1</b>	<b>1.5</b>



If IPAT works well Aqua sector will require 2.5MMT

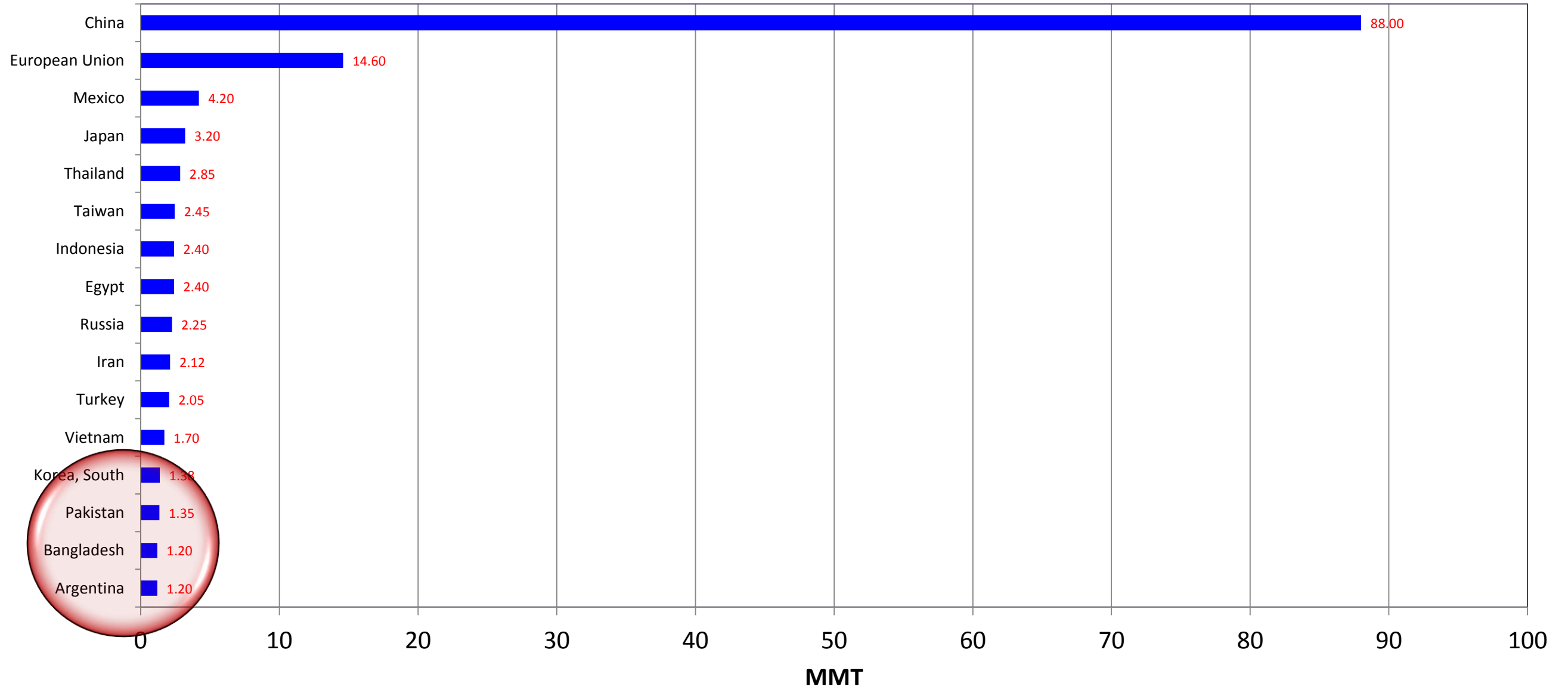
# Capacity Building

Year	New animal feed businesses	New feed milling capacity	New soybean meal requirement
2009	39	2.50	0.500
2010	29	1.08	0.235
2011	29	1.04	0.254
2012	25	1.16	0.270
2013	51	2.10	0.403
2014	40	2.29	0.489
2015	31	2.04	0.433
2016	30	1.50	0.321
<b>TOTAL</b>	<b>274</b>	<b>13.71 MMT</b>	<b>2.90 MMT</b>

