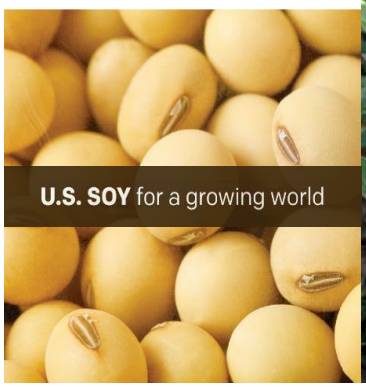


Asia Subcontinent - Market Analysis and some Forecasts

March 2016

ASC region

We operate in 5 ASC countries – India, Bangladesh, Pakistan, Nepal and Sri Lanka

India: Strategy was to reduce exports and competition by increasing internal consumption - This has yielded definite results. Region is now being prepared for opening import gates (next steps).

Other countries: Strategy is direct marketing, taking advantage of rapid growth in demand and demonstrating preference for U.S soy

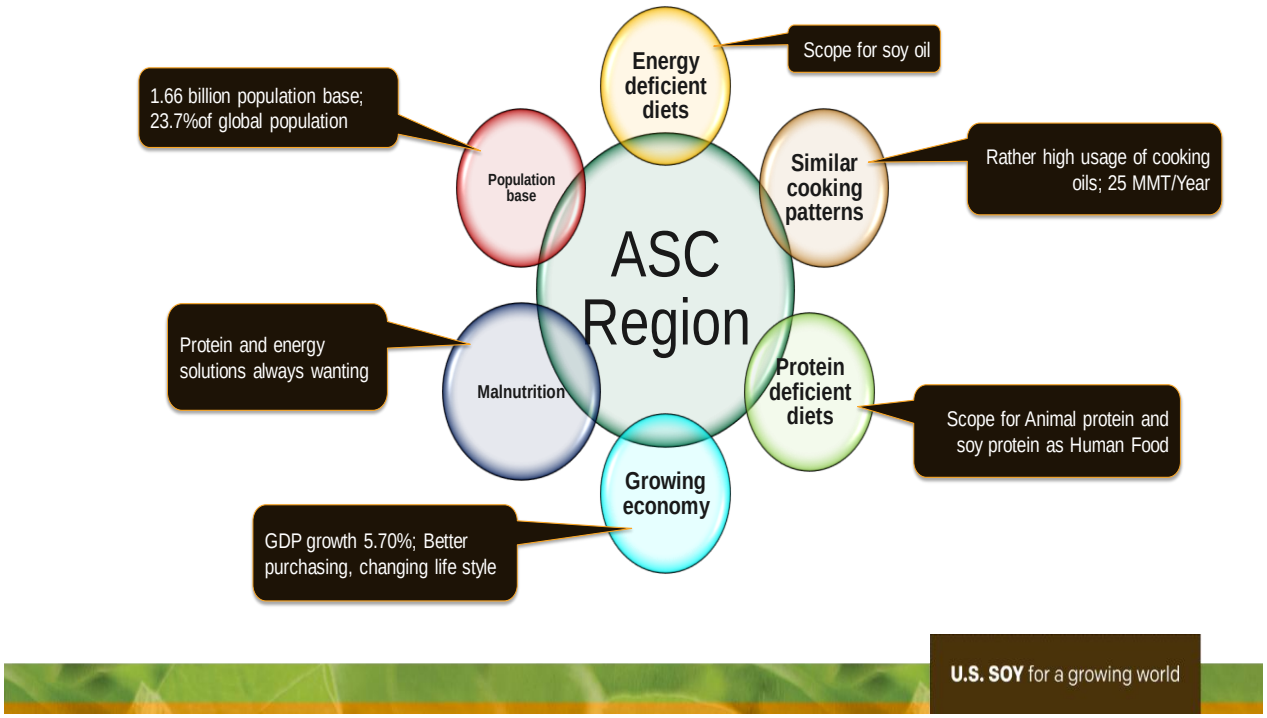
U.S. SOY for a growing world

USSEC has been operating in the ASC region since 1996. Compared to other international marketing regions, the ASC had a unique marketing strategy of building domestic demand for home grown soy to reduce competition by Indian soy entering into markets where U.S soy is marketed. Tactics were designed to bring in Y/Y incremental volume of soy to be consumed in India. This indirect strategy has helped retain most of Indian soy within India for feed and food uses. As a result of this, international markets for U.S soy especially in the Asia region were spared. In addition to this advantage, the strategy has also helped in pulling out Indian soy from its immediate neighbours (Bangladesh, Pakistan, Nepal, Sri Lanka). These new markets have recently opened up for U.S soy.

Recent data from the USDA indicate that India will produce about 5 MMT of meal and will also consume 5 MMT meal in 2016. Marketing strategies for the region have demonstrated some measurable results, justifying returns on investments made by the U.S soy industry. It is also interesting to note how one strategy, upon completion, leads to the next.

In addition to Indian operations which continue to build demand to sustain results that have been achieved, the new strategy that is in place for the past two years is “Direct Marketing” where U.S soy is being marketed in to Bangladesh, Pakistan, Sri Lanka and Nepal.

Demand for protein & energy in ASC



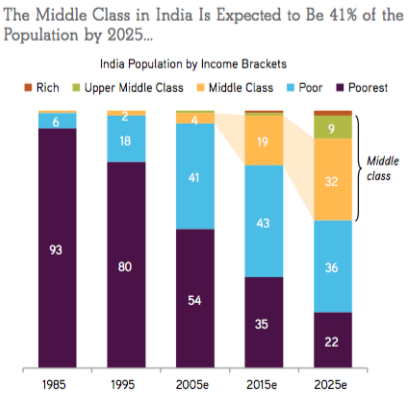
The six bubbles in the graphic denote factors which govern the ASC region in terms of protein and energy requirements. The callouts indicate opportunities or behavioural change that exists or is expected in this region.

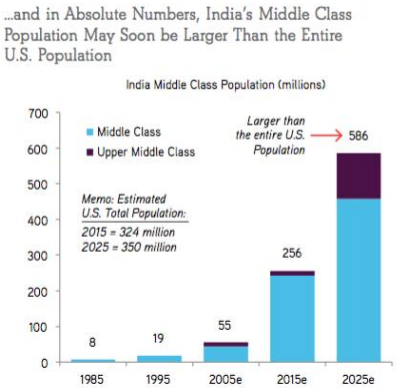
It is usually the Indian population that is often referred to while speaking about number of people but it is also interesting to note that Pakistan and Bangladesh figure on the top ten populous countries in the world. Likewise the GDP of these countries are also fairly impressive, indicating a positive growth phase of the region.

Population Ranks in ASC countries: India 1,251,695,584 (2) Pakistan 199,085,847 (7); Bangladesh 168,957,745 (9) ;Nepal 31,551,305 (42) ;Sri Lanka 22,053,488 (57); Total: 1,673,343,969

GDP by Asia Development Bank: BG: 6.1; PK:4.24; IN:7.3; SL:6.3; NE:4.6 Average for ASC = 5.70%

Middle class population – a driver in India



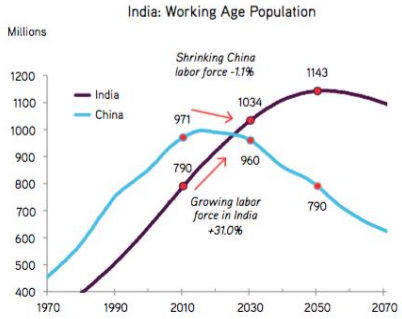


U.S. SOY for a growing world

When it comes to using demography, almost every marketing company makes use of the growing middle class population of India as the main driver for calculations and plans. Reports state that Indian middle class population will be larger than the entire population in the U.S by 2025. Not just in India, but there are similar stories in the rest of ASC countries. In its Global Wealth Report 2015 released on Oct 13, Credit Suisse said Pakistan has the 18th largest middle class worldwide. Bangladesh's population of middle-income and affluent consumers is projected to triple to 34 million by 2025. It is also started that over 90% of Sri Lanka's population above the poverty level.

