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C-1, HUTMENTS, DALHOUSIE ROAD,
NEW DELHI-110011
PHONE : 23012669

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The Journal is brought out by the Directorate of Economics and Statistics, Ministry of Agriculture, it aims at presenting a factual and integrated picture of the food and agricultural situation in india on month to month basis. The views expresssed, if any, are not necessarily those of the Government of India.

Note to Contributors

Articles on the State of Indian Agriculture and allied sectors are accepted for publication in the Directorate of Economics & Statistics, Department of Agriculture & Cooperation's monthly Journal "Agricultural Situation in India". The Journal intends to provide a forum for scholarly work and also to promote technical competence for research in agricultural and allied subjects. Good articles in Hard Copy as well as Soft Copy in MS Word, not exceeding five thounsand words, may be sent in duplicate, typed in double space on one side of fullscape paper in Times New Roman font size 12, addressed to the Editor, Publication Division, C-I, Hutments, Dalhousie Road, New Delhi 110011, along with a declaration by the author(s) that the article has neither been published nor submitted for publication elsewhere. The author(s)should furnish their e-mail address, Phone No. and their permanent address only on the forwarding letter so as to maintain anonymity of the author while seeking comments of the referees on the suitability of the article for publication.

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An honorarium of Rs. 2000 per article of atleast 2000 words for the regular issue and Rs. 2500 per article of at least 2500 words for the Special/Annual issue is paid by the Directorate of Economics & Statistics to the authors of the articles accepted for the Journal.

STATISTICAL TABLES

Abbreviations used

N.A. — Not Available.
N.Q. — Not Quoted.
N.T. — No Transactions.
N.S. — No Supply/No Stock.
R. — Revised.
M.C. — Market Closed.
N.R. — Not Reported.
Neg. — Negligible.
Kg. — Kilogram.
Q. — Quintal.
(P) — Provisional.
Plus (+) indicates surplus or increase.
Minus (–) indicates deficit or decrease.

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General Survey of Agriculture

During the month of February, 2015, the All India Index Number of Wholesale Price (2004-05=100) of Food grains increased by 0.29 percent from 237.4 in January, 2015 to 238.1 in February, 2015.

The Wholesale Price Index (WPI) Number of Cereals increased by 0.17 per cent from 233.7 to 234.1 and WPI of Pulses increased by 0.78 percent from 254.9 to 256.9 during the same period.

The wholesale Price Index Number of Wheat declined by 0.46 percent frm 216.6 to 215.6 while that of Rice increased by 0.46 per cent from 239.2 to 240.3 during the same period.

(ii) Weather, Rainfall and Reservoir Situation during March, 2015

Cumulative Pre-Monsoon Season (March to May) rainfrall for the country as a whole during the period 01st March to 25th March, 2015 is 105% higher than LPA. Rainfall in the four broad geographical divisions of the country during the above period was lower than LPA by (-) 56% in East & North East India and higher than LPA by 154% in North West India, 355% in Central India, 135% in South Peninsula.

Out of a total of 36 meteorological sub-divivions, 26 sub-divisions received excess/normal rainfall, 09 sub-divisions received dificient/scanty rainfall and 01 sub-division received no rain.

Central Water Commission monitors 85 major reservoirs in the country which have a total live capacity of 155-05 BCM at Full Reservoir Level (FRL). Current live storage in these reservoirs as on 26th March, 2015 was 54.96 BCM as against 65.52 BCM on 26.03.2014 (last year) and 51.44 BCM of normal storage (average storage of the last 10 years). Current year's storaoge is 84% of the last year's and 107% of the normal storage.

As per 2nd Advance Estimates for 2014-15, area sown under all rabi crops taken together is 643.9 lakh heactres at All India level as compared to 614.7 lakh hectares last year.

For individual crops, as compared to last year, the area reported was lower by 1.5 lakh ha. under Wheat, 1.98 lakh ha., under Maize 15.69 lakh ha. under Gram and 4.45 lakh ha. under Rapeseed & Mustard.

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Farm Sector News Releases

Radha Mohan Singh Emphasizes on the Importance of Soil Health Management, Irrigation and Organic Farming

Shri T R Zeliang, the Chief Minister of Nagaland, called on the Union Agriculture Minister, Shri Radha Mohan Singh in New Delhi on 27th March, 2015. It was a courtesy call. Various points discussed included establishment of a Veterinary College in Nagaland, employment opportunities and Infrastructure development. Union Agriculture Minister, Shri Rash Mohan Singh emphasised on the importance of Soil Health Management, Irrigation and Organic farming. Shri Singh informed Ministry of Agriculture officials to form a committee and consult State Government for doing a feasibility study on the setting up of the college.

Price Stabilisation Fund

The Department of Agriculture & Cooperation has approved the price Stabilisation Fund (PSF) as a Central Sector Scheme, with a corpus of Rs. 500 crores, to support market interventions for price control of perishable agri-horticultural commodities. PSF will be used to advance interest free loan to State Governments and Central agencies to support their working capital and other expenses on procurement and distribution interventions for such commodities. For this purpose, the States will set up a revolving fund to which Centre and State will contribute equally (50:50). the ratio of Centre-State Contribution to the State level corpus in respect of North East States will however be 75:25. The revolving fund is being mooted so that requirements for all future interventions can be decided and met with at the State level itself. Central Agencies will, however, set up their revolving fund entirely with the advance from the Centre. Procurement of these commodities will be undertaken directly from farmers or farmer's organizations at farm gate/mandi and made available at a more reasonable price to the consumers. Intially the fund is proposed to be used for onion and potato only. Losses incurred, if any, in the operations will be shared between the Central and the States. Detailed guidelines for the scheme have now been approved and are available on the departmental website.

Monetary Support to States to have Own Crop Insurance Schemes

Keeping in view the requirements and agro-climatic conditions specific to each region, State Governments have been given the flexibility to develop suitable products for consideration and approval of the Central Government.

Central Government is providing monetary support under Crop Insurance Schemes in the form of premium subsidy between 40% to 75% in respect of Modified National Agricultural Insurance Scheme, Weather Based Crop Insurance Scheme and Coconut Palm Insurance Scheme. Under National Agricultural Insurance Scheme (NAIS), premium subsidy is provided to only small & marginal farmers up to 10% of the premium. Besides, under NAIS claims are paid by the Government over and above the premium amount. The benefit of premium subsidy and claim payment is applicable to all insured farmers of all States/UTs including the farmers of Vidarbha region.

Subsidy on Premium Paid for Crops

Ten per cent subsidy in premium is available to small and marginal farmers under National Agricultural Insurance Scheme (NAIS). Under Modified National Agricultural Insurance Scheme (MNAIS), Weather Based Crop Insurance Scheme (WBCIS) and Coconut Palm Insurance Scheme (CPIS), the component schemes of 'National Crop Insurance Programme' (NCIP), premium subsidy up to 75%, 50% and 75% respectively is available to farmers who have insured their crops, which is shared equally between Centre and State Governments. Under NAIS, claims beyond 100% of premium are paid by the Government & shared equally between Centre and State Governments. Under MNAIS, WBCIS and CPIS liability for payment of claims rests with the insurance companies.

Details of funds released by Central Government as its share under various crop insurance shcmes during XII Five Year Plan are as under:

Year	Funds provided (Rs. in crore)
2012-13	1549.68
2013-14	2551.12
2014-15 (As on date)	2354.17

As per provisions of the Crop Insurance Schemes, demand for funds from the State Governments is not required. Subsidy in premium and claims, if any, as informed by the insurance companies are worked out and paid as per the provisions of the schemes.

Issuance of Soil Health Cards

'Soil Health Card' Scheme is launched in current year to assist State Govenments to issue soil health cards to all farmers in the country. Soil health card will provide information to farmers on nutrient status of their soil along with recommendation on appropriate dosage of nutrients to be applied for improving soil health and its fertility. Soil nutrient status will be assessed in all the 14 crore farm holdings regularly in a cycle of 3 years so that nutrient deficiencies are identified and amendments applied.

Drought Management Policy

There is a Crop Weather Watch Group (CWWG) representing concerned Central Ministries/Department under Department of Agriculture & Cooperation (DAC) which meets on regular basis to take stock of rainfall, weather forecast, progress of sowing, crop health, level of water in the major water reservoirs in the country, etc. The meeting of CWWG is corrdinated by the National Crop forecasting centre (NCFC) under the Department of Agriculture & Cooperation. The information received on rainfall and its forecast, water storage in reservoirs, pest control, inputs availablility, crop sowing status and prices are shared among the members of the Group for formulating strategy to meet the contingencies, if any. The findings of CWWG and India Meteorological Department reports are also discussed by Secretary (A&C) with the Senior Officers and the requirements for agricultural and allied sector are assessed and appropriate actions taken by the Central Government. The State Governments are also advised suitably and their efforts are supplemented from the Central resources, whenever the situation warrants for immediate intervention for mitigating the hardships of agricultural sector.

DAC is the nodal department of coordination of relief efforts necessitated by drought. The Crisis Management Group on drought headed by the Central Drought Relief Commissioner reviews situation with the representatives of all the Line Department, as and when warranted. A Crisis Management Plan in released annually to guide and formulate the Contingency Plan for all the sectors linked with the impact of drought to mitigate the impact of drought situation. State Governments are also advised to prepare district-wise contingency plans accordingly Contingency Plan has been prepared in 580 districts.

In case of severe drought situation in the country, the National Crisis Management Committee (NCMC) under the Chairmanship of Cabinet Secretary also reviews the situation and takes necessary decisions to mitigate the drought situation. Separate Minister-level and Secretary level Committees are in place to tackle the situation.

Use of Modern Equipments in Fruits Production

The Government of India is implementing scheme of Mission for Integrated Development of Horticulture (MIDH) in all states and Union Territories, for the development of horticulture crops including fruit crops like mango, litchi and grapes and spice like saffron. Mission envisages production and productivity enhancement of horticulture crops along with creation of infrastructure for post harvest management and marketing by adopting a cluster approach. the scheme also has provisions for capacity building and skill upgradation of farmers through training and demonstration of latest technologies.

Articles

Trends in Arrivals and Prices of Chickpea in Western Maharashtra

R.B. Naik,* D.S. Navadkar** and A.J. Amale***

Abstract

This paper attempts to study the arrivals and prices of chickpea in Solapur district of Maharashtra. In Solapur district, the area under gram (Chickpea) was 24.6 thousand ha and production was 15.9 thousand tonnes. In view of this, there is a very vast scope in the processing industries of pulses in Solapur district. Therefore, attempts have been made to study the trends in arrivals and prices of chickpea in Western Maharashtra. The time series data on monthly arrivals and prices of chickpea were collected from the purposively selected APMC, Barshi for the years from 2001-02 to 2011-12 in order to compute the trends, growth rates and relationship between arrivals and prices. In APMC market of Barshi, the variance analysis of arrivals of chickpea showed that the maximum variability was found in chickpea during the year 2006-07 and minimum in the year 2011-12. While in case of price variability of chickpea, maximum occured during the year 2011-12 and minimum in the year 2008-09. The arrivals could not increase at the similar rate of prices during this period, which may be due to decline in production and productivity of chickpea in the study area. This situation could be improved by growing chickpea on irrigated land, providing subsidies, incentives and quick services to the cultivators. For this purpose, HYV seeds, fertilizers, pesticides and irrigation facilities should be provided to cultivators.

Introduction

National Scenario of Chickpea

Madhya Pradesh produces 33% of India's chickpea production; other top producing states include Rajasthan, Maharashtra, Andhra Pradesh, Karnataka and Uttar Pradesh. The per hectare yield of chickpea is highest in Andhra Pradesh followed by Bihar and Gujarat (Table 1).

Table 1: State-wise Area, Production and Yield of Chickpea in India

(Area-Million ha., Production-Million tones and Yield-Kg./ha.)

State	Area	% to All-India	Prodcution	% to All-India	Yield
Madhya Pradesh	3.11	33.84	2.69	32.73	865
Rajasthan	1.78	19.37	1.60	19.46	899
Maharashtra	1.44	15.67	1.30	15.82	903
Uttar Pradesh	0.57	6.20	0.53	6.45	930
Andhra Pradesh	0.58	6.31	0.72	8.76	1241
Karnataka	0.96	10.45	0.63	7.66	656
Gujarat	0.18	1.96	0.20	2.43	1111
Chattisgarh	0.25	2.72	0.24	2.92	960
Haryana	0.11	1.20	0.11	1.34	1000
Bihar	0.05	0.54	0.06	0.73	1200
Odisha	0.04	0.44	0.03	0.36	750
West Bengal	0.02	0.22	0.02	0.24	1000
Others	0.10	1.09	0.09	1.09	@
All India	**9.19**	**100.00**	**8.22**	**100.00**	**895**

@-Since area/production is low in individual states, yield rates are not worked out (Source: Agricultural Statistics at a glance, GOI, 2012)

*M.Sc. Scholar, Department of Agril. Economics, MPKV, Maharashtra.
**Associate Professor, Department of Agril. Economics, MPKV, Maharashtra.
***Junior Research Assistant, Department of Agril. Economics, MPKV, Maharashtra.

