Vegetable Oil Industry in India : Key Trends and Statistics

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Abstract

Vegetable oils are extracted from plants and are composed of triglycerides, a glyceride in which the glycerol is esterified with three fatty acids. Thus, any non-animal oil obtained from the seeds or nuts of vegetable growth like corn soybeans, peanuts, cottonseeds, sunflower seeds, etc. Vegetable fats and oils are both edible and inedible. It can be flavoured by immersing aromatic food stuffs such as fresh herbs, peppers, garlic, and other spices & herbs. The vegetable oils are consumed directly, or used directly as ingredients in food - a role that they share with some animal fats, including butter and ghee. Vegetable oil is much more than a cooking oil, it is a valuable food, too. It provides us with two and half times as much energy as wheat or rice. It is understood that the industry has now taken upon itself a sustained oilseeds research and development acitivity and promote usage of non-traditional oils, soyabean, watermelon seed, Niger oils, mahua oil and rice bran oil. In this regard the effort of 'Oliseeds Research and Development Institute' should be commended. This has helped the farmers to procure advanced variety of seeds so as to improve the yields.

Key Words: *Vegetable Oil; Low Cholesterol Oil; Edible Oil.*

1. INTRODUCTION

Low Cholesterol Oil (LCO) has attained the status of an essential cooking medium of helath conscious masses in recent time. As an easily affordable substitute to the traditional 'Ghee', it fulfills a major consumption need. According tl the latest definition, the term Low Cholesterol Oil (LCO) stands for "a vegetable iol used as a butter substitute in India which is having low levels of cholesterol and free from unwanted elemetns such as free fatty acids, carbohydrates, etc". Thus LCO is an edible oil known in India by different names such as 'refined vegetable oil' 'refined oil', etc. Perhaps because 'LCO' is manufactured with vegetable oil and causes low level of cholesterol, the term 'LCO' was evolved to distinguish the vegetable origin of the product from the animal origin of its then more familliar counterpart 'desi ghee'.

Vegetable oils are extracted from plants and are composed of triglycerides, a glyceride in which the glycerol is esterified with three fatty acids. Thus, any non-animal oil obtained from the seeds or nuts of vegetable growth like corn soybeans, peanuts,

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cottonseeds, safflower seeds, rape seeds, sunflower seeds, etc. They are pale in color and flavourless, and can be heated to high temperatures. Vegetable fats and oils are both edible and inedible. It can be flavoured by immersing aromatic food stuffs such as fresh herbs, peppers, garlic, and other spices & herbs. The vegetable oils are consumed directly, or used directly as ingredients in food - a role that they share with some animal fats, including butter and ghee.

Raw vegetabel oil is further processed in order to minimize the quantity of undesirable compounds such as free fatty acids, carbohydrates, metals proteins, etc. by using caustic agents, washing and centrifugation processes. To obtain the desirable quality, the fully refined oil thus obtained, is further procesed through deodorization and winterization.

Fat in the form of butter or desi ghee (melted butter) has a pleasing taste and flavour and are, therefore, acceptable to all. As the supply of butter could, not keep pace with increasing demand from a growing populaiton, scientists in the 19th century were on the lookout for a suitable substitute. As a result Olemargine, the first butter substitute was invented by the French chemist Mega-Mouries in 1870. The margine industry was based on animal fats. By 1910, the hydrogenation of vegetable oils was developed to make cooking fats known as 'shortenings' from vegetable oils. But in later years it was found that these hydrogenated vegetable oils were rich in trans fat and other undersirable compounds which were harmful. So it called for a more innovative manufacturing process which could remove all these unwanted elements and can make vegetable oil as healthy edible oil. However all types of fats are not harmful for the human body as some of them are urgently required as an instant source of energy and other physiological activities.

1.1 **Trans Fats :** Trans fat, once considered to be a healthy substitute for saturated fat, has been found to raise cholesterol levels and has been associated with an increased risk of heart disease, rather they act as slow poison. Trans fat is created when hydrogen is added to vegetable oil, which is a liquid, to create a solid substance.

1.2 **Unsaturated Fats :** Many people assume that because a heart healthy diet recommends limiting fat, that all types of dietary fats are bad for our heart. However, quite the opposite is true. Unsaturated fatty acids have been shown to reduce the risk of heart disease.

