

Impact evaluation of Trade Liberalisation in Oilseeds Sector: A Case Study Of Gujarat

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ABSTRACT

This research paper examines the impact on trade by the production of oilseed crops in Gujarat. Oilseeds production in India made the India on first number in the production of oilseed in the world. Now India is producing the oilseed in major quantity which is increasing Indian trade because India is growing the oilseeds in large quantities which is not only enough for India either it is available for other countries so India is trading the oilseeds in large quantities to various countries. Its main impact is on Indian economy which is increasing Indian economy day by day. Agriculture accounts for 45 percent of the Gross Domestic Product (GDP) and employs 85 percent of the labor force. Our country has taken various different types of schemes which increase the trade of India which impact directly to increase the Indian economy. These schemes were export trade duty incentive scheme, export credit guarantee scheme and foreign exchange retention scheme. These all schemes engaged with all those traders who directly supply their products in foreign market. The World Trade Organisation (WTO) is one of the agreements which directly impact on the trade of oilseeds.

Key words: Oilseeds, Export, WTO, GDP, Foreign Market.

Introduction

As we know India is a developing country. India is also growing in agriculture day by day in which oilseeds are also a major agriculture which is also developing day by day. There are various large varieties of oilseeds production found in India such as groundnut, sesame, rapeseed, castor seed, mustard, linseed, soybean, sunflower, Niger seed and safflower. India also contributes a significant share in world oil seed production. India comes on second largest production in Groundnut after China and third largest production in Rapeseed after China and Canada. The oilseed production excluding cottonseed in Gujarat for 2013-14 is estimated to be approximate 4.25 million tones as compared to last year's 2.26 million tones according to the latest data reveal by the Central Organization for Oil Industry & Trade (COOIT). This year production of oilseeds such as groundnut, soybean, sesame, and rape/mustard/toria expect castor seed is high in comparison to last year because of reduced sowing area. The area under rabi crops in 2013 was increased due to good monsoon and favorable weather conditions in the state. The oilseeds contribute a very good and most important group of commercial crops in India. There are different types of oils produced by different types of oilseeds and these different types of oils form a most important item of our diet and are used as raw materials for manufacturing various large different types of items like paints, soaps, perfumery, hydrogenated oil, varnishes, lubricants etc. India has the largest area for production of oilseeds in the world so India is also known by major oilseed production country in the world

because in some oilseeds India comes on second and third number in production across the world. These five major oilseeds are groundnut, sesame, rapeseed, mustard, line seed and castor seed. The total area occupied by oilseeds becomes 20 per cent of the net area sown if the area occupied by other oilseeds such as soybean, cotton seed, sunflower and Niger seed also included.

Groundnut :

Groundnut is also a oilseed which is the most important oilseed in India. Groundnut oilseed production is large in comparison to other oilseeds production across the India. Groundnut has high calorific value and rich in proteins and vitamins. Groundnut contains 40-50 percent oil which is widely or mainly used as edible oil in its pure form or hydrogenated vanaspati form. The groundnut oil used in various different types of sectors like groundnut oil is used for manufacturing margarine, medical emulsions, wool and silk, artificial leather, soap and toilet requisites.

Conditions of Growth :

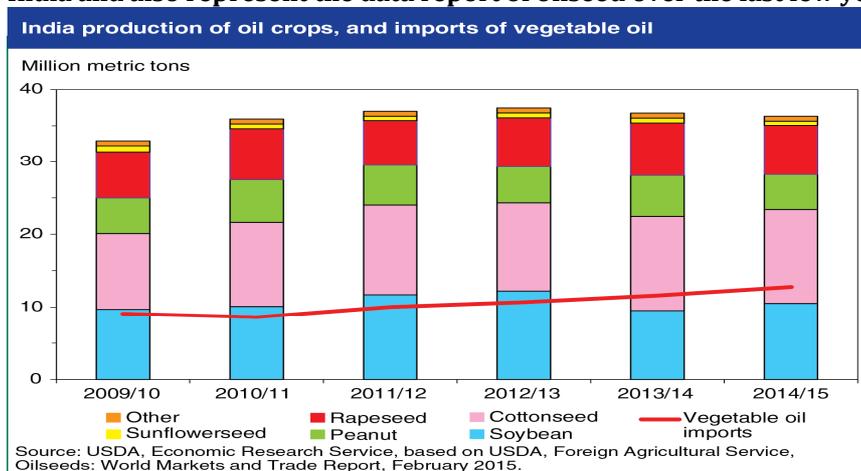
Groundnut thrives best in the tropical climate and requires 20°-30°C temperature and 50-75 cm rainfall. Isohyet of 100 cm marks the upper limit of groundnut cultivation. Groundnut is highly susceptible to frost, prolonged drought, continuous rain and stagnant water. Dry winter is needed at the time of ripening. It can be grown both as a Kharif and as a Rabi crop but 91 per cent of the total area under groundnut is devoted to Kharif crop. Well drained light sandy loams, loams, red, yellow and black cotton soils are well suited for its cultivation.

