



Indian Soybean meal- Demand /Supply

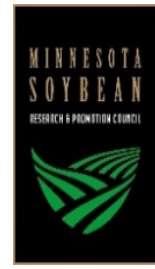
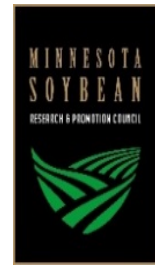
**Pawan Kumar,
Consultant, USSEC**

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 do marketing of Soy and establish trade linkage wherever demand exist



James Farrell & Co. Established 1920



TRADE GROUP, LLC



Funded by the Illinois soybean checkoff.



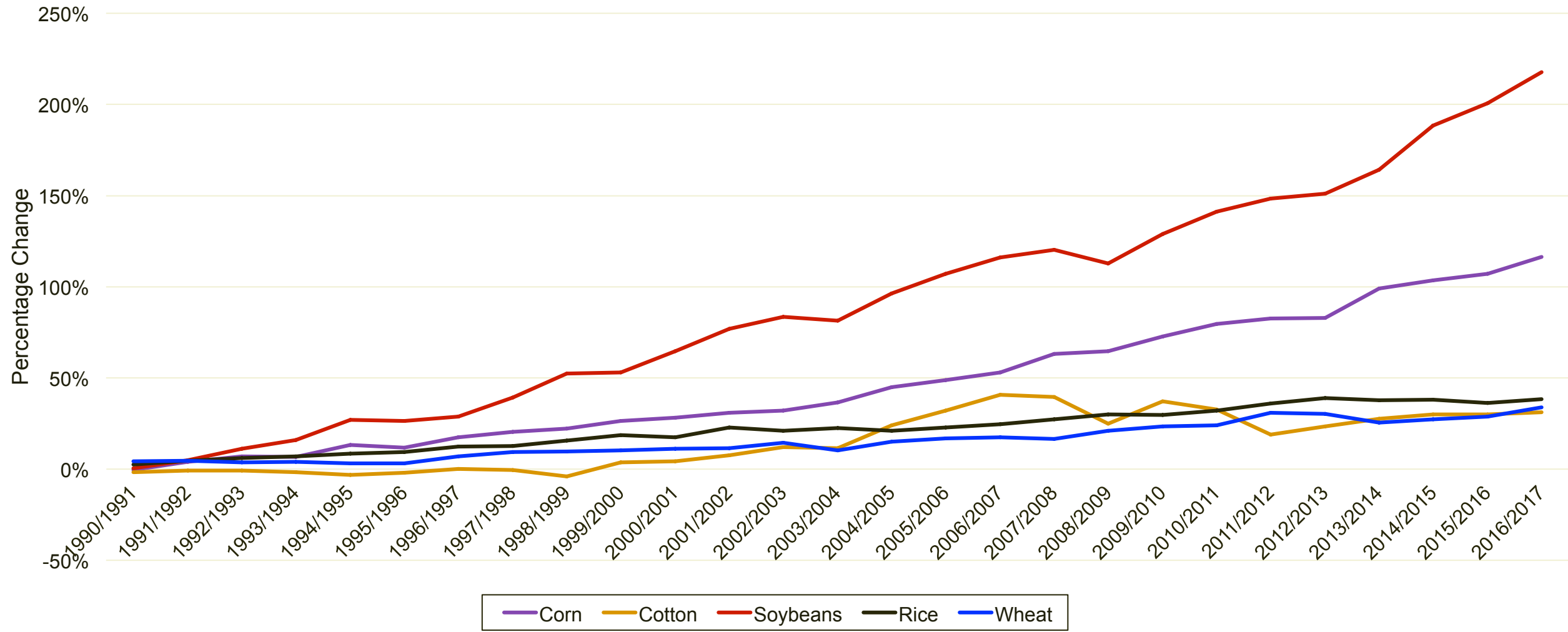
The Asia Subcontinent Region (ASC)

