

EXPORT AND IMPORT OF PULSES FROM INDIA AND THEIR ECONOMIC IMPACTS



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Importance of Pulses

- Pulses production and consumption are important in maintaining food security
- They occupy an important place in human diet
- Pulses contain more protein than any other grains and vegetables
- Cultivation of pulses helps to maintain soil fertility through the nitrogen fixation
- They are cultivated in many parts and consumed in all parts of the world

Pulses Economy of India: An outline

- India is the world largest pulses producer accounting for 27-28 per cent of global pulses production.
- India harvests between 12 and 15 million tonnes of pulses each year.
- But, yield of the pulse crops is much low and static for the last many years.
- Pulses are largely cultivated in dry-lands during the winter seasons.

Pulses Economy of India: An outline Cont.

- Even though India is the world largest producer of pulses, the country is importing a large amount of pulses to meet the growing domestic needs.
- During 2007, India imported 2.79 million tonnes of various pulses, especially from the countries like China, Canada , Australia and Myanmar.
- India is one of the exporter of pulses. Now, Indian government banned the export of pulses to meet the growing domestic demand.

The Problem

- Even though India is the largest pulses producer of the world, it imports large amount of pulses from rest of the world. So, it is important to analyze, how the inflow and outflow of pulses from India is changed over period of the time; why India is importing a considerable amount of pulses; examine the impact of inflow of pulses in terms of area under cultivation, quantum of production, prices and net food grains availability for the consumers.

Objectives of the Paper

- The paper has the following specific objectives:
- To understand the changes in inflow and outflow of pulses of India with rest of the world during the period between 1991 and 2007;
- To examine the trends in area under cultivation, yield and production of pulses in India in the above said period.
- To examine the impact of inflow and outflow of pulses on area under cultivation, domestic prices, net food grains availability.

Material and Method of the Study

- Necessary data for the study are import and export of pulses, area under cultivation of pulses crops, production of pulses, yield of different pulses crops, price index of the different pulses and net food grain availability of India. Time series data for the above said variables have been collected from the publications of The Directorate General of Commercial Intelligence and Statistics (DGCI&S), Ministry of Agriculture and Cooperation, Directorate of Pulses Development, and other relevant sources. Collected data are analysed with simple analytical tools like percentage, coefficient of variation and trend analysis. Data have been collected generally for the period of 17 years starting from 1991.

**Table.1: Export of Pulses from India
(Quantity in '000 Tonnes; Value in Crores)**

Year	Quantity	Annual Change (in percentage)	Value	Annual Change (in percentage)	Percentage in Production
1991	-	-	-	-	0.000
1992	34.31	-	53.44	-	0.268
1993	43.60	27.08	73.59	37.71	0.329
1994	50.51	15.85	90.41	22.86	0.356
1995	61.36	21.48	131.91	45.90	0.498
1996	55.22	- 10.01	131.58	-0.25	0.388
1997	168.05	204.33	360.89	174.27	0.129
1998	104.10	-38.05	223.03	-38.20	0.698
1999	194.18	86.53	419.56	88.12	0.744
2000	244.08	25.70	537.08	28.01	2.202
2001	161.64	-33.78	369.13	-31.27	1.209
2002	148.08	- 8.39	345.02	-6.53	1.330
2003	150.99	1.97	322.57	-6.51	1.013
2004	271.18	79.60	602.57	86.80	2.065
2005	447.44	65.00	1115.21	85.08	3.342
2006	250.70	- 43.97	773.34	-30.66	1.765
2007	163.67	- 34.71	526.95	-31.86	1.082

Linear Trend Coefficient : 17.177 ('000 tonnes)

Source: DGCI & S, Ministry of Commerce, Government of India.

Pulses Exports

- Pulses export has increased from 0.34 lakh tonnes in 1992 to 1.64 lakh tonnes in 2007;
- There are sudden hikes appeared for the years 2000, 2004 and 2005. In those years the quantity of pulses exports comes closer to either 3.0 lakh tonnes or exceeds 4.0 lakh tonnes.
- Annual change in pulses exports both in terms of quantity and value is mostly positive, except years next to the sudden increases have appeared.
- Export as a percentage to the pulses production is also increased consistently to one percent during the first ten years. After that the percentage has fluctuated between one and 4 per cent.

Pulses export Cont.