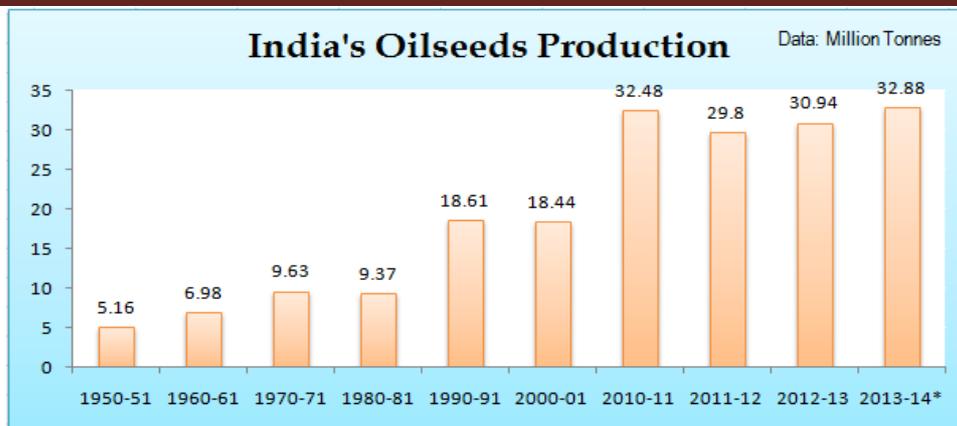
Production and Distribution :

India is first country in the world which has the largest production of Groundnut. We have some old data of increasing the production of Groundnut. There had been almost 150 per cent increase in production of groundnut from 34.8 lakh tones in 1950-51 to a record production of 85.6 lakh tones in 1992-93. Monsoon is the main impact over the production of oilseeds. Perhaps sometimes the monsoon becomes bad than this has the major impact on production of oilseeds. Our production of oilseeds falls down due to the failure of the monsoon. We saw this type of fall down in groundnut oil seed production in 2002-03. Production fell from 70.28 lakh tones in 2001-02 to 43.63 lakh tones in 2002-03 due to failure of monsoon rainfall in 2002-03. In 2002-03 we found that there are the three main regions in India for producing the Groundnut oilseed such as Gujarat, Tamil Nadu and Andhra Pradesh. Gujarat was the largest producer contributing over 25 per cent of India's total production. Mostly Indian population lives in rural areas and they are totally depend on agriculture their source of income is only agriculture. This population is around 70% which lives in rural area. They full fill their needs by the agriculture so most of the peoples are famers. In all states of India farming exists. Gujarat is also famous for oilseeds agriculture. Gujarat is only the place which produces rapeseeds and groundnuts in large quantity. Gujarat's main crop is oilseeds. Here there are different types of crops of various types of oilseeds like groundnuts, rapeseed, soybean etc. The survey of 2014-2015 reveals that Gujarat has become the India's first large oilseed producer. Before this survey Madhya Pradesh was the first state which were producing the highest rate of oilseeds in comparison to other states. The reason

in fall down of producing oilseeds crops in Madhya Pradesh that the soybean production felt down in 2013-2014 Kharif season due to crops damage by heavy rainfall in Madhya Pradesh. This means in 2013-2014 there were heavy rainfall which totally damage all the soybean production which bring fall down in production of oilseeds in Madhya Pradesh which made Gujarat to the first state for producing the oilseeds in large quantity comparing to other countries. This result shows that the crops are mainly depend on the weather. If the weather is good during the crops growing season than production would be good otherwise monsoon can fall down any state in production of agriculture comparing to other states. Since 2014-2015 Gujarat is one of the biggest states for producing the oilseeds in large quantities comparing to other states. Gujarat is growing day by day by growing more and more oilseeds crops. When Gujarat was increasing their growth in groundnut oilseed in 2014-2015 at same time period other oilseeds production like rapeseed, mustard came down. By the heavy rain fall in Madhya Pradesh the economic survey reveal that the production of total oilseed in Madhya Pradesh had came down from 6.77 million tones (MT) to 6.7 million tones (MT) in 2013-2014 and at same time period the production of total oilseed in Gujarat increased from 6.2 MT to 6.8 MT which made Gujarat the number one state in oilseed production across the other states in India. Rajasthan which was on the second number came down on third number by the Gujarat on first number and Madhya Pradesh on second number in production of oilseed. The main reason was for falling down the Madhya Pradesh in total oilseed production that to fall in soybean production from 5.49 MT to 5.40 MT due to heavy rain fall which fall down the Gujarat in total oilseed production.