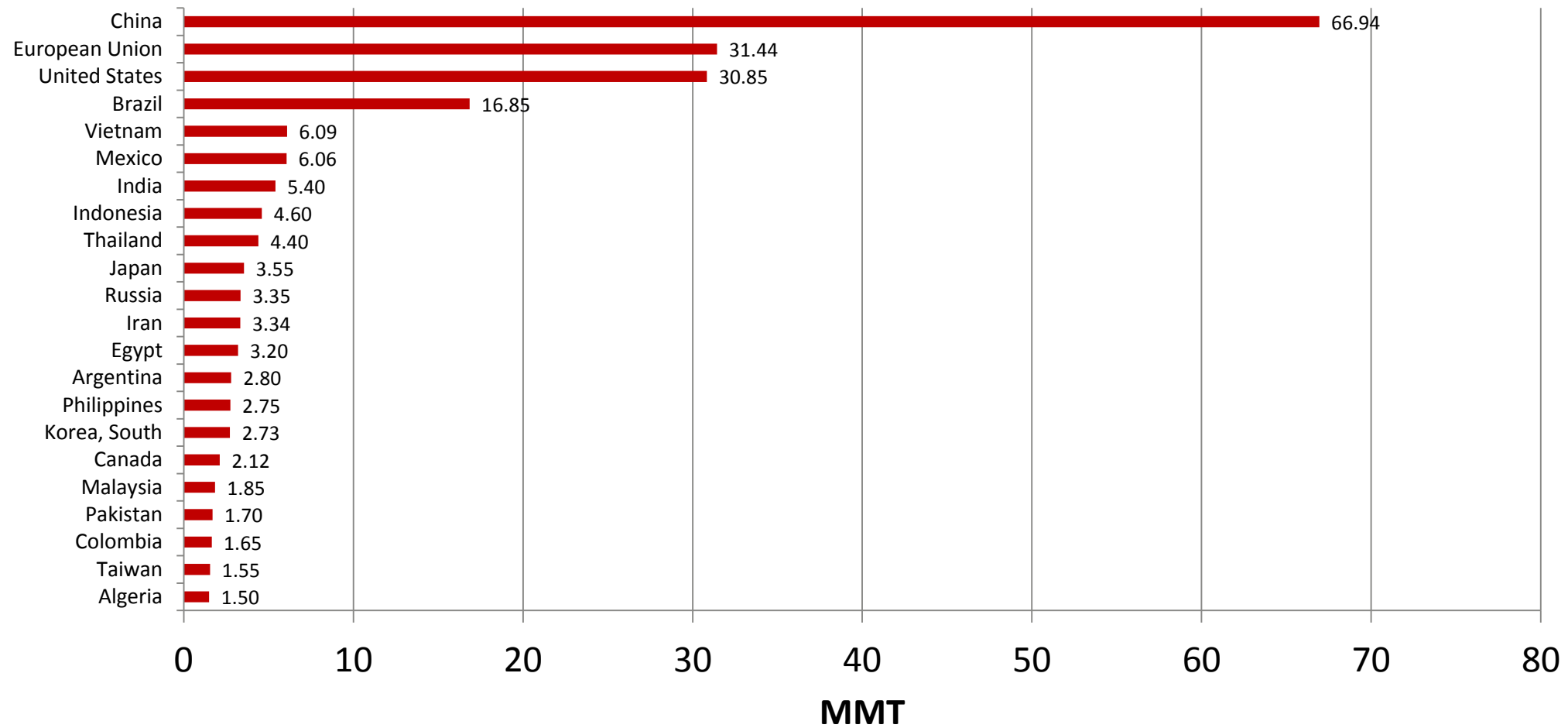
- In the past 8 years, 274 new poultry and aqua businesses have come up in India
- These new ventures have brought in 13.71 MMT of additional feed milling capacities which use 2.90 MMT of additional soy meal
- In Nepal in current year half million ton project is in pipeline.



