



The importance of Malaysian Palm products to Pakistan's food industry

by Johari Minal.

Introduction

Palm oil is extracted from the flesh of the fruit of the oil palm, *Elaeis guineensis*, which is a native of West Africa. In Malaysia, the high yielding Tenera variety of *Elaeis guineensis* is the most commonly cultivated oil palm tree. Basically, there are two types of oil produced from palm fruit: Palm oil from the flesh and palm kernel oil from the kernel. Out of these two oils, many other oils/fats products can be produced for variety of food applications. This is the secret as to why palm oil is indispensable and can be found in so many food products. The use of palm and palm kernel oils and their derivatives in Pakistan will be elaborated in this article.

Oils and Fats Situation of Pakistan

Pakistan is a populated country of 207.8 million people with an annual population growth rate of about 1.41%. With relatively huge population, Pakistan consumed about 5.12 million tonnes of oils and fats in 2018, which is about 25.5kg per person per year in terms of per capita consumption. This amount is still below the world's average of 30kg per capita consumption, indicating that Pakistan is able to increase consumption of oils and fats in tandem with its population and economic growths. Out of 5.12 million tonnes of oils and fats consumed, only about 2.01 million tonnes were produced locally of which an estimated 700,000 tonnes were extracted from imported oilseeds. Major oils/fats produced were

butter (28.5%), followed by soybean oil (21.3%), cotton oil (19.1%) and rapeseed oil (18.7%).

There is a huge gap between consumption and production of oils and fats in Pakistan. Hence, imported oils and fats play an important role to fulfil the Pakistan's requirement for oils and fats. Imports had increased from 2.63 million tonnes in 2014 to about 3.12 million tonnes in 2018. Main oils and fats imported were palm oil (95.4%), followed by soybean oil (3.5%). Palm oil import increased from 2.45 million tonnes in 2014 to 2.98 million tonnes in 2018. Apart from importing edible oils, Pakistan has also increased importation of oilseeds in the last decade. By 2018, import of oilseeds had surpassed 3 million tonnes,

mainly of soybean. The oilseeds could provide Pakistan with an additional 700,000 tonnes of extracted oils. Despite increasing importation of oilseeds, the share of palm oil import compared to the overall oils and fats import including extracted edible oils from imported oilseeds, is expected to remain high due to its competitive price and wide range of food and non-food applications.

Although Pakistan is highly depending on imported oils and fats, the country also exports small amounts of oils to their neighbouring countries especially to Afghanistan. In 2018 Pakistan re-exported 90,200 tonnes of palm oil to Afghanistan.

Malaysian Palm Oil Board (MPOB) (TAS) Karachi Office

The Palm Oil Research Institute of Malaysia (PORIM) was formed in 1979 to among others promote greater usage of palm oil worldwide through R&D. PORIM was active in introducing and promoting palm oil in the production of vanaspati in Pakistan. As the Pakistani market grew bigger and becoming more important, it was decided that an office to be established in Pakistan. In 1984 PORIM established its Technical Advisory Services (TAS) regional office in Karachi, Pakistan with objective to promote and sustain greater utilization and acceptance of palm oil and products in both edible and inedible applications by providing technical services and undertaking technical promotion activities.

In 2000, PORIM was renamed as Malaysian Palm Oil Board (MPOB) after merging with the Palm Oil Licensing and Registration Authority (PORLA). MPOB TAS Regional Office continued to promote more palm oil usage in Pakistan in various applications. As palm oil usage expanding, Pakistan imports various palm products not limited to only crude or refined palm oil which are still a major export of Malaysian palm oil to Pakistan.

MPOB Karachi has been active in facilitating the importers of palm products from Malaysia and providing them with technical assistance for processing and product developments, organizing various technical seminars, conducting technical

visits to factories, conducting collaborative R&D with local institution, sending the technical staff of the industry for training programmes in Malaysia, etc. Among collaborative R&D projects conducted in Pakistan were nutritional studies on palm oil and vanaspati, quality survey of Malaysian palm oil, blending of palm olein and the use of red palm shortening in cookies. In the early days of palm oil in Pakistan, MPOB resolved many technical issues pertaining to quality such as high melting points and off-spec products. MPOB also provided palm-based formulations for the production of vanaspati ghee, shortening, frying oil etc.

Applications of Palm Products in Pakistan

The acceptance of palm oil worldwide is due to its unique properties that enable its use in a wide range of end products. Palm oil is a semi-solid oil which can be fractionated into various products ranging from liquid oil to very hard fats. This unique property makes palm oil very versatile in its usage as the fractions satisfy the technical requirements of almost all food products. Furthermore, the palm kernel oil, extracted from the seed/kernel of oil palm fruit, can also be used in various food applications. This unique property of palm fruit is not found in other oils bearing seeds. Palm oil is also currently the only oil with sustainable certification, which means palm oil is produced in sustainable manner. Compared to other edible oils, palm oil is produced with minimum use of fertilisers. Palm oil is also

extracted using physical method unlike oilseeds which are extracted using chemical solvent. The refining process of palm oil is also conducted physically. Other edible oils need chemical treatment during the refining process. Thus, it can be said that palm oil is not only produced sustainably, but palm oil is also natural and almost organic.