In Maharashtra, the area under the total pulses was 3.38 million ha (2009-10), production 2.37 million tonnes and productivity 702 Kg ha^{-1}, whereas, in India in 2009-10, 23.28 million ha area was under these pulses, with 14.66 million tonnes production and 630 kg ha^{-1} productivity. The Maharashtra state contributes to the 14.50 per cent of the total area and 14.66 per cent of the total production of India.

In Solapur district, the area under gram (Chickpea) was 24600 ha and production 15900 thousand tonnes. In view of this, there is a very vast scope in the processing industries of pulses in Solapur district.

Methodolgy

The choice of Solapur district (Barshi tahsil) was purposive because of the fact that the dal mills of different capacities have been established in this area. The pulse processing activities have been carried out on commercial basis by a large number of dal mills in this area.

The Barshi town from Barshi tahsil was purposively selected since the majority of dal mills have been located and centered at the same town. The market has good absorption capacity for the produce that is reflected in the installed capacity of dall mills. For purchase of raw material, the produce from Solapur district is shipped to other parts of the country. The data on general features and selected indicators of the agricultural economy of the study area were obtained from the official records of the District Statistical Officer, Solapur and the Tahsildar, Barshi. The market level secondary data on monthly arrivals and prices of pulses were collected from the official records of the Agricultural Produce Market Committee, Barshi for the years 2001-02 to 2011-12.

The analytical procedure adopted for the present investigation has been described below:

The time series data on monthly arrivals and prices of chickpea collected from the sample market Barshi for the 11 years from 2001-2002 to 2011-2012 were analyzed with a view to compute the trends, growth rates and relationship held therein between. The different estimates were obtained by arranging the data separately at every point of analysis. Some basic measures of statistics were used to interpret the results more effectively. The method adopted for the data analysis is given below with further more explanation.

Where,

Y= Annual arrivals of chickpea in Qtls. (or)
Annual mean prices of chickpea in rupees (or)
Monthly arrivals of chickpea in Qtls. (or)
Monthly prices of chickpea in rupees per quintal

T = Time(s) in years

a = Constant(s)

b = Trend coefficient (s)

iv) To examine the relationship between annual arrivals and annual mean prices as well as monthly arrivals and monthly prices of chickpea, correlation coefficient 'r', as measure of marketing efficiency, was calculated with the help of following formula.

$$r = \frac{\sum XY - \frac{(\sum X)(\sum Y)}{N}}{\sqrt{\left[(\sum X^2) - \frac{(\sum X)^2}{N}\right]\left[(\sum Y^2) - \frac{(\sum Y)^2}{N}\right]}}$$

Where,

X = Annual means prices of chickpea in rupee per quintal (or)
Monthly prices of chickpea in rupees per quintal

Y = Annual arrivals of chickpea in Qtls. (or)
Monthly arrivals of chickpea in Qtls.

N = Number of observations (or)
Time in number of years.

Results

Variability in arrivals and prices of chickpea in APMC, Barshi

Inter year variability in arrivals of chickpea in APMC, Barshi

The inter year variability in arrivals of chickpea in APMC, Barshi were estimated over eleven years from 2001-02 to 2011-12 and presented in Table 2.

In APMC market, Barshi, the analysis of variability of arrivals of chickpea showed that the maximum variability was found in chickpea (135.07 per cent) for the year 2006-07 and minimum variability was found during the year 2011-12 (51.58 per cent). The similar results were reported by Brahmprakash and Shrivastava (1995) while conducting the study on effect of market arrivals on price of field pea in Uttar Pradesh.

TABLE 2: YEARLY VARIABILITY IN ARRIVALS OF CHICKPEA IN APMC, BARSHI DURING THE PERIOD FROM 2001-02 TO 2011-12.

Years	Mean Arrivals (q)	C.V. (%)
1	2	3
2001-02	631.83	89.11
2002-03	419.67	92.62
2003-04	387.83	90.64
2004-05	1280.25	103.37

1	2	3
2005-06	1108.08	120.08
2006-07	1076.42	135.07
2007-08	422.67	105.98
2008-09	603.75	107.10
2009-10	832.17	102.17
2010-11	1096.67	116.96
2011-12	861.33	51.58

Inter Year Variability in Prices in APMC, Barshi

The inter year variability in prices of chickpea in APMC, Barshi weasre estimated over eleven years from 2001-02 to 2011-12, and presented in Table 3.

In APMC market, Barshi the analysis of variability of prices of chickpea showed that the maximum variability in prices of chickpea during the year 2011-12 (35.35 per cent) and the minimum variability in prices of chickpea during the year 2008-09 (6.20 per cent). Similar results were obtained by Gangawar and Yadav (1986) in the case of economic analysis of pulses (Chickpea) in Haryana.

TABLE 3: YEARLY VARIABILITY IN PRICES OF CHICKPEA IN APMC, BARSHI DURING THE PERIOD FROM 2001-02 TO 2011-12.

Years	Mean Arrivals (q)	C.V. (%)
2001-02	1582.08	10.81
2002-03	1405.67	9.90
2003-04	1406.41	7.73
2004-05	1527.25	13.10
2005-06	2099.33	20.76
2006-07	2262.67	7.73
2007-08	2264.58	11.79
2008-09	2164.50	6.20
2009-10	2182.42	12.55
2010-11	2591.00	17.50
2011-12	3273.25	35.35

Inter Year Variability in Arrivals of Chickpea in APMC, Barshi

The inter year variability in arrivals of chickpea in APMC, Barshi was estimated over eleven years from 2001-02 to 2011-12, and presented in Table 4.

In case of chickpea arrivals, the maximum variability in arrivals were found in the month of December (174.08 per cent) and minimum in the month of June (39.77 per cent). Similar results were reported by Surywanshi and Gawade (2011) while conducting the study on price analysis of selected cereals in APMC, Kolhapur.

Inter Year in Prices of Chickpea in APMC, Barshi

The inter year variability in prices of chickpea in APMC, Barshi was estimated over eleven years from 2001-02 to 2011-12, and presented in Table 5.

In case of price variability of chickpea, it was found that the maximum price variability of chickpea during the month of September (44.25 per cent) and August (43.34 per cent) and minimum variability during the month of December (22.09 per cent) and November (23.51), respectively.

Similar results were reported by Waykar (1997) while conducting the study on economics of tur (pegeonpea) processing by mills in Barshi, district Solapur.

TABLE 4: MONTHLY VARIABILITY IN ARRIVALS OF CHICKPEA IN APMC, BARSHI DURING THE PERIOD FROM 2001-02 TO 2011-12.

Month	Mean Arrivals (Q)	C.V. (%)
Oct.	283.45	129.31
Nov.	260.54	135.86
Dec.	338.36	174.08
Jan.	424.36	48.24
Feb.	2131.82	49.48
Mar.	2019.18	52.92
Apr.	1787.91	67.16
May	1018.54	53.73
June	532.27	39.77
July	320.91	42.98
Aug.	222.82	47.78
Sept.	173.27	59.27

TABLE 5: MONTHLY VARIABILITY IN ARRIVALS OF CHICKPEA IN APMC, BARSHI DURING THE PERIOD FROM 2001-02 TO 2011-12.

Month	Mean Arrivals (Q)	C.V. (%)
1	2	3
Oct.	1969.45	26.01
Nov.	1895.54	23.51
Dec	1864.00	22.09

1	2	3
Jan.	1997.00	33.67
Feb.	2097.82	27.15
Mar.	2106.54	31.14
Apr.	2026.09	27.46
May	2139.82	30.46
June	1883.45	36.56
July	2264.27	38.26
Aug.	2263.91	43.34
Sept.	2320.27	44.25

Seasonal Indices of Arrivals and Prices of Chickpea

The seasonal indices of arrivals and prices of chickpea in APMC, Barshi was estimated over eleven years from 2001-02 to 2011-12, are presented in Table 6.

In case of chickpen, the maximum arrival indices were found in the month of February (268.90) followed by March (254.69) and April 225.52) and minimum in the month of September (21.86). In case of prices, the maximum price indices for chickpea in the month of September (112.14) and minimum in the month of December (90.09) followed by June (91.03) and November (91.61), respectively.

Similar results were reported by Ravikumar *etc. al.* (2001) in the case of arrivals and prices of selected commodities in Anakapalle regulated market of Andhra Pradesh and by Andhalkar *et al.* (2010) in the case of arrivals and prices of selected major pulses in APMC, Amravati, respectively.

TABLE 6: SEASONAL INDICES OF ARRIVALS AND PRICES OF CHICKPEA IN APMC, BARSHI DURING THE PERIOD FROM 2001-02 TO 2011-12.

(Per cent)

Month	Arrivals	Prices
1	2	3
Oct.	35.75	95.19
Nov.	32.86	91.61
Dec.	42.68	90.09
Jan.	53.53	96.52
Feb.	268.90	101.39
Mar.	254.69	101.81
Apr.	225.52	97.92
May	128.48	103.42
June	67.14	91.03
July	40.48	109.44
Aug.	28.10	109.48
Sept.	21.86	112.14

Liner and Compound Growth Rates in Annual Arrivals and Prices of Chickpea

The linear and compound growth rates of annual arrivals and prices of chickpea were estimated by fitting linear and exponential forms of equations, respectively. The significance of both the growth rates was examined with the help of student's test. The results have been presented in Table 7.

It is apparent from the table that the linear and compound growth rates of prices of chickpea were to the extent of 11.88 and 7.71 per cent per annum, respectively and were observed to be positive and significant at 1 per cent level of probability during this period. While in annual growth rates in arrivals of chickpea were 4.41 and 4.85 percent, respectively in the case of linear and compound type and they were found to be positive but non significant. The coefficient of determination (R^2) estimated on account of linear and compound growth rates explained variations in prices of chickpea to 81 and 83 percent, respectively. As regards to the arrivals of chickpea, the coefficients of determination (R^2) were seen to be very less in both the types of growth rates *i.e.* 9 and 13 percent, respectively.

It can be observed from the above results that the prices of chickpea at Barshi market have been increasing at rapidly over the time span of 11 years and at a faster rate. This might be on account of general rise in prices and failure of supply to keep pace with the increased demand due to human consumption and animal feed.

It is noteworthy that the market arrivals of chickpea could not increase at similar rate by which the prices of chickpea increased during this period, where they otherwise could show a casual increase of about 4.41 and 4.85 per cent, respectively by the linear and compound growth rates.

Similar results were reported by Tuteja (2006) in the case of state level analysis to study the growth performance of pulse crops in India, similarly, also reported by Salunkhe (2010) in the case of price behaviour of selected ceops in Akola district.

Table 7: Linear and Comound Growth Rates (r) of Annual Arrivals and Annual Mean Prices of Chickpea in APMC, Barshi during the Period from 2001-02 to 2011-12.

Items	Growth rates (r)					
	Linear			Compound		
	(R^2)	r(%)	't' calculated	(R^2)	r(%)	't' calculated
Arrivals	0.09	4.41	0.93	0.13	4.85	1.15
		NS			(NS)	
Price	0.81	11.88	6.19	0.83	7.71	6.60
		**			**	

**-Significant at 1 per cent level of probability.

NS-Non significant.

Relationship between Arrivals and Prices of Chickpea

To examine the relationship held between annual arrivals and annual mean prices as well as monthly arrivals and monthly prices of chickpea during 11 years, the correlation coefficients 'r' as measures of marketing efficiency were calculated and are given in table 8.

It was observed from the table that the correlation coefficients were negative for the market arrivals and prices of chickpea in the months of December to February and April. The positive correlation coefficients were observed in the months of March and May to November. Similarly the positive correlation coefficient was also observed in the case of annual arrival and annual mean prices. This indicated that there exists direct relationship between arrivals and prices. The arrivals and prices of chickpea moved in similar direction. The correlation coefficients were noticed negative for the market arrivals and prices of chickpea in the months of December to February and April. It showed that there lies inverse relationship between arrivals and prices. The arrivals are inversely correlated to prices. The arrivals and prices of chickpea moved in the opposite direction. The 't' test indicated that the correlation coefficients for the market arrivals and prices in the months of November to September and the coefficient of correlation between annual arrivals and annual mean prices of chickpea were statistically non significant except the month of October. The coefficient of correlation between arrivals and prices for the month of October was noted to be significant at 10 per cent level of probability.

Table 8: Coefficients of Correlation between Arrivals and Prices of Chickpea in APMC, Barshi during the Period from 2001-02 to 2011-2012.

