Impact of International Food Standards on Market Access for Palm Oil and Palm Oil Products

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ABSTRACT

Increasing global trade has led to the development of international food standards, codes of practice, guidelines and recommendations under the Joint FAO/WHO Codex Alimentarius Commission (CAC). The objectives of CAC are to develop standards, codes of practice and guidelines for foods moving in international trade in order to protect the health of consumers and to facilitate trade by ensuring fair trade practices. The standards developed by CAC have become even more important after 1st January 1995 with the implementation of the World Trade Agreement on the Application of Sanitary and Phytosanitory Measures (the SPS Agreement) and the Technical Barriers to Trade (TBT) Agreement. Both of these agreements recognise the international standards, guidelines and recommendations of Codex Alimentarius as the reference points for facilitating international trade and resolving trade disputes. In view of the fact that more and more countries are aligning their national standards with those of Codex Alimentarius, Codex standards have serious implications on exports of palm oil and palm oil products. This paper highlights the Codex system and reveals how the Codex standards impact international trade in palm oil and palm oil products.

Keywords: international food standards, Codex Alimentarius Commission, SPS agreement, TBT agreement.

INTRODUCTION

Globalisation in food trade has significantly changed the way food is produced and consumed. Technologies have improved product yields and, coupled with better packaging and distribution systems, have enabled trade to be extended across borders. Consumers too are becoming increasingly more sophisticated and, consequently, are demanding greater assurance of the quality and safety of their foods.

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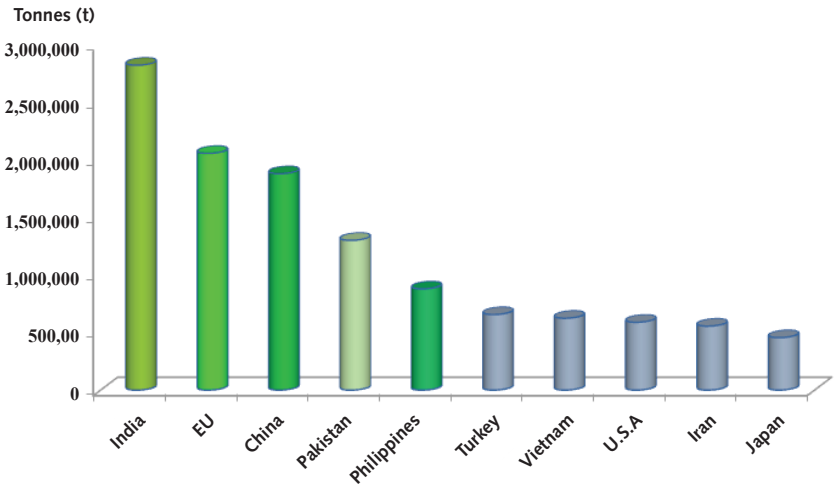
However, the different sets of standards independently developed by different countries have inadvertently resulted in trade barriers. Increasing world trade has led to the establishment of the Codex Alimentarius Food Standards Programme jointly developed by the Food and Agriculture Organisation of the United Nations (FAO) and the World Health Organisation (WHO) (FAO and WHO, 2016a).

Codex Alimentarius, which means food code in Latin, is a compilation of standards, codes of practice, guidelines and other recommendations related to food. The Codex Alimentarius Commission (CAC) was established in the 1960s by FAO and WHO, and has since developed to become the most important international reference point for food standards development. The objectives of CAC are to develop standards, codes of practice and guidelines for foods moving in international trade to protect consumer health and to facilitate trade by ensuring fair trade practices.