Major Malaysian palm products exported to Pakistan are crude palm oil, RBD palm oil, RBD palm olein and RBD palm stearin. Other forms of palm and palm kernel oils and their products are imported in smaller quantities.

Vanaspati (Vegetable Ghee)

Like other West Asian countries, Pakistan has traditionally been a solid fats consuming country. Up to the mid-sixties, indigenous animal butter fat (ghee) was the common cooking medium used in the country. Some quantities of vegetable ghee manufactured from indigenously produced and hydrogenated cottonseed oil were also consumed. Later on, as the country's consumption of edible fats started to grow, the growing demands were met by increasing the production of vegetable ghee.

Palm oil was first introduced to Pakistan in 1970. Initially, crude palm oil was imported and palm oil was blended up to 5-15% in vegetable ghee blend. Due to increasing demand in 1980, RBD palm oil was introduced into Pakistan when PORIM (MPOB) in collaboration with FELDA and GCP conducted plant



trials to produce vegetable ghee with larger amounts of palm oil in the formulations. RBD palm oil was readily accepted by Pakistan's edible oil industry and the palm oil share in vegetable ghee blend went up to 40% in 1980's and above 80% in 1993 and after that vanaspati was even produced by using 100% palm oil.

Today, the main application of palm oil in Pakistan is still for the vanaspati production. The definition of vanaspati in Pakistan was considered unique and different compared to vanaspati definition used in Malaysia where vanaspati in Pakistan must be hydrogenated. But hydrogenation produces trans fat which is bad for health. Realising the problem, the definition was amended to allow blending as a method to produce vanaspati. However, since Pakistan has been producing and importing soft oils, the formation of trans during the production of vanaspati remains an issue because soft oils need to be hydrogenated to produce vanaspati. This issue led to the ban of vanaspati consumption in Punjab by July 2020. Early this year, the Pakistan Standard and Quality Control Authority (PSQCA) has reduced the trans fat limit in vanaspati ghee standard to 5% and it

planned to reduce it further to 2% gradually. The use of palm oil could help the vanaspati manufacturers reducing the industrial trans fats to below 2%.

MPOB Karachi had started the initiative to educate the edible oil industry members on how to produce trans-fat free products using Malaysian palm oil. MPOB had organized seminars and brought in palm oil experts from MPOB HQ in Malaysia to promote trans-free vanaspati and other food products. Despite the controversy surrounding vanaspati, it will remain as a major usage of palm oil in Pakistan for years to come.

Frying and Cooking Oil

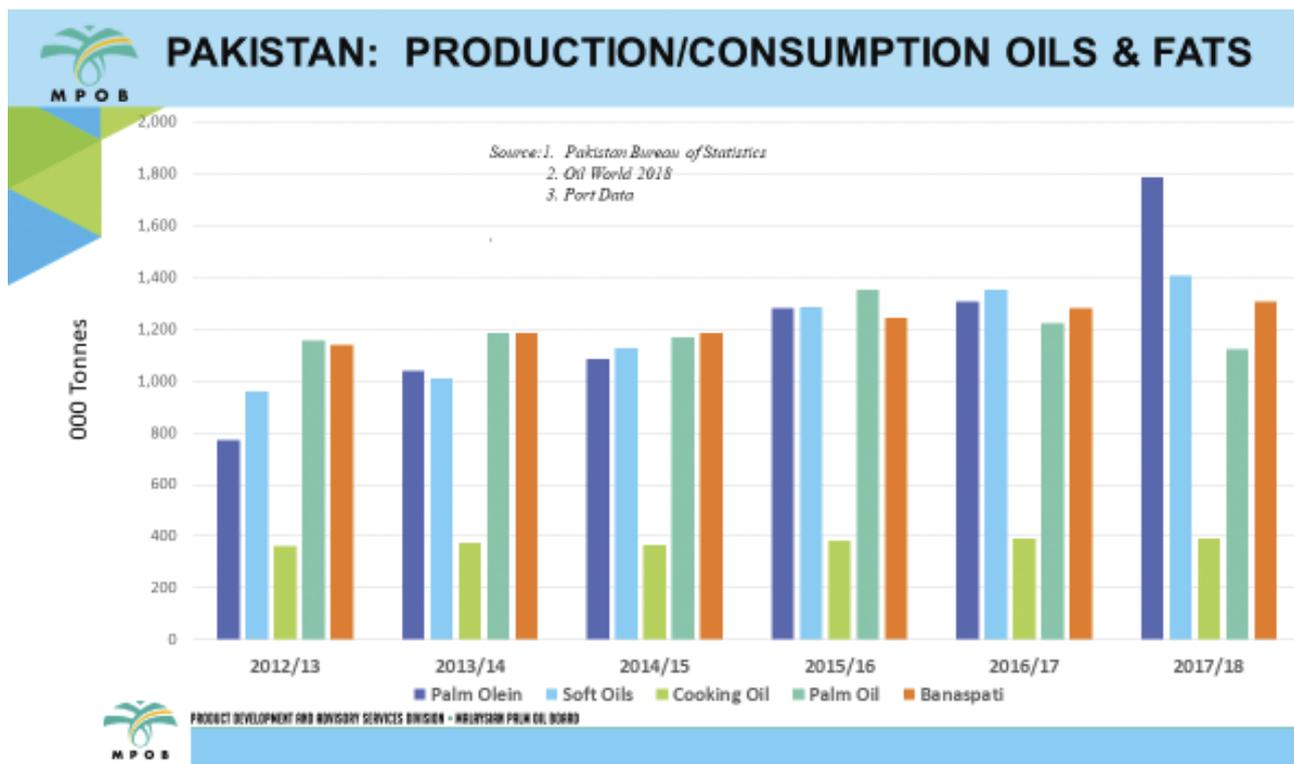
In recent years, frying application has taken over vanaspati as the major usage of palm oil in Pakistan. Palm olein is one of the major oils used for industrial frying in Pakistan. Industrial frying accounts for more than 50% of the total oil used in food applications. Instant noodle, snack, nimco and pre-fried foods are industrially produced in bulk which need a good frying oil to achieve a good quality product in terms of organoleptic acceptability, health and shelf-life. The oil used in frying plays an important role in the eating qual-