- India
- Bangladesh, Sri Lanka, Pakistan and Nepal

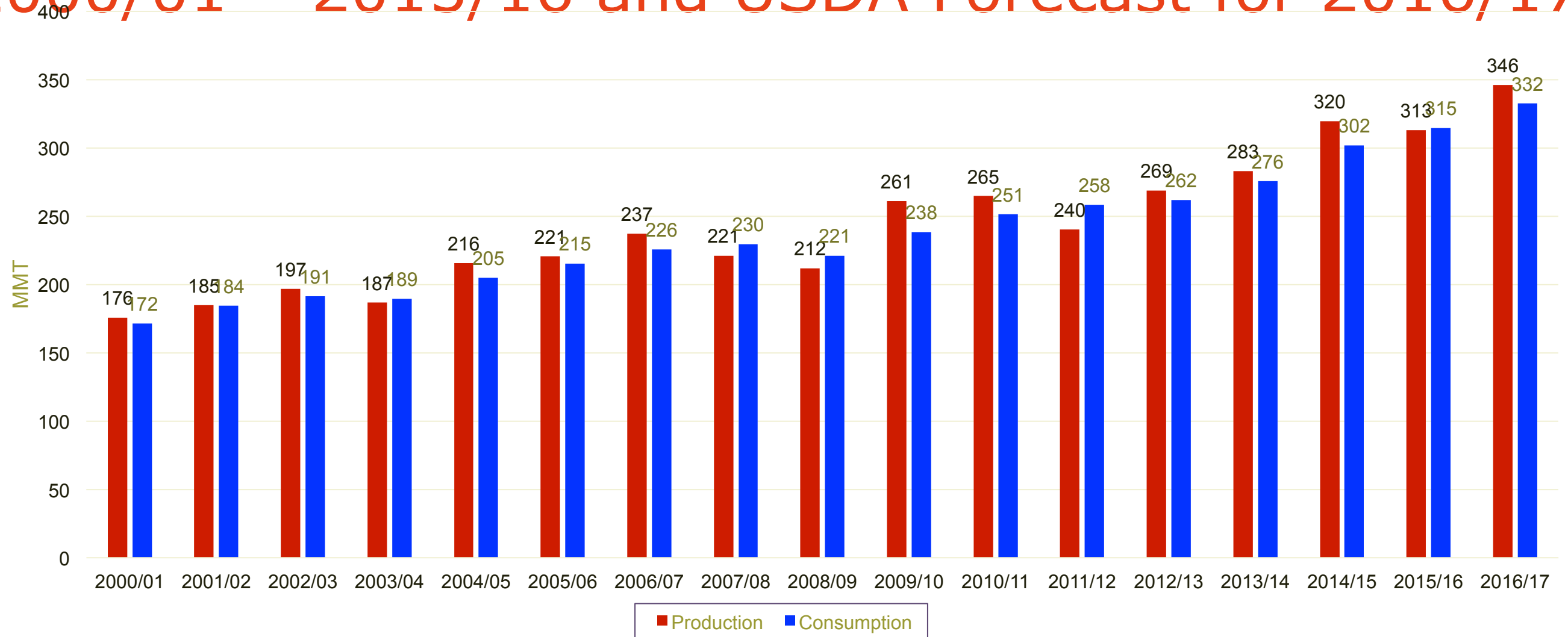


**Global Demand Growth for Corn, Cotton, Soybeans, Rice and Wheat
2000/01 – 2015/16 and USDA Forecast for 2016/17**

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

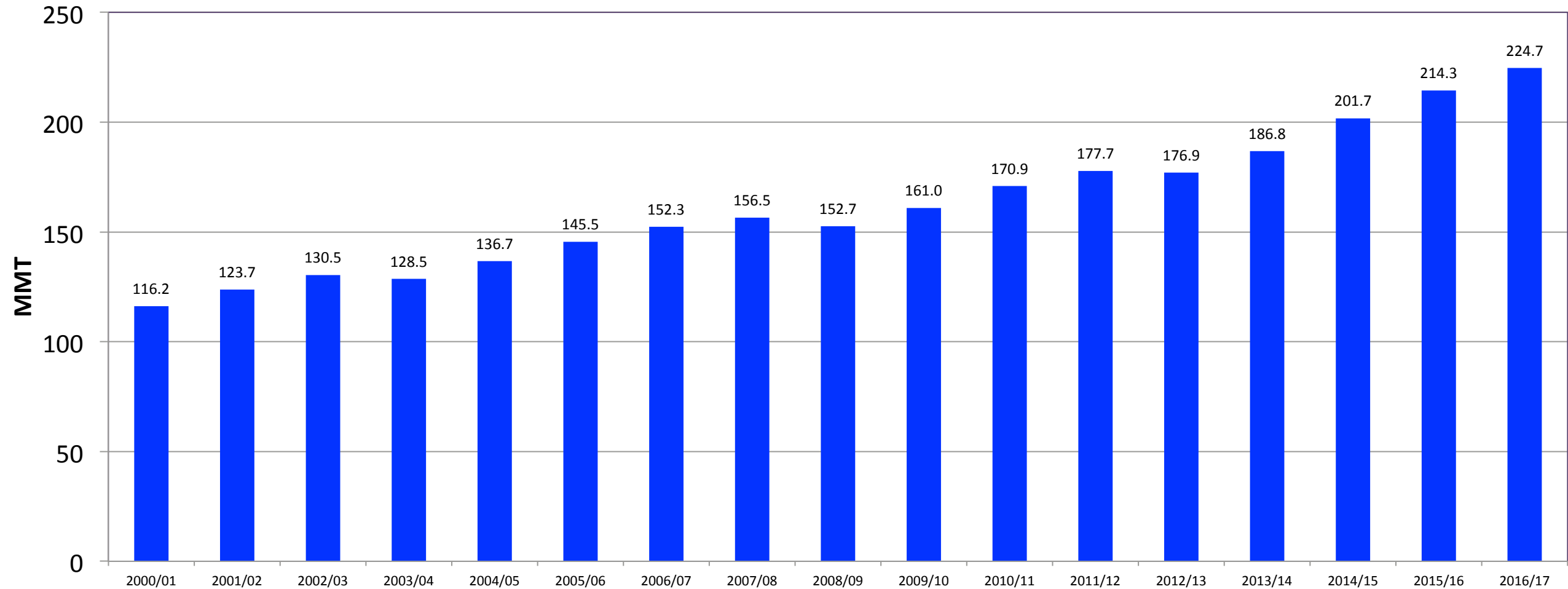


Global Production and Consumption of Soybeans 2000/01 – 2015/16 and USDA Forecast for 2016/17



Global Soymeal Consumption

2000/01 – 2015/16 and USDA Forecast for 2016/17



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

AVERAGE FOOD CONSUMPTION VS 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
Total		24.08

World average requirement is 25.5kg- World average protein consumption is 5.5% less than requirement.

GLOBAL MEAT PRODUCTION & PER CAPITA CONSUMPTION

Global Meat Consumption

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

	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
	43	10.2	13	116

Per capita consumption

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

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
TOTALS	1701 M		40.46	29.5+10.6

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

	May require (MMT)	25 % protein from all sources (MMT)	Protein sources required for feed (MMT)
Milk	265	66.2	0.97MMT soy+8.9 other sources of Protein
Chicken	39	9.75	6.8 soy+3.4 other sources of protein
Egg	81.5	20.37	2.9 soy+8.7 other sources of protein
Pulses	64	16	

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 sources of protein is required**

IF YOU WANT TO PRODUCE 10.6 PROTEIN

Let us try a combination of these 4 main protein sources required for

	May require	25.8%	Protein sources required for
Milk			MMT other
Chicken			MT other
Egg			MT 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

AVERAGE FOOD CONSUMPTION VS PROTEIN AVAILABILITY

World average food consumption, leaves us protein deficient by 5.5%

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 potential for protein production**

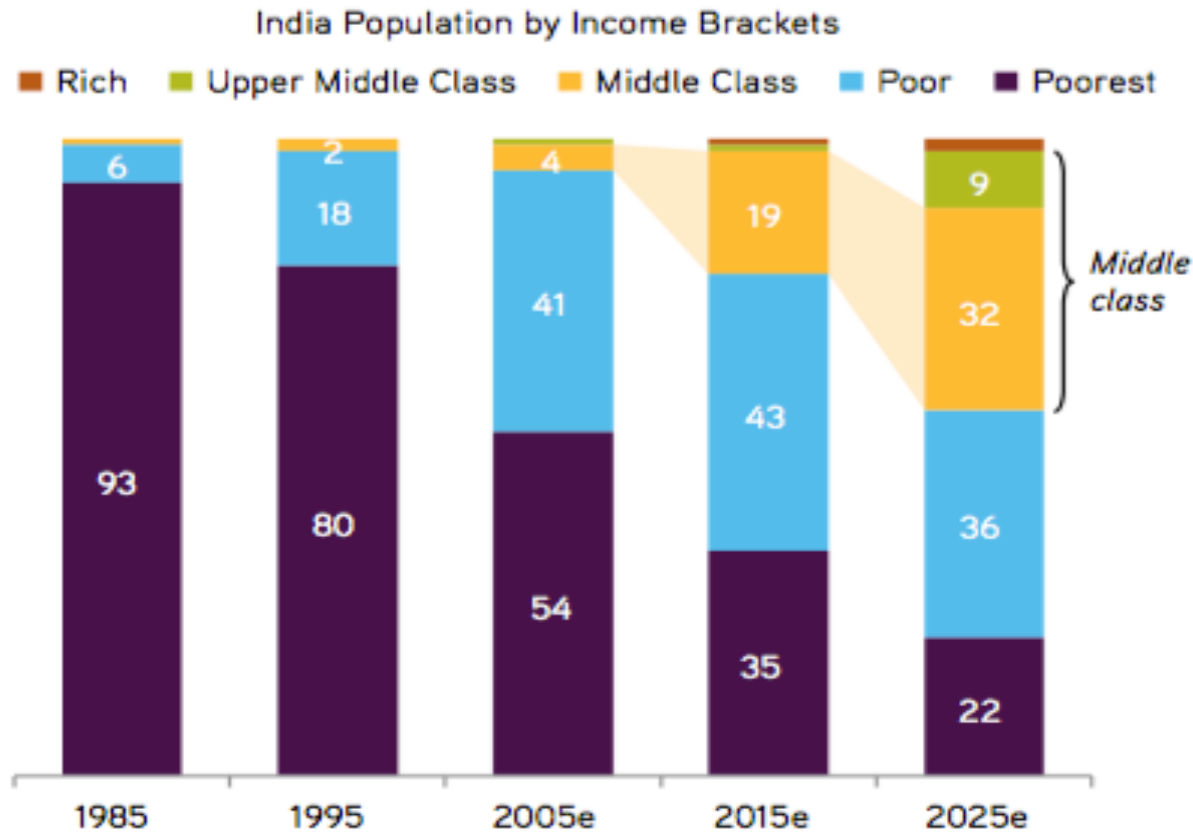
All in Business of protein production, has to

- 1) Produce Protein and work to make it available, wherever needed.
- 2) Educate people about importance of protein

