

LONG-TERM ARRANGEMENTS FOR CULTIVATION AND IMPORT OF TUR FROM AFRICAN COUNTRIES OF MOZAMBIQUE, ETHIOPIA, MALAWAI, TANZANIA AND SUDAN

1.0 Background

Pigeon pea, *Cajanus cajan* (L.) Millspaugh, is the most versatile food legume with diversified uses as food, feed, fodder and fuel. It has been recognized as a valuable source of protein particularly in developing countries where majority of population depended on the low –priced vegetarian foods for meeting its dietary requirements. Its significance is comparatively more among Indians due to their reliance on vegetarian diets besides limited buying capacity.

2.0 Global Scenario

Pigeon pea is fourth most important pulses crop in world with almost all production confiding to developing countries approximate 97 % of world production: Asia (83 %) and Africa (14 %). India is the world largest producer, harvested about 3.02 Million tons per year other major producing areas are Africa and Southeast Asia (Myanmar). Globally, it is grown on about 6.22 million ha area with production 4.74 million tonne with average yield 762 kg/ha (Table 1). India contributed about 63 % of the global production and 75 % to global area with 650 kg/ha productivity. Africa is produce only 0.68 Million tons from 0.76 Million ha area with the productivity level of 895 kg/ha which only contributed about 14% production from 12% of global pigeonpea area.

Table 1 Global pigeon pea scenario (2013)

(Area: MH, Production: MT, Productivity: Kg/ha)

Country /Region	Area	Production	Productivity
World	6.22	4.74	762
Asia	5.32	3.94	740
India	4.65	3.02	649
Mynmar	0.65	0.90	1385
Africa	0.76	0.68	895
Malawi	0.22	0.29	1318
United Republic of Tanzania	0.29	0.21	724

Source: FAOSTAT

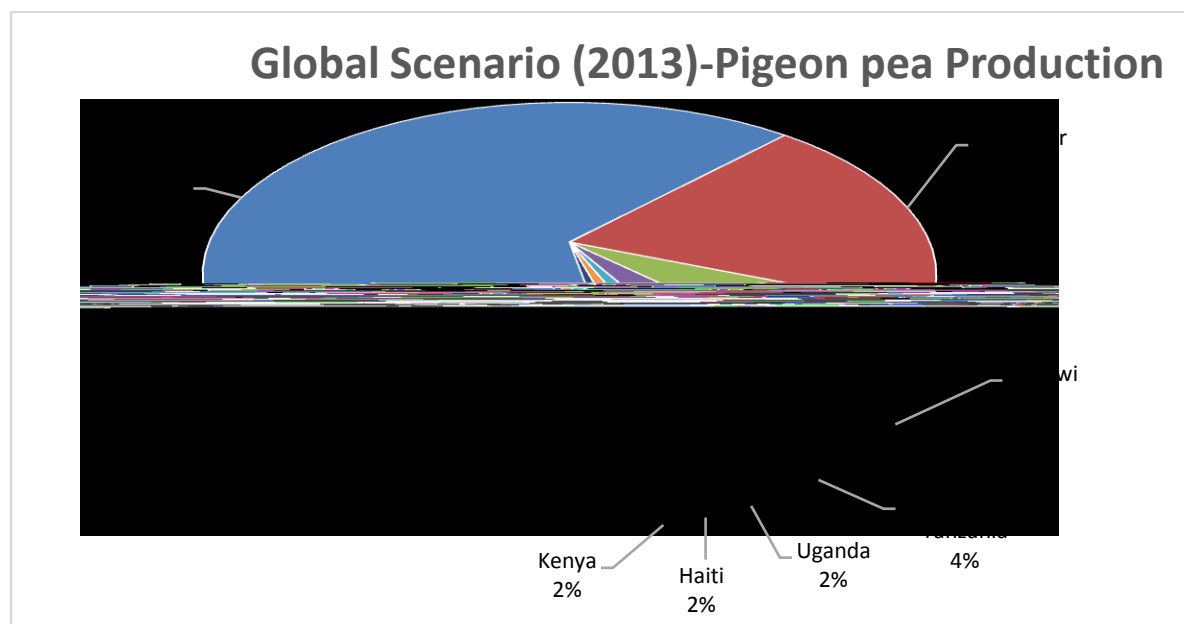
As many as 19 countries are grown pigeonpea major contribution (98%) coming from just 6 countries: India. Myanmar, Malawi, United Republic of Tanzania, Uganda, Kenya, Haiti (Table 2).