- According to the Pulses Meet Resolution of India (2008), on one hand India is the largest importer, producer and consumer of pulses. But, on the other hand, India is also the largest pulses processor, as pulses exporting nations such as Myanmar, Canada and Australia, do not have adequate pulses processing facility. The reason is that these countries do not have much domestic consumption of pulses and therefore, they have never attempted to develop domestic processing industry. Due to this India re-exports a considerable amount of pulses.
- The Indian pulse export ban of 2006 occurred on June 28, 2006 when the Finance Minister of India declared a ban on exports of sugar, pulses and wheat until the next harvest, due to domestic shortages. The ban was later extended until March 31, 2007. To augment availability and check prices, the Central government extended the ban on export of pulses, except kabuli chana, by another year till March 31, 2009

Pulses Import

- With stagnant area under cultivation and production, India has permitted unrestricted imports of pulses with low duties for about 20 years. India was the world's largest pulses importer.
- For many pulses, large shares of import, including desi chickpeas, pigeon peas, mung beans, black matpe, and kidney bean, come from Burma. Importers favor Burma because it offers many varieties with qualities similar to those produced in India as well as reasonable prices, low freight rates, and relatively fast delivery.
- Canada and Australia are major suppliers of dry peas and kabuli chickpeas to the Indian market, each supplying about one-third of India's pea imports.
- Historically, Canada has shipped green and yellow peas. Australia is a supplier of chickpeas and low-priced dun peas. Most kabuli chickpeas come from Mexico, Australia, Canada, Turkey and Iran. Nepal and Syria account for the largest shares of Indian lentil imports.

Pulses Import

Table 2: Import of Pulses in India
(Quantity in '000 Tonnes; Value in Crores)

Year	Quantity	Annual Change (in percentage)	Value	Annual Change (in percentage)	Percentage in Production
1991	312.61	-	255.27	-	2.601
1992	382.62	22.40	334.37	30.99	2.980
1993	628.16	64.17	567.01	69.58	4.772
1994	554.27	-11.76	592.73	4.54	3.948
1995	490.75	-11.46	685.57	15.66	3.987
1996	654.91	33.45	890.34	29.87	4.589
1997	1008.16	53.94	1194.64	34.18	7.767
1998	563.60	-44.10	708.81	-40.67	3.700
1999	250.77	-55.51	354.69	-49.96	1.869
2000	349.84	39.51	498.47	40.54	3.157
2001	2217.82	533.95	3160.16	533.97	16.558
2002	1992.29	-10.17	2737.05	-13.39	17.898
2003	1723.33	-13.50	2284.87	-16.52	11.558
2004	1339.45	-22.28	1777.58	-22.20	10.201
2005	1695.95	26.62	2476.25	39.30	12.666
2006	2270.97	33.91	3891.91	57.17	15.993
2007	2791.10	22.90	5278.02	35.62	18.459

Linear Trend Coefficient for Import: 133.64 ('000 tonnes)

Pulses Import Cont.

- Import of pulses generally increased over the period between 1991 and 2007. Volume of import has increased from 3.13 lakh tonnes to 27.91 lakh tonnes during the above said period. Negative annual change in import of pulses has appeared 7 out of 17 years in the above period. But, mostly they are marginal in size. There have some sudden hike in the quantum of imports appears during the years of 1997, 2001, 2005 and 2006.
- But, in value term the import of pulses increases continuously in most of the years. Import as a percentage to the total production has sharply increased from 2.6 in 1991 to as high as 18.5 per cent in 2007. These facts evidently show that India largely imports different varieties of pulses and the rates of import have increased very sharply.

Extent of Pulses Cultivation

- As stated previously, India is world's largest cultivator of pulses. Among the Indian states, Madhya Pradesh is the leading pulses producer. Other states which cultivate pulses in larger extent include Uttar Pradesh, Maharashtra, Rajasthan, Karnataka, Andhra Pradesh, and Bihar. In general, pulses are grown in two seasons, one in the warm, rainy period (May-October) and other in the cool, dry season (November-April). Chickpeas, lentils, and dry peas are grown in the cool season, while pigeon peas, black matpe, mung beans, horse gram, and moth beans are produced during the rainy period.
- Area under pulses cultivation in India is more or less stagnant. During the period under analysis, cultivation area of the crops varies narrowly between 20.5 lakh ha. and 23.86 lakh ha. Five-yearly average area of pulses cultivation shows that there is no much variation in it.
- Some marginal improvements have occurred during the years of 2006 and 2007.
- Details on season-wise area under pulses cultivation indicates that the pulses are cultivated marginally higher in Rabi season than the Kharif season

Table 3: All India Area, Production and Yield of Total Pulses
(Area in lakh hectare; Production in lakh tonnes; Yield in Kgs./ha.)