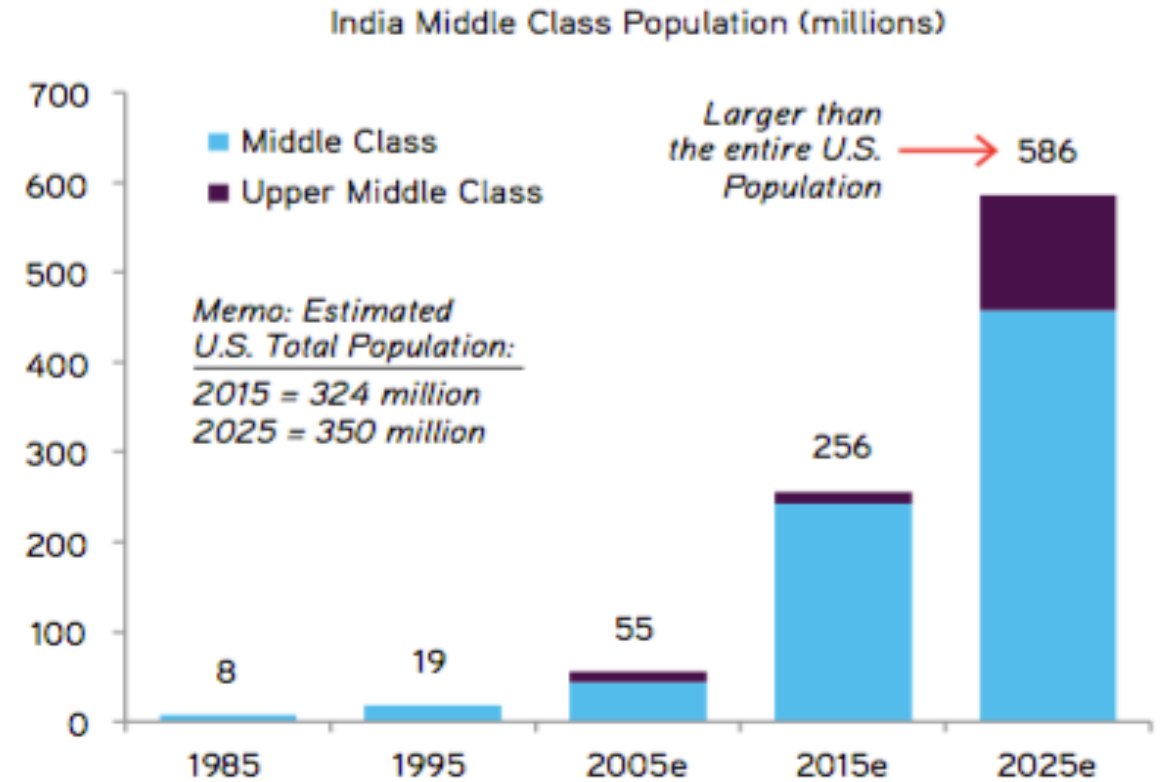
Demand Driver

Middle class population – a driver in India

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



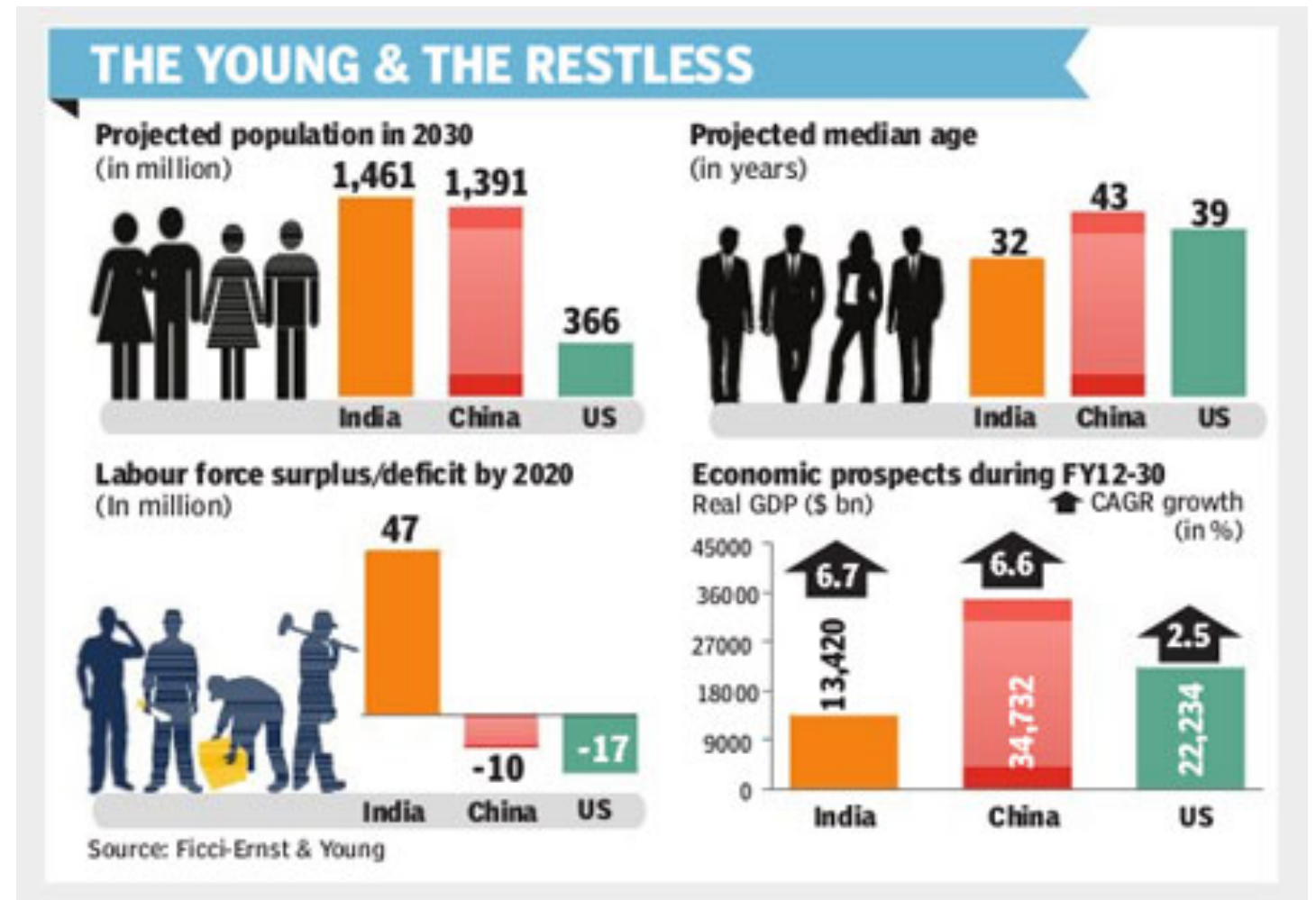
...and in Absolute Numbers, India's Middle Class Population May Soon be Larger Than the Entire U.S. Population



Young Population – 3 ASC countries account for 53%

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

Urbanization in South Asia

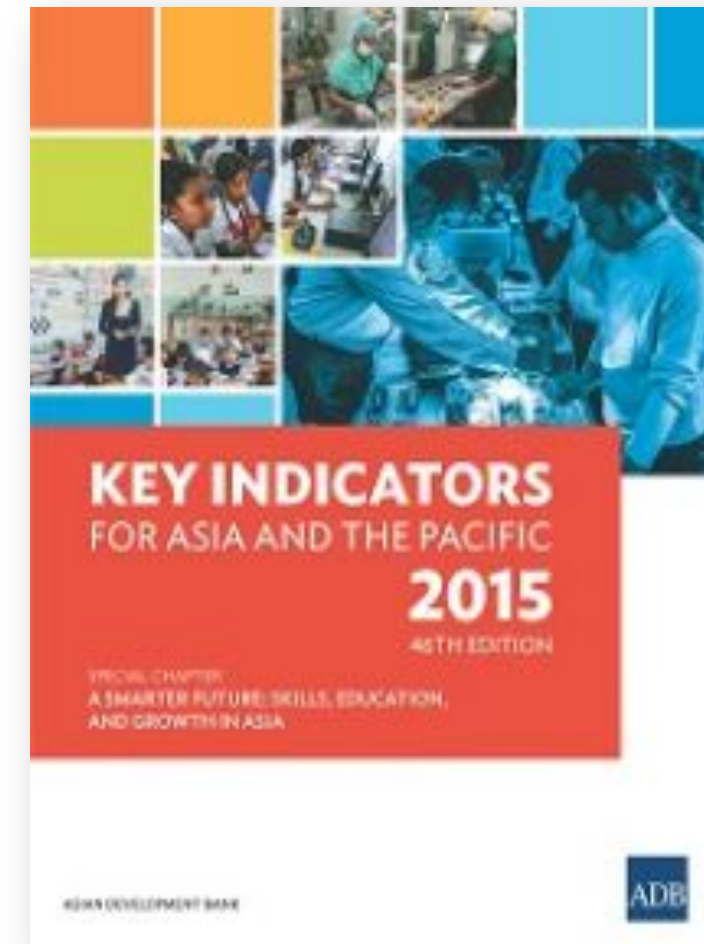
Country	Population (2017)	Percent in Urban locations	Urban count	Rate of Urbanization
Bangladesh	168 M	34.30	59.95 M	3.55%
India	1280 M	32.70	412 M	2.38%
Nepal	28 M	18.60	5.86 M	3.18%
Pakistan	199 M	38.80	77.24 M	2.81%
Sri Lanka	26 M	18.40	4.14 M	0.72%
TOTALS	1701 M	33.27	559.19	



- Rural – Urban migration is rapid so is messy
- However looks positive as this factor helps drive GDP growth
- South Asia needs to develop more cities
- Governments are addressing new initiatives to better manage this significant urbanization in ASC