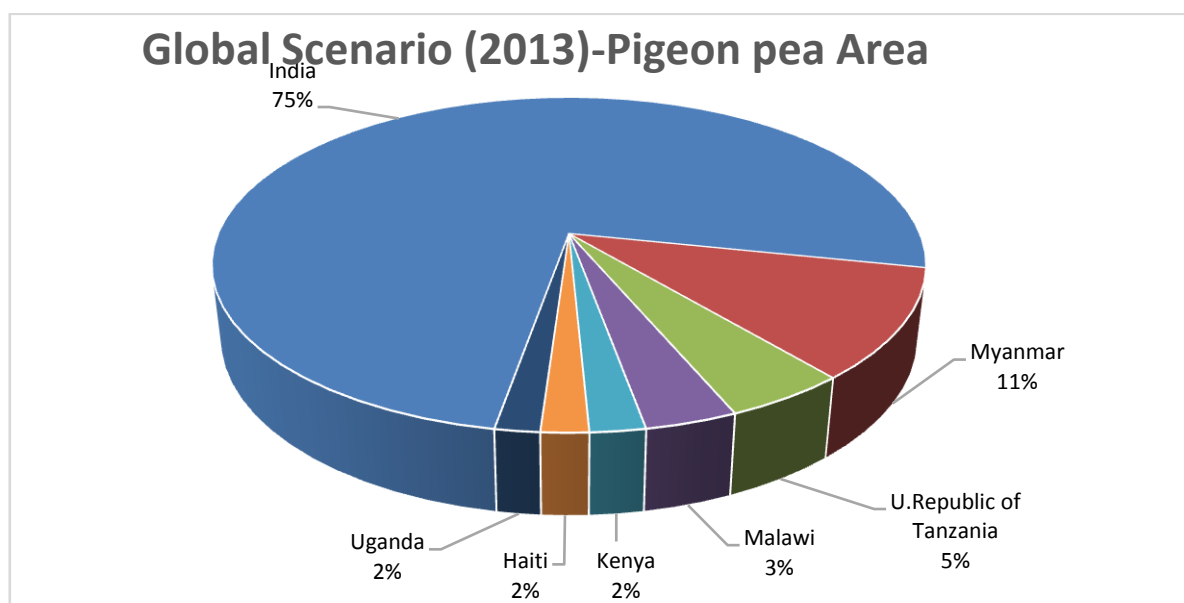
Table 2 Area, production and yield of pigeonpea in major countries
(Five year average: 2009 to 2013)

Area: Mha, Production: MT, Productivity: kg/ha

Country	Area	% to Area	Prod.	% to Prod.	Yield	Yield Index
India	3.99	73.11	2.65	62.86	671	85
Mynmar	0.63	11.61	0.84	19.84	1302	165
Malawi	0.20	3.60	0.22	5.31	1088	138
United Republic of Tanzania	0.23	4.28	0.20	4.62	901	114
Uganda	0.08	1.47	0.09	2.15	926	117
Kenya	0.14	2.52	0.08	1.87	569	72
Haiti	0.10	1.78	0.08	1.79	770	97
Total above	5.37	98.36	4.15	98.44	773	98
Other	0.09	1.64	0.07	1.56	736	93
World	5.46		4.22		790	

Source: FAOSTAT





2.1 Trend of Area Production & Yield of Pigeonpea

Pigeon pea production, which was about 2.95 million tonnes during triennium ending 2000, has increased to 4.25 million tonnes in triennium ending 2012. This was possible due to area expansion from 4.24 million ha to 5.48 million ha and also increase productivity about 11 % during the aforesaid period from 697 kg /ha to 776 kg /ha . Pigeon pea area and production is mainly confined to Asia, which account 85 % and 83% respectively.