(N=11)

Sr. no.	Month	Correlation coefficients (r)
1	Oct.	0.621*
2	Nov.	0.461^{NS}
3	Dec.	-0.184^{NS}
4	Jan.	-0.381^{NS}
5	Feb.	0.070^{NS}
6	Mar.	0.149^{NS}
7	Apr.	-0.040^{NS}
8	May	0.315^{NS}
9	June	0.181^{NS}
10	July	0.260^{NS}
11	Aug.	0.321^{NS}
12	Sept.	0.450^{NS}

(*-Significant at 10 per cent level, NS-Non significant.)

The hypothesis proposed in the chapter entitled 'Introduction' that the arrivals and prices of pulses are inversely correlated has been accepted and proved by such type of above cases. The coefficients of correlation between market arrivals and prices of chickpea for the months of March and May to November were found to be positive, but were statistically non significant (except May in the case of green chickpea and October in the case of chickpea, which were statistically significant). Such type of cases rejected and disproved to some extent the hypothesis stated earlier and can be considered as an exception.

The studies confined to correlation analyses between market arrivals and prices of chickpea by Gangawar *et al.* (1983), and Waykar (1997) resemble with the analysis brought out in the case of pulses and put it here under this sub head.

Conclusions

1. The study pointed out that the seasonal fluctuations in monthly arrivals and prices of chickpea were not uniform over a year and throughout the time series.
2. It can be concluded from the seasonal indices analysis of arrivals and prices of chickpea that "when bulk of the produce reaches in the market, prices reach at their lowest level".
3. It is apparent that the prices of chickpea at Barshi market have been increasing rapidly over the time span of the years ending 2011-12 and at a faster rate. The market arrivals of chickpea in Barshi could not increase at the similar rate by which the prices of chickpea increased during this period, where they otherwise could show a casual increase.
4. The arrivals in Barshi market are inversely correlated to prices. The fluctuations in prices were unrelated with the arrivals.

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Repayment Performance of Borrower and Overdues of Short term Agricultural Credit in Bikaner Region of Rajasthan

RAJU KUMAWAT* AND N.K. SINGH**

Abstract

The present study was conducted in Bikaner region of Rajasthan. All the four district, *viz.* Srigaganagar,' Hanumangarh, Bikaner and Churu of Bikaner region were selected for the present study. A lead bank from each selected district was selected for financial analysis. Thirty borrower and Thirty non-borrower farmers from each selected district were chosen for collection of primary data. The analysis revealed that the repayment performance was found higher on small farmers in the study area. The repayment performance was highest for the farmers of Sriganganagar and lowest for the farmers of Churu district. The overdues amount was estimated at ₹12989.84 for the farmers of Sriganganagar district and ₹ 63647.57 for the farmers of Churu district. In case of overdues, an increasing trend was observed for the borrower farmer of all district of Bikaner regions. Overall, the range of overdues by the borrower farmers of the study area varied from 13.54 to 34.02 per cent.

Introduction

Agriculture has got a prime role in Indian economy. It holds the key to rapid economic development because of its siz, potentially and capacity to transform the entire outlook of the economy. The share of agriculture in GDP was 14.2 per cent during 2011-12. This sector is the single largest employer which provides employments to about 61 percent of India's work force. In order to meet the growing needs of the expanding population, it compelled to produce more than 200 million tonnes of food grain per year. Modernization of traditional farming system is necessary to improve agriculture productivity which is essential for economic growth of a developing nation like India. In modern system, agricultural credit is an important input for acquiring other farm inputs like HYV seeds, fertilizers, insecticides, pesticides, irrigation water etc., and institutional finance has a greater role to play in a country like India where the majority of the farmers are unable to generate enough farm surpulses and re-invest due to their low level of income. Moreover, introduction of modern technology in agriculture has led to intensive use of inputs; resulting manifold increase in the requirement of agricultural credit. Moreover, institutional credit plays an important role to free the agricultural sector from their growing depedence on unorgarnized sector. But the recovery of agricultural advances is a critical task. Repayment not only ensures recycling of public funds for development but also builds up confidence of the credit institutions in their group. The viability of effective performance of the financial institutional can be judged only when they repay their loans as per repayment schedules fixed by the credit agencies. Recovery performance is a measure of operational efficiency and managerial competence of financial institutions. The problem of non-recovery of loan in a very serious problem for any public sector credit institution and recovery of agricultural advances is a critical task. This makes it imperative to study the repayment performance of borrower farmers and their overdues of short term credit.

Methodoly

The present study was conducted in Bikaner region of Rajastha. All four districts namely Sriganganagar, Hanumangarh, Bikanagr and Churu district of Bikaner region were selected for the study. A lead bank of each district of Bikaner region was selected purposiverly for collection of secondary data such as agricultural loan advanced for various purposes, amount repaid and overdues. The Oriental Bank of Commerce for Sriganganagr, State Bank of Bikaner and Jaipur for Hanumangarh and Bikaner districts and Bank of Churu district were selected.One tehsil from each district of the region namely, Raisingnagar from Sriganganagar, Pillibana from Hanumangarh, Nokha from Bikaner and Sardarsahar from Churu district was selected on the basis of highest amount of agricultural loan was advanced to the farmers. Further, on the basis of highest amount of the loan advanced, one branch of the selected lead bank was selected from the selected tehsil, on the basis of highest amount of the agricultural loan advanced to the farmers, two villages were selected from each selected branch of bank. Thus, total eight villages were selected from the entire region for further sampling in order to select the borrower farmers, a comprehensive list of all borrowers farmers of the selected villages collected from the records of the respective selected branch alongwith the advance made during the agricultural year 2011-12 (July 2011 to June 2012) was prepared and on the basis of their land holdings all the borrowers farmers were categorized in three standard groups *viz.* small,

*Ph.D. Scholar and** Professor and Head, Department of Agricultural Economics, College of Agriculture, SKRAU, Bikaner.

medium and large farms by using cumulative total method. The average size of land holding of each district of Bikaner region was recorded as:

Sriganganar: Small (2.12 ha), medium (4.07 ha.) and large (7.35 ha.)

Hanumangarh: Small (1.57 ha.), medium (3.35 ha.) and large (9.11 ha.)

Bikaner: Small (3.80 ha.), medium (6.43 ha.) and (11.15ha.)

Churu: Small (4.21 ha.), medium (10.80 ha.) and large (21.30 ha.)

Thirty borrower farmers representing different size groups was selected randomly from two selected villages of each branch in probability proportion to the total number of borrower farmers available in each size group. Thus, total 120 borrower farmers from entire region of the Bikaner were selected as sample. The data regarding repayment of loan was collected from the respective branches of the bank from where laon was advanced to the borrower farmers upto June, 2014 and collected data were analysed by tabule method. The repayment performance and extend of overdues were calculated as:

$$\text{Repayment performance (\%)} = \frac{\text{Amount repaid}}{\text{Amount due for repayment}} \times 100$$

$$\text{Extent of overdues (\%)} = \frac{\text{Amount overdue}}{\text{Amount due for repayment}} \times 100$$

Result and Discussion

The repayment performance of the borrower farmers of the study area was measures in term of percent of amount repaid repaid to the amount due for repayment in the given period. The total amount of loan due for repayment included the old debt, principal amount and the interest. The payable amount of loan, unpaid amount up to the due date, were considered as the amount of over dues. The extent of over dues was measured as the ratio of amount over dues to the amount of the loan due for repayment and expressed in term of percentage. Amount rapid up to the due date and amount overdues of the borrowed farmers were recorded from the selected branch of the bank for agriciltural year 2011-12 and presented in table 1 to 4 (see appendix).

The amount of the short term loan to be payable, over dues and repayment performance of the borrower farmers of **Sriganganagar** district is presented in table 1. The total per farm payable amount was highest ₹ 1,34,342.22 on large farmers and lowest (₹ 46,844.11) on small farmers and it was ₹ 72,178.29 on medium farmers. However, the per hectare payable amount was ₹ 18,277.85 on large farmers and it was highest (₹ 22,096.27) on small farm and this amount was ₹ 17,734.22 on medium farm. The overall per farm total repayable amount was ₹ 84,455.87 and the per hectare, it was ₹ 19,369.44. This shows that total payable amount was positive associated with the increasing the size of land holding. In case of over dues of total payable amount was also found positive relationship with increasing in size of land holding. The amount of over dues was ₹ 4,084.81 ₹ 9,722.43 and ₹ 25,162.30 on small, medium and large farms, respectively. The same trend was also observed on per hectare over dues amount. It was varied from ₹ 1,926.79 on small farms and ₹ 3,423.44 on large farms. The repayment performance of short term loan provided to the farmers was 91.28 per cent on small farms follwed by 86.53 per cent on medium farms and 81.27 per cent on large farms. This shows that the small farmers were very particular in repayment of the short term loan with in the stipulated period in comparison to medium and large farms. The extent of over dues was work-out 8.72 per cent on small farmers and 18.73 per cent on large farmers. The extent of overdues on medium farms was 13.47 per cent.

The table 2 shows that the overall average per farm short term credit repayable to the banks by the borrower of **Hanumangarh** district was ₹ 79,617.49 this included old debt and amount taken during the year 2011-12 with interest. Out of which ₹ 65,187.64 was repaid by due date and reaming ₹ 14,429.84 stood as over dues. The per farm repayable amount for small, medium and large farmers was ₹ 32,445.93, 61378.56 and ₹ 1,45,027.98, respectively. The percentage of amout repaid (repayment performance) by these farmers was estimated at 93.32 per cent, 89.12 and 76.25 per cent, respectively. Obviously, the extent of over dues in per cent against these borrower farmers as 6.68, 10.88 and 23.75 per cent in that order. The extent of over dues was positively associated with the increasing of size of holding. The per hectare average of short term credit repayable by due date was worked-out ₹ 20,666.19, ₹ 18,321.95 and ₹ 15,919.64 for small, medium and large farms, respectively. As against this, the amount repayment by these farmers was ₹ 19,285.69, ₹ 16,328.52 and ₹ 12,138.72. The share of over dues for small, medium and large farms borrower farmers was ₹ 1380.50, ₹ 1993.42 and ₹ 3780.91. The overall per hectare average repayable amount of short term credit was ₹ 18,302.59 of which ₹ 15,917.64 was repaid by due date and remaining ₹ 2,384.94 was over dues. This shows that the similar trend (increasing trend with increasing the size of holding) was of over dues on per hectare land holding as per farm over dues. The repayment performance decreasing with the increasing in the size of holding of the farmers. Similarly the extent of over dues was 6.68 per cent to 23.75 per cent from small to large farms.

Table 3 reveals that the total per farm payable amount by due date of the borrower farmers selected in **Bikaner** district was ₹ 92843.24 on small farms followed by ₹ 1,35,388.41 and ₹ 2,22,167.11 on medium and large farm,

respectively. However, the per hectare payable amount was estimated ₹ 24,432.43, ₹ 20,900.21 and ₹ 19,925.30 on these farms. The overall per farm total payable amount was worked out ₹ 1,50,132.92 and it was ₹ 2,17,52.64 on per hectare. Against total payable amount it was recorded that per farm only ₹ 72,668.40, ₹ 1,00,322.81 and ₹ 1,58,760.61 was paid up to the due date by small, medium and large farms, respectively. The per hectare amount was ₹ 19,123.26 on small farms and ₹ 15,602.30 on medium farms and ₹ 48,436.50 on large farms. The overall per farm of paid amount was ₹ 1,105,83.94 and ₹ 48,436.50. Thus, inverse relationship was observed in paid amount with size of land holding on per hectare basis. The analysis of repayment performance of the borrower farmers in Bikaner district reveals that about 71 to 78 per cent of the payable amount was paid by the farmers up to the due date. The highest repayment performance was worked out for small farms and lowest large farms. However in case of extent of over dues was highest (28.54%) on large farms followed by (25.90%) for medium farms and (21.73%) for small farms.

The short term loan amount payable and repayment performance of the borrowers farmers of Churu district was recorded from the available office records of the selected banks and analysed the collected information and presented in table 4. From the table it can be revealed that the per farm total payable amount of short term loan was ₹ 71,357.99 on small farms followed by ₹ 1,65,748.54 on medium farms and ₹ 3,24,158.05 on large farms and ₹ 1,87,088.19 on overall basis. The per hectare total payable amount was estimated ₹ 16,949.64 on small farms, followed by ₹ 15,347.08 and ₹ 15,218.69 on medium and large farms, respectively which shows decreasing rate with increase the farm size. The overall per hectare total repayable amount of short term loan was about ₹ 15,838.47. The per farm over dues amount was recorded ₹ 19,181.03 on small farms followed by ₹ 51,597.53 on medium and ₹ 1,20,165.39 on large farms. The per hectare over dues of short term loan was worked out highest (₹ 5641.57) on large farms and it was ₹ 4777.54 on large farms followed by ₹ 4556.06 on small farms. The repayment performance was these farmers was better (73.12%) on small farms. The repayment performance of medium and large farms was 68.87 and 62.93 per cent respectively. The extent of over dues was worked-out about 27 per cent to 37 per cent on small farms to large farms respectively. The positive relationship was seen for extent of overdues among small, medium and large farms.