Year	Area	Production	Yield
1991	22.54	12.02	533
1992	22.36	12.82	573
1993	22.25	13.30	598
1994	23.03	14.04	610
1995	22.28	12.31	552
Average	22.85	13.13	574
1996	22.45	14.24	635
1997	22.87	12.98	567
1998	23.5	14.91	634
1999	21.12	13.42	635
2000	20.35	11.08	544
Average	22.01	13.32	603
2001	22.01	13.37	607
2002	20.5	11.13	543
2003	23.46	14.91	635
2004	22.76	13.13	577
2005	22.39	13.39	598
Average	22.22	13.19	592
2006	23.19	14.20	612
2007	23.86	15.12	638
Average	23.53	14.66	625
Linear Trend Coefficient	0.0242	0.0698	2.4363

Source: DGCI & S, Ministry of Commerce, Government of India.

Production of Pulses

- Production of pulses in India has slightly improved, thanks to marginal improvement in the yield of the crops. Volume of pulses production has increased from 12.02 million tonnes in 1991 to 15.12 lakh tonnes in 2007.
- Five-yearly average figures worked out for the production of pulses for the above period. It also confirms that there is a marginal improvement in the production. Analysis of season-wise production of pulses gives some remarkable points.
- Even though there are some sort of equality in the area under cultivation of pulses in two seasons, the production of pulses is significantly high in the Rabi season, as a result of relative higher rate of yield in that season.

Production of Pulses Cont.

- Index numbers of production of pulses, and index number for production of all crops and food crops are worked out. When compared to all agricultural crops as well as for food crops, the production of pulses has increased very slowly. Index numbers (with the base of 1993-94 = 100) of production of pulses has increased from 117 to 129 during the period between 1993 and 2006.
- At the same time index numbers for production of all agricultural crops has increased from 123 to 160, and it has changed from 135 to 154 in the case of food grains.

**Table 7: Index Numbers of Production – Food Grains and Pulses
(Base: Triennium ending 1981-82 =100)**

Year	All Crops	Food grains	Pulses
Weight	100.00	62.92	7.94
1980	102.1	104.9	104.1
1981	109.2	107.6	126.7
1982	104.8	103.7	115.8
1983	118.6	122.8	126.5
1984	117.9	117.5	117.7
1985	119.5	123.4	131.0
1986	115.2	116.9	115.2
1987	115.3	113.5	105.3
1988	140.0	138.1	136.4
1989	143.0	139.1	127.1
1990	148.4	143.7	140.5
1991	145.5	137.6	118.6
1992	151.6	144.3	126.5

(Base: Triennium ending 1993-94=100)			
1993	123.0	135.1	117.6
1994	130.1	141.0	128.1
1995	126.8	131.4	109.4
1996	137.8	145.1	127.9
1997	120.6	140.9	119.5
1998	141.1	150.0	137.6
1999	138.5	152.9	121.8
2000	130.2	141.9	99.6
2001	140.1	155.3	121.5
2002	121.6	132.2	136.5
2003	143.1	155.1	134.2
2004	139.2	144.2	119.8
2005	146.7	152.5	122.6
2006	156.9	154.9	129.0

Source: DGCI&S, Ministry of Commerce, GOI.

Table 8: Production of Different Pulses in India**(in lakh tonnes)**

Year	Tur	Gram	Masur	Moth	Lathyrus	Peas & Beans	Kulthi	Mung	Urad
1991	21.33	41.21	8.02	1.46	5.71	5.52	6.01	12.84	14.98
1992	23.31	44.17	7.91	4.40	5.10	5.50	4.93	14.07	15.31
1993	26.92	49.81	7.48	2.12	6.21	6.40	4.27	12.33	14.03
1994	21.44	64.36	7.84	4.00	5.96	6.67	4.44	10.71	11.43
1995	23.09	49.79	7.14	1.99	4.22	6.39	3.88	10.09	13.07
1996	26.56	55.66	9.62	3.55	5.51	7.21	3.95	13.16	14.55
1997	18.50	61.32	8.04	3.34	2.44	6.61	4.30	9.54	12.90
1998	27.08	68.01	9.38	1.51	4.13	7.05	3.96	11.40	13.50
1999	26.94	51.18	10.79	0.63	5.73	8.15	3.95	10.77	13.39
2000	22.47	38.55	9.15	1.78	3.34	5.36	3.49	10.23	12.96
2001	22.60	54.73	9.74	3.37	4.43	6.08	3.49	11.11	14.99
2002	21.86	42.37	8.73	0.42	3.55	5.92	2.36	8.67	14.74
2003	23.56	57.18	10.38	8.30	4.93	7.25	2.28	17.02	14.71
2004	23.47	54.69	9.94	2.21	3.04	7.86	2.79	10.58	13.27
2005	27.38	56.00	9.46	1.75	3.46	7.10	2.64	9.46	12.45
Average	23.77	52.60	8.91	2.72	4.52	6.60	3.78	11.46	13.75