Table 3 Trends and annual growth rate (%) in area, production, and productivity

(Area: MH, Production: MT, Productivity: kg/ha)

Country /Region	Area			Production			Productivity		
	1998-2000	2010-2012	AGR(%)	1998-2000	2010-2012	AGR(%)	1998-2000	2010-2012	AGR(%)
World	4.24	5.48	2.44	2.96	4.25	3.63	698	776	0.92
Asia	3.71	4.63	2.07	2.61	3.51	2.87	704	758	0.65
India	3.41	3.98	1.39	2.42	2.66	0.83	710	668	-0.49
Mynmar	0.27	0.62	10.80	0.17	0.8	30.88	630	1290	8.74
Africa	0.5	0.72	3.67	0.32	0.63	8.07	640	875	3.06
Malawi	0.13	0.2	4.49	0.09	0.22	12.04	692	1100	4.91
United Republic of Tanzania	0.13	0.26	8.33	0.08	0.22	14.58	615	846	3.13

Source: FAOSTAT

3.0 African Scenario

Pigeon pea is cultivated in African countries an average area (2009 to 2013) on over 6.83 Lakh ha with production of 6.03 Lakh tonne and productivity level 882 kg/ha. The major pigeon pea producing countries in Africa are Malawi, United Republic of Tanzania, Uganda and Kenya. It is essentially a small holder crop grown on poor soils in drought-prone areas , where its ability to tolerate dry spell and harsh conditions can be key factor in household food security. Traditional varieties are generally intercropped with food crops such as maize,

sorghum, beans and cowpea, and non-food crops such as cotton. Low input requirements and the long duration of local landraces make the crop particularly suitable for the smallholder farming system.

Over the last 15 years, pigeon pea area and production have expanded across the African countries. The increase occurred mostly during the 2010s. Over the 2010s production has average around 6.27 lakh tons per year with increase significant growth rate per annum about 8 %. Malawi is largest producer in the region with an average production of 2.25 Lakh tonnes per year. Other important producers are United Republic of Tanzania, Uganda and Kenya. Pigeonpea cultivation is widespread also Mozambique, Ethiopia, and Sudan but officially data not available in FAOSTAT. The average yield is African countries 882 kg/ha which is above the world average as well as India.

Table 4 Area, production and yield of pigeonpea in major African countries
(Five year average: 2009 to 2013)

Area: Lakh ha, Production: Lakh tonne , Productivity :kg/ha

Country	Area	% to Area	Prod.	% to Prod.	Yield	Yield Index
Malawi	1.966	28.79	2.245	37.25	1142	129
United Republic of Tanzania	2.338	34.24	1.951	32.38	835	95
Uganda	0.991	14.52	0.910	15.11	918	104
Kenya	1.378	20.17	0.793	13.17	576	65
Democratic Republic of the Congo	0.107	1.57	0.063	1.05	587	67
Burundi	0.043	0.64	0.059	0.98	1364	155
Comoros	0.005	0.07	0.004	0.07	842	95
Total	6.829		6.026		882	

Source: FAOSTAT

Fig: Percentage area share of pigeonpea of major African countries in total pulses