Thus, from the above discussion, it can be concluded that short term credit paid by due date was higher per farm for large farms followed by medium and small farms to the borrower farmers of all the district of the Bikaner region. However, in case of per hectare overdues, an inverse relationship was found with increase in farm size. Overall, per farm total payable amount varied from ₹ 79617.49 to ₹ 187088.19 to the farmers of the study area. It was highest to the farmers of Churu district and lowest to the farmers of Hanumangarh district. The estimated overdues per farm ranged from ₹ 12989.84 to the farmers of Sriganganagar district to ₹ 63647.57 to the farmers of Churu district. The repayment performance was found higher on small farmers followed by medium and large farmers in the study area. The repayment performance of the short term loan on overall level was recorded between 68.98 to 86.45 per cent. It was highest for the farmers of Sriganganagar and lowest for the farmers of Churu district. This indicated that repayment performance was quite satisfactory in case of the small farmers than the medium and large farmers. Finally, this study reveals that the borrower farmers of certain regions as those from Sriganganagar and Hanumangarh district, are more particular to pay their short term credit by due date in comparison to the farmers of certain regions as those from Bikaner and Churu districts.

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TABLE 1: SHORT TERM CREDIT BORROWED DURING THE AGRICULTURAL YEAR 2011-2012 IT REPAYMENT AND OVERDUES AS ON DUE DATES OF THE FARMERS OF SRIGANGANAGAR DISTRICT.

(₹)

Farm size	Amount overdues at beginning of the year (old debts)	Borrowed Amount	Amount payable up to due dates	Total Amount payable	Amount Actually paid up to due date	Overdues	Repyament performance %	Extent of overdues %
Small								
Per farm	3642.70	41341.16	43201.41	46844.11	42759.30	4084.81	91.28	8.72
Per hectare	1718.25	19500.54	20378.02	22096.27	20169.48	1926.79		
Medium								
Per farm	10352.28	59163.65	61826.01	72178.29	62455.87	9722.42	86.53	13.47
Per hectare	2543.55	14536.52	15190.66	17734.22	15345.42	2388.80		
Large								
Per farm	21763.46	107730.88	112578.76	134342.22	109179.92	25162.30	81.27	18.73
Per hectare	2961.01	14657.26	15316.83	18277.85	14854.41	3423.44		
Overall Average								
Per farm	11919.48	69411.89	72535.39	84454.87	71465.03	12989.84	86.45	13.54
Per hectare	2407.60	16231.44	16961.83	19369.44	16789.77	2579.67		

TABLE 2: SHORT TERM CREDIT BORROWED DURING THE AGRICULTURAL YEAR 2011-2012 IT REPAYMENT AND OVERDUES AS ON DUE DATES OF THE FARMERS OF HANUMANGARH DISTRICT.

(₹)

Farm size	Amount overdues at beginning of the year (old debts)	Borrowed Amount	Amount payable up to due dates	Total Amount payable	Amount Actually paid up to due date	Overdues	Repyament performance %	Extent of overdues %
Small								
Per farm	2158.84	28982.86	30287.09	32445.93	30278.54	2167.39	93.32	6.68
Per hectare	1375.05	18460.14	19291.14	20666.19	19285.69	1380.50		
Medium								
Per farm	7683.42	51382.92	53695.14	61378.56	54700.57	6677.99	89.12	10.88
Per hectare	2293.55	15338.18	16028.40	18321.95	16328.52	1993.42		
Large								
Per farm	18942.26	120656.20	126085.72	145027.98	110583.83	34444.15	76.25	23.75
Per hectare	2079.28	13244.36	13840.36	15919.64	12138.72	3780.91		
Overall Average								
Per farm	9594.84	67007.32	70022.65	79617.49	65187.64	14429.84	86.23	13.77
Per hectare	1915.96	15680.98	16386.63	18302.59	15917.64	2384.94		

Table 3: Short Term Credit Borrowed during the Agricultural Year 2011-2012 it Repayment and Overdues as on Due dates of the Farmers of Bikaner District.

(₹)

Farm size	Amount overdues at beginning of the year (old debts)	Borrowed Amount	Amount payable up to due dates	Total Amount payable	Amount Actually paid up to due date	Overdues	Repyament performance %	Extent of overdues %
Small								
Per farm	8225.35	80974.06	84617.89	92843.24	72668.40	20174.84	78.27	21.73
Per hectare	2164.56	21308.96	22267.86	24432.43	19123.26	5309.16		
Medium								
Per farm	13186.28	116939.84	122202.13	135388.41	100322.81	35065.60	74.10	25.90
Per hectare	2050.74	18186.60	19004.99	20900.21	15602.30	5453.43		
Large								
Per farm	26573.18	187171.23	195593.93	222167.11	158760.61	63406.50	71.46	28.54
Per hectare	2383.24	16786.65	17542.05	19925.30	14238.61	5686.68		
Overall Average								
Per farm	15994.93	128361.71	134137.98	150132.92	110583.94	39548.98	73.66	26.34
Per hectare	2199.51	18760.73	19604.96	21752.64	48436.50	5483.09		

Table 4: Short Term Credit Borrowed during the Agricultural Year 2011-2012 it Repayment and Overdues as on Due dates of the Farmers of Churu District.

(₹)

Farm size	Amount overdues at beginning of the year (old debts)	Borrowed Amount	Amount payable up to due dates	Total Amount payable	Amount Actually paid up to due date	Overdues	Repyament performance %	Extent of overdues %
Small								
Per farm	9578.45	59119.18	61779.54	71357.99	52176.96	19181.03	73.12	26.88
Per hectare	2275.16	14042.56	14674.47	16949.64	12393.57	4556.06		
Medium								
Per farm	17368.65	141990.33	148379.89	165748.54	114151.01	51597.53	68.87	31.13
Per hectare	1608.20	13147.25	13738.87	15347.08	10569.53	4777.54		
Large								
Per farm	31251.35	280293.49	292906.70	324158.05	203992.66	120165.39	62.93	37.07
Per hectare	1467.19	13159.31	13751.49	15218.69	9577.12	5641.57		
Overall Average								
Per farm	19399.48	160467.66	167688.71	187088.19	123440.21	63647.57	65.98	34.02
Per hectare	7760.94	13449.70	14054.94	15838.47	10846.74	4991.72		

Agro-Economic Research

Problems and Prospects of Oilseeds Production in India*

Edible oils constitute an important component of diet in Indian households and accounts for about 6-7 per cent of food expenditure. Edible oils consumption has shown a steady growth (5.5%) during the last decade and is expected to grow further. The per capita consumption has increased from about 12 kg per year in 2006-07 to 15.4 kg in 2012-13. The increase in demand for edible oils is attributable mainly to growing population, increase in income levels, and changing demograhics and food habits. However, the current per capita consumption levels of India (at 15.4 kg/year) are much lower than global averages (26.3 kg/year) and much lower than developed countries like USA (56.7 kg/year) and the EU (59.7 kg/year). Demand for edible oils in India is expected to further grow but there is a significant gap between demand and supply of edible oils due to slow growth in domestic oilseeds production, low productivity levels, shifting of acreage to other high-value crops, etc. This gap has been met through imports, which accounted for about 57 per cent of the total oil consumption in 2013-13. The share of imports has increased from a meagre 2-3 per cent in early-1990 to almost 57 per cent in the recent years. Domestic output has increased by about 2.7 per cent while imports have increased at an annual growth rate of about 9 per cent during the last decade.

Given the positive macro-economic fundamentals, demographic changes diversification and globalization of Indian diets, edible oils have a strong demand growth outlook over the medium-to-long term but the obvious question that arises is if India will continue to be a major importer of edible oils or will it achieve the goal of self-reliance in edible oils through technological, institutional and economic interventions. Hence, understanding the Indian edible oilseeds sector and the factors limiting the production, productivity and marketing of major oilseeds in the country is of paramount importance for promoting oilseeds production, improving farmers' income, alleviating rural poverty, and ensuring nutritional security. This study was conducted during 2011-12 in collaboration with the Agro-Economic Research Centres/Units supported by the Ministry of Agriculture, Govt. of India. The objectives of the study were to:

1. Examine trends and pattern of growth of different edible oilseeds over time and across states and identify the sources of growth in edible oilseeds output in India, and
2. Identify major constraints in the edible oilseed and oil palm cultivation and suggest policy options to increase oilseeds production and productivity in the country.

The study involved collection of secondary data on oilseeds acreage, production and yield trends and cropping pattern shifts in major states. In order to study major constraints and prospects for edible oilseeds production in the country, primary data from about 2000 farmers growing oilseeds in 8 major oilseeds producing states, namely, Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh and West Bengal were collected (Table 1). Other relevant information was gathered from the national agricultural research systems such as Indian Council of Agricultural Research, State Agricultural Universities, oil processors and other secondary sources.

Table 1: List of Selected Crops, States and Farm Category-wise Sample Size

Oilseed	Selected State	Marginal	Small	Medium	Large	Total
Soybean	Madhya Pradesh	62	47	93	38	240
	Maharashtra	110	70	69	1	250
	Total	172	117	162	39	490
Rapeseed &	Rajasthan	19	38	116	27	200
Mustard	Madhya Pradesh	23	34	46	17	120
	Uttar Pradesh	55	68	61	12	196
	Total	97	140	223	56	316

*Centre for Management in Agriculture (CMA) Indian Institute of Management, Ahmedabad.

TABLE 1: LIST OF SELECTED CROPS, STATES AND FARM CATEGORY-WISE SAMPLE SIZE—*Contd.*

Groundnut	Gujarat	15	66	161	8	250
	Andhra PRadesh	31	78	130	11	250
	Total	46	144	291	19	470
Sesamum	West Bengal	165	43	42	-	250
	Karnataka	72	110	66	72	320
Sunflower	Andhra Pradesh	9	37	91	13	150
	Total	81	147	157	85	470

Soure: Field Survey.

Overview of Edible Oils Sector

India occupies a prominent place in global oilseeds scenario. India is the 4th largest edible oil economy in the world and contributes about 10 per cent of the world oilseeds production, 6-7% of the global production of vegetable oil, and nearly 7 percent of protein meal. However India is one of the largest importers of edible oils in the world and imported over 11 million tonnes of edible oils during 2012-13. Oilseeds sector has an important position in the Indian agricultural sector covering an area of about 26.5 million hectares (14.8% of gross cropped area) and total production of over 31 million tonnes in triennium ending 2012-13. The oilseeds accounts for about 10 per cent of the total value of output from agricultural and soybean has the largest share (28%), followed by groundnut (24%) and rapeseed-mustard (22%).

Indian agriculture has witnessed important changes over the last three decades and the most significant change has been a shift of acreage from coarse cereals to rice, wheat and commercial crops, mainly fruits and vegetables and crop intensification. In relative terms, the share of total cereals in the gross cropped area (GCA) has declined from about 59.6 per cent in TE1983-84 to about 51.7 per cent in TE2010-11, indicating that increase in share of area under rice and wheat was less than the decline in area under coarse cereals. The share of oilseeds in GCA has increased from around 10.5 per cent in TE1983-94 to 14.8 per cent in TE2010-11. These changes were more pronounced after the mid-80s owing to concerted efforts of the government like the implementation of 'Technology Mission on Oilseeds' programme. However, oilseeds acreage declined in the second-half of 1990s because of falling edible oil prices due to cheap imports of palm oil and soybean oil.

However, oilseeds production recovered during the last decade and production went up from about 25 million tonnes in early 2000s to about 32.5 million tonnes in 2010-11 and as per the 2nd advance estimates of Ministry of Agriculture, production of nine major oilseeds has reached about 33 million tonnes during 2012-13. Although, production of edible oilseeds has increased during the last decade but share of imports in total availability has also increased from about 33 per cent in 2005-06 to about 53.5 per cent in 2012-13.

Area, production and productivity of oilseeds grew at an annual compound growth rate of 1.51 per cent, 3.06 per cent and 1.77 per cent, respectively during the period 1951-52 to 2010-11. However, performance of oilseeds during different decades provided quite interesting trends. Oilseeds production recorded the highest growth rate of 5.8% during the 1980s, followed by 4.89% during 2000s and the lowest of 0.57% during the 1990s. Almost a similar trend was observed in case of variability in production. Yield variability has been a major factor for production variability during all decades, which is an indication of high yield risks associated with oilseeds. Yield appears to have been a major source of growth in output of most edible oilseeds in the last decade compared to the decades prior to that when area was the main source of growth However, current yields of major edible oilseeds are much below the world average and there are large variations in crop yields across different states/rigions. Soybean enjoys a dominant position both in terms of area and production as its share in output is over 40 per cent, followed by rapeseed-mustart being the second important crop with estimated share of 24.5 per cent of oilseeds output during TE2010-11. Groundnut, which was the predominant crop during the 1980s and early-1990s, lost its share and accounted for 23.7 per cent of total production and 20.6 per cent in acreage during TE2011-12. The share of kharif oilseeds has increased during the last two decades.