The work of CAC has become even more important since 1st January 1995, with the coming into force of the World Trade Agreement on the Application of Sanitary and Phytosanitory Measures (SPS Agreement) and the Technical Barriers to Trade (TBT) Agreement. These agreements formally acknowledge that international standards such as Codex Alimentarius as a reference for facilitating trade between countries and in settling trade disputes internationally (FAO and WHO, 2016a). The SPS Agreement aims to reach harmony between the right of WTO member countries to protect their consumers' health and for goods to be exported across countries in a smooth manner (WTO, 2015). The SPS Agreement encourages international harmonisation of food standards. Article 3 of the SPS Agreement states that WTO member countries shall establish their national standards based on Codex standards. The SPS Agreement also requires that any member country that wishes to introduce standards which are stricter than Codex must be able to justify these measures based on a scientific assessment of health risks (WTO, 1994). The TBT Agreement on the other hand aims to assure that standard development, including packaging and labelling requirements, does not create unnecessary obstacles to international trade (WTO, 2014). In view of the fact that Codex standards are to protect human health, standards and regulations by countries are considered consistent with the provisions of the WTO Agreements if these requirements are harmonised with those of Codex. Alignment with Codex Standards also eliminates the need to provide for scientific justification on the measures to ensure food safety (Noraini, 2007). In this connection, more and more countries are aligning their own regulations with the standards developed by Codex. As palm oil and palm oil products are currently exported to more than 160 countries worldwide (Lim, 2017), participation in Codex standards development is of utmost importance, which also ensures compliance with Codex standards. *Figure 1* shows the top 10 importers of palm oil from Malaysia (MPOB, 2017).

THE CODEX SYSTEM: HOW IT WORKS

CAC meets every year, alternating between Rome where the FAO Headquarters is located and Geneva at the WHO Headquarters. CAC is open to all member countries of FAO and WHO (FAO and WHO, 2016b). Currently more than 99% of the world's population is represented in the Codex Alimentarius Commission through 188 Member Countries and one Member Organisation (The European Union) (FAO, 2017; FAO and WHO, 2016a). In this regard, CAC is a truly international body as the



Source: MPOB (2017).

Figure 1. Top 10 importers of palm oil from Malaysia, 2016 (t).

annual meetings are normally represented by over 130 member governments and 40 observer organisations. The observer organisations that attend the Codex meetings include international governmental organisations (IGOs) and international non-governmental organisations (INGOs) which have been given observer status. These observers comprise expert technical bodies as well as associations from industry and consumers contributing to the standard setting process. During discussions on the draft standards, CAC permits these observers to give their views and opinions; however, the final decisions are made by the member governments. (FAO and WHO, 2016a).

Three types of Codex Committees have been established by CAC:

1. Codex Committees - which are tasked with drafting the international standards for submission to the Commission;
2. Codex Coordinating Committees – which coordinate food standards activities for establishing regional standards; and
3. Codex Ad-hoc Inter-governmental Task Forces – which are established for a fixed period of time. An example of such a committee is the Task Force on Foods Derived from Biotechnology that operated from 1999-2003 and from 2005-2008.

Under the Codex Committees, there are the General Subject Committees or 'horizontal committees' which develop standards, codes of practice or guidelines for general applications. Some of the General Subject Committees that are relevant to the oils and fats industry are as follows:

- Codex Commitee on Food Additives (CCFA)
- Codex Committee on Contaminants in Foods (CCCF)
- Codex Committee on Food Labelling (CCFL)
- Codex Committee on Nutrition and Foods for Special Dietary Uses (CCNFSDU)
- Codex Committee on Methods for Analysis and Sampling (CCMAS)
- Codex Committee on Pesticide Residues (CCPR)

For example, CCNFSDU prepares the criteria and conditions for health and nutrition claims together with CCFL. Another example is CCCF which establishes maximum levels of contaminants, such as heavy metals, in foods. The Codex Committee on Food Import and Export Inspection and Certification Systems meanwhile works on the regulatory measures applied by national authorities so that their food control system is developed without hindering international trade while protecting consumer health.

Commodity Committees are responsible for developing standards for specific foods, and are referred to as 'vertical committees' to differentiate them from the General Subject Committees. Some of the Commodity Committees are as follows:

- Codex Committee on Fats and Oils (CCFO)
- Codex Committee on Milk and Milk Products (CCMMP)
- Codex Committee on Cocoa Products and Chocolate (CCCPC)

The Regional Coordinating Committees ensure the protection of regional interests and uphold the concerns of developing countries. The country that chairs a Coordinating Committee is also the Regional Coordinator for the region concerned. The post of Regional Coordinator (which is a two-year term) is rotated among the members in the region, although reappointment to a second term is possible. There are six Coordinating Commitees, one for each of the following regions:

- Africa
- Asia
- Europe
- Latin America and the Carribean
- North America and the Southwest Pacific
- Near East

The Executive Committee comprises the Chairperson, the Vice-Chairpersons of CAC and the Regional Coordinators – with seven more members elected by the CAC, one each coming from the following geographic locations: Africa, Asia, Europe, Latin America and the Caribbean, North America, South-West Pacific and Near East. Not more than one delegate from any one country can be a member of the Executive Committee. The Executive Committee acts as the executive organ of CAC, and may make proposals regarding the strategic planning and programming of the work of CAC and particularly assist in the management of CAC's programme of standards development by conducting critical reviews of proposals to undertake new work, and monitoring of progress of standards development (FAO and WHO, 2016b).