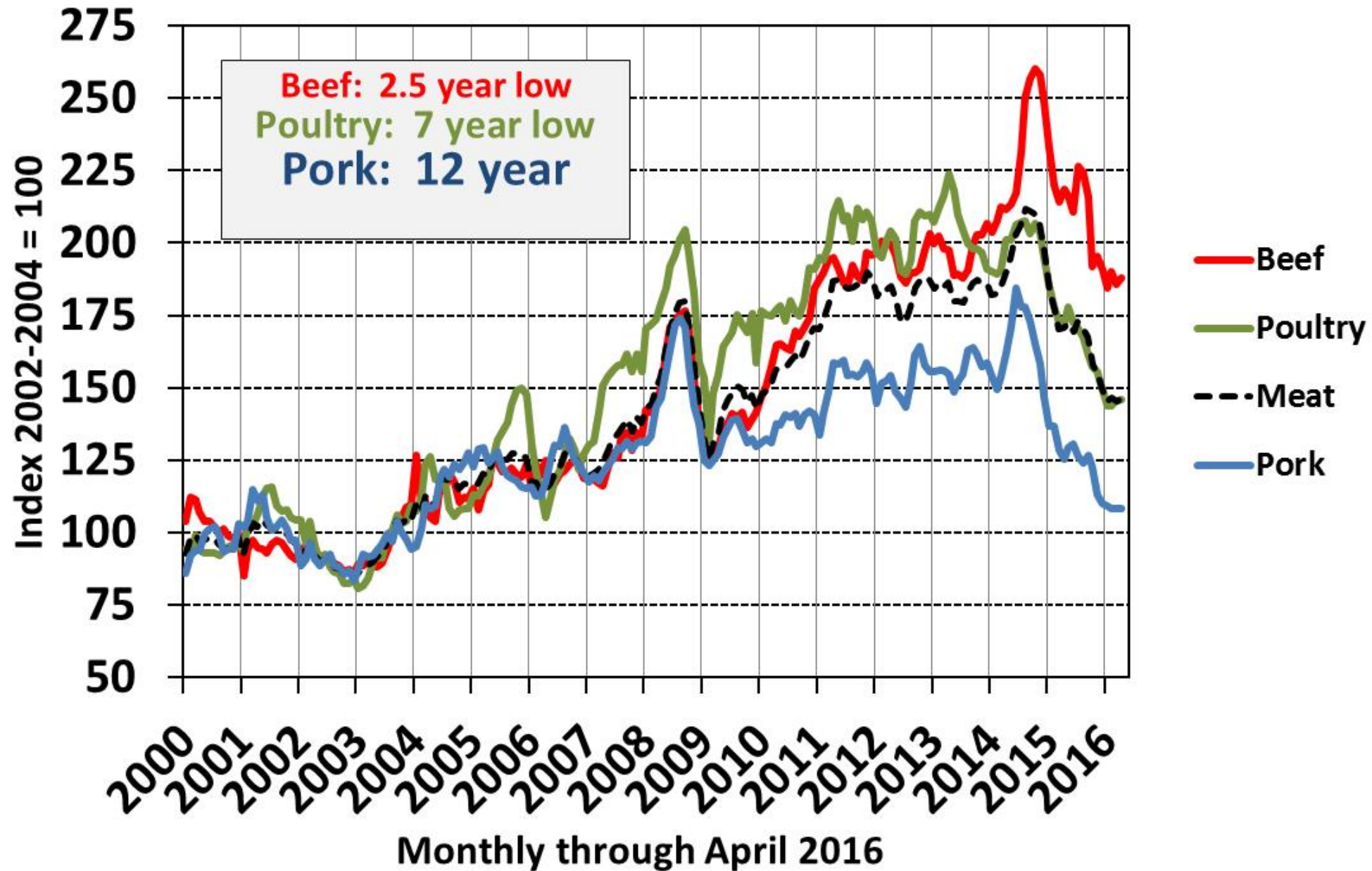
Quality of life – Human development index (HDI) in ASC

Country	Rank in 187 Economies	HDI	Status
Sri Lanka	73	0.750	High HD
India	135	0.586	Medium HD
Bangladesh	142	0.558	Medium HD
Pakistan	146	0.537	Low HD



Asian Development Bank, October 2015

Global Meat Price Indices



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

Soy Dynamics In ASC

ANIMAL FEED INDUSTRY

No of feed mills	tonnage
30090	1032MMT

\$460 Billion Business

3.7% value loss

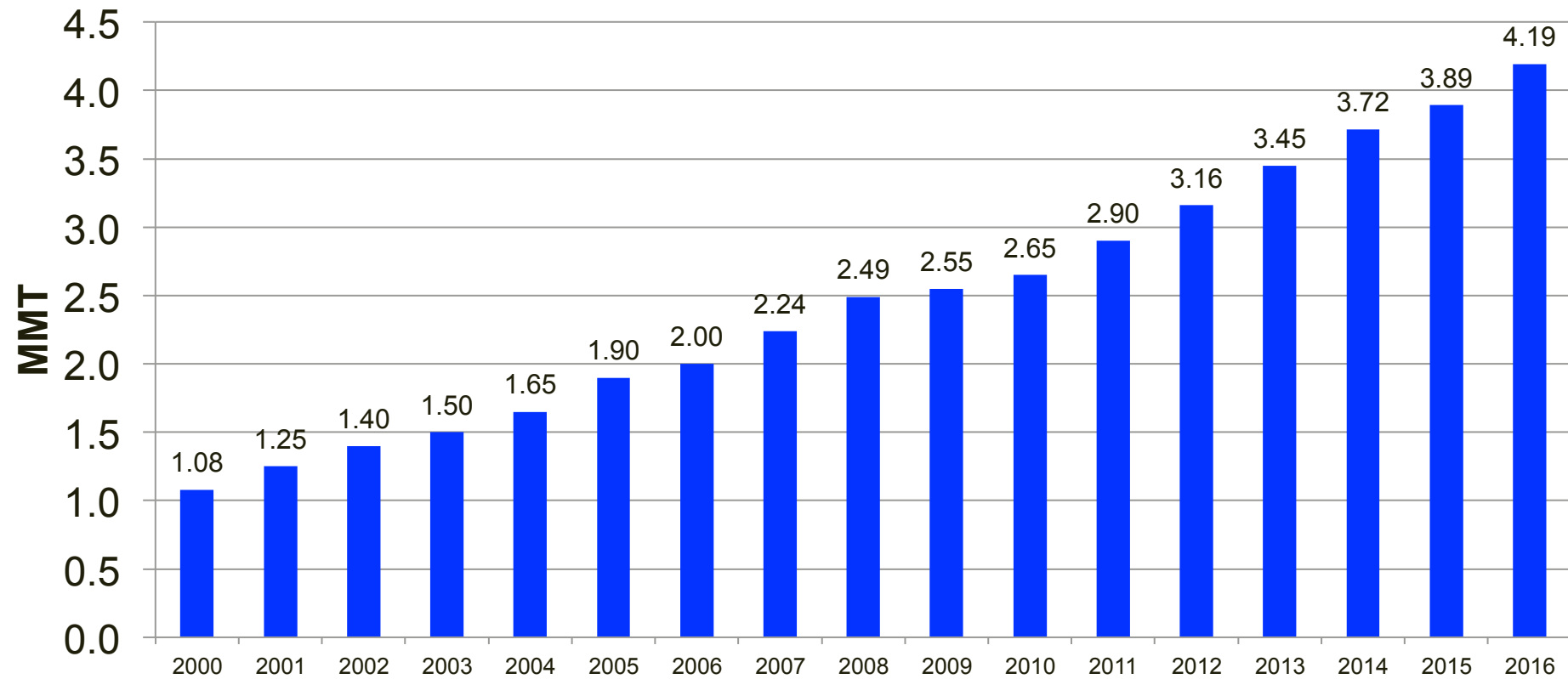
1.6% average growth last 5, years last year 3.7%

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

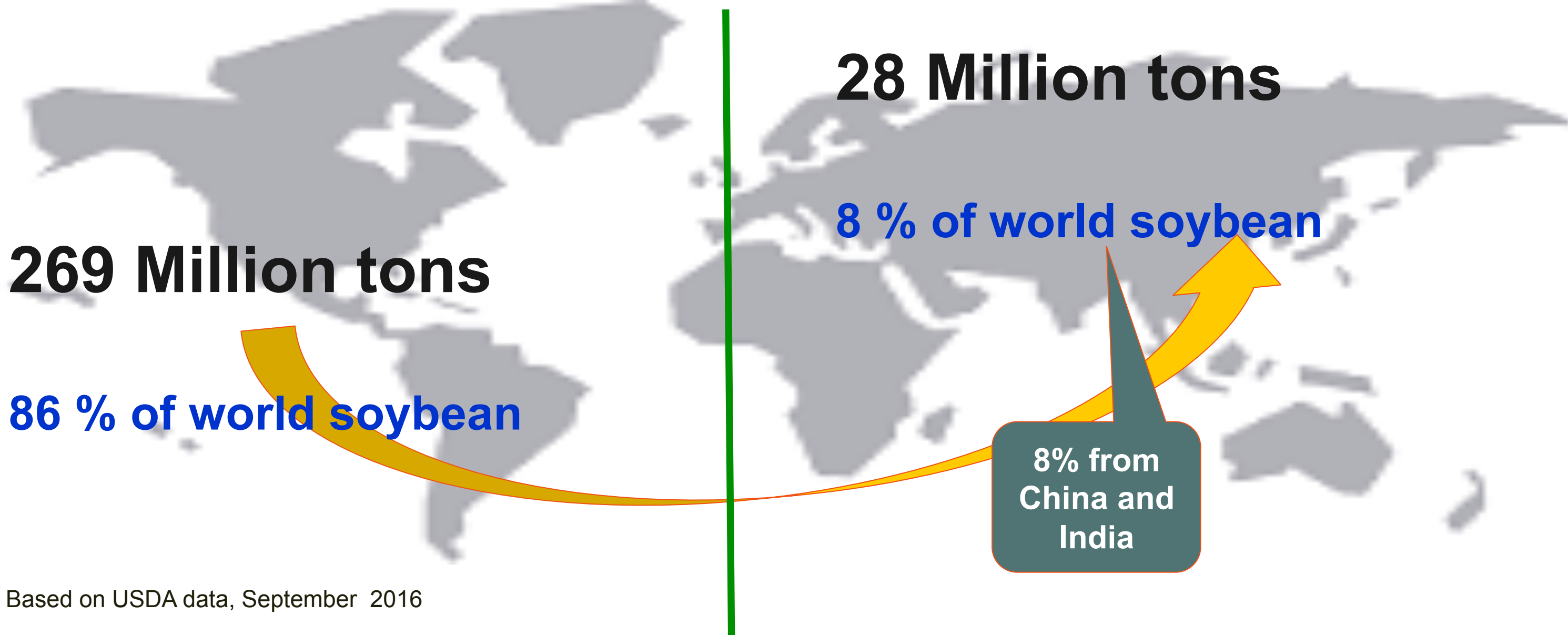
- No 1-Milk
- No 2-Fish
- No 2-Shrimp
- No 3-Egg
- No 4-Chicken
- No 5-Feed