1.3 **Monounsaturated Fats :** Monounsaturated fats reduce total cholesterol levels while maintaining the HDL levels. "10 to 15 percent of total daily calories come from mono unsaturated fats". They can be found in the following vegetable oils :—

- Canole oil
- Olive oil
- Peanut oil

1.4 **Polyunsaturated Fats :** Polyunsaturated fats also help to reduce total cholesterol levels; however, they also lower HDL levels. 'One should not get more than 10 percent to total daily calories from polyunsaturated fats." This types of fat is found in nuts and vegetable oils. Sources of polyunsatured fats include :

- Coconut oil
- Cottonseed oil
- Peanut oil
- Soyabean oil
- Sunflower oil

2. IMPORTANCE OF THE STUDY

The healthy edible oil market is no longer a niche. There are 30 million known diabetics and at least 20 million patients of high cholestrol and blood pressure in India. Health consciousness amongst Indians, especially urban Indians, is on the rise. And

lifestyles have started to change accordingly. This is the reason their consumption pattern have also been changing. LCO like soyabean oil has become a popular choice not only in India but across the globe because of its proven health benefits and is especially good for the heart. Rich in polyunsaturated fat, soyabean oil has the ideal ratio of linoleic acid to linolenic acid as recommended by WHO. It is also rich in omega-3 fatty acids that are believed to be helpful in brain development. The high polyunsaturated fatty acids lelvel helps in reducing the risk of heart disease. Soyabean oil also contains phytosteroles which could lower LDL cholesterol. Finally, it is the richest source of vitamin E among all refined oils (natural anti-oxidants) that helps to prevent the oxidative rancidity.

Soyabean oil is known to bring to life various food products including salad dressing, sandwich spreads, margarine, bread, mayonnaise, non-dairy coffee, creamers & snack foods. LCO and other refined oils are used throughout the world; including those countries with the lower living standards. These fats have greater demand than milk fats even in the butter rich countries of Denmark, Holland and the U.S.A.

Vegetable oil is much more than a cooking oil, it is a valuable food, too. It provides us with two and half times as much energy as wheat or rice.

Every gram of LCO contains a generous amount of growth promoting skin and eye-protecting Vitamin A.

For all these advantages, LCO has become a popular cooking medium in thousands of Indian homes. In fact, it enjoys the status of an essential commodity, particularly in NothernIndia. Nearly 60 per cent of the entire Production of the country is cousumed in Nothern India by all sections of society, rich as well as poor. It provides a balanced nutritious and hygienic cooking medium at a comaparatively low - price. Besides, food cooked in vegetable oil has no characteristic flavour of edible oils and could be kept for a longer time. Some sweets and confectionery items of daily use which require low cholesterol oil can only be made with LCO and not with ghee.

3. LITERATURE SURVEY

Vegetable oils refer to the oils extracted from numerous sources - corn, soyabeans, peanuts, cottonseeds, safflower seeds, rape seeds (for canole oil) and sunflower seeds. Pale in color and neutral in flavour, they can be heated to high temperatures. Cold-pressed oils are preferred over those processed using heat.

According to another definition which says that vegetable fats and oils are lipid materials derived from plants. Physically, oils are liquid at room temperature, and fats are solid. Chemically, both fats and oils are composed of triglycerides, as contrasted with waxes which lack glycerin in their structure.

Refined vegetable oil is a general term describing blends of different vegetable oils such as corn, sunflower, rapeseed, cottonseed and/or soyabean oils; these blends are generally intended to have little flavour and aroma and to be used as all-purpose oils.

Refined oil refers to the oil obtained from the seeds or nuts of vegetable growth. Some of these are “drying oils”, such as linseed, soya, tung and oiticica, which are used as binders for oil-based paints and varnishes.

Refined vegetable oils are the oils obtained from plants. Vegetable oil consists primarily of large molecules called triglycrides.

Any of a wide variety of non-animal oils can be regarded as vegetable oils. Most vegetable oils-with the exception of coconut and palm oils-are lower in saturated fats than are animal-derived oils.

Suneeta Narayana, Director, Centre for Science & Environment (CSE) Delhi, writes, “Laboratory tests conducted by CSE on 21 different brands of refined vegetable oils reveal that refined

vegetable oils, used by virtually all middle class Indian families for cooking, have negligible trans fat and are, therefore, safe.