Few data reports are given below which examine the production and consumption of oilseeds over the India and also represent the data report of oilseed over the last few years.





Source - For GMO-free Food, Agriculture and Environment: Current Data on Indian Oilseeds Production

OILSEEDS ('000 metric tons)	MY 2011/12	MY 2012/13	MY 2013/14
	Revised	Estimate	Forecast
Beginning Stocks	1,905	1,365	1,165
Production	35,377	34,792	37,010
MY Imports	20	20	20
Total Supply	37,302	36,177	38,195
MY Exports	813	623	672
Crush	28,684	28,129	29,770
Food Use Dom. Cons.	1,580	1,610	1,745
Feed Waste Dom. Cons.	4,860	4,650	4,945
Total Dom. Cons.	35,124	34,389	36,465
Ending Stocks	1,365	1,165	1,058
Total Distribution	37,302	36,177	38,195

Source - USDA GAIN: India Oilseeds and Products Annual 2013 - Market Table.1

OILSEEDS ('000 metric tons (MT))	MY 2014/15	MY 2015/16	MY 2016/17
	Revised	Estimate	Forecast
Beginning Stocks	2,056	1,981	1,386
Production	33,615	32,140	35,440
MY Imports	12	10	15
Total Supply	35,683	34,131	36,841
MY Exports	884	685	760
Crush	24,778	24,330	26,290
Food Use Dom. Cons.	2,510	2,380	2,500
Feed Waste Dom. Cons.	5,530	5,350	5,370
Total Dom. Cons.	32,818	32,060	34,160
Ending Stocks	1,981	1,386	1,921
Total Distribution	35,683	34,131	36,841

Source - USDA GAIN: India Oilseeds and Products Annual 2016 - Market

The method

The study was persistence on secondary data sources. When a close look was made at the time-series estimates of India's major macroeconomic variables, it shows that different sources report different values for the same variables. In order to avert this problem and ensure the consistency as well as comparatively of results annually published time-series data were extracted from the published annual reports of the NBI (National Bank of Ethiopia). Annual data were favored to the purpose of precision for most of the variables. Long term data are not available for the variable considered in the study in the case of India. The ideal national account data available to undertake time series based studies is from 2003 onwards which still lack accuracy.

Data Coverage

The study covers 6 years, from 2011 to 2016. Review of the different publications of the NBE (Annual Reports and Quarterly Bulletins) reveals that data are available on the export earnings, price (unit values), and quantities of major export commodities since 2011. As the latest available data on the external trade of the country are 2016, the last year of study period.

Model Specification

The study signifies export performance of oilseeds in India as a function of domestic price, world price, real output and nominal exchange rate. The analysis is expressed with the adopted Goldstein and Khan (2011) imperfect substitution model expressed as follows:

Here, p_d , refers domestic price; e refers nominal exchange rate, p_w world price; R_y real out put and, $OlsXP$ refers oilseeds export performance; At estimation stage taking logs of the variables in equation (1) and differentiating with respect to time gives the trend of exports as:

$$\log OlsXP_t = \beta_0 + \beta_1 \log p_t^d + \beta_2 \log p_t^w + \beta_3 \log R_{y_t} + \beta_4 \log e_t + \varepsilon_t \quad (2)$$

Where, β 's are unknown parameters to be estimated, t is time in years (2003-2016) and ε is random terms that are independently and identically distributed with mean zero and variance σ^2 (σ^2). To estimate equation (2) the time-series approach was applied. The empirical results were tested using Views three and SPSS 15.