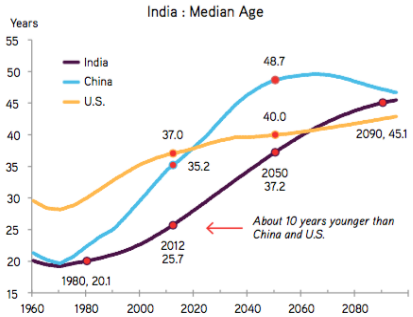
Working age, median age - India

Growth in the Working Age Population Between 2010 and 2030 is Expected to Be 31% Versus -1.1% for China



Data as at September 26, 2012. Source: United Nations World Population Prospects, Haver.

Median Age in India is About 10 Years Less Than the US and China



Data as at May 10, 2011. Source: United Nations World Population Prospects, Haver.

U.S. SOY for a growing world

Like the middle-class population and its positive attributes, yet another strong attribute that is recognized globally is the working age group and the median age of India. With significant growth (31% between 2010 and 2030) in the working age for India, this segment of the population will create more demand for food and other consumer products with increased buying capabilities. The young population is no doubt another strong attribute that India has.

Apple CEO, Tim Cook stated (in The Times of India, January 2016) that “Demographics play a key role in growth of Apple iphones in India. Apple sees more growth is on the horizon, noting the median age in India is just 27”.

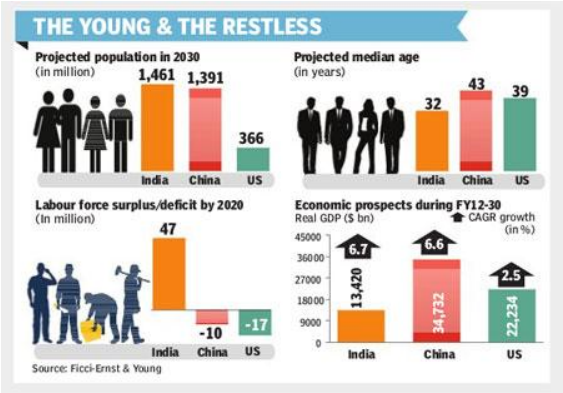
The younger generation is a different cult by itself, demanding convenience products, with a desire for better life style, better nutrition, brands, hygiene, knowledge, better buying power, seeking pleasant shopping experiences, global expectations, desire to travel and learn etc.

The young population figures in other ASC countries too are encouraging with median age in Bangladesh being 24.3, Nepal with 22.9 and Pakistan with 22.6.

India has the worlds largest youth population; three ASC countries account to 53% in top 6

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

U.S. SOY for a growing world

This is just another reiteration of the previous slide. It's interesting to note from the UN Population Fund Report (2014) that three ASC countries appear in the list of top 6 countries that boast of their young population. India demonstrating 356 million, 56 million in Pakistan and 48 million in Bangladesh.

Ernest and Young and FICCI (2013) predicted that the Indian population will touch 1.46 billion by 2030 and India will have a labour surplus of 47% by 2020. The institutions also assessed and stated that economic prospects in the time spread of 2012-2030 are $ 13,420 billion in real GDP terms with a compound average growth rate of 6.7% in the same period.

Urbanization in South Asia

Country	Population (2015)	Percent in Urban locations	Urban count	Rate of Urbanization
Bangladesh	168.95 M	34.30	59.95 M	3.55%
India	1.26 B	32.70	412 M	2.38%
Nepal	31.55 M	18.60	5.86 M	3.18%
Pakistan	199.08 M	38.80	77.24 M	2.81%
Sri Lanka	22.05 M	18.40	4.14 M	0.72%
TOTALS	1.68 B	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
- Government is addressing new initiatives to better manage this significant urbanization in ASC

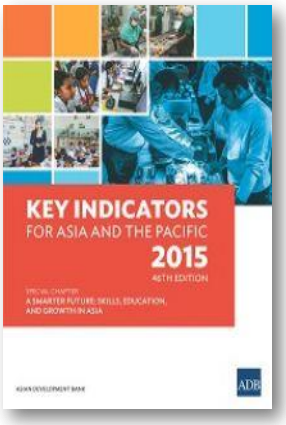
Source: CIA, 2015: World Fact Book

U.S. SOY for a growing world

One can view the ASC population from different approaches and look at opportunities that it might hold. Because of the rather large population base and a growing labour force surplus, the rural – urban migration is very rapid. This is mainly happening as people seek better education and employment opportunities. It is increasing at a pace where the existing infrastructure is not able to catch up with. However the government seem to have taken up this issue and will initiate building more smart cities to accommodate urbanization. About 560 million people (33.27% out of 1.68 billion) in ASC live in cities and this is an impressive figure. It is this segment of the population that drives demand for food and other consumer products.

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

U.S. SOY for a growing world

Quality of life is measured by HDI (Human Development Index). This is calculated by the UNDP for 187 worldwide economies. HDI covers three important aspects of welfare – life expectancy at birth, the average of mean years of schooling and expected years of schooling and per capita gross national income. About half of the regional economies were in the category of medium HD; The 5th populous country, Bangladesh was a new addition to the medium category. The 4th populous country, Pakistan remained in the low HD band and so is Nepal. Interesting to note that one of the ASC countries, Sri Lanka, appears high on HDI. However between the 2002 and 2013, all Asia countries showed progress with HDI. Quality of life has a bearing on how ASC countries will shape up in future. The medium band countries will strive to move up and countries in the lower band will reach out to the medium HDI status. All of this means progress towards better knowledge, education, buying power, desire for better food, higher consumption demand for protein, energy and better nutrition.

Rapidly changing meal consumption trend in ASC

	2011-12	2014-15	% Change
World	177.94	202.57	13.84 %
ASC	4.56	7.16	57.01 %

Change is 4 times higher in ASC v/s World

Based on USDA data, February 2016

U.S. SOY for a growing world

World's soy meal dependence increased by 24.63 million tons between 2011/12 and 2014/15 and the corresponding increment for the Asia Subcontinent is 2.60 million tons. The change percentage for the former is 13.84 % while for the later it is 57.01% indicating that the change is very rapid in the ASC region. The change that is about 4.0 times higher is indicative of increasing demand and rapidly developing industries that need more soy meal as a consistent protein source in the ASC.

Soymeal consumption trends in ASC (TMT)

Country	2011/12	2014/15	2015/16 (E)
Bangladesh	604	894	1,054
Pakistan	435	1,356	2,200
Sri Lanka	144	180	215
Nepal	85	121	150
India	3,300	4,610	5,080
TOTALS	4,568	7,161	8,699

10.60 MMT beans are required to produce this meal quantity

Indian meal production is on decline Y/Y

India's SBM Production

2011/12	12/13	13/14	14/15	15/16	Change
7,720	7,920	6,640	5,600	5,160	- 2,560

USDA , February 2016

U.S. SOY for a growing world

Consumption of soy meal in ASC is continually on the rise and there has been an incremental use of 2.6 MMT in the last four years. However USDA predicts that there will be a steep increase in meal consumption between 2014/15 and 2015/16 indicating usage of 1.53 MMT (Refer Table 1).