India's Production of Chicken Meat 2000 – 2016

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

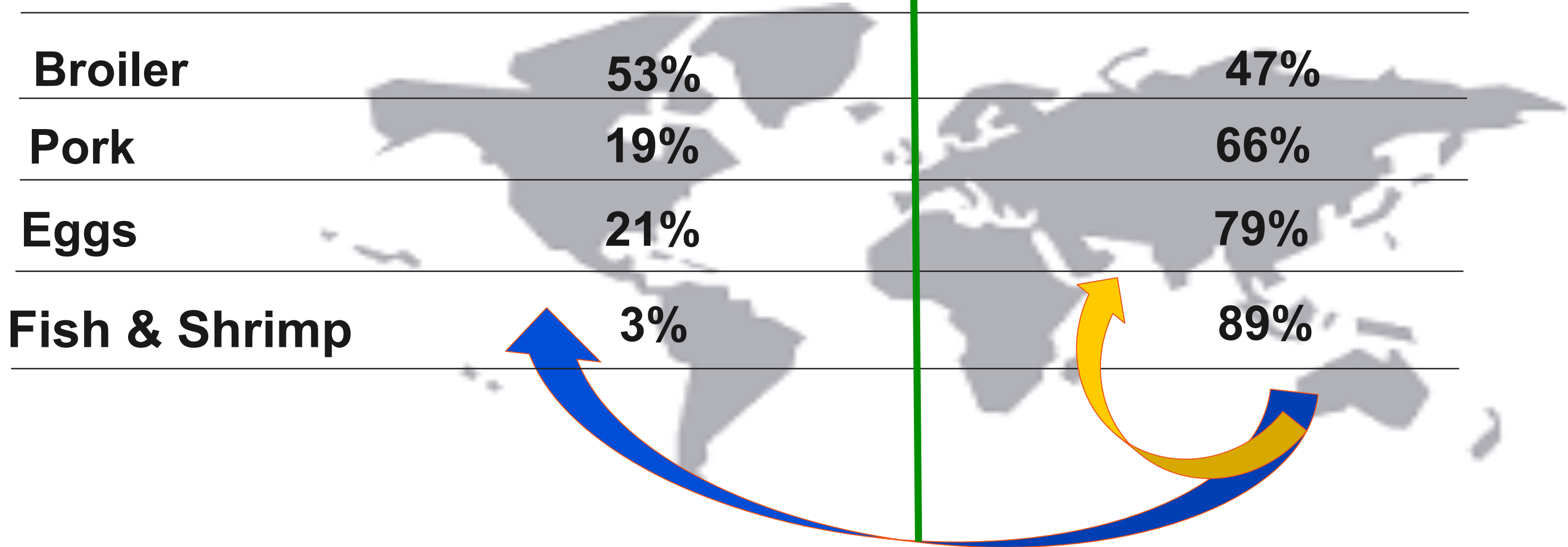


Soybean Production by Hemisphere



Based on USDA data, September 2016

Soy consumption hubs



Rapidly changing meal consumption trend in ASC

	2012-13	2016-19	% Change
World	176.93	224	26.6%
ASC	4.97	8.92	79.4%

Rate of change is about 3.00 times higher

Based on USDA data,

One of USSEC's strategy in ASC is to help increase new feed business

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
TOTAL	274	13.71 MMT	2.90 MMT

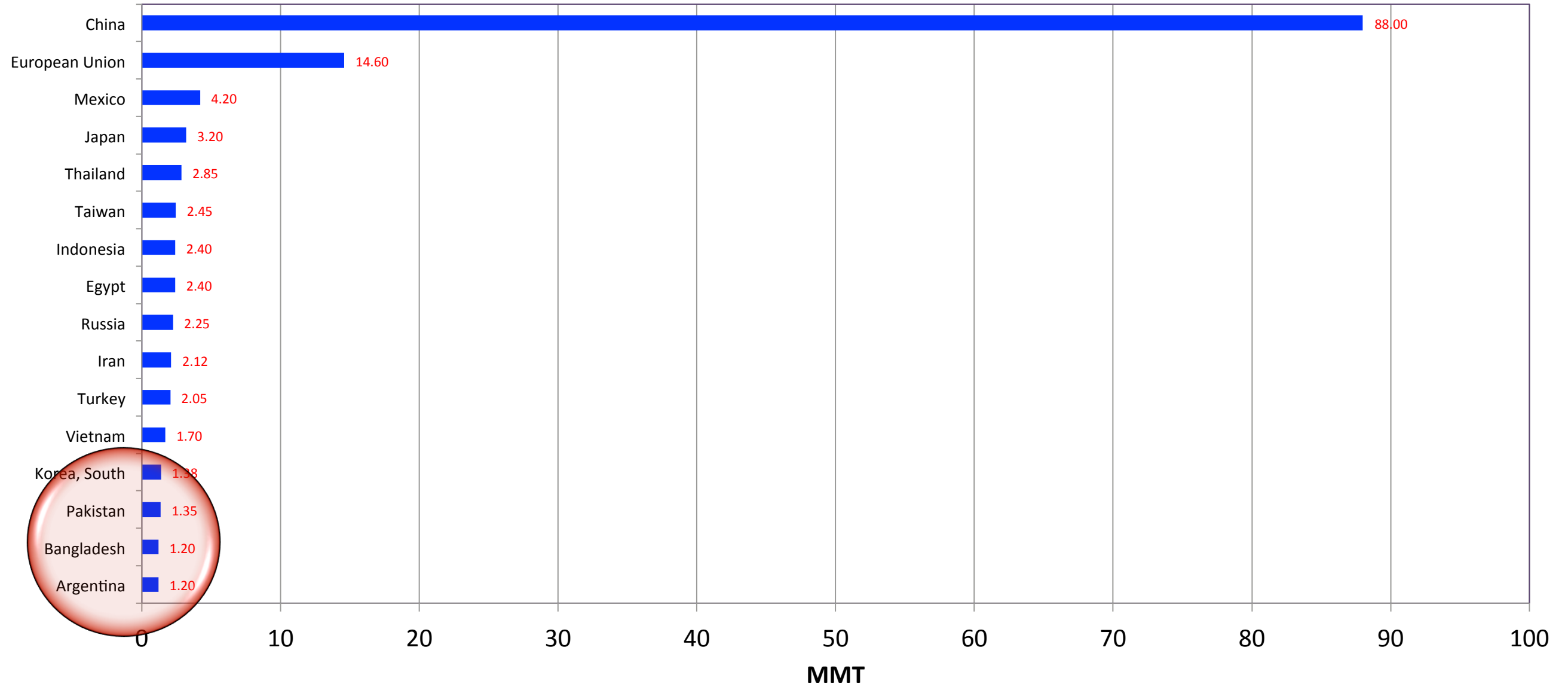
- In the past 8 years, 274 new poultry and aqua businesses have come up in India
- These new ventures have brought in 13.71 MMT of additional feed milling capacities which use 2.90 MMT of additional soy meal
- In Nepal in current year half million ton project is in pipeline.