Results and Discussion

With this research on the above data we found the total trade performance among the LAC countries, Brazil, Argentina, Venezuela, Chile, Columbia, Peru, Ecuador, Dominic Republic, Bolivia and Panama are our major trading partners. India's trade with LAC countries during the last 10 years, the current trends and top ten commodities of export/import (for the last 2 years) are given below:

(Values in US\$ million)

Year	India's exports to LAC	% growth of exports	India's import from LAC	% growth of imports	Balance of trade	Total trade
2006-07	3,729.97	46.23	5,340.29	107.90	(1,610.32)	9,070.26
2007-08	5,081.66	36.24	5,368.62	0.53	(286.95)	10,450.28
2008-09	5,513.04	8.49	8,240.44	53.49	(2,727.40)	13,753.48
2009-10	5,614.40	1.84	9,356.30	13.54	(3,741.90)	14,970.70
2010-11	9,324.48	66.08	13,042.52	39.40	(3,718.03)	22,367.00
2011-12	12,276.85	31.66	16,178.56	24.04	(3,901.70)	28,455.41
2012-13	13,518.03	10.11	27,497.09	69.96	(13,979.07)	41,015.12
2013-14	10,791.60	(20.17)	28,128.07	2.29	(17,336.47)	38,919.68
2014-15	11,528.43	6.83	26,951.76	(4.18)	(15,423.33)	38,480.19
2015-16	7,530.85	(34.68)	17,691.79	(34.36)	(10,160.94)	25,222.63

(Source: DGCI&S, Kolkata)

After analyzing the 2016 monsoon which came in southwest, As we can see in Table 1 a 10 per cent forecast increase over the last year after increasing 10 per cent in MY 2016/17 oilseed production is reach to 35.4 MMT. Indian farmers are likely to return some acreage which was lost during the last two years due to dry weather to oilseed production. Because of destroying crops last two years to full fill this gap farmers increase land planting area that will essentially return oilseed acres and production levels to more conventional levels (five-year average). Deficit precipitation during the last two monsoon seasons resulted in lower than anticipated oilseed production (refer governments second advance estimate for crop year 2015/16 (July-June).

Note: soybeans, rapeseed and mustard, peanut, sunflower seed, cottonseed and copra all these crops are covered by the forecast.

Consumption

Food which use oilseeds will increase by five per cent in MY 2016/17 and reach to 2.5 MMT, driven by steady demand for value added food products made from oilseeds some of them are snacks, curries, nuggets and sauces all these made from rapeseed, sesamum, mustard, soy, peanuts and other oilseeds. The waste consumption extracted by soybean and cottonseed waste above the last year's level which was 5.3MMT all feed by oilseed, which are forecast at 3.3 and 1.3 MMT. Waste mainly includes seeds retained for sowing/re-sowing operations, feed and industrial use.

Objective

1. To analyse the trend of area and productivity of oilseeds in India.
2. To identify the factors associated with variation in area allocation under oilseeds in India.
3. To examine the total trade of Oilseeds in India.
4. To examine the consumption of oilseed in India.

Review Of Literature

Before proceeding for fulfilling the various objectives set out for this study, it is pertinent to review the available literatures on the related aspects of the present study. An attempt is made in this chapter to review the empirical research works done by various authors under Indian conditions and abroad. A critical review is outlined in the following paragraphs.

Cost Of Cultivation Of Groundnut

Velvan C. and Balakrishanan V. (2000) researched after the survey that components of cost of cultivation for groundnut in their researched worked "Resource use efficiency in Groundnut cultivation in Gujarat and noted that the production function analysis revealed that there was a possibility to increasing the irrigated groundnut production by increased of human labour, bullock labour and by increasing application of nutrients. Mainly Velvan C. and Balakishanan after research found that if the production was less than it can be full fill by increasing the labour so production can be increase. the analysis clearly showed that withdrawal of machine and bullock labour will make the groundnut production profitable in the study area as the study showed that there was an over use of these two inputs. The ratio of marginal value product to marginal cost for nutrients (5.2) was comparatively higher than other inputs in the irrigated condition. It also reveals that there was more scope for increasing the production by increasing application of nutrients in irrigated condition. In the rainfed situation marginal value product to marginalcost ratio (3.56) indicated that there was a scope for increasing the production by increasing the application of plant protection chemicals, gypsum and bio-fertilizers. So, it is necessary to educate the farmers to use scientific methods of production in order to achieve the potential output through proper extension activities.