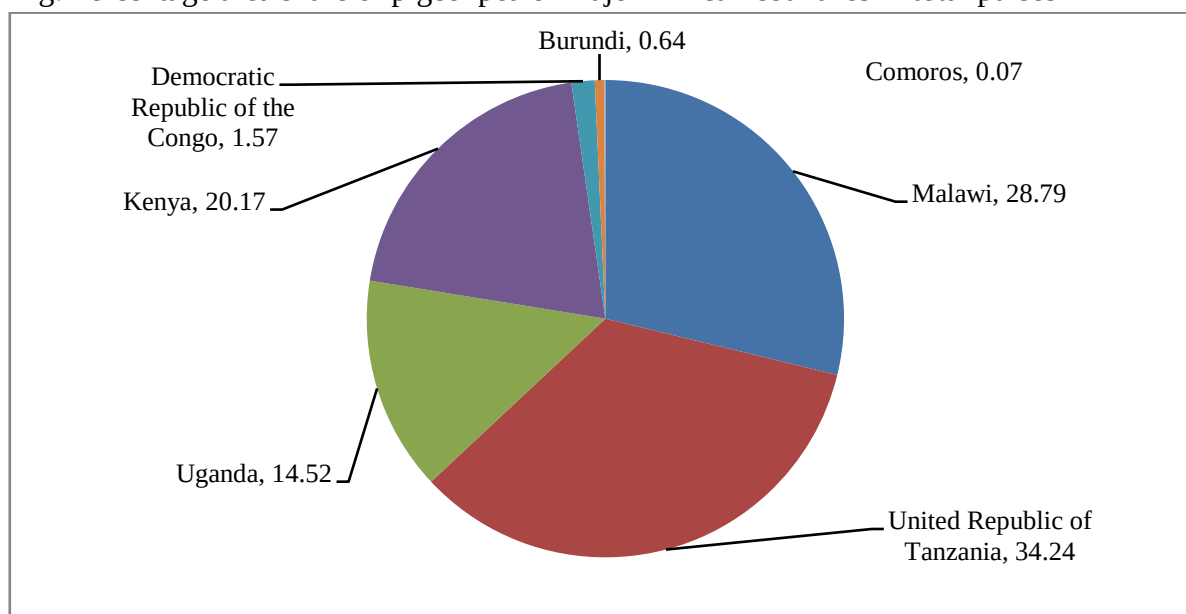
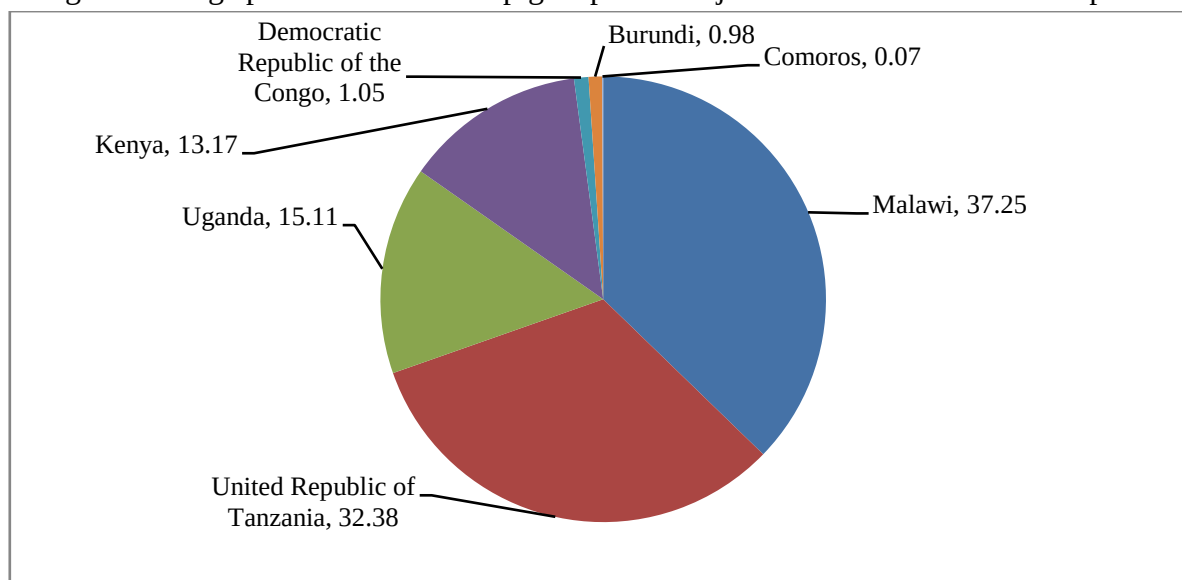