ASC aqua feed and soybean meal usage

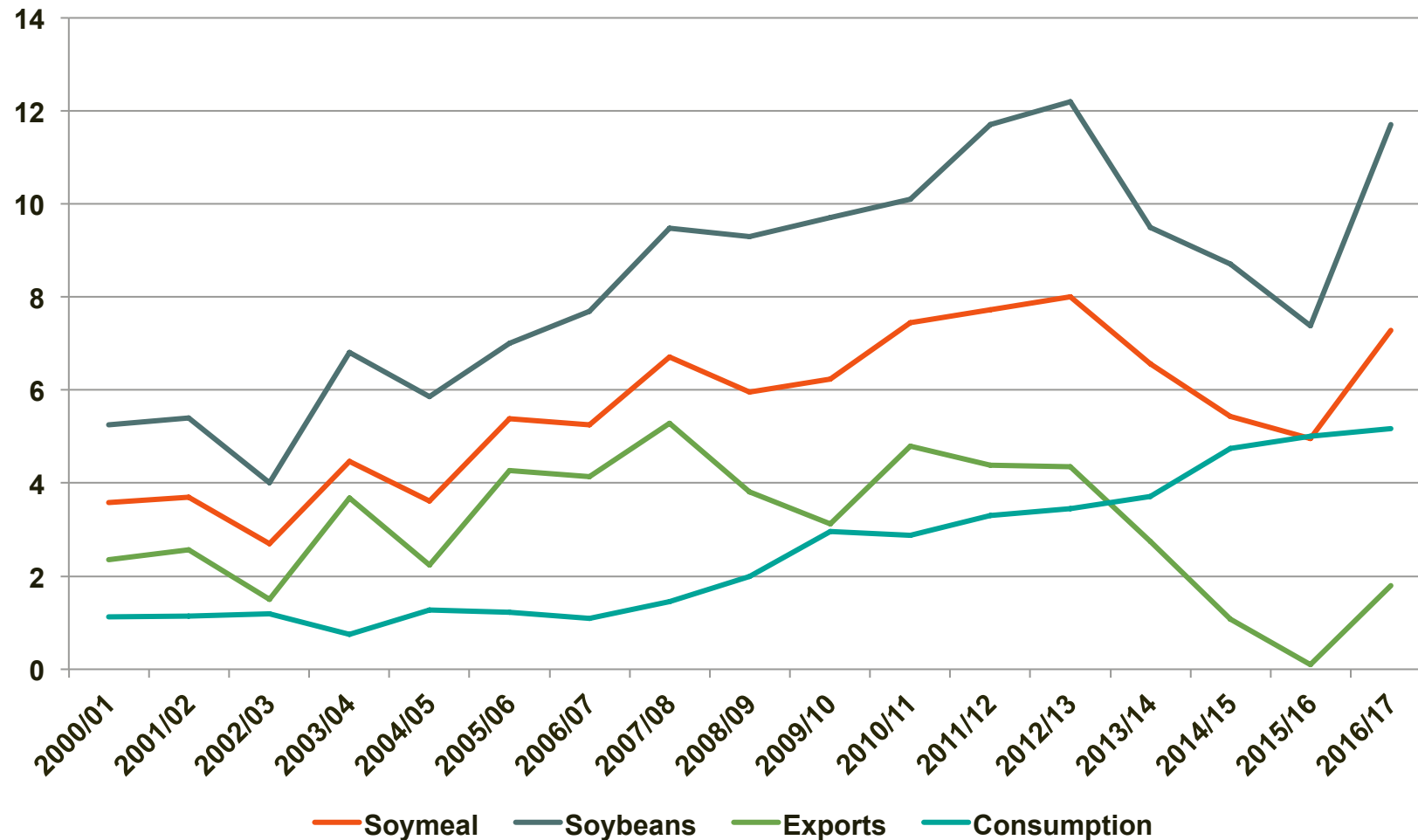
Feed/SBM Use	2015	2017	2020
India Aqua Feed	1.46	2.14	2.80
India SBM use	0.408	0.692	0.913
BG Aqua Feed	1.50	2.33	3.54
BG SBM use	0.270	0.411	0.624
ASC Aqua feed Total	2.96	4.47	6.34
ASC SBM Total	0.678	1.1	1.5



World's Largest Soybean Importers Forecast for 2016/17 Marketing Year

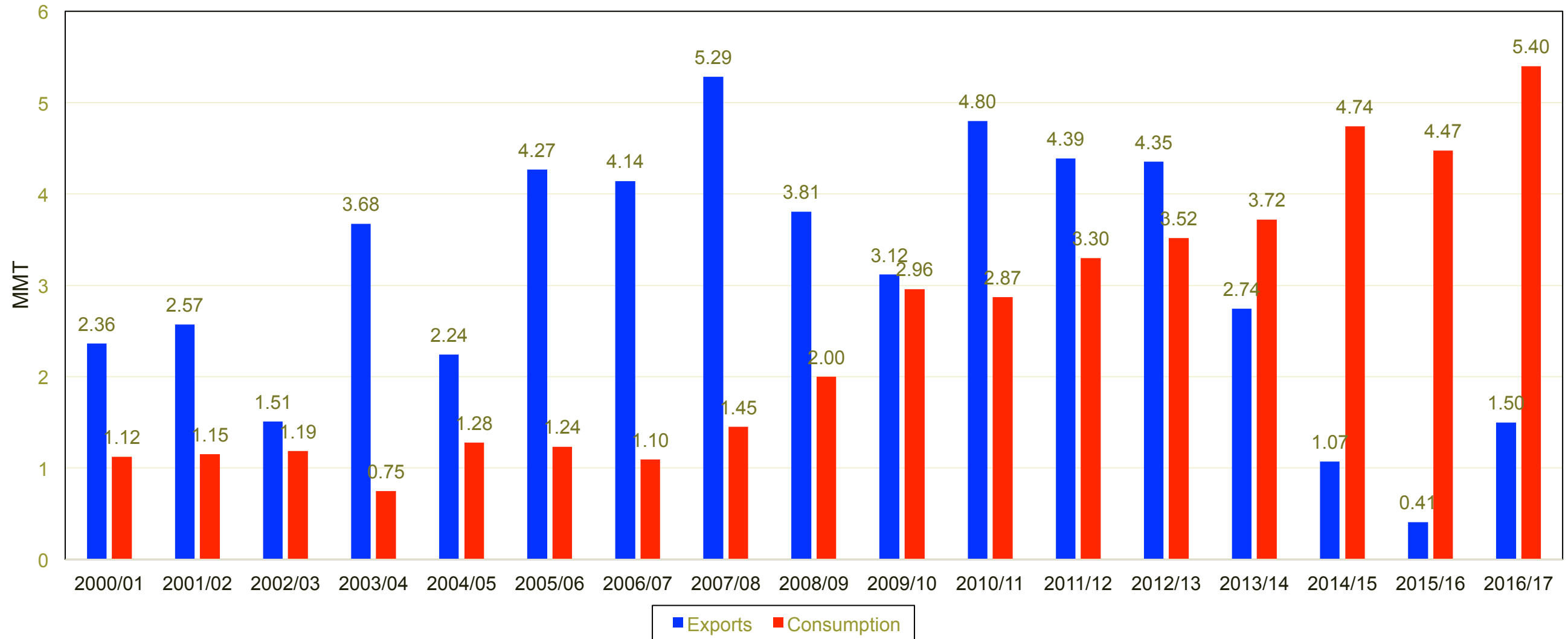


Long term soy trends in India (16/17 years)