# Pakistan has entered in to top 15 soybean importers

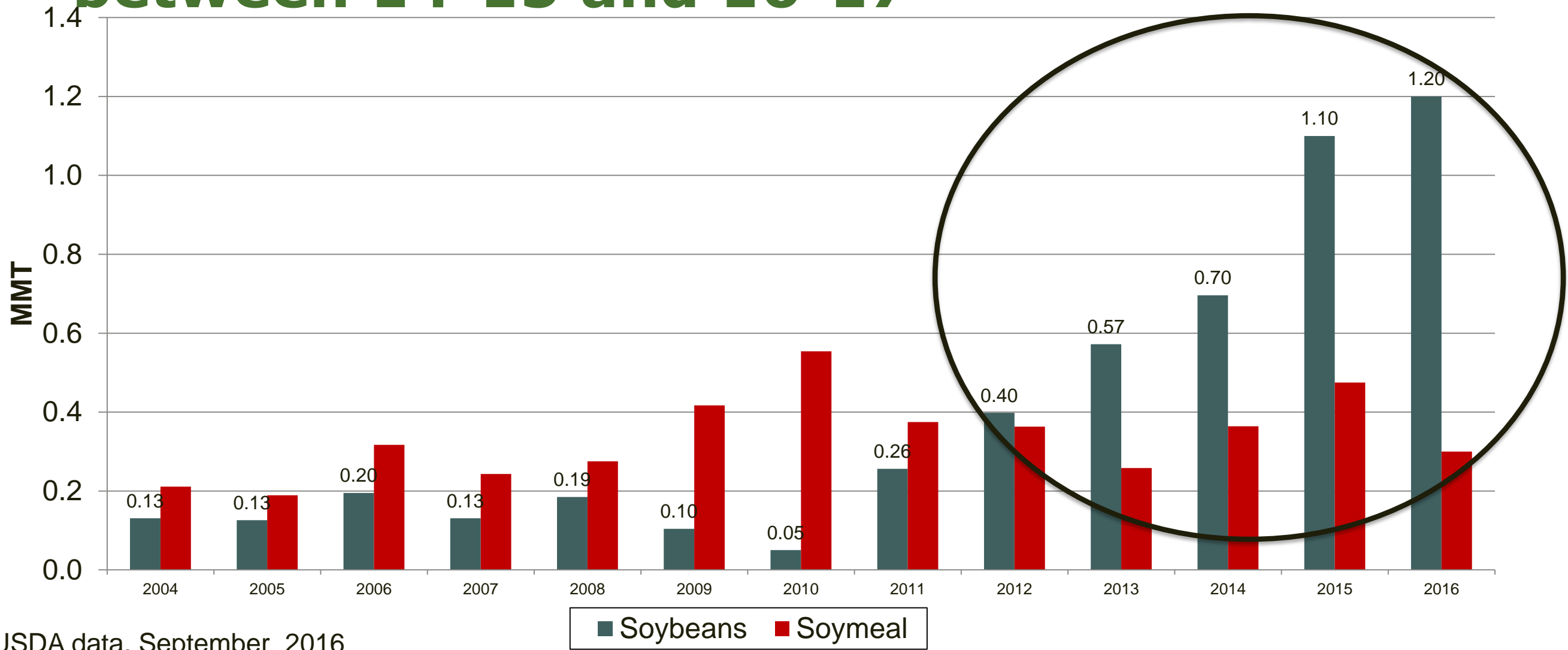


# PAK & BG has entered in to 20 Soy meal importers



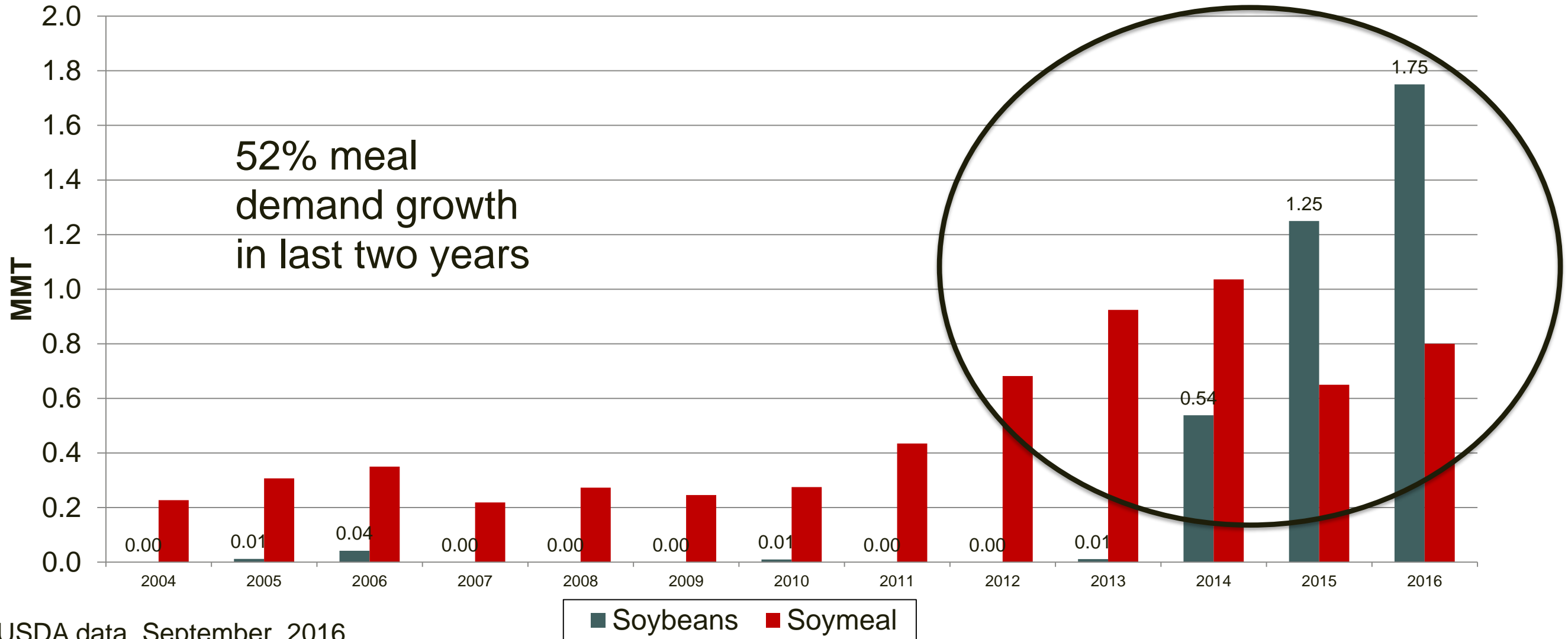