ity of the fried food and its shelf life. Studies from all over the world revealed that palm oil and palm olein have desirable frying performance compared to their alternatives. This is quite obvious when the industrial frying industry opted to switch to palm oil and palm olein from animal fat and hydrogenated soft oils. It is now reasonable to say that palm oil and palm olein are the largest oils consumed by the frying industry and also the largest single application of palm oil in the world.

Through industrial experiences and scientific studies, the following facts have been established for palm oil/olein as frying oil: extended oxidative stability, extended life span of frying oil, extended shelf life of fried foods, favourable organoleptic quality of fried foods, less maintenance of fryer, cook the foods faster, less oil absorption by fried foods and palm oil/olein is natural that does not need hydrogenation or addition of synthetic anti-oxidant to make it stable against oxidative degradation. Studies have also shown that palm olein has similar nutritional properties in terms of its effect on blood cholesterol when compared with canola, sunflower and refined olive oil.

With MPOB continuous promotional





efforts, palm olein is now also available for household consumers in Pakistan, beside industrial frying. Some of the manufacturers of vanaspati ghee and cooking oil produce 100% palm olein in consumer packaging of 1 litre pouch and 16 litre tin and some are importing 100% palm olein produced and packed in Malaysia for household market.

For catering industry, 100% palm olein is used; almost every local dish such as, biryani, Punjabi yakhni pulao, Sindhi biryani and pulao, all types of karahi, quorma and salan, parathas and puri, etc. are being made by the local catering industry and restaurants using palm oil/olein.

Palm olein is also blended with soft oils as well for practical purposes i.e. increasing cold stability and reducing the price of soft oils. A few companies have fractionated palm olein to produce superolein. Some quantities of superolein are also imported as well. Superolein is used for blending with soft oils for household cooking oil market – in packaging of 1 litre to 5 litres.

Other Applications

Apart from vanaspati and frying/cooking oil, palm products are also used in many food products in Pakistan. The biscuit

manufacturers use palm shortening, icing fats, baking fat and other specialised palm products. These products are called specialty fats because they are used for a specific technical function. For example, hard palm kernel oil is used as coating fat in confectioneries. Palm kernel olein can also be used as coating fat in ice-cream. Palm and palm kernel oil are also used in coffee creamers, which are also popular in Pakistan. Even liquid coffee creamers are also available in supermarkets. These specialty fats are usually imported direct from Malaysia because the quantities consumed locally do not warrant a feasible local production of the products. On the other hand, palm shortening is mainly produced in Pakistan because of huge demand by the food industry. Only small quantities of specialised quality are imported from Malaysia.

In general, palm and palm kernel oils and their derivatives are widely used by the food industry in Pakistan. These food products are also exported overseas.

Sustainable Palm Oil

Malaysia has a target to ensure that Malaysian palm oil will be 100% certified sustainable by 2020. Many of the plantations are already certified under the

Roundtable Sustainable Palm Oil (RSPO), which mainly covers plantations companies. Small farmers are usually left behind because they cannot afford the costly certification process. To encourage small farmers to participate in the sustainable palm oil production, the Government of Malaysia launched Malaysian Sustainable Palm Oil (MSPO) standard to ensure the target for 100% certified sustainable palm oil is achieved. There is now a programme conducted by MPOB to help small farmers accredited under MSPO.

MSPO programme will increase productivity and improve palm oil quality without harming the environment. In future, sustainable palm oil will be a regular palm oil product.

Conclusion

Palm products have been accepted in Pakistan due to the versatility in usage, competitive prices and health benefits. Palm oil usage helped the food industry of Pakistan produce better products with great taste, healthy and longer shelf life. Palm oil has also helped reduced the industrial trans fat content in food products and thus making the foods healthier. ♦