The Chairperson and Vice-Chairpersons of CAC are elected from the above six regions (through a secret voting process by countries attending CAC). All the regions have been appointed as Chairperson and Vice-Chairpersons of CAC since its first Session in 1962 (FAO and WHO, 2016a). Malaysia was the Codex Vice-Chairperson for the first term from July 2005 to July 2007 (FAO and WHO, 2005a), and was re-elected for the second term from July 2007 to July 2009 (FAO and WHO, 2007). The host country for the Codex Committees is responsible for the cost of the Committee's maintenance as well as for chairing the Sessions. Normally the host country does not change unless it decides to give up its position in the Codex Committee. CCFO, for example, used to be hosted by the United Kingdom from 1964 until 2007 when Malaysia successfully became the new host country from the 21st Session of CCFO in 2009 onwards (FAO and WHO, 2007). The Codex Committees meet at invervals between one and two years, depending on the needs of the Committees. The Commodity Committees such as CCFO meet every two years while the General Subject Committees such as CCFL and CCNFSDU meet every year. Sometimes, the Codex Committee meetings are also held away from the host country, normally in a developing country, to increase awareness and involvement in Codex work. In this regard, Malaysia has co-hosted a CCFL meeting with Canada (the host country for CCFL) in 2005 (FAO and WHO, 2005b).

The Codex Secretariat located at the FAO headquarters coordinates all standards development activities and also monitors the work planning in Codex to ensure that the Codex texts remain relevant to current science. In addition to the Codex Secretariat, the host countries also provide the National Host Secretariats which liaise with the Codex Secretariat in coordinating the activities of the various Committees. Each country also nominates a Codex Contact Point (CCP) which normally is the department handling food administration. CCP provides the liaison with the Codex Secretariat and coordinates all the relevant Codex activities at the national level (FAO and WHO, 2016a).

Under the *Procedural Manual of the Codex Alimentarius Commission* (FAO and WHO, 2016b), the process for standards development is well established and is done in a transparent manner which begins with a proposal submitted by a country or a Codex Committee for a standard to be developed. A discussion paper normally follows after the submission which outlines what the proposed standard expects to achieve, together with a project document which includes information on the purpose and scope of the standard, the main aspects which the proposed standards will cover and when the work is expected to be completed. Normally, the time frame for completing the standards should not be more than five years. The proposal for a new work will then be forwarded from the Codex Committee to CAC for its approval.

CAC's decision that a standard be developed will be based on a critical review of the project document by the Executive Committee. A critical review is to ensure that the standards to be developed are for consumer protection in terms of food safety as well as for assuring fair trade practices and satisfying the needs of developing countries. The review also takes into consideration the global magnitude of the problem or issue, and the potential impediments to international trade. Another important criterion in Codex standards development is the production of the item and its consumption in producing countries as there should be a significant volume of the product being traded internationally (FAO and WHO, 2016b).

According to FAO and WHO (2016b), there are altogether eight steps in the Codex procedures which are explained below:

Step 1: Approval from CAC after a critical review.

Step 2: Preparation of the draft standard. The country which initiated the move for the standard to be developed would normally prepare the proposed draft text.

Step 3: Seeking comments from Codex Member countries.

Step 4: Consideration of the comments received by the respective Codex Committee, which then makes further amendments based on discussions during the Session meeting.

Step 5: Proposal for adoption as a draft standard.

Step 6: Sending of the draft standard by the Codex Secretariat to all Codex member countries and interested parties for comments on all aspects, including possible implications of the draft standard on their economic interests.

Step 7: Consideration of the comments by the respective Codex Committee which then makes further amendments based on discussions during the Session meeting.