Prices Or Market Of Groundnut

Mundinamani S. M. and S. B. Mahajanshethi (2001) analyzed on market of groundnut "Impact of KOF's market intervention operation on oilseeds market structure and prices - A case study of groundnut". Trader participation in groundnut transaction was only 2 to 3 per cent of the enrolled firms in four markets, while it varied between 14 to 20 per cent in other markets. Co-operative Oilseeds Growers Federation (KOF) figured as one of the top four firms only in two markets. Even though, its share was less than 14 per cent. Inthe rest of the markets its share was a meager 2 to 3 percent. As such, the predominance of private trade in groundnut, which existed

before the entry of the KOF, still continued. Thus the role of the KOF in reducing market concentration has been very limited. The KOF market intervention operation however, has played a significant role in establishing groundnut prices in the peak period in all study markets. The widefluctuations in leanperiod prices could mainly attributed to the absence of procurement by the KOF and the dominance of private trading forces. The results of the study highlighted the importance of the KOF's existence and its market intervention operation in the state.

VashishthaPrem S. (2003) was studied the issues related to the oilseeds in the "Slow growth crops: coarse cereals, pulses and oilseeds". He examined that substantial yield gap existed in the case of this crops covering groundnut crop. The author noted that there is need to identify specific oilseeds in specific areas where yield gap is significant and also investigate the reasons which have prevented exploitation of this potential as well as to identify the price and other factors explicitly for taking appropriate policy measures. There is need to focus on developing transgenic varieties in the case of certain oilseeds. He also pointed out that the Indian farmers were not sufficient in producing certain oilseeds. **Ranjana Kumar (2005)** reported in his "Constrainsfacing Indian agriculture: Need for policy intervention" Reforms in agriculture price policy, taking in to account domestic and world price conditions of agriculture output rather than only on the basis of a measure of production costs. **Ranjana Kumar (2005)** reported in his worked that "Constrains facing Indian agriculture: Need for policy intervention" India continues to be predominantly an agrarian economy and without improvements and developments in this sector, the economy as a whole cannot expect to achieve and maintain a balanced and sustainable growth trend. **Patel Arun S. (2006)** has reveled on overall principal crops of Gujarat in "Review of State Agriculture Policy in Gujarat" as are follows:

Agro climatically Gujarat state has been divided into Eight Zones, which provide a wide varieties of soils and environment suitable to grow majorly all crops. This State is only predominance of non food grains crops after the Kerala. From farming, they are high value crops compared to food grain crops offering a fairly food opportunity to earn relatively high income: such crops are groundnut, rapeseed and mustard, castor, Sesamum, cotton, sugarcane and tobacco. Among these crops the productivity of groundnut is poor only compared to other mentioned crops. **Patel Arun S. (2006)** was observed in this book "Review of State Agriculture Policy in Gujarat" that during 1949-96

the productivity annual growth rate was higher than 2.50 per cent in respect of all food grains including chilies, potatoes, castor, mustard and tobacco but the growth rate of groundnut was very poor which covering around 17 per cent of gross cropped area in the TE 2000-01. The yield improvement is not observed to any significant extent mainly due to rain effect. Beside, theHYVs have shown a moderate impact also.

Conclusion

After doing the research on Gujarat we found that how Gujarat became one the first number in the production of oilseeds in India and we found the reason that because of heavily rain or can say due to bad monsoon in 2013 in the Madhya Pradesh this impact directly on the crops of soybean in Madhya Pradesh which reduced the production of oilseeds in Madhya Pradesh and at same time Gujarat was increasing their growth in Oilseeds and weather was also supporting to Gujarat and the major oilseed crop was growing in Gujarat was Groundnut So after the destroying of oilseeds crops in Madhya Pradesh Gujarat became the first large production of oilseed in India in comparison to other states of India which also impact on trade of oilseed from India to foreign market. The state has the longest coast line in the country which provides good scope to trade with ease with national and international markets and substantial scope for the development of sea products and fairly good infrastructural net work of transport and communication. Gujarat can be a major state in the development of agro processing industries which for the enterprising people.