On the contrary (Table 2) India's ability to produce soy meal has been decreasing. With the Indian meal production expected at 5.16 MMT in 2015/16, the chances of India catering to 8.69 MMT consumption demand in the ASC seems bleak. To produce 8.69 MMT of meal, the ASC region needs 10.60 MMT of soybeans which are not available.

The negative balance on soy meal between consumption and production translates to 3.53 MMT for which 4,315 TMT additional beans have to be crushed in order to bridge the gap. Because of this negative balance, the ASC countries currently importing U.S soy will further increase their dependency on U.S supplies. This clearly implies that there will be more soybean import opportunities in Bangladesh, Pakistan and Nepal so as to be self sufficient in meal production. Also, the Indian Government will come under pressure and is hopeful of taking positive decisions to meet the country's growing protein demand.

2015/16 baseline + forecast for ASC meal requirement by 2020

Past performance in ASC

Country	2011/12	2015/16 as base	Expected change
Bangladesh	604	1,054	450
Pakistan	435	2,200	1,765
Sri Lanka	144	215	71
Nepal	85	150	35
India	3,300	5,080	1,780
TOTALS		8,699	4,096

Green highlight: Note that rate of change in IN and PK are equal

Estimate for meal and bean by 2020

ASC baseline (change)	Methodology	2017-2020 increment on 2015/16 use	Est. meal consumption by 2020	Corresponding bean requirement
3,276	50% of previous change added to 2015/16 consumption	= 1,638 + 8,699	10,337	12,606
	75%	= 2,457 +8,699	11,156	13,604
	As is (3,276)	= 3,276 +8,699	11,975	14,603

Computed by USSEC using USDA data, February 2016

U.S. SOY for a growing world

Using "Change" in ASC soy meal consumption in the past performance (2011/12 to 2015/16) a mathematical model has been constructed to estimate meal demand by 2020. The baseline change for 2016/17 to 2019/2020 is taken as 3.27 MMT (prorated from 4.09 MMT which is for a five year time span). Assuming different market situations, only 50%, 75% and 100% of the baseline change (3.27 MMT) has been added to 8.69 MMT which would be the past soy meal volume used in ASC. Soy meal utilization of 10 to 12 MMT is evident from this analysis. The corresponding soybean requirement is 12-15 MMT.

USDA's forecast for soybean production in India is 8 MMT for 2015/16. It is unlikely that India will produce an additional 4.5-5.6 MMT soybeans between 2016 and 2020 to meet the 12-15 MMT bean requirements in ASC. It is obvious that ASC has to heavily depend on imports for bean, meal, oil.

Soymeal demand in ASC by 2020

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

U.S. SOY for a growing world

USSEC used different regional industry references from ASC to derive base line soy meal utilization in 2014/15. Based on this, the current industry growth rates for different demand sectors has been applied to arrive at total quantity of feed required. A typical soy inclusion percentage has been used to derive soy meal utilization in feeds. This analysis estimates that 10.66 MMT of soy meal will be required by 2020. Corresponding soybeans required to produce this meal will be 12.80 MMT. Interestingly this approach yields similar estimates derived from that of the previous methodology (using past change to predict future requirements) and serves as a tool to cross check findings.

Growth in ASC animal feed; corresponding meal requirement by 2020

Country	* 2015 Feed Production (MMT)	Rank	ASC feed Growth	2016	2017	2918	2019	2020
India	29.43	5	9%	32.07	34.95	38.09	41.51	45.24
Pakistan	6.20	30	9%	6.75	7.35	8.01	8.73	9.51
Bangladesh	3.05	48	7%	3.26	3.48	3.72	3.98	4.25
Sri Lanka	0.77	74	5%	0.80	0.84	0.88	0.92	0.96
Nepal	0.75	76	6%	0.79	0.83	0.88	0.93	0.98
TOTALS	40.20			44.57	47.45	51.58	56.07	60.94
SBM@18%				8.02	8.54	9.28	10.09	10.96
SBM@20%				8.91	9.49	10.31	11.21	12.18
							@ 25%	15.23
							@ 28%	17.06

•Alltech Feed Survey 2015 used as baseline for computation
•Note: The 10.96 tallies with 10.66 MMT in the previous slide
•Working to increase animal feed inclusions by just 2% creates an additional opportunity of 1 MMT, based on data above; also bringing in new businesses means more feed and soy

U.S. SOY for a growing world

To test confidence limits and to further cross check findings, this methodology uses Alletch's Global Feed survey to assess soy meal requirements in the ASC by 2020. Conservative industry growth rates have been applied to the 2015 baseline, animal feed production data of ASC countries to arrive at yearly animal feed totals (2016-2020). Two different conservative soy meal inclusion rates @ 18 and 20% have been applied to derive 10.96 and 12.18 MMT of meal requirement by 2020. The three approach methodologies (past performance/change; direct industry references; Alltech's global feed survey) used to estimate soy meal requirement by 2020 have shown similar results. More opportunities are evident (see bottom of the table) at 25 and 28% soy meal inclusion rates which will demand 15.23 and 17 MMT of soy meal respectively by 2020 for ASC region.

It is also evident from this table that working to increase soy meal inclusion levels by 2% can yield an incremental volume of 1 MMT in the ASC region. Opportunities exist for soy meal inclusions up to 25-30% in broiler and aquaculture rations. USSEC has been using this strategy to either increase or sustain soy inclusion levels. Another interesting approach used in India is to help grow new businesses that will bring in additional soy meal usage.

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**

India source: Forecasted by USSEC, program is closely managed by USSEC

Bangladesh source: Computed by USSEC from World Fish, CGIAR, USAID 2013

U.S. SOY for a growing world

One of the target soy meal utilization areas in the ASC region is aquaculture. India is the second largest aquaculture producer in the world and Bangladesh stands 5th. India is also the largest shrimp exporter from Asia. The shrimp sector in India is growing at 15% per annum. USSEC has been instrumental in establishing feed-based technology in this region with a view to create an additional soy use avenue. Prior to USSEC's interventions, the region largely used nutritionally poor, mash feeds combined with animal manure which is not a sustainable practice.

Commercially produced, scientific aqua feed in the region accounted for 2.96 MMT in 2015 and total soy meal usage has been estimated to be 678 TMT. With rapid growth in aquaculture industries (fish and shrimp) the region is likely to mill 6.34 MMT of feed which will require 1.5 MMT of soy meal.

Note: These estimates have been included in discussions made earlier on soy meal analysis. Aquaculture as a sector has been separated to show its contribution to soy utilization in the region.

Soy oil consumption trends in ASC by 2020

Past performance in ASC

Country	2011/12	2015/16 (E)
India	2750	4800
Bangladesh	465	705
Pakistan	44	360
TOTAL	3259	5865

About 14.47 MMT of soybeans from all sources would have been crushed to meet the change of + 2606 between 2011/12 and 2015/16 (E)

Estimate for oil and bean by 2020

Change in past 5 years	Increment @	Consumption increment by 2020	Usage by 2020 after increment	Bean required by 2020
+2606	50% of change	1303 (+ 5865)	7168	40-43 MMT
	75% of change	1954 (+ 5865)	7819	

Focus on U.S soybeans for ASC helps bring in meal and oil into the region; good to try and cash on increased crushing interests in the region; note estimate indicates 2-3 times higher bean requirement to meet oil demand

Based on USDA, February 2016

U.S. SOY for a growing world

We have so far seen discussions on soy meal utilization in the ASC region and have dealt with approach methodologies and forecasts by 2020. Akin to soy meal, soy oil is yet another important soy commodity that is of importance to this region. Both protein and energy components are wanting in the region and form important drivers for soy utilization.