The top-four oilseed producing states, namely, Madhya Pradesh, Rajasthan, Gujarat and Maharashtra accounted for over three-fourth of the total production and about two-third oilseeds acreage in the TE2011-12. Madhya Pradesh alone accounted for 27.5 per cent of the total oilseed production in India, with other three states contributing 48.3 per cent. Madhya Pradesh, Rajasthan, Gujarat and Maharashtra have increased their share in oilseeds production during the last two decades while all other States have lost their share. Between TE1991-92 and TE2011-12, Madhya Pradesh recorded the highest increase (11.7%) in its share, followed by Rajasthan (6.4%) and Maharashtra (5.3%). In case of acreage shares, the situation

is slightly different. Andhra Pradesh, which is the 5th largest producer of oilseeds in the country, accounted for 12.9 per cent acreage (second largest acrease) during TE1991-92, which declined to 8 per cent (5th position) during the TE2011-12. Madhya Pradesh gained share in area between TE1991-92 and TE2011-12 (from 16.4% to 27.6%). Other States like Rajasthan, Karnataka, Uttar Pradesh, Tamil Nadu, Odisha and Haryana lost their share in oilseeds acreage. Area expansion in Madhya Pradesh and Maharashtra has been primarily driven by soybean cultivation. Among the major states, Maharashtra, Rajasthan, Madhya Pradesh, Gujarat and West Bengal exhibited healthy growth rates in area, production and productivity during 1991-2011. However, there are wide variations in performance of different states during different time periods.

Among the major oilseeds-producing states, Maharashtra, Rajasthan, Madhya Pradesh, Gujarat, West Bengal and Bihar had healthy growth rates in the production during 1991-2011. Only a few states like Gujarat, Maharashtra, Rajasthan and Bihar have increased the oilseeds production mainly through productivity improvement. Other major producers Madhya Pradesh, West Bengal increased oilseeds production through both increase in area as well as productivity improvement but area expansion was main contributor to increased production. States like Tamil Nadu, Karnataka, Andhra Pradesh, and Odisha recorded negative growth rates in oilseeds production during the last two decades.

On a regional basis, Indian oilseed production (soybean, sunflower and safflower), is highly concentrated. Soybean production is concentrated in three states, namely, Madhya Pradesh, Maharashtra and Rajasthan, accounting for about 96 per cent of total production. Maharashtra and Rajasthan has increased their share in production while share of Madhya Pradesh, the largest producer, has declined during the last two decades. Compared to soybean, the other major oilseeds are broadly distributed and grown in many states. The main producers of rapeseed-mustard are Rajasthan (48.1%), Madhya Pradesh (12.3%), Haryana (11.9%), Uttar Pradesh (10%), West Bengal (5.8%) and Gujarat (4.8%). During the last three decades, share of Rajasthan in total production has increased significantly while Uttar Pradesh, which used to be the largest producer, has lost its share from 38 per cent in early-1980s to about 10 per cent. About 85 per cent of groundnut production in concentrated in five states, namely, Gujarat, Andhra Pradesh, Tamil Nadu, Rajasthan and Karnataka. Gujarat and Rajasthan have increased their share in national production while all other major producers like Andhra Pradesh, Tamil Nadu, Karnataka Maharashtra lost their share in total production during the last 2-3 decades. Groundnut area has been replaced by cotton due to popularization of Bt cotton and higher income from Bt cotton in Gujarat and Andhra Pradesh.

Karnataka is the largest producer of sunflower seed in the country and has maintained its leadership during the last two decades. The other two major producer, Andhra Pradesh (27.2%) and Maharashtra (14.6%) account for over 40 per cent of the total production. Maharashtra has lost its share in sunflower production of other oilseeds, particularly soybeans, while Andhra Pradesh has increased its share during the last three decades. Sesamum is grown in number of states but West Bengal and Rajasthan are major producers accounting for over 40 per cent of total production in the country. Top five producers account for over 80 per cent of production.

Among major oilseeds, performance of soybean has been much better than other oilseeds. Soybean production recorded the highest growth rate (6.47%), followed by rapeseed-mustard (1.68%) during the last two decades. Groundnut and sunflower production had a negative growth in production. However in terms of productivity, rapeseed-mustard has performed better than Soybean and Groundnut. Performance of oilseeds sector in general has improved during the last decade. Groundnut, with had negative growth in production (-2.26%) during the 1990s, recorded 1.63 per cent growth rate in production during the last decade and it was primarily driven by yield improvement (2.92%) as groundnut acreage had negative growth rate (-1.2%). Similarly repeseed-mustard production also increased at a faster rate (3.71%) and was driven by both area expansion and yield improvements. Soybean witnessed the highest growth rate in production (8.88%) among all oilseeds during the last decade but was slightly lower than 1990s (9.85%). Soybean production has been mainly driven by area expansion while yield improvement has been marginal. Therefore, efforts are needed to improve crop yields as scope for area expansion is limited. The above results clearly show that oilseeds sector, which had poor performane during the 1990s, has gained momentum during the last decade. To maintain the current pace of growth, there is a need to address technological, institutional and socio-economic factors limiting oilseeds production in the country.

Factors Constraining Oilseeds Production

Given the rising demand for edible oils and increasing dependence on imports, there is a need to increase edible oilseeds production in the country. However, there are competing demand for agricultural land from various crops and scope for increasing area under oilseeds is very limited. Therefore, production of oilseeds can be increased only if productivity is improved significantly and farmers get remunerative and attractive prices, better market access,

technology and other infrastructure facilities. However, oilseeds farmers face various constraints as most of oilseed crops are grown under rainfed conditions and only about 25 percent of area under oilseeds is irrigated. Several biotic, abiotic, technological, institutional, and socio-economic constraints inhibit exploitation of the yield potential of crops and therefore these constraints need to be addressed. Therefore, for improving crop yields, the first point to be emphasized is the magnitude of the yield gap and its main causes.

The results of the yield gap analysis showed that significant gaps exist between actual and potential yields for different oilseeds crops (Table 2). The yield gap for safflower, sunflower and soybean is higher than rapeseed-mustard. In case of soybean, Maharashtra has higher technological gap than extension gap, while in Madhya Pradesh, the largest producer of soybean, extension gap is higher than technological gap. In case of rapeseed-mustard, extension gap is higher compared with technological gap. According to estimates of yield gaps, we conclude that there is a vast potential to expand oilseeds production in the country if farmers can access and efficiently use the available knowledge and technologies. The yield gap for most crops can be reduced to obtain yields closer to the potential achievable yield by using improved crop varieties, the recommended levels of inputs, and better management of water, insects-pests and diseases. But there are several questions which need to be addressed. Are these technologies and knowledge really available to the farmers? Are our institutions equipped to transfer the technologies and knowledge?

Narrowing yield gaps not only increases oilseeds yield and production, but also improve the efficiency of input use, reduce production costs, and increase sustainability. Exploitable yield gaps are caused by various factors, such as physical, biological, socio-economic, and institutional constraints, which can be effectively improved through identification and prioritization of major constraints affecting oilseeds production, appropriate government policy support, effective transfer of technologies, adequate and timely supply of quality inputs and farm credit, reduction of postharvest losses and strong linkages among research, extension and farmers.

At the national level, economic factors were the most important constraints in oilseeds production, followed by institutional factors, technological constraints and agro-climatic constraints (Table 3). Among technological constraints, incidence of insect-pests and diseases and poor crop germination are the main problems for oilseeds production in the country. Policy-related impediments include unfavorable policies such as high costs of inputs, low and fluctuating crop prices, non-availability of timely and quality seeds and other inputs, and poor extension services. Lack of access to markets, exploitation by market intermediaries, lack of processing facilities in the region, and high transportation costs were major post-harvest management and market related constraints. Most rural areas are inaccessible largely due to poor roads, which often restrict their access to market and prevent them from getting technologies and extension services.

Table 2: Technological Gap and Extension Gap (in %) for Major Oilseeds Producing States

Crop/State	Technological Gap	Extension Gap
Soybean		
Madhya Pradesh	16.5	29.6
Maharashtra	41.9	21.0
Rapeseed-Mustard		
Rajasthan	1.8	9.0
Madhya Pradesh	12.5	22.4
Uttar Pradesh		11.7
Sunflower		
Karnataka	31.8	21.4
Andhra Pradesh	31.9	16.5
Safflower		
Maharashtra	28.8	23.0
Karnataka	49.9	19.9

Source: Field Survey

The results showed that technological constraints constitute the major obstacles to the soybean and groundnut production while in case of rapeseed-mustard, institutional constraints were the most important. Technological constraints ranked number two in case of soybean, groundnut and sesamum cultivation. In case of sunflower, post-harvest management and value-addition was the most important constraint. Agro-climatic factors turned out to be the 3rd important constraint in oilseeds cultivation in the study states. In the two study States, namely, Madhya Pradesh and Maharashtra, major constraints to soybean production included the incidence of insect pests, higher production risks compared with other crops mainly due to low irrigation coverage, problem of weeds, lower profitability, and lack of transport infrastructure. In case of rapeseed-mustard, high-input costs, lack of assured supply of power/electricity, high transportation costs and unavailability of quality and timely inputs including seeds were reported as main constraints. Higher-input costs, shortage of human labor, low and fluctuating prices, incidence of diseases, lower profitability compared with competing crop (mainly Bt cotton) and non-availability of timely inputs constitute the problems in groundnut production.

Table 3: Major Constraints to Oilseeds Production in India

Crops	Technological	Agro-climatic	Economic	Institutional	Post-harvest Management & Marketing
Soybean	2	3	1	4	5
Rapeseed-mustard	3	5	2	1	4
Groundnut	2	4	1	3	5
Sunflower	4	5	2	3	1
Sesamum	2	1	3	4	5
All Crops	3	4	1	2	5

Source: Field Survey

Policy Implications of the Results

Following technological, institutional and economic policy instruments would help in increasing both oilseeds production and productivity in the country. The following policy issues need perspective changes.

Crop Improvement Strategy

The strategy for boosting edible oilseed production in the country should lay emphasis on both price and non-price factors because technological, institutional and economic factors influence the supply response of edible oilseeds. However, while recognizing the importance of price policy in accelerating the edible oilseed production, it is non-price factors like technology (crop varieties, irrigation) and institutional infrastructure (access to markets and market information), which are more important in influencing the crop area allocation decisions. There is a general perception that unfavorable prices for oilseeds is a main constraint in increasing oilseed production, however, there has been a conscious attempt in recent years to improve price parity of oilseeds vis-a-vis other competing crops through significant increase of Minimum Support Price (MSP) to encourage cultivation of oilseeds crops. The trends in procurement prices of edible oilseeds during the last decade indicate that there has been a substantial increase (10-17% per annum) in prices of edible oilseeds, much higher than main competing crops. Despite such increase in procurement prices, the growth in oilseeds production has been moderate. Moreover, farm harvest prices of major oilseeds have been generally higher than the minimum support price (MSP), therefore, MSP has little relevance for oilseeds. It is also true that government procurement of oilseeds has been very low as major focus of the procurement is on rice and wheat. Despite such steep increase in prices, there is still a significant difference between the returns per hectare of major oilseeds and wheat and rice. Therefore, price support policy alone cannot encourage oilseeds production. Increase in the MSP of oilseeds leads to an increase in the market price of edible oils and other by-products, which hurts consumers and processors. Significant increase in MSP of oilseeds may result in rise in import of relatively cheaper edible oils and have adverse effect on domestic producers and processors. Therefore, in order to increase edible oilseeds production and yields, technological break-through in terms of suitable high yielding varieties, irrigation, as well as accelerating technology dissemination through strengthening of extension services is required. It is also necessary to mention that there should be a regional approach to boost edible oilseeds output taking into account regional diversities in the trends and patterns of growth of different edible oilseeds.

Strengthening Institutional linkages

The technological gap (difference between experimental and frontline demonstration yield) is quite high for most oilseeds and is caused mainly by factors that are generally non-transferable including environmental conditions. It is therefore difficult to economically narrow this gap. This calls for a review of the production technology developed for the crops to bridge this gap. The gap between frontline demonstration and actual farm yields (extension gap) is also high for most crops and is mainly caused by lack of proper management practices, suboptimal use of inputs and institutional bottle-necks. The lack of availability of quality seed of improved varieties and other inputs and services is perceived to be a major concern for oilseed cultivators. Ensuring availability of key inputs such as quality seed, fertilizers, pesticides, credit, risk management tools including crop insurance and extension services in oilseeds producing regions help in increasing productivity and production. The Research- Extension-Farmer-Industry linkages should be strengthened to reduce the gap between the potential yield and the actual farm yield.