Dr. Ashok Seth, Chairman, Escorts Heart Institute and Research Centre, writes, "The human body cannot break down the trans fats, so they accumulate and increase the risk of heart attack and diabetes by raising levels of bad cholesterol and triglycerides in the blood. Several states in the US have banned trans fats from restaurant products and bakeries. No amount of trans fat is safe and it should be completely eliminated from the diet."

Experts say that dangers of trans fats are real. Trans fats are artificially hydrogenated oils used primarily to extend shelf life of food. Extra hydrogen is pumped into polyunsaturated vegetable oils to retain flavour stability of estables.

"Even very small amount appear to be harmful." It is known to increase bad LDL cholesterol, triglycerides and insulin levels and reduces beneficial HDL cholesterol. Trans fats also trigger cancer, diabetes, immune dysfunction, obesity and reproductive problems.

Edible oils must advertize teh quantity of trans fats they contain, much like what cigarette packets do with a health warning. Even restaurants should also start advertising how much trans fats exits in their food.

Dr. Anoop Mishra, Director of Diabetes and Metabolic Diseases departement at Fortis Hospital says, "Amonngst all Indian cooking oils, olive oil, rice bran, soya and canola are best for health. They have a very good mixture of fatty acid and minimal levels of trans fatty acids. However the quantity of oils consumed by a person should not exceed 3-4 tea spoons."

Naini Setalvad, renowned nutritionist, obesity and health consultant, Naini Health Centre in Mumbai, writes "Edible oils are better cold pressed and organic rather than refined. Refining them reduces their health properties. There is no one 'best cooking oil'; each has their own benefits and drawbacks. simply choose the one that works best for you. Avoid trans fats. Hydrogenated vegetable oil contain trans fats. These elevate cholesterol levels, putting your heart at risk. There is no particular oil which could be termed as 'the healthiest oil."

Anbumani Ramadoss, Former Union Health Minister, writes, "Most of us do not realize how much we eat as trans fats are there in most oils and all packaged food. The health ministry has ruled out a ban on vanaspati saying that there are no substitutes available for these affordable edible oils. Trans fats are a danger to health, but in a country where there are under and over- nutrition, we cannot completely ban it, said health minister. Proper labeling laws are being formulated which include the listing of amount of trans fat present in the product."

Sally Fallon, author of Nourishing Traditions says that canola is particularly unsuited for consumption because it contains a very–long–chain fatty acid called erucic acid, which under some circumstances is associated with fibrotic heart lesions. Its high sulphur content, it goes rancid easily, and baked goods used with the oil develop molds rather quickly.

Chetan Chouhan and Sanchita Sharma, Conclude in a study, "Refined oil & vanaspati, which are high on trans fats, raise risk of diabetes and heart attack."

Mr. Ashok Sehtia, President, Solvent Extractors Association of India (SEA), says that our priority should be to avoid any further erosion of food security in future. The policy makers must redefine priorities. Food Security & Nutrition Security and Agriculture should be on the top of the Government agenda. A country with a large population, a large part of which lives below-the-poverty line, can ill-afford to compromise its food & nutrition security particularly when the non-food use of agricultural products for production of Bio-diesel and Ethanol is increasing rapidly the world over. This changed scenario has implications for

international vegoil prices. It is imperative, India targets self-sufficiency to the extent of 80-85 per cent in all food items particularly in edible oils where our self-sufficiency level has declined to approximately 50 per cent as against 97 per cent in the year 1992-93. The gradual erosion of self-sufficiency is dangerous because of the rising non-food usage of vegoils.

Dr. A.B. Afzalpurkar, Dy. Director- IICT, says that Rice Bran Oil obtained from rice bran, a by product of rice milling is unique edibel oil with nutritionally desirable attributes compared to other edible oils, its fatty acids composition is nearer to that recommended by nutritionist ideal for edible purpose. It has cholesterol lowering property attributed to Oryzanol, a minor constituent present in the oil. It contains minute quantity of nutritionally valuable constituents such as Tocopherols, Sterols, Squalene etc., Which are important for promotion and maintenance of good health.