The major users of soy oil in the region is India but Bangladesh and Pakistan put together also account for a one million ton of soy oil usage.

From past performance, the five year time span (2011/12 to 2015/16) indicated an incremental usage of 2.60 MMT of soy oil for the three countries. About 14.47 MMT of whole soybeans would have been crushed outside the region with crude oil imported or crushed within the region through soybean imports.

As forecast for 2020, soy oil consumption change in the past five years (2.60 MMT) is added at different conservative proportions (@ 50% and 75% volume) to current utilization which is 5.86 MMT. The computation shows soy oil utilization of 7-7.8 MMT by 2020. Translating this to whole bean requirements, the region would need 40-43 MMT of soybeans to produce this quantity of oil. With India being able to produce only 10 MMT of soybeans for the past 4 years, the scope for import of soybeans to produce both oil and meal within the region is very high. This is an explanation for recent imports of soybeans into Bangladesh and Pakistan. With a projected requirement of 40-43 MMT of soybeans to meet ASC oil demand, the share of U.S soybeans is bound to increase.

Total Veg. Oil imports into India (2010-15)

	Refined	Crude								
Year	RBD Palmolein	Crude Palm oil	Crude Olein	Sunflower	Soybean oil	Canola/ Rape	Coconut oil	Palm Kernel	Safflower oil	TOTAL
2009-10	1,213,409	5,169,445	4,428	630,005	1,666,492	13,950	4,198	111,973	-	**8,813,900**
2010-11	1,081,686	5,374,333	6,501	803,593	1,006,691	11,122	2,967	84,566	-	**8,371,459**
2011-12	1,577,356	5,993,665	500	1,134,881	1,079,004	90,758	1,999	97,903	5,400	**9,981,466**
2012-13	2,223,265	5,889,178	500	973,126	1,091,311	12,943	3,999	179,490	10,927	**10,384,739**
2013-14	1,576,354	6,252,788	-	1,509,250	1,951,233	199,891	-	128,818	-	**11,618,334**
2014-15**	1,098,920	5,604,196	-	1,258,316	1,853,580	262,011	-	123,778	-	**10,200,801**

Source: Solvent Extractors Association of India
** up to July 2015

- India imported a record of **14.61 MMT** edible oil in 2014-15
- Palm comprises 70%
- **2.98 MMT of soybean oil in 2014-15**
- Total use in 2014-15 is estimate @ 19.30 MMT
- India produced about 8.5 MMT, rest has to be imported
- Projection for **2020 is 23-26 MMT**, based on per capita consumption & population growth

U.S. SOY for a growing world

The use of vegetable oil for cooking purposes was reported as 19.30 MMT in 2014/15 retaining India as one of the largest veg. oil consumer in the world. Of the 19.30 MMT of veg. oil, India imported 14.61 MMT in 2014/15. India's oil seed production has been stagnant over many years and this explains the reasons for over 75% imports. The projection for oil use is 23-26 MMT by 2020 (Solvent Extractors Association of India).

Soy oil forms a part of total vegetable oil imports and about 2.98 MMT has been imported in 2014/15. With stagnant production of soybeans in India coupled with high cost of oil and meal production (due to higher cost of soybeans produced in India), imports of soy oil have been increasing.

The neighboring countries (Bangladesh and Pakistan) seem to have made a smart move by influencing their governments and quickly moving onto soybean imports to crush them locally and produce meal and oil. More than 2/3 of India's soybean crushing capacity is idle due to lack of availability of soybeans. Given the growing demand and imports at a relatively high cost, it may be in the offing that India too will follow systems adopted by its neighbors. More over the present Government's stand on "Make in India" aptly fits the strategy to import soybeans at lower costs, crush them in India and generate revenue, employment and efficiently utilize idle soy crushing capacity.

Oil and meal consumption v/s bean imports into Pakistan and Bangladesh

Oil Consumption	2015/16 (E)
Bangladesh	705
Pakistan	360
TOTAL	1065

Needs 5.9 MMT of soybeans

Meal Consumption	2015/16 (E)
Bangladesh	1,054
Pakistan	2,200
TOTAL	3,254

Needs 4 MMT of soybeans

Bean imports	2015/16 (E)
Bangladesh	**950**
Pakistan	**1,500**
TOTAL	**2,450**

If meal utilization estimate is 3.25 MMT requiring 4 MMT of soybeans for crushing; bean import estimates @ 2.45 MMT will form only 60% of the requirement; indicates more room for bean imports

Based on USDA, February 2016

U.S. SOY for a growing world

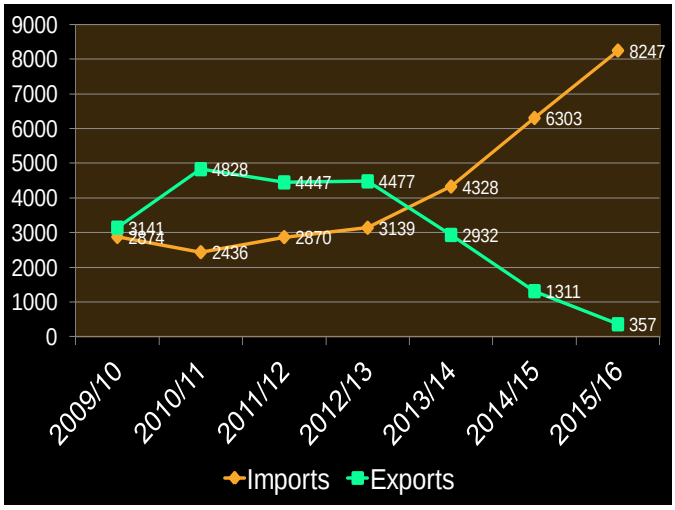
Bangladesh and Pakistan have realized that their countries need both protein and energy (meal and oil). USDA forecasts growing imports of soybeans in the next few years. The rise in imports of U.S soybeans into these two countries is an explanation to this market change and for new strategies being adopted.

2015/16 estimates for oil and meal consumption in Bangladesh and Pakistan are examined with a view to understand the role that whole soybeans would play in markets that offer direct potential for U.S soybean imports. From oil consumption perspective the total of 1.06 MMT soy oil will need 5.9 MMT of soybeans and from the meal perspective about 4 MMT of soybeans are required to produce 3.24 MMT meal. The 2.45 MMT soybean imports forecasted for Bangladesh and Pakistan in 2015/16 could meet only 60% of inputs required to produce meal and only 41% of input required to meet oil demand. From a trade perspective, making use of these gaps to market more U.S soybeans is a readily available opportunity.

Based on the above we can deduce two aspects - 1) Imports of meal and oil will continue and 2) these countries which have already recognized the benefits of importing soybeans for local crushing are likely to increase soybean imports substantially. The benefit for the U.S soy industry here is that both commodities (meal and oil) of U.S origin will be manufactured in-country and this offers great scope for branding and marketing these products to end users.