One of the features of the oilseeds/edible oils trade is dominance of private trade and speculative activities in trading activities. The edible oilseed/oil prices are subjected to wide seasonal fluctuations and price are generally low after the harvest of the crop and high during festival seasons and benefit of price rise goes to the traders and act as disincentive for the farmers. Historically, whenever there has been a good crop, we have invariably witnessed distress sales by the farmers. The government allowed futures trading in most oilseeds and oils from April 1999 (palm oil in 2005 and soy oil in 2001), which was expected to improve price discovery and reduce seasonal fluctuations in edible oilseed and oil prices but has not made any significant impact.

Trade-related Policy Initiatives

Over the last two decades, the world oilseed market has witnessed significant trade and domestic policy reforms. Following the Uruguay Round, member countries replaced non-tariff barriers on imports and exports of oilseeds/oils by tariffs and agreed to reduce domestic support and export subsidies to agricultural sector. However, a review of trade policies in the oilseed complex reveals a high degree of government trade-distorting interventions in major producing and trading countries. Indian edible oil sector has become more liberalized and transparent. The two major problems with the edible oil import duty structure in India are: low bound rate of duty (45%) on soybean oil, which has the 2nd largest share in edible oil imports and low applied duty rates and high variability in import duty structure with frequent changes in tariffs. First, bound rate of duty for soybean is 45 per cent, which is not sufficient to protect domestic producers/processors when world prices are low (e.g. in the first half of last decade) as there is considerable substitution among various oils based on prices on the demand side. Second, import duty on edible oils has been very low since April 2008, when import tariff on crude palm oil was reduced to zero and on refined palm and soybean oil to 7.5 per cent. This was marginally increased to 2.5 and 10 per cent, respectively from March 2014. Low import duties on edible oils adversely affect the oilseeds farmers. Moreover, high dependence on world market for large quantity of oils is risky given the fact that world oilseeds production has high fluctuations due to dependence on weather in major exporting countries and demand in some importing countries may go up for non-edible purpose like bio-diesel. For example, over 2006-2012, the EU-27 countries increased their tctal use of palm oil by 40 per cent, from 4.5 to 6.4 million tonnes and about 30 per cent was used for bio-diesel production. According to the estimates, palm oil use has increased much more than predicted and now stands at 20 per cent of the bio-diesel mix. Therefore there is a need to have consistent trade policy which protects the interests of both producers and consumer but help in making India self-sufficient in edible oils in the long run.

The long-term strategy to make India self-sufficient in edible oilseeds/oils should focus on technology by evolving new location-specific high yielding varieties, more coverage under assured irrigation and better water use efficiency, appropriate pricing incentives and trade policy and ensure timely availability of quality inputs such as fertilizers, pesticides, credit facilities, crop insurance and assured market access. Investment in research and development of oilseeds complex is a key element and should be stepped up. The dissemination of technology is equally important and needs to be strengthened through effective agricultural extension system. Extending oilseed cultivation to non-traditional areas and as mixed cropping system is worth considering. The potential of non-traditional edible oils like rice bran oil, corn oil, cottonseed oil, needs to be exploited to boost India's edible oil output and reduce dependence of imports.

Commodity Reviews

Foodgrains

During the month of March, 2015 the, Wholesale Price Index (Base 2004-05=100) of pulses increased by 0.35%, cereals & foodgrains decreased by 1.37% and 1.05%, respectively over the previous month.

ALL INDIA INDEX NUMBER OF WHOLESALE PRICE

Commodity	Weight (%)	WPI for the month of March, 2015	WPI for the month of February, 2015	WPI A year ago	Percentage change during	
					A month	A year
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Rice	1.793	233.6	240.3	232.1	-2.79	0.65
Wheat	1.116	215.5	215.6	218.1	-0.05	-1.19
Jower	0.096	280.7	285.5	280.9	-1.68	-0.07
Bajra	0.115	244.4	240.2	257.2	1.75	-4.98
Maize	0.217	249.3	243.0	246.6	2.59	1.09
Barley	0.017	238.6	242.4	222.7	-1.57	7-14
Ragi	0.019	329.9	322.6	330.9	2.05	-0.51
Cereals	3.373	230.9	234.1	231.1	1.37	-0.09
Pulses	0.717	257.8	256.9	227.7	0.35	13.22
Foodgrains	4.09	235.6	238.1	230.5	-1.05	2.21

Source Office of the Economic Adviser, M/O Commerce and Industry.

The following Table indicates the State wise trend of Wholesale Prices of Cereals during the month of March, 2015.

Commodity	Main Trend	Rising	Falling	Mixed	Streay
Rice	Falling		A.P. Jharkhand	Haryana	Assam
Wheat	Mixed	Haryana Karnataka	Punjab	M.P. Rajasthan U.P.	Jharkhand
Jower	Falling & Steady		Gujarat Maharashtra	Rajasthan	A.P. Karnataka
Bajra	Mixed	Gujarat		Haryana Rajasthan	
Maize	Rising	Haryana Karnataka U.P.		Rajasthan	

Procurement of Rice

10.27 million tonnes of Rice (including paddy converted into rice) was procured during March 2015 as against 10.66 million tonnes of rice (including paddy converted into rice) procured during March 2014. The total procurement of Rice in the current marketing season i.e. 2014-2015, up to 31.03.2015 stood at 31.84 million tones, as against 33.94 million tonnes of rice procured, during the corresponding period of last year. The details are given in the following table.

PROCUREMENT OF RICE

(In Thousand Tonnes)

State	Marketing Season 2014-15		Corresponding Period of last year		Marketing Year (October-September)			
	(upto 31.03.2015)		2013-14		2013-14		2012-13	
	Procurement	% to Total	Procurement	% to Total	Procurement	% to Total	Procurement	% to Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Andhra Pradesh	3738	11.74	6500	19.15	3722	11.76	6464	19.00
Chhatisgarh	4290	13.47	4804	14.15	4290	13.56	4804	14.12
Haryana	2406	7.56	2609	7.69	2406	7.60	2609	7.67
Maharashtra	161	0.51	192	0.57	161	0.51	192	0.56
Punjab	8106	25.45	8558	25.21	8106	25.62	8558	25.16
Tamil Nadu	684	2.15	481	1.42	684	2.16	481	1.41
Uttar Pradesh	1127	3.54	2286	6.73	1127	3.56	2286	6.72
Uttarakhand	463	1.45	497	1.46	463	1.46	497	1.46
Others	10870	34.13	8017	23.62	10678	33.75	8129	23.89
Total	31845	100.00	33944	100.00	31637	100.00	34020	100.00

Source: Department of Food & Public Distribution.

Procurement of Wheat

The l Total procurement of wheat in the current marketing seasons i.e. 2014-2015 up to June, 2014 is 27.99 million tones against a total of 25.04 million tones of wheat procured during last year. The details are given in the following table:

PROCUREMENT OF WHEAT

(In Thousand Tonnes)

State	Marketing Season 2014-15		Corresponding Period of last year		Marketing Year (October-September)			
	(upto 31.03.2015)		2013-14		2013-14		2012-13	
	Procurement	% to Total	Procurement	% to Total	Procurement	% to Total	Procurement	% to Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Haryana	6495	23.20	5873	23.45	5873	23.41	8665	22.71
Madhya Pradesh	7094	25.34	6325	25.26	6355	25.33	8493	22.26
Punjab	11641	41.58	10878	43.44	10897	43.43	12834	33.64
Rajasthan	2159	7.71	1268	5.06	1268	5.06	1964	5.15
Uttar Pradesh	599	2.14	683	2.73	683	2.72	5063	13.27
Others	6	0.02	13	0.05	16	0.06	1129	2.96
Total	27994	100.00	25040	100.00	25092	100.00	38148	100.00

Source: Department of Food & Public Distribution.

Commercial Crops

Oilseeds & Edible Oils

The Wholesale Price Index (WPI) of nine major oilseeds as a group stood at 204.2 in March, 2015 showing an increase of 0.5 percent over the previous month. However, it is lower by 1.9 percent over the previous year. The WPI of Cotton Seed (62.8 percent), Niger Seed (4.7 percent), Sunflower Seed (3.8 percent), Groundnut seed (3.4 percent), Copra (1.5 percent) and Rape & Mustard Seed (0.4 percent) increased over the previous month. However, the WPI of Gingelly seed (4.3 percent) and Soyabean (1.0 percent) decreased over the previous month. The WPI of Safflower seed remained unchanged during the month.

The Wholesale Price Index (WPI) of Edible Oils as a group stood at 145.4 in March, 2015 showing a decrease of 0.2 percent and 0.5 percent over the previous month and year, respectively. The WPI of Gingelly Oil (1.3 percent), Soyabean Oil (1.2 percent), Cotton seed (0.5 percent), Mustard Oil (0.1 percent) decreased over the previous month. However, the WPI of Copra oil (1.0 percent), Sunflower Oil (0.8 percent), and Groundnut Oil (0.6 percent) increased over the previous month.

Fruits & Vegetables

The Wholesale Price Index (WPI) of Fruits & Vegetable as a group stood at 232.0 in March, 2015 showing a decrease of 1.4 percent over the previous month. However, it is higher by 12.9 percent over the previous year.

Potato

The Wholesale Price Index (WPI) of Potato stood at 152.8 in March, 2015 showing a decrease of 7.5 percent and 14.2 percent over the previous month and year, respectively.

Onion

The Wholesale Price Index (WPI) of Onion stood at 332.5 in March, 2015 showing a decrease of 4.1 percent over the previous month. However, it is higher by 42.3 percent over the previous year.

Condiments & Spices

The Wholesale Price Index (WPI) of Condiments & Spices (Group) stood at 311.1 in March 2015 showing a decrease of 1.0 percent over the previous month. However, it is higher by 18.7 percent over the previous year. The WPI of Black Pepper and Chillies (Dry) decreased by 4.6 percent and 0.4 percent over the previous month, respectively. However, WPI of Turmeric increased by 0.6 percent over the previous month.

Raw Cotton

The Wholesale Price Index (WPI) of Raw Cotton stood at 178.3 in March, 2015 showing an increase of 1.1 percent over the previous month. However, it is lower by 24.6 percent over the previous year.

Raw Jute

The Wholesale Price Index (WPI) of Raw Jute stood at 308.9 in March, 2015 showing an increase of 0.3 percent and 14.4 percent over the previous month and year, respectively.

WHOLESALE PRICE INDEX OF COMMERCIAL CROPS

COMMODITY	LATEST MARCH, 2015	MONTH FEBRUARY, 2015	YEAR MARCH, 2014	%VARIATION OVER MONTH	YEAR
OIL SEEDS	204.2	203.1	207.0	0.5	-1.9
Groundnut Seed	222.4	215.0	197.0	3.4	9.1
Rape & Mustard Seed	202.7	201.8	188.8	0.4	6.9
Cotton Seed	257.4	158.1	173.0	62.8	-8.6
Copra (Coconut)	179.4	176.8	151.7	1.5	16.5
Gingelly Seed (Sesamum)	375.9	392.9	477.6	-4.3	-17.7
Niger Seed	233.0	222.6	171.7	4.7	29.6
Safflower (Kardi Seed)	121.8	121.8	161.4	0.0	-24.5
Sunflower	186.9	180.0	188.0	3.8	-4.3
Soyabean	197.4	199.4	238.2	-1.0	-16.3
EDIBLE OILS	145.4	145.7	146.5	-0.2	-0.5
Groundnut Oil	180.1	179.0	162.5	0.6	10.2
Cotton Seed Oil	172.1	173.0	181.8	-0.5	-4.8
Mustard & Rapeseed Oil	160.8	160.9	155.0	-0.1	3.8
Soyabean Oil	151.1	152.9	158.4	-1.2	-3.5
Copra Oil	154.8	153.3	121.7	1.0	26.0
Sunflower Oil	125.4	124.4	127.7	0.8	-2.6
Gingelly Oil	169.2	171.4	190.1	-1.3	-9.8
FRUITS & VEGETABLES	232.0	235.2	208.4	-1.4	12.9
Potato	152.8	165.2	192.6	-7.5	-14.2
Onion	332.5	346.7	243.6	-4.1	42.3
CONDIMENTS & SPICES	311.1	314.4	264.8	-1.0	18.7
Black Pepper	691.8	725.1	618.7	-4.6	17.2
Chillies (Dry)	313.3	314.5	281.4	-0.4	11.8
Turmeric	256.4	254.8	216.3	0.6	17.8
Raw Cotton	178.3	176.3	233.7	1.1	-24.6
Raw Jute	308.9	308.0	270.0	0.3	14.4

Part-II Statistical Tables

Wages

TABLE 1: DAILY AGRICULTURAL WAGES IN SOME STATES (CATEGORY-WISE)

(In Rs.)