Fig: Percentage production share of pigeonpea of major African countries in total pulses



4.0 National scenario

Pigeonpea is a major legume crop, second only to chickpea in area and production in India. It is commonly intercrop with cereals other pulses, oilseeds and cotton. The major producing states are Maharashtra, Karnataka, Madhya Pradesh, Uttar Pradesh, Gujarat, Andhra Pradesh, Jharkhand, Odisha, Tamil Nadu, Telangana, Bihar and Chhattisgarh. Pigeonpea contributed in total pulse production in country about 14 - 20% on an average during the period from 1980 to 2015.

Table 5 Plan-wise/state-wise area, production and yield of pigeonpea

(Area: Lakh ha, Prod. Lakh tons, Yield: kg/ha)

State/ Year	X th Plan					XI th Plan					XII th Plan				
	A	% contri.	P	% contri.	Y	A	% contri.	P	% contri.	Y	A	% contri.	P	% contri.	Y
M.S.	10.83	30.87	7.47	31.30	690	11.62	15.62	8.91	17.12	766	10.99	13.84	8.06	13.76	734
M.P.	3.18	9.07	2.32	9.71	729	4.06	5.46	2.57	4.93	632	5.24	6.59	4.43	7.56	846
Karnataka	5.61	16.00	2.89	12.12	516	7.08	9.52	3.93	7.55	555	7.34	9.24	4.32	7.37	588
U.P.	0.00	0.00	0.00	0.00		3.30	4.44	2.92	5.62	884	2.91	3.66	2.52	4.30	866
Gujarat	2.81	8.02	2.38	9.95	844	2.64	3.54	2.66	5.10	1008	2.24	2.82	2.44	4.16	1089
A..P.	4.66	13.28	2.10	8.78	451	4.98	6.69	2.24	4.30	449	3.80	4.78	2.02	3.44	531
Jharkhand	0.78	2.21	0.55	2.30	710	1.00	1.34	0.77	1.48	771	1.96	2.46	1.95	3.33	998
Odisha	1.29	3.69	0.93	3.88	716	1.37	1.85	1.17	2.24	850	1.39	1.75	1.25	2.14	901
Telangana*											2.48	3.12	1.03	1.76	415
T.N.	0.39	1.12	0.24	0.99	604	0.32	0.42	0.23	0.44	724	0.60	0.76	0.58	0.98	958
Bihar	0.36	1.04	0.43	1.79	1177	0.28	0.37	0.36	0.69	1301	0.22	0.28	0.37	0.62	1660
C.G	0.56	1.59	0.27	1.13	483	0.55	0.74	0.27	0.53	497	0.56	0.70	0.35	0.59	621
Others	4.60	13.12	4.31	18.05	937	37.20	50.00	26.02	50.00	699	39.72	50.00	29.30	50.00	738
All India	35.07		23.88		681	74.40		52.03		699	79.44		58.61		738

Including Telangana with AP in Xth & XIth Plan (2012-13 to 2015-16) *Third Advance estimates

Fig: State-wise percentage share of pigeonpea in total pulses area during XIIth Plan