4. KEY TRENDS IN VEGETABLE OIL

With food processing being one of the sectors which is a credible contributor to India's gross domestic product (GDP), the edible oil industry is now gearing up to be one of the major contributors to the GDP, as it recently surpassed the dairy industry in terms of turnover. The Solvent Extractors' Association of India (SEA) is working towards developing the domestic production of oilseeds, so that the refineries located in the country can also resume their work.

Edible vegetable oil has pride of place in the Indian food industry. Recently, the data released has shown that edible oils have overtaken the dairy industry in terms of turnover. The turnover of the edible oil and oilseed sectors would be approximately Rs. two lakh crore, generating massive direct and indirect employment.

India consumes almost 21 million tons of edible oils. While palm oil is majorly consumed, a rough break-up of the edible oils is mentioned in the table below.

Table 1
Consumption Break-up

Type	Consumption in million tonnes (approx)
Palm	8.5
Soya	5
Sunflower	2
Mustard	2
Cotton Seed	1.2
Rice bran	1
Groundnut	0.8
Others	0.5
Total	**21**

Urban consumption in India is relatively higher than consumption. However, more than the rural-urban divide in consumption, we notice that the gap between the rich and poor states is glaring. For example, the per capita consumption in Gujarat and Maharashtra is very high in comparison to that in Bihar and Orissa.

Edible Vegetable oil refineries can be broadly classified into two categories - port based and hinterland. Practically all ports in India have refineries to handle imported edible oils. kandla, Mundra, Kakinada, Krishnapatnam, Haldia and Mangalore are some of the major ports having refineries.

Hinterland refineries, which handle domestic oils, are located largely in oilseed-producing states like Madhya Pradesh, Uttar Pradesh, Rajasthan and Maharashtra.

Indian oilseed production has not kept pace with growth in consumption due to which our solvent extraction plants remain idle for a large part of the year. We have been requesting the government to allow import of high oil-bearing oilseeds like rapeseed and sunflower to be imported at nil or low duty. This will go a long way in keeping our plants occupied and generate employment in line with the Make In India thrust of the government.

The Indian consumer is coming of age, and we are experiencing that they have started demanding products which are both healthy and tasty. The success of our rice bran health oil and Vivo Diabetes Care Oil clearly reflect the altered mindset of the Indian consumer. The Indian consumer is very demanding and discerning, and rewards companies which offer good products without compromising on quality. Over the years, our brand, Fortune, has gained the trust of Indian consumers, making it the top-selling edible oil brand in our country.

The biggest challenge being faced by port-based refineries duty structure of the exporting countries (Indonesia and Malaysia). With a view to promote value addition in their respective countries, export duty on crude palm oil is kept much higher than that levied on refined palm olein. SEA has been representing to the Indian government to double the duty differential between crude palm oil and refined palm olein to a minimum of 15 per cent from the current 7.5 per cent, but to no avail. This is discouraging the refining of palm oil in India in spite of the declared Make in India policy by the government. We hope that the policy makers in India would take suitable action, or else refineries would be driven to sickness.

Our solvent extraction industry has been suffering for want of adequate raw material as our oilseed production over the years has stagnated. SEA has represented to the government to allow the import of high oil-bearing oilseeds would go a long way improving the capacity utilisation of our solvent industry.

The total Indian consumption is about 21 million tonnes. Out of this, imported oils constitue roughly about 14.5 million tonnes or 70 per cent and the balance (6.5 million tonnes) comes from domestic sources, which also states dependence on domestic sources. Indian imports are growing at approximately one million tonne per annum.

The government is very serious about ensuring fortification of edible oils on a voluntary basis. Although this will and to the cost of the oil refinery industry, which is struggling to make ends meet, fortification will help to impart nutrition. Thus, we are committed to respect the wishes of the government.

The Solvent Extractors' Association of India has always been at the forefront of promoting self-sufficiency in edible oil production. We have been conducting seminars highlighting stagnant oilseed production and even created model farms to promote better agronomic practices for improving oilseed yields. However, these efforts are like a drop in the ocean, and it is important that the else our dependence on imports would continue to grow.

Refineries at located at ports are all, by and large, state-of-art refineries. These are well equipped with modern and latest technologies. Those located in the hinterland may not be as advanced as port-based refineries, but over the years a lot of upgrades and revamping have taken place. However, the size of port-based refineries are generally bigger than those located in the hinterland.