State	District	Centre	Month & Year	Daily Normal Working Hours	Field Labour		Other Agri Labour		Herds man		Skilled Labour		
											Carpenter	Black Smith	Cobbler
					M	W	M	W	M	W	M	M	M
Andhra Pradesh	Krishna	Ghantasala	Nov, 14	8	237.5	125	500	NA	250	NA	300	350	250
	Guntur	Tadikonda	Nov, 14	8	275	200	300	NA	250	NA	NA	NA	NA
Telangana	Ranga Reddy	Arutala	Dec. 14	8	275	225	NA	NA	NA	NA	275	250	NA
	Bangalore	Harisandra	Oct, 14	8	250	200	300	225	300	225	350	350	NA
Karnataka	Tumkur	Gidlahali	Oct, 14	8	250	180	300	180	300	180	300	250	NA
	Nagpur	Mauda	Feb, 12	8	100	100	NA	NA	NA	NA	NA	NA	NA
Maharashtra	Ahmednagar	Akole	Feb, 12	8	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jharkhand	Ranchi	Gaitalsood	April, 12	8	100	100	NA	90	90	NA	58	NA	NA

TABLE 1.1 DAILY AGRICULTURAL WAGES IN SOME STATES (OPERATION-WISE)

(In Rs.)

State	District	Centre	Month & Year	Type of Labour	Normal Daily Working Hours	Plou-ghing	Sow-ing	Weed-ing	Harve-sting	Other Agri Labour	Herd-sman	Skilled Labours		
												Carpe-nter	Black Smith	Cob-bler
Assam	Barpeta	Laharapara	Oct,14	M	8	250	250	250	250	250	250	350	250	350
				W	8	NA	200	200	200	200	NA	NA	NA	NA
Bihar	Muzaffarpur	Bhalui Rasul	June12	M	8	130	120	80	130	150	120	200	180	250
				W	8	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Shekhpura	Kutaut	June,12	M	8	NA	NA	185	NA	185	NA	245	NA	NA
				W	8	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chhattisgah	Dhamtari	Sihaba	Dec 14	M	8	NA	NA	NA	NA	NA	NA	NA	NA	NA
				W	8	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gujarat*	Rajkot	Rajkot	Dec, 14	M	8	219	214	156	183	150	184	428	428	344
				W	8	NA	163	147	178	139	NA	NA	NA	NA
	Dahod	Dahod	Dec,14	M	8	207	164	164	164	136	NA	271	221	221
				W	8	NA	164	164	164	136	NA	NA	NA	NA
Haryana	Panipat	Ugarakheri	Jan, 15	M	8	400	400	400	400	400	NA	NA	NA	NA
				W	8	NA	300	300	300	300	NA	NA	NA	NA
Himachal	Mandi	Mandi	Dec,13	M	8	NA	162	162	162	162	NA	260	240	240
Pradesh				W	8	NA	162	162	162	162	NA	650	NA	NA
Kerala	Kozhikode	Koduvally	Dec,14	M	4-8	1030	600	NA	600	815	NA	700	NA	NA
				W	4-8	NA	NA	450	450	500	NA	NA	NA	NA
	Palakkad	Elappally	Dec,14	4-8	500	500	500	NA	500	466.66	NA	600	NA	NA
				W	4-8	NA	NA	300	300	300	NA	NA	NA	NA
Madhya	Hoshangabad	Sangarkhera	Oct, 14	M	8	200	200	200	200	150	150	350	350	NA
Pradesh				W	8	NA	200	200	200	150	150	NA	NA	NA
	Satna	Kotar	Oct,14	M	8	280	150	150	150	200	150	300	300	300
				W	8	NA	150	150	150	150	150	NA	NA	NA
	Shyopurkala	Vijaypur	Oct,14	M	8	NA	NA	NA	NA	NA	NA	NA	NA	NA
				W	8	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE, 1.1 DAILY AGRICULTURAL WAGES IN SOME STATES (OPERATION-WISE) *Contd.*

(In Rs.)

State	District	Centre	Month & Year	Type of Labour	Normal Daily Working Hours	Plou-ghing	Sow-ing	Weed-ing	Harve-sting	Other Agri Labour	Herd-sman	Skilled Labours		
												Carpe-nter	Black Smith	Cob-bler
	Bhadrak	Chandbali	June, 14	M	8	250	250	NA	250	262.5	250	300	250	250
Odisha				W	8	NA	NA	NA	200	212.5	200	NA	NA	NA
	Ganjam	Aska	June, 14	M	8	250	200	NA	250	270	200	400	300	200
				W	8	NA	100	100	150	110	100	NA	NA	NA
Punjab	Ludhiyana	Pakhowal	June, 13	M	8	265	270	270	270	260	NA	325	NA	NA
				W	8	NA	NA	NA	NA	NA	300	700	500	NA
Rajasthan	Barmer	Kuseep	Nov, 14	M	8	NA	NA	NA	NA	NA	200	NA	NA	NA
	Jalores	Sarnau	Nov, 14	M	8	350	350	350	350	NA	NA	400	400	NA
				W	8	NA	NA	NA	350	NA	NA	NA	NA	NA
	Thanjavur	Pulvarunatham	Dec, 14	M	8	NA	300	NA	300	301.23	NA	NA	NA	NA
Tamil Nadu*				W	8	NA	110	108.75	125	117	NA	NA	NA	NA
	Tirunelveli	Malayakulam	Dec, 14	M	8	NA	300	NA	NA	417.65	NA	NA	NA	NA
				W	8	NA	135	149	143.5	300	NA	NA	NA	NA
Tripura	State	Average	March,	M	8	238	201	203	209	207	199	253	235	240
			12	W	8	NA	154	152	154	154	149	NA	NA	NA
	Meerut	Ganeshpur	Apr, 14	M	8	250	231	231	NA	234	NA	365	NA	NA
				W	8	NA	181	196	181	191	NA	NA	NA	NA
Uttar Pradesh	Meerut	Ganeshpur	Apr, 14	M	8	250	231	231	NA	234	NA	365	NA	NA
				W	8	NA	181	196	181	191	NA	NA	NA	NA
	Aurraiya	Aurriya	Apr, 18	M	8	NA	NA	NA	NA	150	NA	250	NA	NA
				W	8	NA	NA	NA	150	150	NA	250	NA	NA
	Chandauli	Chandauli	Apr, 14	M	8	NA	NA	200	200	200	NA	350	NA	NA
				W	8	NA	NA	200	200	200	NA	NA	NA	NA

M-Man
W-Woman
NA-Not Available
*States reported district average daily wages

2. Wholesale Prices of Certain Agricultural Commodities and Animal Husbandry Products at Selected Centres in India

(Month end Prices in Rupees)

Commodity	Variety	Unit	State	Centre	Mar-15	Feb-15	Mar-14
1	2	3	4	5	6	7	8
Wheat	PBW 343	Quintal	Punjab	Amritsar	1600	1500	1600
Wheat	Dara	Quintal	Uttar Pradesh	Chandausi	1615	1620	1650
Wheat	Lokvan	Quintal	Madhya Pradesh	Bhopal	1500	1664	1470
Jowar	-	Quintal	Maharashtra	Mumbai	2225	2350	2600
Gram	No III	Quintal	Madhya Pradesh	Sehore	3150	3111	2731
Maize	Yellow	Quintal	Uttar Pradesh	Kanpur	1420	1515	1380
Gram Split	-	Quintal	Bihar	Patna	4500	4590	4480
Gram Split	-	Quintal	Maharashtra	Mumbai	4200	4100	4600
Arhar Split	-	Quintal	Bihar	Patna	7140	7090	6700
Arhar Split	-	Quintal	Maharashtra	Mumbai	7300	7200	7200
Arhar Split	-	Quintal	NCT of Delhi	Delhi	6330	6340	6340
Arhar Aplit	Sort II	Quintal	Tamil Nadu	Chennai	8800	8600	6400
Gur	-	Quintal	Maharashtra	Mumbai	3400	3200	3300
Gur	Sort II	Quintal	Tamil Nadu	Coimbatore	3800	4650	4200
Gur	Balti	Quintal	Uttar Pradesh	Hapur	2275	2300	2425
Mustard Seed	Black (S)	Quintal	Uttar Pradesh	Kanpur	3355	3350	3215
Mustard Seed	Black	Quintal	West Bengal	Raniganj	3850	3850	3800
Mustard Seed	-	Quintal	West Bengal	Kolkata	4000	4200	3600
Linseed	Bada Dana	Quintal	Uttar Pradesh	Kanpur	4100	4210	4115
Linseed	Small	Quintal	Uttar Pradesh	Varanasi	-	-	3730
Cotton Seed	Mixed	Quintal	Tamil Nadu	Virudhunagar	1300	1350	1500
Cotton Seed	MCU 5	Quintal	Tamil Nadu	Coimbatore	2000	2000	1550
Castor Seed	-	Quintal	Andhra Pradesh	Hyderabad	3700	3600	3600
Sesamum Seed	White	Quintal	Uttar Pradesh	Varanasi	-	13550	5800
Copra	FAQ	Quintal	Kerala	Alleppey	9750	9300	8850
Groundnut	Pods	Quintal	Tamil Nadu	Coimbatore	4500	4500	3800
Groundnut	-	Quintal	Maharashtra	Mumbai	6000	5500	6000
Mustard Oil	-	15 Kg.	Uttar Pradesh	Kanpur	1203	1222	1208
Mustard Oil	Ordinary	15Kg.	West Bengal	Kolkata	1245	1260	1260
Groundnut Oil	-	15 Kg.	Maharashtra	Mumbai	1425	1425	1155
Groundnut Oil	Ordinary	15 Kg.	Tamil Nadu	Chennai	1395	1335	1298
Linseed Oil	-	15 Kg.	Uttar Pradesh	Kanpur	1380	1395	1380
Castor Oil	-	15 Kg.	Andhra Pradesh	Hyderabad	1215	1185	1238
Sesamum Oil	-	15 Kg.	NCT of Delhi	Delhi	1850	1850	2250
Sesamum Oil	Ordinary	15 Kg.	Tamil Nadu	Chennai	2325	2700	2775

2. Wholesale Prices of Certain Agricultural Commodities and Animal Husbandry Products at Selected Centres in India *(Contd.)*

(Month end Prices in Rupees)

Commodity	Variety	Unit	State	Centre	Mar-15	Feb-15	Mar-14
1	2	3	4	5	6	7	8
Coconut Oil	-	15 Kg.	Kerala	Cochin	2070	1995	1920
Mustard Cake	-	Quintal	Uttar Pradesh	Kanpur	1815	1820	1815
Groundnut Cake	-	Quintal	Andhra Pradesh	Hyderabad	3143	3143	2750
Cotton/Kapas	NH 44	Quintal	Andhra Pradesh	Nandyal	3600	3550	4450
Cotton/Kapas	LRA	Quintal	Tamil Nadu	Virudhunagar	-	3300	3826
Jute Raw	TD 5	Quintal	West Bengal	Kolkata	3195	3305	2900
Jute Raw	W 5	Quintal	West Bengal	Kolkata	3145	3255	2850
Oranges	-	100 No	NCT of Delhi	Delhi	458	433	542
Oranges	Big	100 No	Tamil Nadu	Chennai	360	360	580
Oranges	Nagpuri	100 No	West Bengal	Kolkata	750	750	600
Banana	—	100 No.	NCT of Delhi	Delhi	375	333	333
Banana	Medium	100 No.	Tamil Nadu	Kodaik kanal	498	496	454
Cashewnuts	Raw	Quintal	Maharashtra	Mumbai	64000	64000	56000
Almonds	—	Quintal	Maharashtra	Mumbai	72000	72000	63000
Walnuts	—	Quintal	Maharashtra	Mumbai	68000	68000	65000
Kishmish	—	Quintal	Maharashtra	Mumbai	24000	24000	13000
Peas Green	—	Quintal	Maharashtra	Mumbai	4100	4100	4600
Tomatoes	Ripe	Quintal	Uttar Pradesh	Kanpur	1600	1150	1115
Lady finger	—	Quintal	Tamil Nadu	Chennai	1600	1300	2000
Cauliflower	—	100 No.	Tamil Nadu	Chennai	1300	1000	1350
Potatoes	Red	Quintal	Bihar	Patna	680	700	985
Potatoes	Desi	Quintal	West Bengal	Kolkata	520	520	1000
Potatoes	Sort I	Quintal	Tamil Nadu	Mettuppalayam	1456	—	—
Onions	Pole	Quintal	Maharashtra	Nashik	1150	1300	800
Turmeric	Nadan	Quintal	Kerala	Cochin	12000	13000	11000
Turmeric	Salam	Quintal	Tamil Nadu	Chennai	8300	8200	9600
Chillies	—	Quintal	Bihar	Patna	9185	9170	8800
Black Pepper	Nadan	Quintal	Kerala	Kozhikode	53000	54000	50000
Ginger	Dry	Quintal	Kerala	Cochin	23000	24000	24000
Cardamom	Major	Quintal	NCT of Delhi	Delhi	101000	104000	126000
Cardamom	Small	Quintal	West Bengal	Kolkata	110000	120000	98000
Milk	Buffalo	100 Liters	West Bengal	Kolkata	3600	3600	3600
Ghee Deshi	Deshi No 1	Quintal	NCT of Delhi	Delhi	29348	30015	28681
Ghee Deshi	—	Quintal	Maharashtra	Mumbai	43000	40000	34000
Ghee Deshi	Desi	Quintal	Uttar Pradesh	Kanpur	35500	35000	30650
Fish	Rohu	Quintal	NCT of Delhi	Delhi	8100	8200	10000