Soy Exports v/s Imports into ASC

Combined volume of soy meal, bean and oil in TMT



Based on USDA , February 2016

- Import-export in 2014/15 was 6.3 v/s 1.3 MMT
- Import prospects will be about 2 MMT higher in 2015/16 (1.94 MMT)
- India's exports are falling due to 1) low production 2) high price [about $ 150 higher/MT], 3) quality concerns and 4) India's own growing consumption

U.S. SOY for a growing world

This chart shows the combined volume of soy meal, oil and bean imports as well as exports from the ASC region. We notice a crossover between the two trade pathways (imports/exports) in the year 2013/14. Exports were largely from India while imports from all sources are largely for Bangladesh, Pakistan, Nepal and Sri Lanka. Once a significant exporter (close to 5 MMT of soy meal), India's ability to export has drastically dropped and is forecasted at 357 TMT in 2015/16. The four reasons for this trend are listed in the graphic above. Because India has not been able to sustain its supply consecutively for three years, buyers who need to cover soy requirements for their growing businesses have secured positions from other suppliers. U.S soy becomes a prominent player here because of sustained supply apart from other favorable considerations like price, quality, handling, provision of back up tech and trade services etc.

In 2014/15 imports of soy commodities into ASC indicated 6.3 MMT v/s 1.3 MMT of exports. A huge gap of 5 MMT implies growing dependency on imports and indirectly states India's inability to cater to this rapid increase in demand. For 2015/16 estimate, the gap seems to widen further with 7.88 MMT.

Year on Year for 2014/15 and 2015/16 there is a clear incremental growth of 2 MMT soy products being imported. This again indicates a good marketing position to be in, to derive maximum benefits for the U.S soy industry.

Total soy imports into ASC and predictions for 2020

Commodity	Country	2011/12	2012/13	2013/14	2014/15	2015/16
	Bangladesh	375	362	260	369	350
	India	7	7	7	7	7
	Pakistan	435	682	924	1,036	950
	Sri Lanka	149	153	165	190	220
Soy Meal	**TOTALS**	**966**	**1,204**	**1,356**	**1,602**	**1,527**
	Bangladesh	439	400	443	508	520
	India	1,174	1,086	1,830	2,799	3,650
	Pakistan	34	51	112	148	80
Soy Oil	**TOTALS**	**1,647**	**1,537**	**2,385**	**3,455**	**4,250**
	Bangladesh	256	398	572	697	950
	India	1	0	4	11	20
Soybeans	Pakistan	0	0	11	538	1,500
	TOTALS	**257**	**398**	**587**	**1,246**	**2,470**
	GRAND TOTALS	**2870**	**3139**	**4328**	**6303**	**8247**

Change of 5377 TMT between 2011/12 and 2015/16 is expected

Approach A (based on Change)

4,301 TMT change computed for 4 years	Incremental imports for 2017-20	Add incremental to 2015/16 baseline of 8,247 to estimate imports by 2020
@ 50%	=2,150	10.39 MMT
@75%	=3,225	11.47 MMT
@100%	=4,301	12.54 MMT
Average	**3,225**	**11.46**

Approach B (based on Growth)

Average growth in the past 5 years = 30%	Total imports by 2020
@ 15%	14.42 MMT
@ 20%	17.10 MMT
Average	**15.76 MMT**

U.S. SOY for a growing world

In the previous sections we have seen analyses by ASC country and soy commodities. This chart aims to make forecasts for 2020 using the total soy complex.

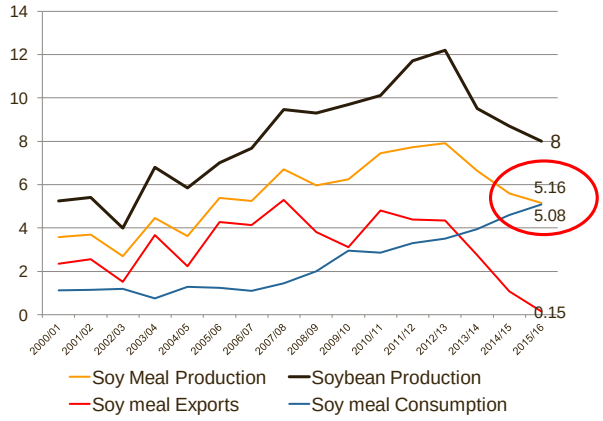
Two approaches have been used to predict imports of soy complex by 2020. Approach (A) makes use of past change to compute a forecast and approach (B) makes use of past growth trends. However in both approaches no additional growth has been considered to be realistic and to allow for unfavorable market changes. We will notice that increments as well as growth have been taken only at 50% and 75% of the estimated values.

APPROACH A: Past analysis for total imports (2011/12 to 2015/16) indicates incremental imports of 5.37 MMT. This has been prorated to the next four years (2016/17 to 2019/20) which assumes that 4.30 MMT of imports will happen by 2020 if considered @ 100%. When 4.30 MMT is added to the current import baseline of 8.24 MMT, 12.54 MMT of soy products are likely to be imported. However as stated earlier, to allow for market fluctuation, two other slabs have also been considered at 50% and 75% of 4.30 MMT. This indicates imports @ 10.39 and 11.49 MMT by 2020. An average considered as a summary figure from approach (A) denote an incremental import of 3.27 MMT for the four years and take up total imports to 11.46 MMT by 2020.

APPROACH B: Past growth for total imports (2011/12 to 2015/16) indicated 30% growth in Imports to the region. Growth for the next four years (2016/17 to 2019/20) is taken in two different conservative slabs, at 15% and 20% growth to arrive at 14.42 and 17.10 MMT of soy imports, with an average of 15.76 MMT.

Thus approach A projects imports as 11.46 MMT and approach B as 15.76 MMT.

India's Soybean and Soy meal Production 2000/01 –2014/15 and Forecast for 2015/16