5. ANALYSIS OF STATISTICS

In the present study, Coconut oil, Cottonseed oil, Peanut oil and Soyabean oil are taken as products of study :

(a) Production

Table 2
India : Total Oils PSD

Oil Meals ('000) MT	MY 2014/15 Revised	MY 2015/16 Estimate	MY 2016/17 Forecast
Crush	24778	24330	26290
Beginning stocks	1176	1477	1398
Production	6277	6423	6837
My Imports	14002	15050	15550
Total Supply	21455	22950	23785
My Exports	26	12	12
Industrial Dom. Cons.	880	985	1110
Food Use Dom. Cons.	19072	20555	21290

Feed Waste Dom. cons.	0	0	0
Total Dom. Cons.	19952	21540	22400
Ending Stocks	1477	1398	1363
Total Distribution	**21455**	**22950**	**23785**

Total edible oil production in MY 2016/17 will rise six percent to 6.8 MMT mostly due to anticipated expanded acreage and crushing of rapeseed, mustard and cottonseed. A likely drop in peanut oil production will limit domestic availability of edible oils. Edible oil production during My 2015/16 will be limited to 6.4 MMT, an incremental rise of 2.3 percent above MY 2014/15. The estimate includes 2.3 MMT of rapeseed oil, 1.3 MMT of cottonseed oil, 1.05 MMT each of soybean oil, 920,000 MT of peanut oil, 590,000 MT of coconut oil, 200,000 MT of palm oil, and 120,000 MT of sunflower oil.

(b) Consumption

Edible oil consumption in forecast year will rise four percent to 22.4 MMT. The expanding population, rising disposable incomes, growing demand from hotel, restaurants, institution, households and food-based industries will encourage higher consumption. The per capita edible oil consumption in India is also increasing and is currently estimated 17.18 kg for MY 2015/16. However, this remains below the global average per capita consumption of 24.86 kg.

Edible oil consumption in MY 2015/16 is estimated at 21.5 MMT, which includes 9.8 MMT of palm oil, 4.6 MMT of soy oil, 2.6 MMT of rapeseed and mustard oil, 1.8 MMT of sunflower, 910,000 MT of peanut oil and 1.8 MMT of other available oils. Palm oil will continue to be the largest consumed edible oil because of its competitive prices, versatility in blending with other others, and wide application across food (ingredient for margarines, biscuits, breads, breakfast cereals, instant noodle) and non-food sector (shampoos, lipsticks, candles, detergents, chocolates and ice cream).

(c) Fortified, Blended and Branded Cooking Oils Gaining Acceptance

India's edible oil manufacturers promote fortified refined palmolein, safflower, olive oil, and rice bran oil as more healthful cooking oils. Cottonseed oil finds increasing acceptability due to its light color, neutral color, and blending characteristics with other oils. Coconut, peanut and sunflower oils continue to be widely consumed in south India, while peanut and cottonseed oils are more prevalent in Gujarat and Maharashtra. Rapeseed oil is preferred in northeast, eastern and northwest India, while soybean oil prevails in central India, and rice bran oil is gaining popularity in eastern India.

Most edible oil is purchased by household or by institutional users (food processors, restaurants and hotels) and is sold in loose form or as *vanaspati* (partially hydrogenated vegetable oil). Edible oil sold in loose form is often again repacked and resold under different private labels. However, the percentage of refined oils that are directly branded and packaged by teh refiners is also growing, as consumers are becoming more aware of health and quality factors in their choice of food products. Almost 35 to 40 percent of the edible oil market is branded. Branded edible oils sold in low-volume, low-priced packages or sachets well, a development that indicates a growing consumer preference for branded products.

(d) Production, Supply and Demand Data Statistics

Table 5

India : Commodity, Oilseed, Soyabean, PSD (Area in 1000 hectares and production in 1000 metric tons)

Oilseed, Soyabean	2014/2015		2015/2016		2016/2017	
Market Begin Year	Oct 2014		May 2015		Oct 2016	
India	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Planted	11000	10908	11650	11610	0	12000
AreaHarvested	10908	10908	11650	0	0	0
Beginning Stocks	606	606	453	632	0	212
Production	8700	8700	8000	7500	0	11000
My Imports	11	11	20	10	0	15
My Imp. From U.S.	0	0	0	0	0	0
My Imp. from EU	0	0	0	0	0	0
Total Supply	9317	9317	8473	8142	0	11227
My Exports	234	235	200	100	0	200
My Exp. to EU	25	20	30	25	0	25
Crush	7000	6600	6450	6000	0	8200
Food Use Dom. Cons.	630	650	630	630	0	650
Feed Waste Dom. Cons.	1000	1200	1000	1200	0	1300
Total Dom. Cons.	8630	8450	8080	7830	0	10150
Ending Stocks	453	632	193	212	0	877
Total Distribution	9317	9317	8473	8142	0	11227