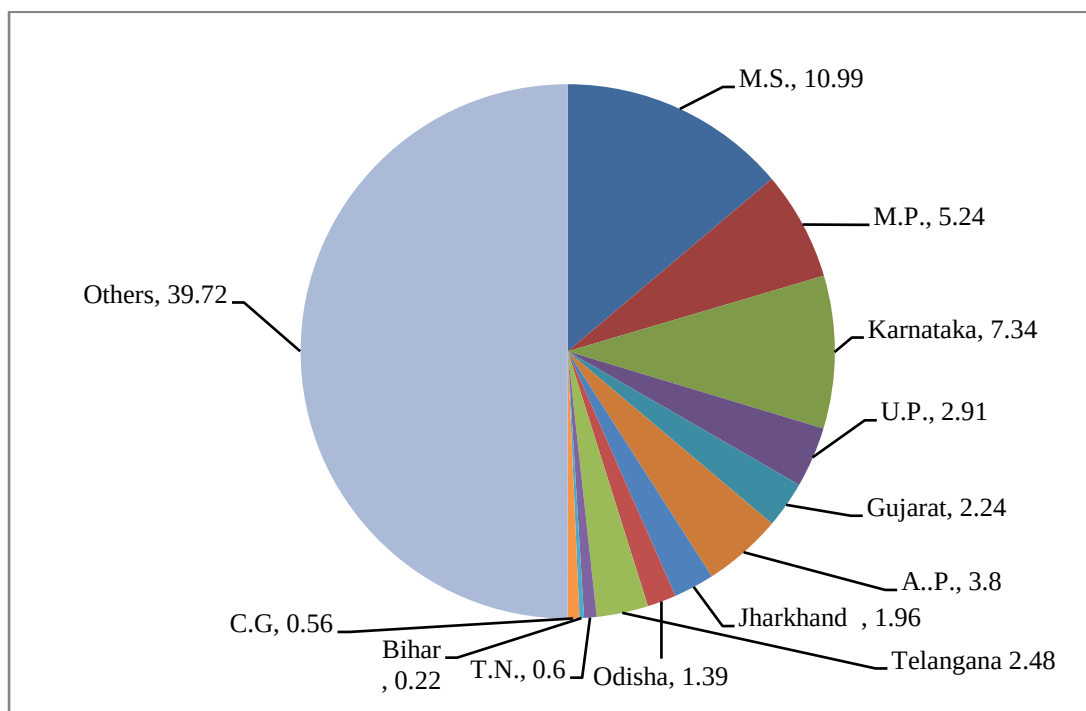


Fig: State-wise percentage share of pigeonpea in total pulses production during XIIth Plan

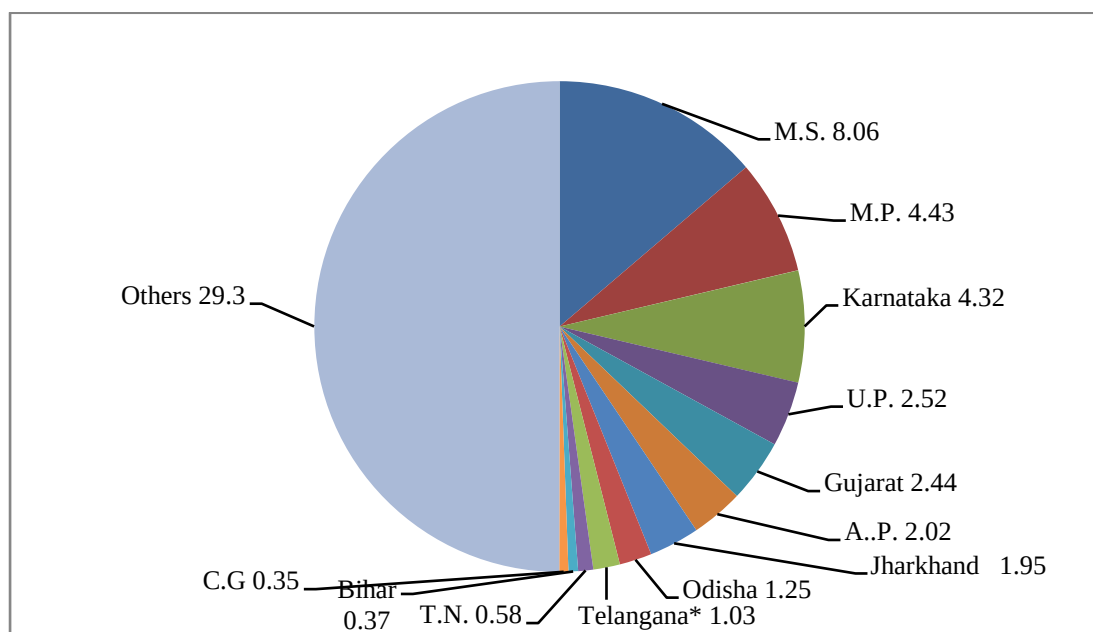


Table 6 –Contribution of Pigeonpea to total Pulses in India

A=Million ha, P=Million tones, Y=kg/ha

Year	Pigeonpea			Pulses			Pigeonpea % to	
	A	P	Y	A	P	Y	A	P
1980-81	2.84	1.96	690	22.46	10.63	473	12.64	18.44
1990-91	3.59	2.42	674	24.66	14.26	578	14.56	16.97