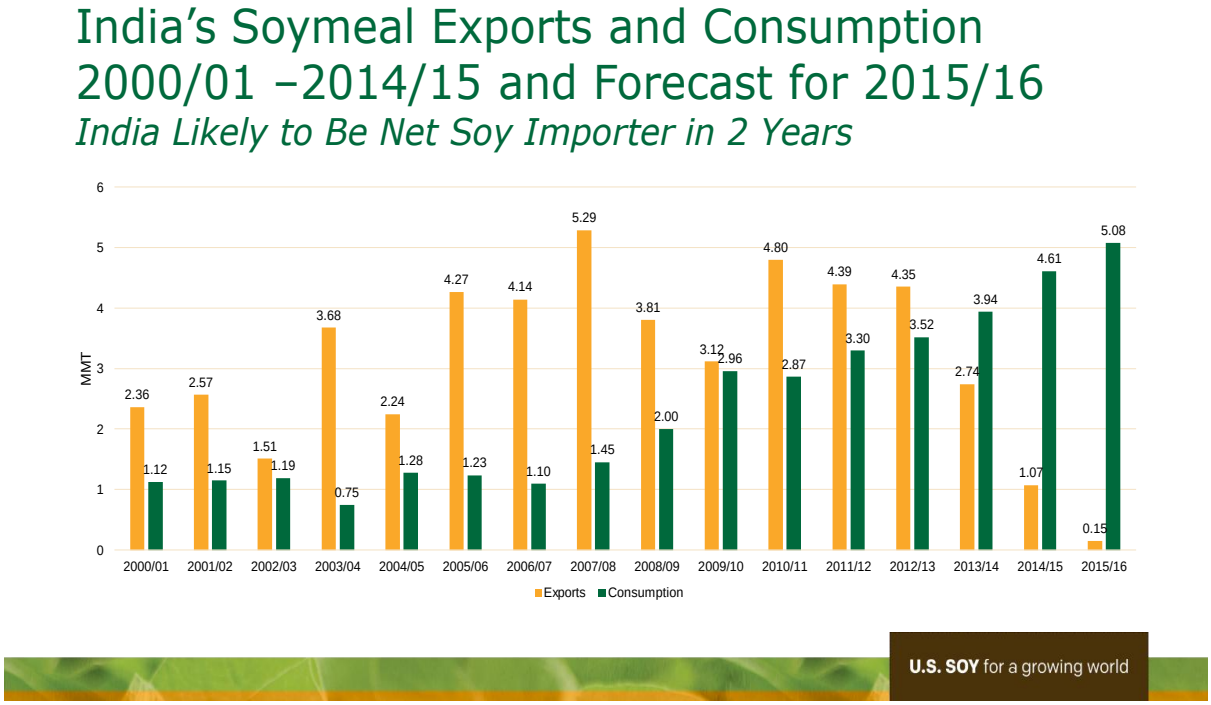


- Average production of soybeans for 15 years was 8.17 MMT; low of 4 and a peak of 12.2 MMT
- Average production of soy meal for 15 years was 5.52 MMT with a low of 2.69 and a high of 7.92 MMT
- While domestic consumption grew 5 times in this period, soybean and soy meal production grew only 1.65 and 1.56 times respectively
- The forecast for 2016/16 indicates supply and demand equate (red circle).

U.S. SOY for a growing world

Very often there are questions asked about India's ability to increase soybean production. There are two approaches to examining this, namely, a short term assessment for the past five years and a long term assessment for the past 10-15 years. With an average production of 8.17 MMT and an increase of 1.65 times in this long term period, it is unlikely that India will make improvements in the near future. On the contrary, the domestic demand has been increasing at a faster pace – 5 times in the long term period.

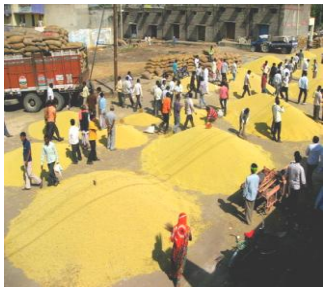
When soy meal demand (blue line) crosses over meal production (orange line), India will probably enter a crisis situation in terms of S&D for soy meal. With the recent USDA data stating that Indian soybean production to be 7.5 MMT in 2015/16, soy meal production is slated to decline further. The chart indicates that the meal production and meal consumption will be equal in 2015/16 with 5.16 MMT v/s 5.08 MMT respectively. More worrying on the supply and demand situation is to have the soybean production figures approach domestic soy meal consumption figures. This could mean a very unfavorable situation for India. Comparing 7.5 MMT bean productions and 5 MMT meal consumption is a risky situation to be in, with regard to raw material security for business operations.



A great part of the reason for falling soy exports from ASC region is due to India's inability to produce meal at a reasonable price and the required quantity for exports. Adding to this, local demand especially for feed use has been increasing rapidly. While exports have always surpassed local demand for about 10 years (till 2010/11), the steady domestic demand has been utilizing most of the soy meal produced by India. From a business perspective exports have been fluctuating but domestic demand has been predictable and steady. Local soy crushers have relied on both markets but now need to depend only on the domestic demand to sustain their businesses. With meal demand likely to touch 10-11 MMT by 2020, India has come under pressure to devise solutions to sustain its own animal production and food production industries that depend on soy. The main constraint for development of this market currently stands at lifting the GM/Biotech trade barriers laid down by the Indian Government that prevents imports. USSEC's marketing strategies discussed earlier have a significant role to play in steering India to this stage of market development.

Soymeal S&D behavior of India (2011/12 to 2014/15)

Aspect	Change Percentage
India Meal Production	- 27.46%
India Soybean Production	- 25.64%
India Soybean Crushing	- 27.46%
India Meal Consumption	+ 39.69 %
Meal Consumption Rest of ASC	+ 101.18%



Seen here is Bret Davis while in India

Based on USDA , February 2016

U.S. SOY for a growing world

An assessment of change percentages of some critical soy S&D factors over a period of time (2011/12 to 2014/15) indicate imbalance in India's status as a supplier of soy products for the ASC region. This is a short term analysis for the past five years.

Production front: On production of soybean (-25.64 %), soy meal (-27.46%) and soy crushing front (-27.46 %), there is an overall negative trend evident over the four- year period. These trends have put India in a dark spot and have not only affected its export status but are now affecting domestic supplies too.

Consumption front: The neighbouring countries (Pakistan, Bangladesh, Sri Lanka and Nepal) show the highest change in their meal consumption pattern during the same corresponding period with a + 101.18 %. India's internal consumption also shows a positive change of +39.69%. These two positive changes put ASC on a consumption spot light.

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	2.5	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
TOTAL	244	12.21 MMT	2.58 MMT

- In the past 7 years, 244 new poultry and aqua businesses have come up in India
- These new ventures have brought in 12.21 MMT of additional feed milling capacities which use 2.58 MMT of additional soy meal
- Between 2009 and 2015, India has produced only 1.96 MMT of additional soy meal, per USDA data

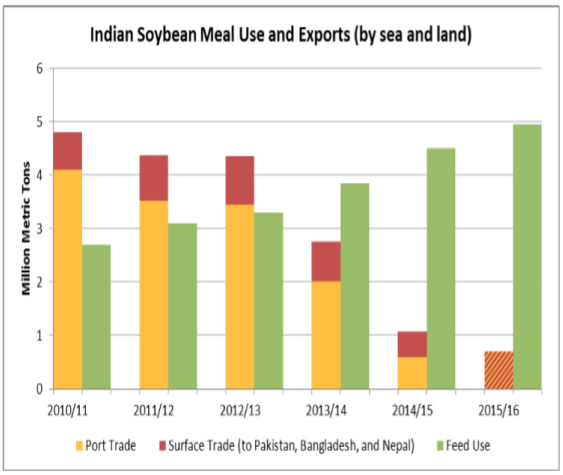
Data based on USSEC's on-going India program strategy

U.S. SOY for a growing world

Apart from working on soy meal inclusions as one of the strategy to increase domestic meal utilization, working with investors and helping them start new business related to feed and soy utilization is yet another effective approach. USSEC consultants positioned in different geographic regions in India have access to a number of old and new feed mill clients. USSEC's approach with old clients is to sustain inclusions and/or increase them where there is potential and scope. New clients are those who like to invest in poultry or aquaculture businesses. These entrepreneurs are helped until they start new feed mills and market their produce. This will connect to new feed and soy meal volumes that will come into play when they become operational.

USSEC launched the new business strategy in the year 2008 and has been using this as one of the avenue to increase soy meal consumption. The compilation in the table shows 244 new poultry and aquaculture businesses develop in the span of 7 years, accounting to an additional feed and soy utilization of 12.21 MMT and 2.58 MMT of soy meal. On the meal production front, USSEC analyses from USDA data that the country has been able to produce an incremental volume of only 1.96 MMT in the same span of time (7 years), indicating again that domestic consumption is increasing at a faster pace than meal production in India.