Table 6

India : Commodity, Oilseed, Soyabean, PSD (Unit 1000 metric tons and Extraction rate in Percent)

Oilseed, Soyabean	2014/2015		2015/2016		2016/2017	
Market Begin Year	Oct 2014		May 2015		Oct 2016	
India	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush	7000	6600	6450	6000	0	8200
Extr. Rate, 999.9999	0.1779	0.1758	0.1783	0.176	0	0.1762
Beginning Stocks	255	255	249	415	0	571
Production	1245	1160	1150	1056	0	1445
My Imports	2799	2800	3700	3700	0	3600
My Imp. From U.S.	2	2	0	0	0	0
My Imp. from EU	0	0	0	0	0	0
Total Supply	4299	4215	5099	5171	0	5616
My Exports	0	0	0	0	0	10
My Exp. to EU	0	0	0	0	0	0
Industrial Dom. Cons.	0	0	0	0	0	0
Food Use Dom. Cons.	4050	3800	4850	4600	0	5000
Feed Waste Dom. Cons.	0	0	0	0	0	0
Total Dom. Cons.	4050	3800	4850	4600	0	5000
Ending Stocks	249	415	249	571	0	606
Total Distribution	4299	4215	5099	5171	0	5616

Table 7

India : Commodity, Oil, Peanut, PSD (Unit 1000 metric tons and Extraction rate in Percent)

Oil, Peanut	2014/2015		2015/2016		2016/2017	
Market Begin Year	Oct 2014		May 2015		Oct 2016	
India	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush	3325	3050	3200	2700	0	2600
Extr. Rate, 999.9999	0.3308	0.34	0.3309	0.34	0	0.3404
Beginning Stocks	10	10	10	17	0	15
Production	1100	1037	1059	918	0	885
My Imports	0	0	0	0	0	0
My Imp. From U.S.	0	0	0	0	0	0
My Imp. from EU	0	0	0	0	0	0
Total Supply	1110	1047	1069	935	0	900
My Exports	15	15	10	10	0	10
My Exp. to EU	0	0	0	0	0	0
Industrial Dom. Cons.	10	15	10	10	0	10
Food Use Dom. Cons.	1075	1000	1030	900	0	850
Feed Waste Dom. Cons.	0	0	0	0	0	0
Total Dom. Cons.	1085	1015	1040	910	0	860
Ending Stocks	10	17	19	15	0	30
Total Distribution	1110	1047	1069	935	0	900

Table 8

India : Commodity, Oil, Cottonseed, PSD (Unit 1000 metric tons and Extraction rate in Percent)

Oil, Peanut	2014/2015		2015/2016		2016/2017	
Market Begin Year	Oct 2014		May 2015		Oct 2016	
India	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush	3325	3050	3200	2700	0	2600
Extr. Rate, 999.9999	0.3308	0.34	0.3309	0.34	0	0.3404
Beginning Stocks	10	10	10	17	0	15
Production	1100	1037	1059	918	0	885
My Imports	0	0	0	0	0	0
My Imp. From U.S.	0	0	0	0	0	0
My Imp. from EU	0	0	0	0	0	0
Total Supply	1110	1047	1069	935	0	900
My Exports	15	15	10	10	0	10
My Exp. to EU	0	0	0	0	0	0
Industrial Dom. Cons.	10	15	10	10	0	10
Food Use Dom. Cons.	1075	1000	1030	900	0	850
Feed Waste Dom. Cons.	0	0	0	0	0	0
Total Dom. Cons.	1085	1015	1040	910	0	860
Ending Stocks	10	17	19	15	0	30
Total Distribution	1110	1047	1069	935	0	900

Table 9

ndia : Commodity, Oil, Sunflower seed, PSD (Unit 1000 metric tons and Extraction rate in Percent)