# 45% Demand increase in Bangladesh between 14-15 and 16-17



Based on USDA data, September 2016

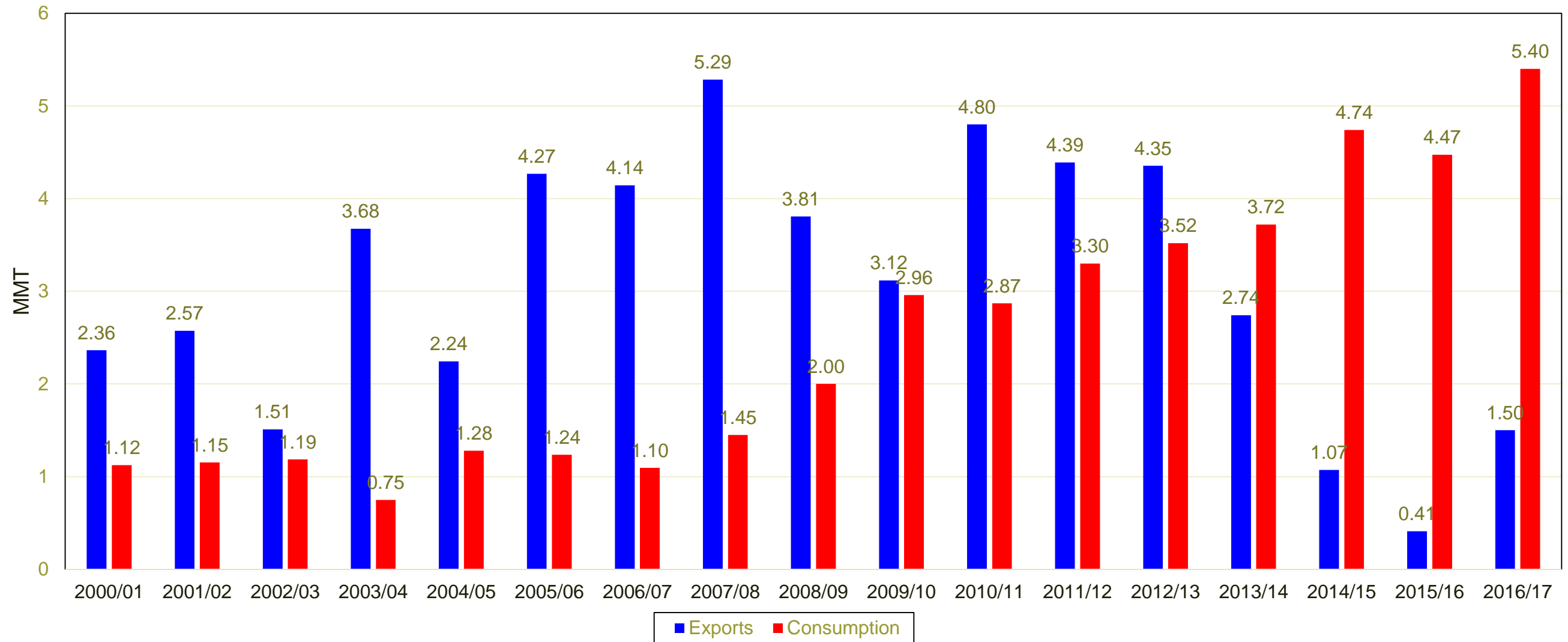
# 52% Demand increase in Pakistan between 14-15 and 16-17