S&D in India inversely proportional



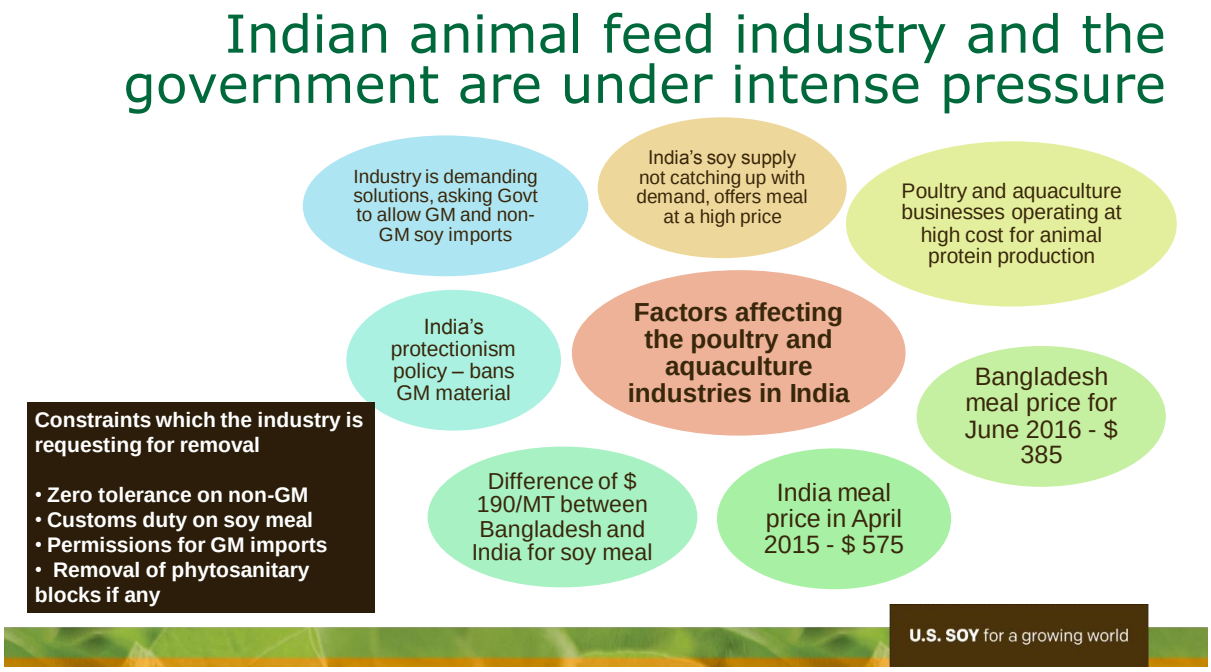
- Average yearly incremental volume of 280 TMT SBM utilized for domestic use, mainly by poultry and aquaculture
- Demand building has spared markets in worth $ 223 m in Asia for possible U.S soy marketing [@ Average price of $ 525 for 425 TMT used in India in 2015]

U.S. SOY for a growing world

This is a reiteration of what has been discussed previously. The chart and description below has been taken from USDA's Oilseeds – World Markets and Trade November 2015.

"Though once a significant regional exporter of soybean meal, India is unlikely to regain export market share in the coming year. India's domestic use of soybean products has been expanding. Historically, the country consumed the oil and exported excess meal. Growth in domestic poultry and egg production has increased demand for protein meal. Rising demand for soybean meal has coincided with a drop in soybean production, tightening supplies and pushing local prices significantly above world levels. This has led to a decline in Indian soybean meal exports, particularly to distant markets. Last year, nearly half of the exports went by surface trade to neighbouring markets, primarily Bangladesh and Pakistan. Yet these rapidly-growing markets are seeking alternative suppliers, purchasing not only more affordable soybean meal but also soybeans. India's strong domestic use and declining export prospects appear likely to continue into the future, potentially ending its status as a net exporter. These circumstances may provide opportunities for the United States and South America to expand shipments to Asia."

USSEC's marketing strategy for increasing/sustaining domestic volumes for soy meal usage range between 280-400 TMT every year and this mainly goes into poultry and aquaculture use. In the year 2015 markets worth $ 223 million have been spared by helping India utilize 425 TMT of soy meal for animal feed operations (average price per ton of SBM for past five years taken at $ 525).



Present market condition for soy meal in India is in a bad state. There is a price differential of $ 190/MT between Indian meal and U.S meal contracted for June 2016 shipment to Bangladesh (as in April 2016). India being a price sensitive market is thoroughly disappointed with this disparity and hence is pressurizing the government to allow imports of both non-GM and GM meal. Some have been insisting that whole bean import also be allowed.

The industry and the government have to work on four different aspects to have non-GM and GM meal allowed into India. They are 1) request for GM tolerance @ 99.10% (2) removal of customs duty 3) grant permission for GM soy meal imports and 4) removal of any phytosanitary constraints. These are the only final decisions that have to be made in India, otherwise USSEC has worked to build sufficient demand, sufficient knowledge base on U.S soy and its attributes and a ready, large network of end users and soy traders willing to operate on imports.

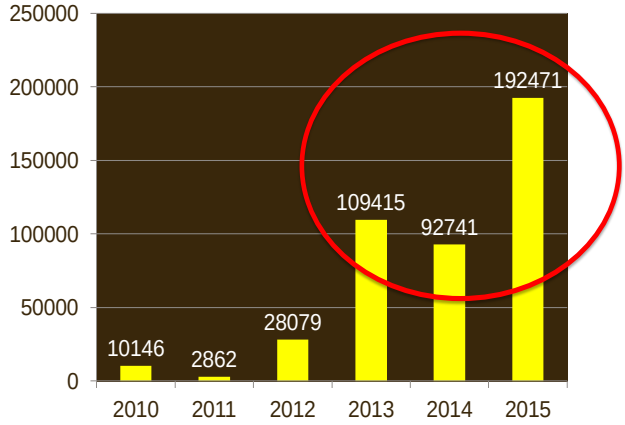
As an indication of costs - $ 41.96 is the additional price that the Indian broiler industry is paying for every ton of soy meal as compared to U.S meal being used in Bangladesh. This is due to the $ 190/MT difference between two different sources of soy meal.

India's oil seed production has been stagnant for over years at 28-30 million tons/ year and a productivity of 1000 – 1,100 kg per hectare. Soybeans have accounted for 8-12 MMT in the past five years. In 2013/14 and 2014/15 soybean production in India was 9.5 and 8.7 MMT respectively. The forecast for 2015/16 seems much lower at 7.5 MMT.

Both International as well as the national audience wonders what India's stand would be on soybean cultivation. Will the country increase soybean production or will it decrease? The picture on increase of soybean production looks grim because of nine factors listed in the chart above. The factors are self explanatory and these pose constraints for increases in soybean production in India. With soybean productivity at 1/3rd of that compared to the U.S, cost of land and other inputs increase the cost of production. Due to weather disturbances and adoption of low levels of technology and knowledge, productivity in some regions has been seriously hampered in the last two years.

Adoption of technology and increase in investments are some factors required for increasing yields but small farm sizes (fragmented) and gradual withdrawal of youth from the agri-sector are significant changes that India faces. More land cannot come into soybean farming because of the agro-climatic limitation where soybean can be grown and the government's prerogative to give importance to food crops (rice, wheat and sugar) to feed the population of 1.27 billion.

U.S. soymeal imports into ASC



•394 TMT of U.S soy meal valued at $ 213 million in the last three years

• 1Q of the current MY indicates 32% of last years total meal imports have already come into ASC (61,748/192,471 TMT)

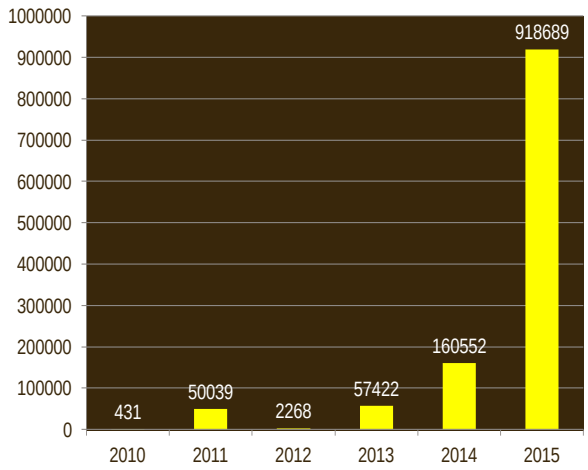
USDA , November 2015 and 1Q of current MY

U.S. SOY for a growing world

Coinciding with India's inability to produce meal at an affordable price, required quantity and quality, neighboring counties in the ASC region have increased dependency on U.S soy significantly from the year 2013. A total of 394 TMT of U.S soy meal valued at $ 213 million has been imported in the last three years.