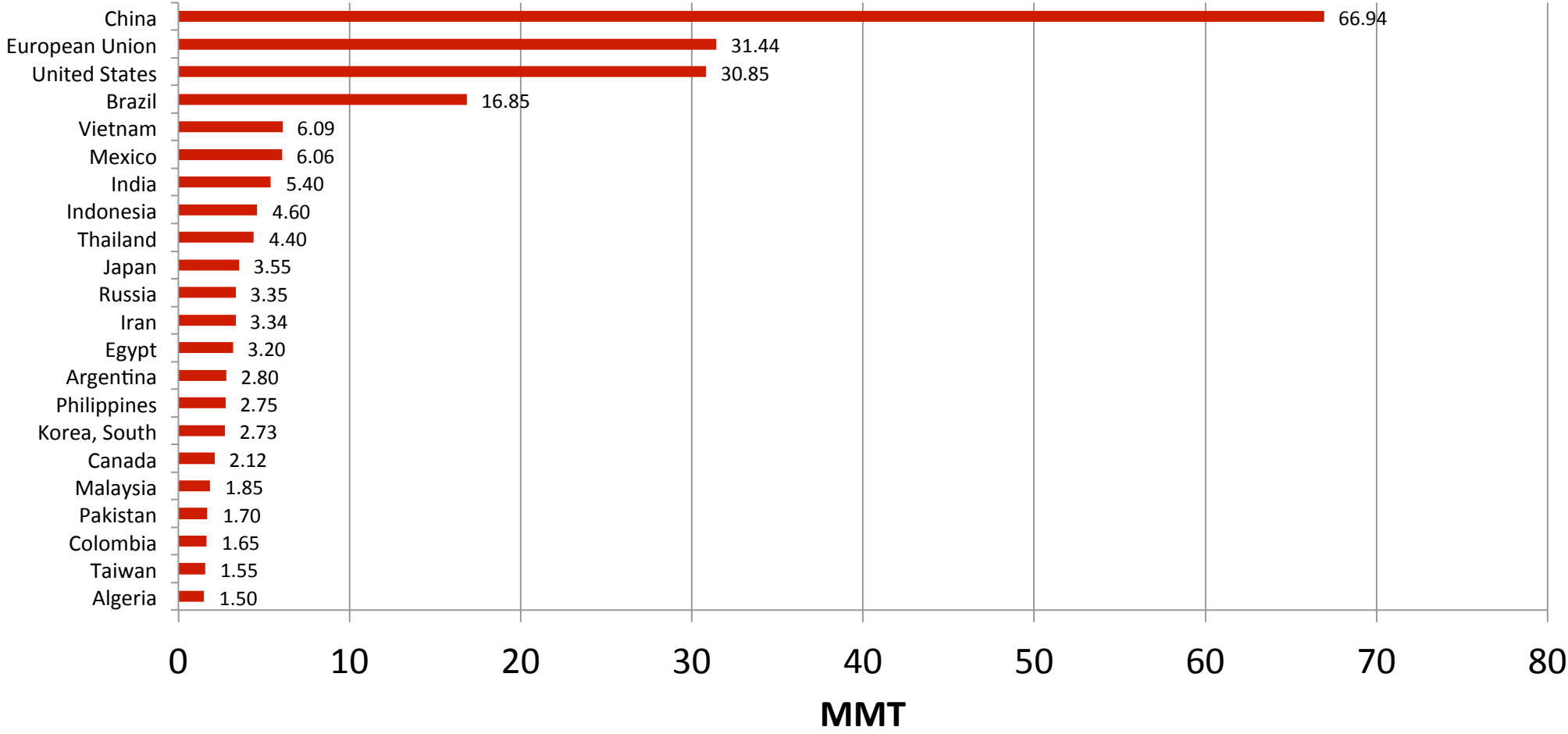


- Average production of soybeans for 16 years was 8.17/8.33 MMT; low of 4 and a peak of 12.2 MMT
- Average production of soy meal for 16 years was 5.52/5.58 MMT with a low of 2.69 and a high of 7.72 MMT
- While domestic consumption grew 3.66/4.00 times in this period, soybean and soy meal production grew only 1.65/2.22 and 1.38/2.00 times respectively

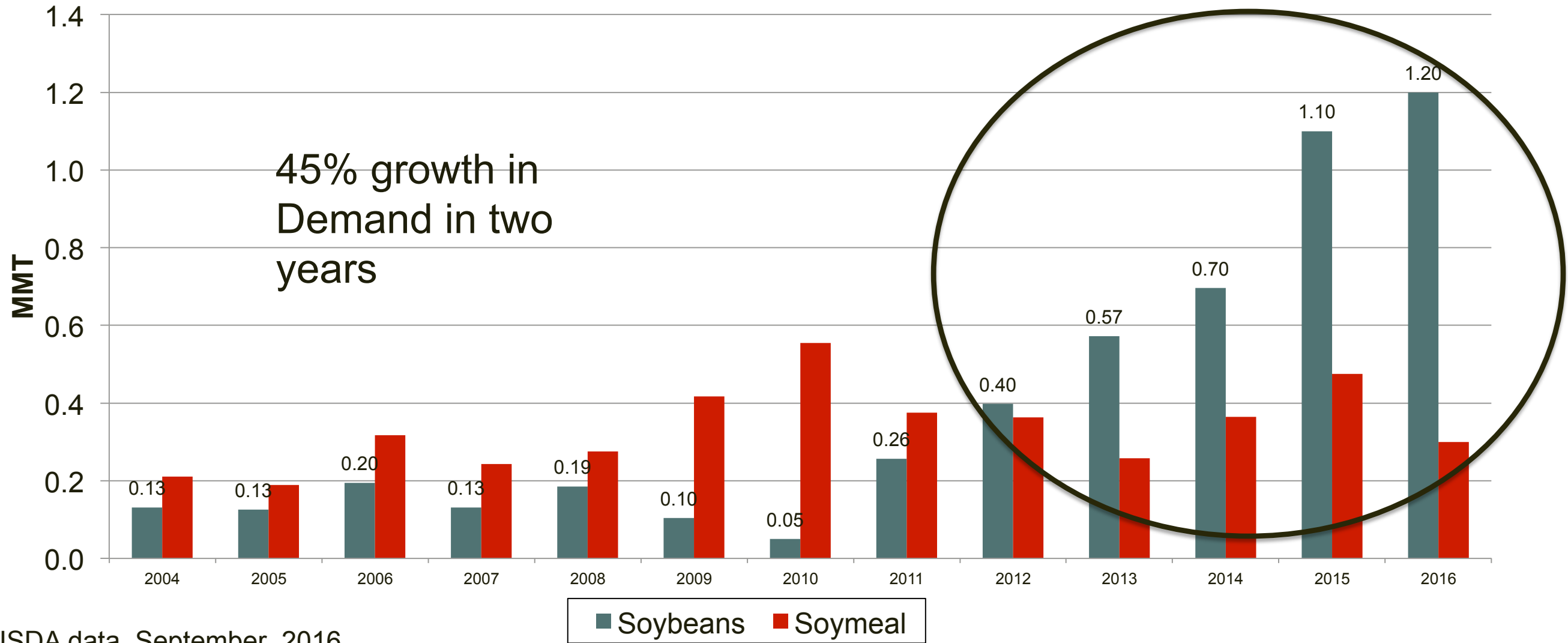
India's Soymeal Exports and Consumption 2000/01 – 2015/16 and USDA Forecast for 2016/17



World's Largest Soymeal Consumers Forecast for 2016/17 Marketing Year

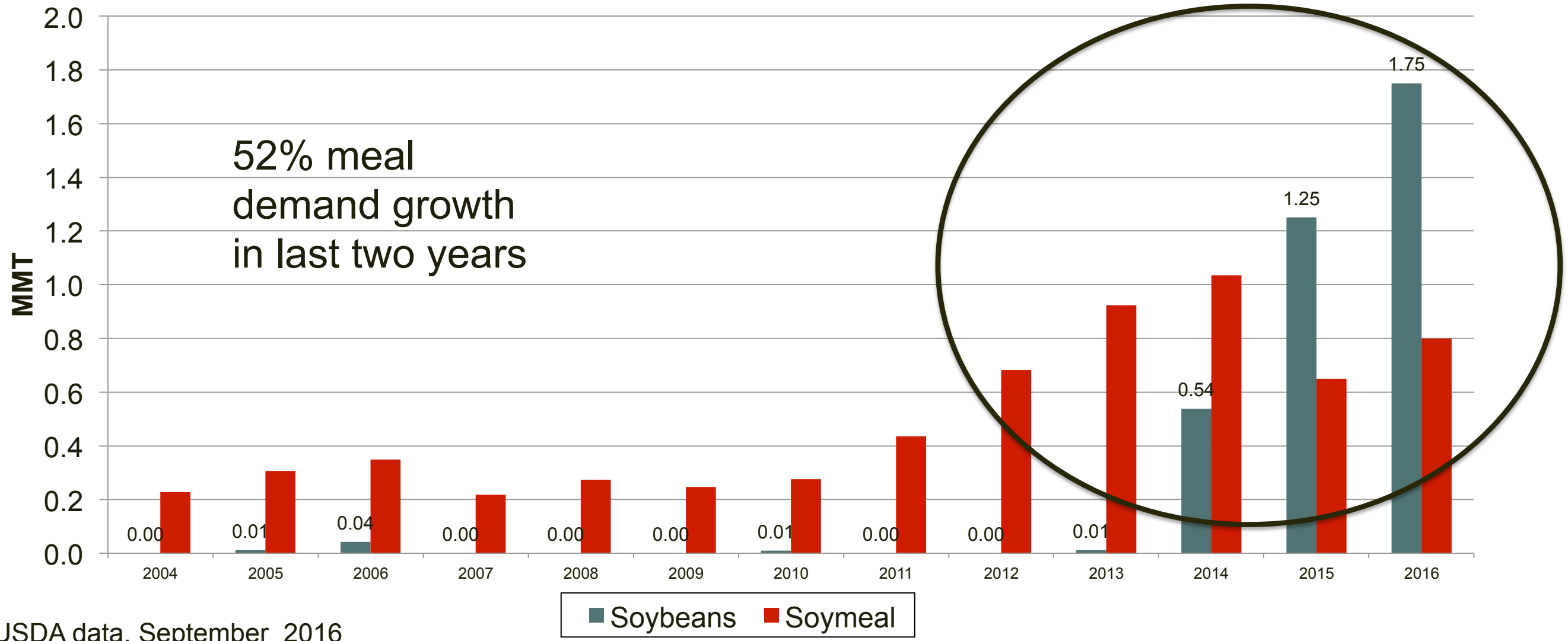


Bangladesh's Imports of Soybeans and Soymeal 2004/15 – 2015/16 and USDA Forecast for 2016/17