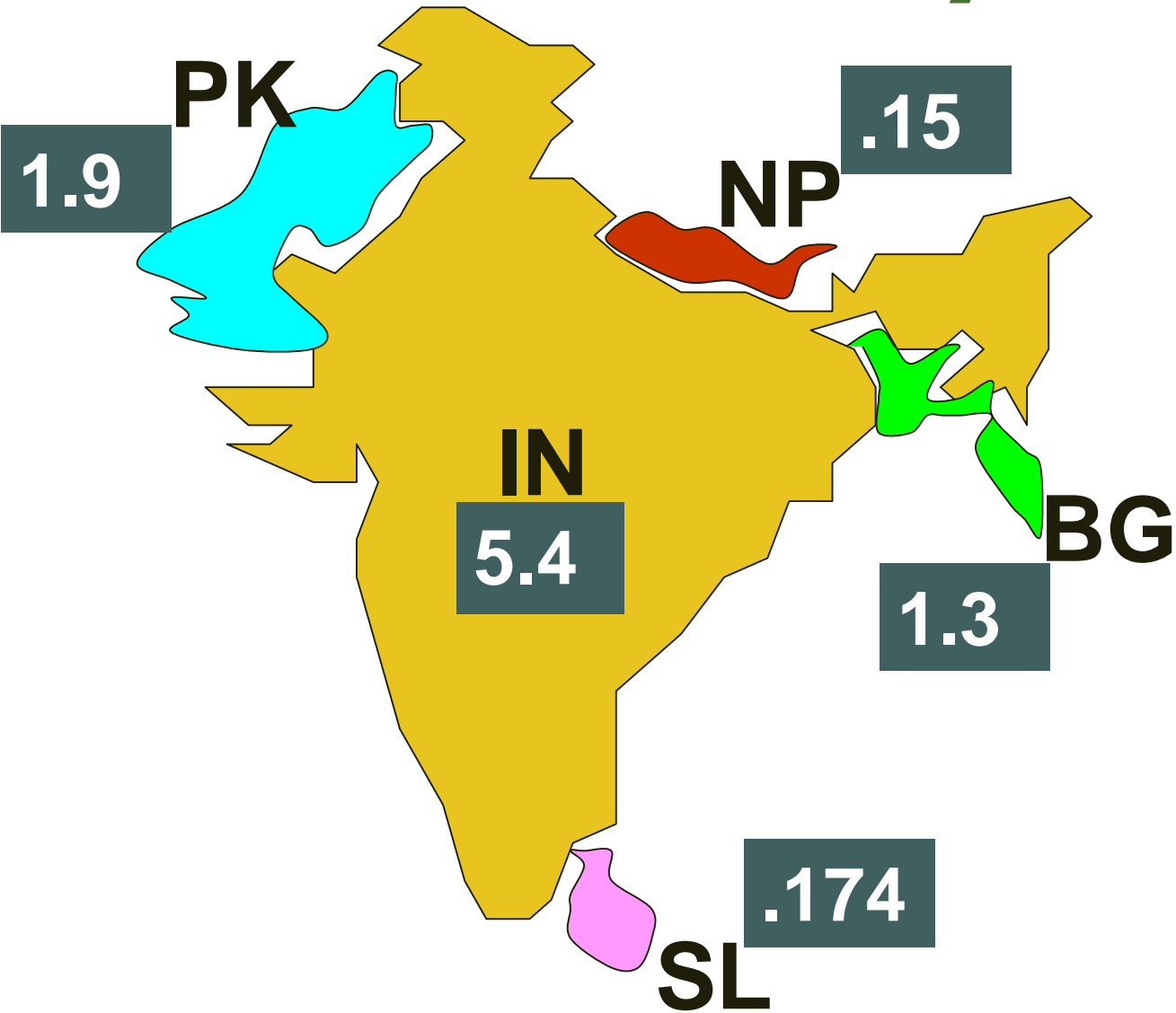
Based on USDA data, September 2016



# India's Soymeal Exports and Consumption 2000/01 – 2015/16



# Current Soy meal consumption in ASC



Country	2012/13	2016/17
Bangladesh	654	1.3
Pakistan	632	1.9
Sri Lanka	150	0.174
Nepal	85	0.15
India	3.450	5.4
<b>TOTALS</b>	<b>4.971</b>	<b>8.92</b>

12/13	16/17
6.05	10.9

**12.9MMT Bean**



# Rapidly changing meal consumption trend in ASC

	2012-13	2016-17	% Change
<b>World</b>	<b>176.93</b>	<b>227</b>	<b>28.2%</b>
<b>ASC</b>	<b>4.97</b>	<b>8.92</b>	<b>79.4%</b>

**Rate of change is about 3.00 times higher**

Based on USDA data,

## Soy meal forecast by 2021 (model based on previous change)

ASC baseline (change)	Methodology	2017-2021 increment on 2016/17 use	Est. meal consumption by 2021 (MMT)	Corresponding bean requirement (MMT)
3.98 MMT	50% of previous change added to 2016/17 consumption	= 1.97 + 8.92	10.89	13.3+1+1
	75%	= 2.96 + 8.92	11.88	14.5+1+1
	As is (3.98 MMT)	= 3.98 + 8.92	12.9	15.7+1+1



## Soymeal demand in ASC by 2020 – Industry feedback

S.No	Demand Sector	Quantity by 2020	Reference
1	Pakistan Poultry	1.420	Industry, WPSA (PK)
2	Pakistan Aquaculture	0.200	USDA, WISHH
3	India Aquaculture	0.913	USSEC
4	India Broiler	3.930	CLFMA
5	India Layer	1.200	CLFMA
6	India poultry breeder	0.453	USSEC
7	Bangladesh Aquaculture	0.624	World Fish, USAID, USSEC, WISHH
8	Bangladesh Poultry	0.696	Oil World, FAO OECD, WPSA (BG)
9	Sri Lanka Poultry	0.186- 0.214	Industry; Livestock & Economics Dept
10	Nepal Poultry	0.186	Nimbus, FAO
11	Soy in ASC food use	0.857	USSEC (Ratan)
	<b>TOTAL</b>	<b>10.66</b>	<b>= 12.80 MMT Soybeans</b>