Source: Directorate Pulses of Development in Bhopal

Yield of Pulses

- Yield of pulses crops in India is less when compared to the world average. However, the average yield of pulses crop in the country has increased gradually over the period under analysis. It has increased from 533 kgs./ha. in 1991 to 638 kgs./ha. in 2007. Yield of these crops has increased with much fluctuation in the above said period. Pulses yield has crossed 600 kgs./ha. level during the years 1994, 1996, 1998, 1999. After that the yield has closely fluctuates to 600 kgs. level and attained some stability in the later period.
- Kharif pulses give lesser yields when compared to Rabi pulses. Yield of Kharif pulses ranges between 393 and 512 kgs./ha. But, the yield of Rabi pulses ranges between 654 and 756 kgs./ha. Yields of both the seasons have increased over the period of time, significantly.
- In individual cases of pulses, the rate of yield is higher in the case of peas and beans, and followed by gram, tur, masur, lathyrus, urad, and kulthi. Yield of moth is very less when compared to other pulses crops.

Trends in wholesale Prices of Pulses

- Price index for the group of all commodities has increased from 132.8 to 215.7 per cent. At the same time, the wholesale price index for total pulses has increased sharply from 145.9 to 243.
- This shows that the prices of pulses have increased in a faster manner. Among the individual pulses crops, price index for urad has increased very sharply from 175.3 in 1997 to 403.8 in 2006. Increase in price index is relatively lesser for the cases of gram and arhar.

Table 11: Trends in Wholesale Price Index of Pulses in India from 1997 to 2007

(Base year-1993-94=100)

Year	All Commodities	Pulses	Gram	Arhar	Monng	Masur	Urad
Weight	100.00	0.60	0.22	0.13	0.11	0.04	0.10
1997	132.8	145.9	124.6	136.2	164.7	176.6	175.3
1998	140.7	160.1	110.9	186.2	181.2	202.6	197.3
1999	145.3	166.1	115.4	176.3	180.6	216.0	234.0
2000	155.7	179.6	139.2	150.3	186.9	206.8	295.7
2001	161.3	189.2	170.3	142.6	205.6	203.9	273.9
2002	166.8	180.6	149.7	157.5	208.0	214.1	239.8
2003	175.9	176.6	142.5	172.8	195.9	233.4	217.4
2004	187.3	174.4	137.1	179.3	187.4	234.7	216.3
2005	195.6	194.9	157.0	170.8	219.2	242.8	270.4
2006	206.2	254.2	208.7	182.0	303.0	254.0	403.8
2007	215.7	243.1	189.9	208.7	267.3	319.0	336.8

Source: DGCI & S, Ministry of Commerce, GoI.

Net Food grain Availability

- Since the pulses are important protein supplier, it is important to know the share of pulses in net food grain availability. Table 12 presents net per capita annual availability of food grains and pulses. Net per capita annual food grains availability in India in the year 1991 is 186.2 kgs. and it fluctuates remarkably in the successive years, and it has reached 160.4 kgs. in the year 2007. In a similar manner, net annual pulses availability for Indians has drastically decreased from 15.2 kgs. in 1991 to 10.7 kgs in 2007. Percentage share of pulses in net food grain availability also decreased slowly from 8.16 per cent to 6.67 per cent, during the above said period. So, the facts show that the availability of pulses has decreased drastically in India.

**Table 12: Net Availability of Food grains in India
(in Kgs. Per Year)**

Year	Pulses	Total Food grains	% Share of Pulses
1991	15.2	186.2	8.16
1992	12.5	171.1	7.31
1993	13.2	169.4	7.79
1994	13.6	172.0	7.91
1995	13.8	180.8	7.63
1996	12.0	173.5	6.92
1997	13.5	183.6	7.35
1998	12.0	163.2	7.35
1999	13.3	170.0	7.82
2000	11.3	165.9	6.81
2001	10.9	151.9	7.18
2002	12.8	179.7	7.12
2003	10.6	159.2	6.66
2004	13.1	168.9	7.76
2005	11.5	154.2	7.46
2006	11.8	162.5	7.26
2007	10.7	160.4	6.67
Linear Trend Coefficient	- 0.1713	-1.23	

Conclusion



- The inflow and outflow of pulses from India to the rest of the world have brought certain important impact on country's economy. Particularly liberalized and subsidized import of pulses of India helps to meet demand-supply gaps, which occurred because of stagnation in the area under cultivation, very slow growth in yield, poor increase in production and speedy increase in population. These imports also help to slow down the faster increase in the prices of different types of pulses items. Import of pulses helps to slow down the decrease in the net per capita availability of food grains. Ban on export and re-export of pulses make the closure of Indian pulses processing units. Problems of Indian pulses economy can be solved with the increase the sources of production. Effective and continuous efforts are needed to increase the area under cultivation as well as the yield of pulses.

Thank You