References

- Goldstein, M., and M. Khan. 1985. "Income and Price Effects in Foreign Trade." In R. Jones and P. Kenen, eds., *Handbook of International Economics 2*. Amsterdam: Elsevier
- Madsen, T., 1987. Empirical export performance studies: a review of conceptualisations and findings. In S. T. Cavusgil (Ed.), *Advances in international marketing*, Vol. 2:177-198. Greenwich, CT: JAI Press Inc
- Shoham, A., 1991. The impact of marketing strategies, marketing research, and marketing planning on the export performance of Brazilian exporters
- SarkarDebnarayan (1993)"Production, Productivity and Marketing of Pulses and Oilseeds". A fresh Look, Ind. Jn. Of Agri. Econ., 48 (3) P: 388.
- Tyagi, V.P. and Sant Kumar, R.K. Pandey and M.m.Bhalerao (1993) "Marketing of Oilseeds and Pulses"-A Sample Study, Ind. Jn. of Agric.Econ.48 P: 374.
- Mundinamani S.M. (1994) "Production and Marketing Performance of Oilseeds in Karnataka" An Econometric Analysis", Thesis Abstracts, 20 (3 & 4) P: 91.
- Alwang, J. and P.B. Siegel, 1994. Portfolio Models and Planning for Export Diversification: Malawi, Tanzania and Zimbabwe, *Journal of Development Studies*, 30(2): 405-422
- Shoham, A., 1996. Export performance: a conceptualisation and empirical assessment. *Journal of International Marketing*, 6(3), 59-81

- Onafowora, O. A., and O. Owoye, 1998. Can trade liberalisation Stimulate Economic growth in Africa? *World Development*, 26(3): 497-506
- Zou, S. and Stan, S., 1998. "The Determinants of Export Performance: A Review of the Empirical Literature Between 1987 and 1997", *International Marketing Review*, Volume 15(5), 333-356
- Arndt, S. W.,1999. Globalisation and Economic Development. *The Journal of International Trade and Economic Development* 8(3): 309-318.
- Abay,Y. and Zewdu, T. (1999). Export Earnings Instability and Export Structure: The case of Ethiopia; Proceedings of the 8th Annual conference on the Indian Economy. Addis Ababa.
- Mundinamani S. M. and S. B. Mahajanshethi (2001) "Impact of KOF's market intervention operation on oilseeds market structure and prices – A case study of groundnut", *Indian journal of agricultural economics*, Vol. 56., No. 02., April –June
- VashishthaPrem S. (2003) "Slow growth Crops: Coarse Cereals, Oilseeds and Pulses" *Indian journal of agricultural economics*, Jan – March p32-35
- Puja Mondal (2003) "Oilseeds Cultivation in India: Groundnuts, Rapeseed, Mustard and Castor Seeds" A writer of articles
- Maksus, K. E., 2003, Comment on Redding and Venables (2003), in *Challenges to Globalisation: Analysing the Economics*, R. E. Baldwin and A. L. Winters, eds., The University of Chicago Press
- Anderson K, 2004. Agriculture Trade Reform and Poverty Reduction: Implications for Sub-Saharan Africa. UNCTAD Policy Issues in International Trade and Commodities No. 22.
- Bennet, M., 2004.Sesame.In; Salvin,S., M. Bourke and T. Byrne, 2004.The new crop industries handbook. Australian Government, RIRDC publication04/125. P214-220.
- Fugazza, M., 2004. Export Performance and its Determinants: Supply and Demand Constraints. UNCTAD Policy Issues in International Trade and Commodities No. 26.
- Lages, Luis Filipe & Cristiana Raquel Lages.2004. "The STEP scale: A measure of short-term export performance improvement." *Journal of International Marketing*, 12(1), 36-56.
- Redding S. and A. Venables, 2004. "Geography and Export Performance: External Market Access and Internal Supply Capacity", Chapter 3, in (eds) Baldwin, R and Winters, A, *Challenges to Globalisation: Analysing the Economics*, CEPR-NBER conference volume, NBER and Chicago University Press.
- Ranjana Kumar (2005) "Constraints facing Indian agriculture: Need for policy intervention", *Indian journal of agricultural economics*,Vol. 60, No. 01, Jan –March.
- Abate, T., editor,(2006)b.Focusing Agricultural Research to Address Development Needs; the way I see it. In Abate, T.2006a. P1-20.
- CSA (Central Statistical Agency of Federal Democratic Republic of Ethiopia), 2006. Annual report.
- USDA (United States Department of Agriculture): Foreign Agricultural Service, 2008-2011. Oilseeds: World Market and Trade Archives.
- Vimukt Dave at Rajkot (2014) "Oilseeds production in Gujarat estimated at 4.2 mn tonnes" researcher 13, March.
- ManojAhuja(2015) "Gujarat replaces MP as top oilseed producer: Economic Survey", *Indian journal of Times Of India* 07, March.
- FAO (Food and Agricultural Organisation), 2010. Food outlook.