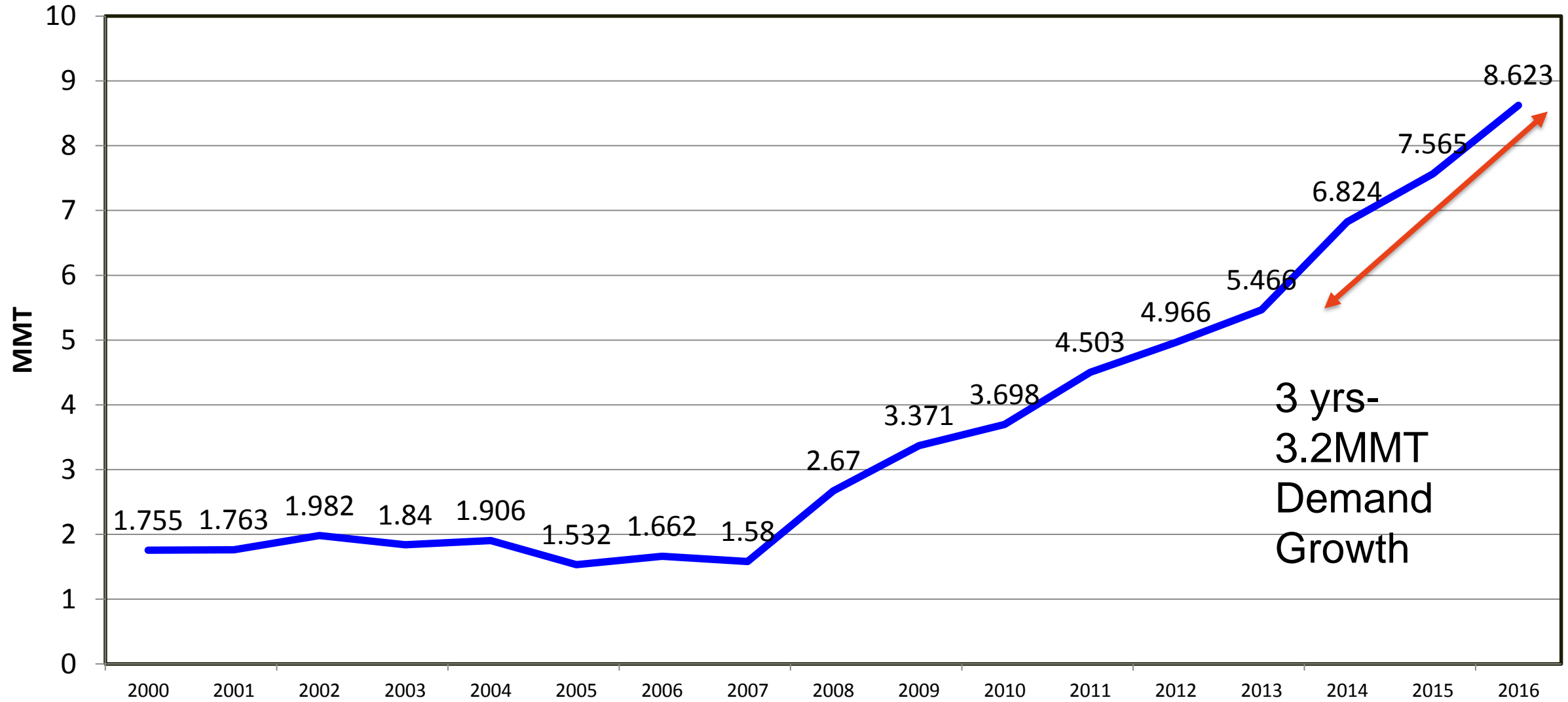
Forecasted by USSEC using 2015 baselines from references mentioned

# ASC Meal requirement with animal feed growth

Country	* 2016-17 Feed Production (MMT)	Rank	ASC feed Growth	2017-18	2020-21
India	31.85	5	9%	34.71	44.95
Pakistan	7.2	28	9%	7.84	10.15
Bangladesh	4.6	44	9%	4.92	6.02
Sri Lanka	0.9	73	8%	0.97	1.22
Nepal	0.9	79	8%	0.97	1.22
TOTALS	45.45			49.41	63.56
SBM@18%					11.44
SBM@20%					12.71



# Asia Subcontinent's Soymeal Consumption 2000/01 – 2015/16 and USDA Forecast for 2016/17



- Indian Supply is too less to cater to ASC demand-However Nepal will continue to buy from India due to logistic advantage
- 2016-17 is witnessing big jump in domestic demand in India- If such demand growth continues for 2 more years. India may not be able to fulfill Indo-Nepal meal demand-If the chicken and egg demand rises as per expectation till 18-19 India & Nepal will be a market of **7.7MMT** Soy meal
- Higher demand will enable higher capacity utilization on crush side. The question is bean??? either produce more in India or Import and crush.

## Import from U S In ASC

2014-15	2015-16	2016-17 Till March
1.1MMT bean and Meal	1.1MMT Bean and meal	1MMT bean and meal (Expected to touch 1.5MMT)

**Close to 15% Soy meal from U S Origin is being used in ASC**

**We are ready to serve you..!!**



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## Thanks !!

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