2. Wholessale Prices of Certain Agricultural Commodities and Animal Husbandry Products at Selected Centres in India *(Contd.)*

(Month end Prices in Rupees)

Commodity	Variety	Unit	State	Centre	Mar-15	Feb-15	Mar-14
1	2	3	4	5	6	7	8
Fish	Pomphrets	Quintal	Tamil Nadu	Chennai	32000	32000	32000
Eggs	Madras	1000 No.	West Bengal	Kolkata	3700	3850	4500
Tea	—	Quintal	Bihar	Patna	21000	21000	20100
Tea	Atti Kunna	Quintal	Tamil Nadu	Coimbatore	34000	34000	13000
Coffee	Plant-A	Quintal	Tamil Nadu	Coimbatore	30500	29500	26000
Coffee	Rubusta	Quintal	Tamil Nadu	Coimbatore	15000	15000	14000
Tobacco	Kampila	Quintal	Uttar Pradesh	Farukhabad	4950	4910	2950
Tobacco	Raisa	Quintal	Uttar Pradesh	Farukhabad	3650	3600	2825
Tobacco	Bidi Tobacco	Quintal	West Bengal	Kolkata	3900	3900	3800
Rubber	—	Quintal	Kerala	Kottayam	10300	10400	14300
Arecanut	Pheton	Quintal	Tamil Nadu	Chennai	29900	29900	29700

3. Month end Wholesale Prices of Some Important Agricultural Commodities in International Markets during year 2015

Commodity	Variety	Country	Centre	Unit	Jan	Feb	Mar
Cardamom	Guatmala Bold Green	U.K.	-	Dollar/M.T.	12000.00	12000.00	12000.00
				Rs./Qtl	74160.00	74100.00	75396.00
Cashew Kernels	Spot U.K. 320s	U.K.	-	Dollar/lbs	3.60	3.62	3.65
				Rs./Qtl	49034.59	49267.11	50405.74
	Spot U.K. 320s	U.K.	-	Dollar/M.T.	7877.32	7932.59	7644.65
				Rs./Qtl	48681.84	48983.74	48031.34
Castor Oil	Any Origin ex tank Rotterdam	Netherlands	-	Dollar/M.T.	1700.00	1525.00	1434.00
				Rs./Qtl	10506.00	9416.88	9009.82
Chillies	Birds eye 2005 crop	Africa	-	Dollar/M.T.	4100.00	4100.00	4100.00
				Rs./Qtl	25338.00	25317.50	25760.30
Cloves	Singapore	Madagascar	-	Dollar/M.T.	10500.00	10500.00	10500.00
				Rs./Qtl	64890.00	64837.50	65971.50
Couconut Oil	Crude Phillipine/Indonesia	Netherlands	-	Dollar/M.T.	1080.00	1140.00	1040.00
				Rs./Qtl	6674.40	7039.50	6534.32
Copra	Phillipines cif Rotterdam	Phillipine	-	Dollar/M.T.	679.50	726.00	657.00
				Rs./Qtl	4199.31	4483.05	4127.93
Corriander		India	-	Dollar/M.T.	2000.00	2000.00	2000.00
				Rs./Qtl	12360.00	12350.00	12566.00
Commin Seed		India	-	Dollar/M.T.	2250.00	2250.00	2250.00
				Rs./Qtl	13905.00	13893.75	14136.75
Ginger	Split	Nigeria	-	Dollar/M.T.	2250.00	2250.00	2250.00
				Rs./Qtl	13905.00	13893.75	14136.75
Groundnut kernels	US 2005, 40/50	European Ports	-	Dollar/M.T.	1350.00	1350.00	1350.00
				Rs./Qtl	8343.00	8336.25	8482.05
Groundnut Oil	Crude any Origin cif Rotterdam	U.K.	-	Dollar/M.T.	1200.00	1200.00	1200.00
				Rs./Qtl	7416.00	7410.00	7539.60
Maize		U.S.A.	Chicago	C/56 lbs	373.25	375.75	395.00
				Rs./Qtl	906.53	911.86	975.34
Oats		Canada	Winnipeg	Dollar/M.T.	365.75	341.64	352.54
				Rs./Qtl	2260.34	2109.63	2215.01
Palm Ekrnal Oil	Crude Malaysia/Indonesia	Netherlands	-	Dollar/M.T.	945.00	1070.00	980.00
				Rs./Qtl	5840.10	6607.25	6157.34
Palm Oil	Crude Malaysian/Sumatra	Netherlands	-	Dollar/M.T.	630.00	678.00	658.00
				Rs./Qtl	3893.40	4186.65	4134.21
Pepper (Black)	Sarawak Black lable	Malaysia	-	Dollar/M.T.	10000.00	11000.00	11000.00
				Rs./Qtl	61800.00	67925.00	69113.00
Rapeseed	Canola	Canada	Winnipeg	Can Dollar/M.T.	449.80	458.50	460.60
					2204.02	2264.53	2319.12
	U.K. delivered rapeseed delivered	U.K.	-	Pound/M.T.	242.00	240.00	233.00
				Rs./Qtl	2254.96	2285.04	2175.06
Rapeseed Oil	Refined bleached and deodorised	U.K.	-	Pound/M.T.	577.00	586.00	601.00
				Rs./Qtl	5376.49	5579.31	5610.34
Soyabean Meal	UK produced 49% oil & protein	U.K.	-	Pound/M.T.	334.00	319.00	317.00
				Rs./Qtl	3112.21	3037.20	2959.20
Soyabean Oil		U.S.A.	-	C/lbs	30.34	31.71	31.04
				Rs./Qtl	4132.53	4315.64	4298.34
Soyabean Oil	Refined bleached and deodorised	U.K.	-	Pound/M.T.	756.00	611.00	593.00
				Rs./Qtl	7044.41	5817.33	5535.66
Soyabeans	US No.s yellow	Netherlands	Chicago	Dollar/M.T.	420.90	409.40	418.00
				Rs./Qtl	2601.16	2528.05	2626.29
		U.S.A.	-	C/60 lbs	970.25	1007.75	978.75
				Rs./Qtl	2200.59	2283.79	2256.86
Sunflower Seed Oil	Refined bleached and deodorised	U.K.	-	Pound/M.T.	664.00	656.00	665.00
				Rs./Qtl	6187.15	6245.78	6207.78
Tallow	High grade delivered	U.K.	London	Pound/M.T.	295.00	295.00	290.00
				Rs./Qtl	2748.81	2808.70	2707.15
Wheat		U.S.A.	Chicago	C/60 lbs	505.25	497.75	519.00
				Rs./Qtl	1145.94	1128.01	1196.74

Source: Public Ledger

Exchange Rate	Jan	Feb	Mar
US Dollar	61.80	61.75	62.83
Can Dollar	49.00	49.39	50.35
UK Pound	93.18	95.21	93.35

Crop Production

4. Sowing and Harvesting Operations Normally in Progress During May, 2015

State	Sowing	Harvesting
(1)	(2)	(3)
Andhra Pradesh	Autumn Rice, Sugarcane, Groundnut	Summer Rice, Onion.
Assam	Winter Rice, Maize, Tur (R), Cotton.	Summer Potato (Hills).
Bihar	Autumn Rice, Jute, Mesta. Castoresed.	Summer Rice, Wheat, Barley, Gram. Linseed.
Gujarat	Sugarcane, Ginger, Turmeric.	Onion
Himachal Pradesh	Maize, Ragi, Small Millets (K), Summer Potato (Hills), Sugarcane, Ginger, Chillies (Dry), Tobacco, Sesamum, Cotton, Turmeric.	Wheat, Barley, Gram, Other Rabi Pulses, Linseed, Onion.
Jammu & Kashmir	Autumn Rice, Jowar (K), Maize, Ragi, Small, Millets (K), Mung (K), Tur (K), Other Tobacco, Sannhemp.	Wheat, Barley, Small Millets (R) Tur (K). Sesamum, Rapeseed and Mustard, Linseed. Onion.
Karnataka	Autumn Rice, Jowar (K), Maize, Ragi, Urad (K), Mung (K), Summer Potato (Hills), Tobacco, Castorseed, Sesamum, Cotton, Sweet Potato, Turmeric, Sannhemp, Onion, Tapioca.	Summer Rice, Ragi (R), Winter Potato (Plain), Tapioca.
Kerala	Autumn Rice, Ragi, Small Millets (K), Tur (K), Urad (K), Mung (K), Other Kharif Pulses, Ginger, Turmeric, Tapioca (Early).	Summer Rice, Other Rabi Pulses. Tapioca (Late).
Madhya Pradesh	Sugarcane, Ginger, Chillies (Dry), Turmeric.	Winter Potato (Plains), Onion.
Maharashtra	Termeric.	—
Manipur	Autumn Rice, Groundnut, Castorseed, Cotton, Turmeric.	—
Orissa	Autumn Rice, Sugarcane, Chillies (Dry), Jute.	Summer Rice, Cotton, Chillies (Dry).
Punjab and Haryana	Autumn Rice, Summer Rice, Ragi, Small Millets (K), Tur (K), Summer Potato (Hills) Chillies (Dry), Cotton, Sweet Potato.	Wheat, Barley, Winter Potato (Plains) Summer Potato, Tabacco,Onion.
Rajsthan	Sugarcane	Wheat, Small Millets (R), Tabacco.
Tamil Nadu	Autumn Rice, Bajra, Summer Potato, Sugarcane, Chillies (Dry), Groundnut, Turmeric, Sannhemp. Tapioca	Summer Rice, Jowar (R), Winter Potato (Hills), Sugarcane, Chillies (Dry). Sesamum, Onion.
Tripura	Autumn Rice, Maize, Sugarcane, Ginger, Chillies (Dry), Seasmum, Cotton, Jute, Mesta.	—
Uttar Pradesh	Autumn Rice, Tur (K), Chillies (Dry), Groundnut, Cotton, Jute, Mesta, Linseed.	Summer Rice, Wheat, Barley, Sugarcane, Tabacco, Rapeseed and Mustard, Sannhemp, Onion.
West Bengal	Autumn Rice, Winter Rice, Tur (K), Ginger, Chillies (Dry), Jute, Mesta.	Summer Rice Chillies (Dry). Sesamum.
Delhi	Jowar (K), Onion.	

(K)— Kharif. (R). Rabi.

METRIC WEIGHTS AND MEASURES

SIMPLE CONVERSION TABLES

I. WEIGHTS

Tons to metric Tonnes

Tons	1	2	3	4	5	6	7	8	9	10
Metric tonnes	1.02	2.03	3.05	4.07	5.08	6.10	7.11	8.13	9.14	10.16

Pounds (av.) to Kilograms

Pounds	1	2	3	4	5	6	7	8	9	10
Kilograms	0.45	0.91	1.36	1.81	2.27	2.72	3.18	3.63	4.08	4.54

Tolas to grams

Tolas	1	2	3	4	5	6	7	8	9	10
Grams	11.66	23.33	34.99	46.66	58.32	69.98	81.65	93.31	104.97	116.64

Seers to Kilograms

Seers	1	2	3	4	5	6	7	8	9	10
Kilograms	0.93	1.87	2.80	3.73	4.67	5.60	6.53	7.46	8.40	9.33

Maunds to Quintals

Maunds	1	2	3	4	5	6	7	8	9	10
Quintals	0.37	0.75	1.12	1.49	1.87	2.24	2.61	2.99	3.36	3.73

II. LENGTHS

Miles to Kilometres

Miles	1	2	3	4	5	6	7	8	9	10
Kilometres	1.61	3.22	4.83	6.44	8.05	9.66	11.27	12.87	14.47	16.09

Yards to Metres

Yards	1	2	3	4	5	6	7	8	9	10
Metres	0.91	1.83	2.74	3.66	4.57	5.49	6.40	7.32	8.23	9.14

Inches to Millimetres

Inches	1	2	3	4	5	6	7	8	9	10	11	12
Millimetres	25.40	50.80	76.20	101.60	127.00	152.40	177.80	203.20	228.60	254.00	279.40	304.80

III. AREA

Acres to Hectares

Acres	1	2	3	4	5	6	7	8	9	10
Hectares	0.40	0.81	1.21	1.61	2.02	2.43	2.83	3.24	3.64	4.04

Square Yards to Square Metres

Square Yards	1	2	3	4	5	6	7	8	9	10
Square Metres	0.84	1.67	2.51	3.34	4.18	5.02	5.85	6.69	7.53	8.36

IV. CAPACITY

Gallons (Imperial) to Litres

Gallons	1	2	3	4	5	6	7	8	9	10
Litres	4.55	9.09	13.64	15.14	22.73	27.28	31.82	36.37	40.91	45.44

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