1995-96	3.45	2.31	670	22.28	12.31	553	15.48	18.77
2000-01	3.63	2.25	620	20.35	11.08	544	17.84	20.31
2001-02	3.33	2.26	679	22.01	13.37	607	15.13	16.90
2002-03	3.36	2.19	652	20.5	11.13	543	16.39	19.68
2003-04	3.52	2.36	670	23.46	14.91	636	15.00	15.83
2004-05	3.52	2.35	668	22.76	13.13	577	15.47	17.90
2005-06	3.58	2.74	765	23.39	13.39	572	15.31	20.46
2006-07	3.56	2.31	649	23.76	14.11	594	14.98	16.37
2007-08	3.73	3.08	826	23.63	14.76	625	15.79	20.87
2008-09	3.38	2.27	672	22.09	14.57	660	15.30	15.58
2009-10	3.47	2.46	709	23.28	14.66	630	14.91	16.78
2010-11	4.37	2.86	654	26.4	18.24	691	16.55	15.68
2011-12	4.01	2.65	661	24.46	17.09	699	16.39	15.51
2012-13	3.89	3.02	776	23.25	18.34	789	16.73	16.47
2013-14	3.9	3.17	813	25.21	19.25	764	15.47	16.47
2014-15	3.71	2.78	749	23.10	17.16	743	16.06	16.20
2015-16	3.75	2.46	656	25.26	16.47	652	14.85	14.94

5.0 DEMAND AND SUPPLY STATUS– PRODUCTION AND IMPORT/EXPORT

Domestic supply/availability vis-à-vis import/export : The domestic production of pigeonpea as well as total pulses along with imports/exports during XIIth Plan is given below

Table 7- Availability status of pulses production, import and export

(Quantity : Lakh tons)

Crop	Year	Production	Import	Export	Total Availability	Production Gap
Pigeonpea	2012-13	30.227	5.064	0.016	35.275	5.048
	2013-14	31.744	4.656	0.001	36.399	4.655
	2014-15	27.792	5.752	0.012	33.532	5.740
	2015-16	24.579	4.627	0.040	29.166	4.587
	2016-17 (T)	36.200	1.182	0.036	37.345	1.145
	Average	30.108	4.256	0.021	34.344	4.235
Total Pulses	2012-13	183.425	38.393	2.017	219.801	36.376
	2013-14	192.529	36.548	3.435	225.642	33.113
	2014-15	171.913	45.848	2.221	215.540	43.627
	2015-16	164.675	57.978	2.556	220.097	55.422
	2016-17 (T)	207.500	10.924	0.572	217.852	10.352
	Average	184.008	37.938	2.160	219.786	35.778

Source: DGCI&S, Ministry of Commerce, Kolkata

6.0 Major Pulse importing and exporting countries 2013-14

Pigeonpea imported mainly from Myanmar & African countries. About 50% imported from African countries due to African pigeonpea sweet and large seeded preferred by Indian and also harvested during the pre-harvest period in India, when domestic supply is low and price are high.

Top 5 Exporting & Importing Countries 2013-14

Pulses	Top 5 Export Destinations	Top 5 Import Sources
Pigeon Peas (Tur)	Nepal (78.79%), Canada (19.19%), Israel (1.92%), Korea (0.09%)	Myanmar (51.37%), Tanzania (27.44%), Mozambique(14.69%), Malawi (4.53%), Kenya

Note: figures in parenthesis indicates percentage share of import/export

Dr. A. K. Shivhare
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