Interestingly the first quarter (October 2015 to December 2015) has absorbed in 32% of last year's total meal imports. (61,748 MT v/s 192,471 MT).

U.S. soybean into ASC



•1.13 million tons of U.S soybeans imported worth half a billion dollars ($ 501.761 million) in the last three years; highest in 2015

• 1Q of the current MY indicates that 38.62% of last years total bean imports have already come into ASC (354,881/918,689 TMT)

USDA , November 2015 and 1Q of current MY

U.S. SOY for a growing world

Initially the ASC countries started with meal imports some six years back, in a small way. Gradually they have learnt that it is more economical and efficient to import and crush soybeans. Bangladesh took the lead to gradually transform its market dynamics from meal imports into bean imports. Pakistan started relying on sizeable imports only last year. Pakistan has a larger poultry industry and is no doubt a larger market for soy than Bangladesh. Note the recent spike in U.S soybean imports into ASC in 2015.

The import trend continues to be positive for U.S soybeans with 38.62% of last year's soybean imports already completed in the first quarter of 2016 (354,881 v/s 918, 689 MT).

U.S. soybean and meal imports into Pakistan and Bangladesh as percentage of totals (2014/15)

Soybeans

Country	Total imports (TMT)	Share of U.S Soy (%)
Bangladesh	697	87% (603)
Pakistan	538	58% (314)

Soy Meal

Country	Total imports (TMT)	Share of U.S Soy (%)
Sri Lanka	175	57% (100)

USDA , November 2015

U.S. SOY for a growing world

U.S soybeans and soy meal have an impressive share in Bangladesh and Pakistan. Bangladesh typically had an early start with imports of U.S soy and Pakistan was lagging behind, perhaps watching other markets perform on imports and import processes. Also Pakistan's solvent extraction industries were not ready to tackle soybean crushing. The 87% share of U.S soybeans in Bangladesh stands to serve as an example to other countries (Pakistan, Nepal and India) on factors that work well for businesses. Market share for U.S soybeans in Pakistan can be improved with more focused efforts and by putting in place some real good expert resources. Some large clients in Sri Lanka have been dedicated buyers of U.S meal. Market shares can further be improved by rendering more quality services in the country. All countries in the ASC region have different market dynamics and are at varying development continuums and hence will need specially tailored strategies.

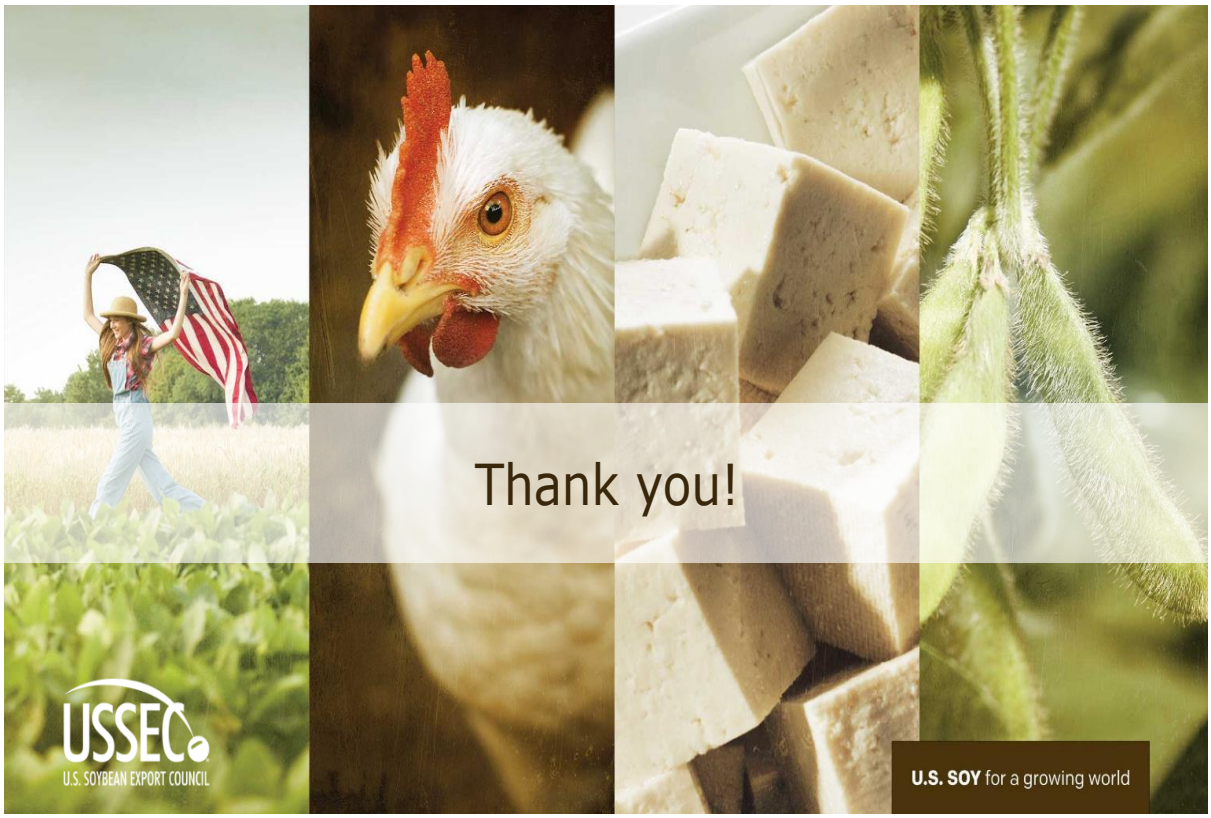
U.S. I.P. bean brought into India, the first time

- Identity preserved non-GM suppliers in ND and MN identified potential buyers at the Singapore and Minneapolis meetings last year.
- Initials tests for soy milk were encouraging
- Current testing of larger lots in progress in India
- Metric ton quantities are in process of clearing import hurdles

U.S. SOY for a growing world

Participation in trade exchanges prove to be beneficial in creating and maintaining trade linkages. Some Indian food entrepreneurs have interacted with North Dakota food bean suppliers in Singapore at the Grain Transportation Conference and since then have been engaged in trade talks. It was initially thought that small consignments of Non-GM, U.S soybeans should be tested in order to differentiate their attributes with Indian beans and have a set of interested food operators in India interested. This has been successfully been completed and tests were encouraging. The next phase of having a larger lot of samples is initiated and is under progress. In what can be termed as significant progress, the Indian Government has given permission for imports of 11,000 MT which is a larger sample that will be subjected to some commercial testing.

Indian food entrepreneurs are interested in importing non-GM, U.S soybeans for various soy food applications because of supply uncertainties and quality concerns. Industries looking for sustaining their businesses and at the same time wanting to deal with quality end products have been proactively seeking solutions. This is a budding opportunity for U.S soy and is also a landmark for entry of U.S beans into India for the first time, though a small quantity.


Thank you!
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