Oil, Sunflower seed	2014/2015		2015/2016		2016/2017	
Market Begin Year	Oct 2014		May 2015		Oct 2016	
India	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush	340	380	380	340	0	305
Extr. Rate, 999.9999	0.3529	0.3553	0.3579	0.35	0	0.3508
Beginning Stocks	172	172	153	137	0	56
Production	120	135	136	119	0	107
My Imports	1531	1530	1550	1600	0	1800
My Imp. From U.S.	0	0	0	0	0	0
My Imp. from EU	0	0	0	0	0	0
Total Supply	1823	1837	1839	1856	0	1963
My Exports	4	0	0	0	0	0
My Exp. to EU	0	0	0	0	0	0
Industrial Dom. Cons.	0	0	0	0	0	0
Food Use Dom. Cons.	1666	1700	1685	1800	0	1900
Feed Waste Dom. Cons.	0	0	0	0	0	0
Total Dom. Cons.	1666	1700	1685	1800	0	1900
Ending Stocks	153	137	15	56	0	63
Total Distribution	1823	1837	1839	1856	0	1963

Table 10

India : Commodity, Oil, Coconut, PSD (Unit 1000 metric tons and Extraction rate in Percent)

Oil, Coconut	2014/2015		2015/2016		2016/2017	
Market Begin Year	Oct 2014		May 2015		Oct 2016	
India	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Crush	708	898	710	935	0	985
Extr. Rate, 999.9999	0.6172	0.6292	0.6169	0.631	0	0.6294
Beginning Stocks	16	16	15	32	0	42
Production	437	565	438	590	0	620
My Imports	10	0	3	0	0	0
My Imp. From U.S.	0	0	0	0	0	0
My Imp. from EU	0	0	0	0	0	0
Total Supply	463	581	456	622	0	662
My Exports	8	9	5	0	0	0
My Exp. to EU	0	0	0	0	0	0
Industrial Dom. Cons.	200	240	200	250	0	280
Food Use Dom. Cons.	240	300	235	330	0	350
Feed Waste Dom. Cons.	0	0	0	0	0	0
Total Dom. Cons.	440	540	435	580	0	630
Ending Stocks	15	32	16	42	0	32
Total Distribution	463	581	456	622	0	662

6. CONCLUSION

Vegetable oils are essential consumer items that are significant contributory factors to human nutrition. The World Health Organization (WHO) has recommended an annual consumption of 20 litre. per capita of oils and fats on the basis of absolutely minimum nutritional requirements assessed by them, while the Indian Council of Medical Research (ICMR) has set the target at 10 litre. per capita for India, However, the actual figure of consumption is roughly 5.6 litre. per capita of vegetable oils and fats. LCO constitutes mearly 55 per cent of the pool of edible oils and fats, its demand is likely to go up which means that there is a good scope for increasing the LCO production considerably.

The only constraints are on the supply side. The domestic supply of oil seeds fall short of the existing demand and this is being covered by importing edible oils, through the State Trading Corporation (STC). It is a sad commentary on Indian planning that even after 67 years of Independence, the nation has to spend scarce foreign exchange reserves on the import of edible oils which constitute around 40 per cent of total requirement. More than half of the total quantity of edible oils that is imported goes for the manufacture of edible oil. In view of precarious foreign exchange reserves position, this cannot go on for long. Sooner it is stopped, the better. Efforts should be made to increase the supply of indigenous oils.

The strategy of increasing the production of oilseeds is therefore being pursued vigorously by the Government. A series of long term and short term measures for increasing production of oilseeds have been taken by the Government in the Department of Agriculture which include launching of special projects on groundnut in Gujarat and soyabean in Madhya Pradesh, continuation of centrally sponsored scheme for oilseeds development with emphasis on seeds distribution and plant proteciton coyer, bringing larger areas under rabi/summer groundnut, toria and sunflower, large scale distribution of minikits, tapping of non-traditional sources of oils and exploitation of oil seeds of tree and forest origin etc.

It is understood that the industry has now taken upon itself a sustained oilseeds research and development acitivity and promote usage of non-traditional oils, soyabean, watermelon seed, Niger oils, mahua oil and rice bran oil. In this regard the effort of 'Oliseeds Research and Development Institute' should be commended. This has helped the farmers to procure advanced variety of seeds so as to improve the yields.

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