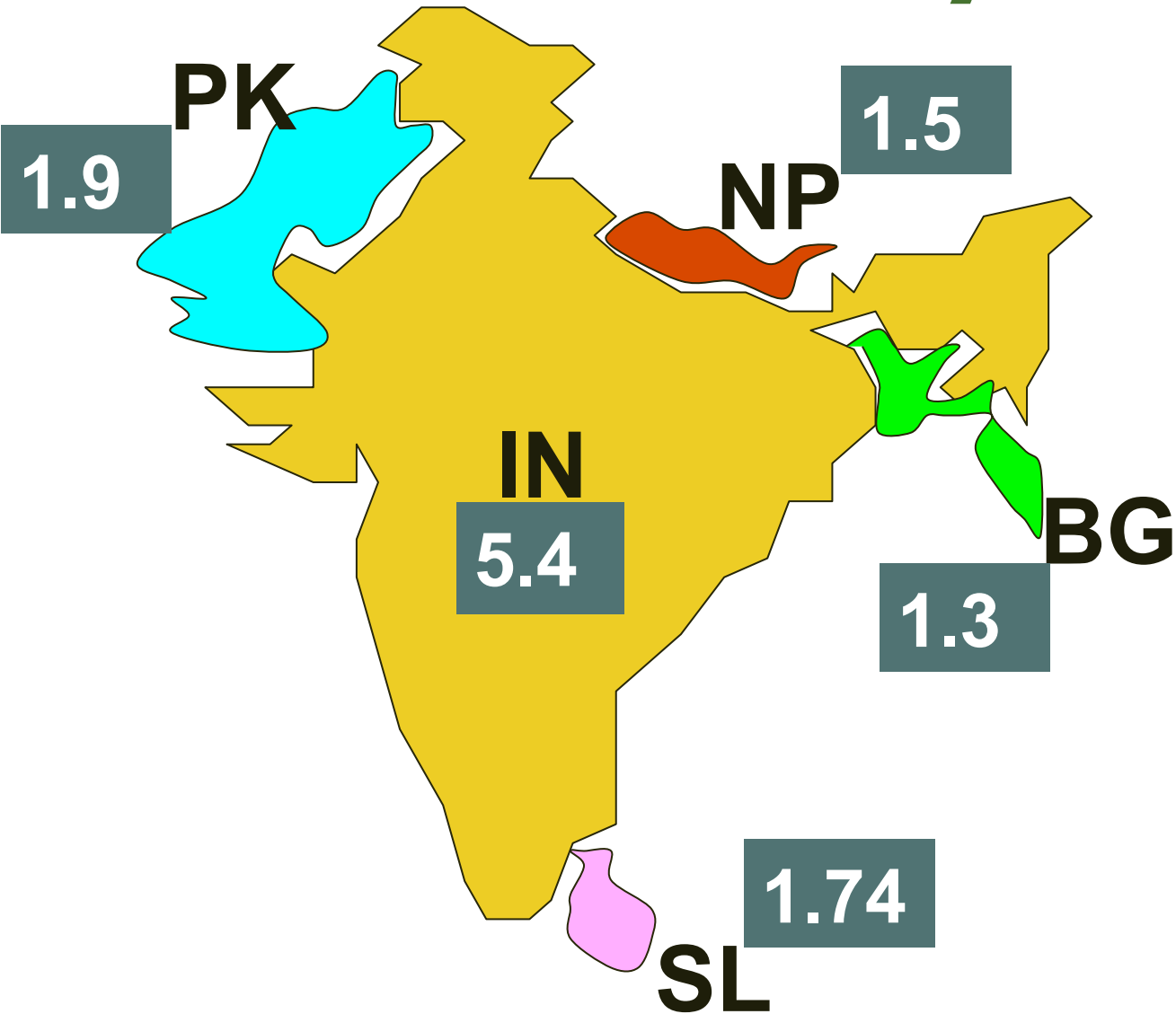
Based on USDA data, September 2016

Pakistan's Imports of Soybeans and Soymeal 2004/15 – 2015/16 and USDA Forecast for 2016/17



Based on USDA data, September 2016

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
TOTALS	4.971	8.92

12/13	16/17
6.05	10.9

12.9MMT Bean

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)
3.95 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 (3.95 MMT)	= 3.95 + 8.92	12.87	15.7+1+1

Soymeal demand in ASC by 2020 – Industry feedback

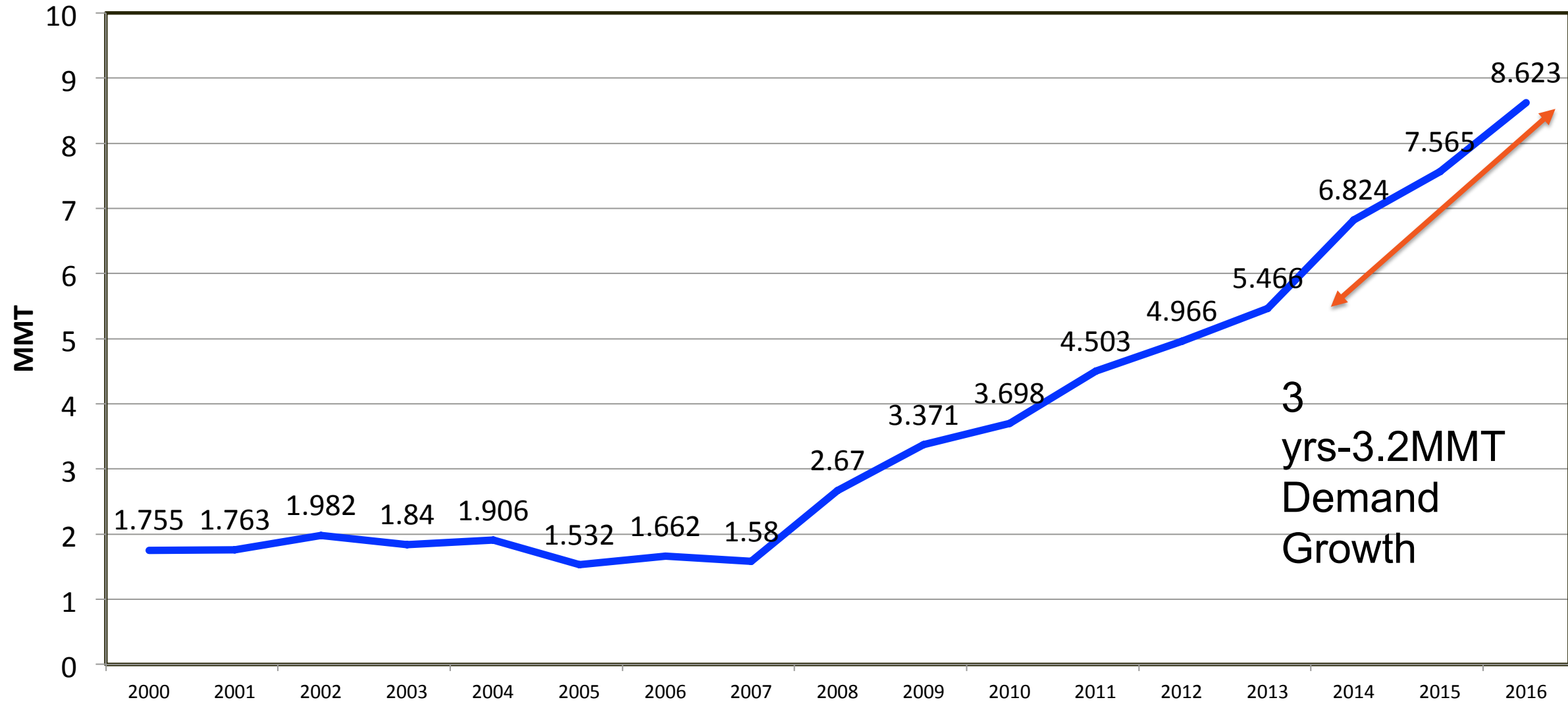
S.No	Demand Sector	Quantity by 2020	Reference
1	Pakistan Poultry	1.420	Industry, WPSA (PK)
2	Pakistan Aquaculture	0.200	USDA, WISHH
3	India Aquaculture	0.913	USSEC
4	India Broiler	3.930	CLFMA
5	India Layer	1.200	CLFMA
6	India poultry breeder	0.453	USSEC
7	Bangladesh Aquaculture	0.624	World Fish, USAID, 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)
	TOTAL	10.66	= 12.80 MMT Soybeans

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	7%	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- close to 20%. 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 crus 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 16% meal from U S Origin is being used in ASC

We are ready to serve you..!!

SOY.ORG

U.S. SOY FOR A GROWING WORLD

Thanks !!

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U.S. SOYBEAN EXPORT COUNCIL

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