Step 8: Proposal for final adoption at Step 8. In considering the draft, CAC considers the recommendations from the Executive Committee in its critical review, and if there are any comments submitted by any of its Members on its implications to any country's economic interests. After adoption, the Codex standard is published on the Codex website.

In developing these standards, Codex is increasingly applying the accelerated procedure in which the texts are submitted for final adoption at Step 5/8 with a recommendation that Steps 6 and 7 be omitted. This practice speeds up the adoption process significantly. However, it reduces the opportunity for member countries to comment as the request for comments comes only once during Step 3 of the procedure (FAO and WHO, 2016b).

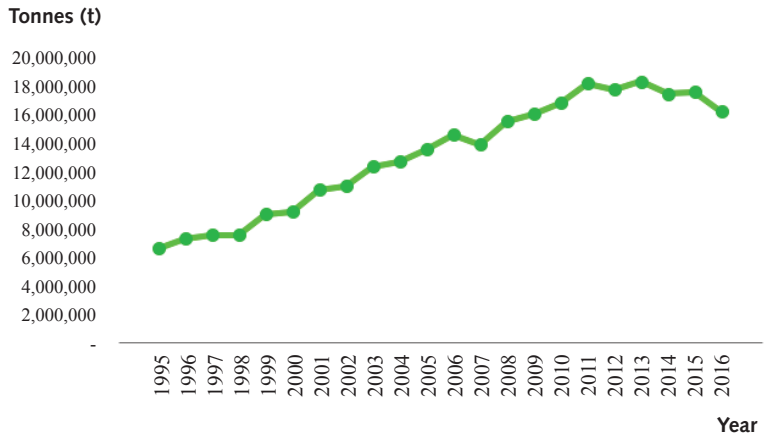
CODEX: THE MALAYSIAN PERSPECTIVE

Malaysia has been a member of Codex since 1971 (FAO and WHO, 2016b) and has actively participated in most Codex activities. Our participation is to contribute in the development of the Codex standards and at the same time safeguard national interests. The National Codex Committee (NCC) was established in 1985 (FAO and WHO, 2006) to formulate national positions in all matters related to Codex. Members of NCC include the government, the industries, the consumers, academia and professional bodies (FAO and WHO, 2006). NCC is currently chaired by the Senior Director, Food Safety and Quality Division of the Ministry of Health (MOH), Malaysia. The NCC secretariat and the Malaysian Codex Contact Point are also at the Food Safety and Quality Division, MOH, Malaysia. Besides NCC, there are also the National Codex Sub-Committees which have functions that include studying the Codex draft standards, codes of practice, guidelines and related texts and to formulating the necessary positions and interventions to protect Malaysia's interests. Their functions are also to propose draft standards and to prepare the drafts for discussion and adoption at the international level during the relevant Codex Committee meetings and at CAC.

Currently, there are 20 National Codex Sub-Committees (Zailina, 2017). These Sub-Committees are the mirror image of CAC, the Executive Committee, Regional Coordinating Committee and Codex General Subject Committees and Commodity Committees, respectively. The Chairperson and the secretariat for these National Codex Sub-Committees are at the relevant Ministries or agencies where the expertise are located. For the National Codex Sub-Committee on Fats and Oils, the Chairperson is the Director General of the Malaysian Palm Oil Board (MPOB). The members include representatives from the relevant members of the Malaysian oil palm industry such as the Malaysian Palm Oil Association (MPOA), the Palm Oil Refiners' Association of Malaysia (PORAM), the Malaysian Palm Oil Council (MPOC) and the relevant Ministries. Through this Sub-Committee, Malaysia has been participating actively in view of the importance of the oils and fats in international trade, particularly for palm oil and palm oil products. Malaysia has also been the host country for the Codex Committee on Fats and Oils (CCFO) since 2009 with the Chairperson of the Committee from the Food Safety and Quality Division of the Ministry of Health, Malaysia (FAO and WHO, 2009). The mandate given by CAC to Malaysia to be the host country and Chairperson of CCFO is an endorsement of Malaysia's capability and involvement in Codex activities for nearly five decades. Malaysia has sucessfully hosted and chaired CCFO for five consecutive Sessions from 2009 until the 25th Session of CCFO in 2017.

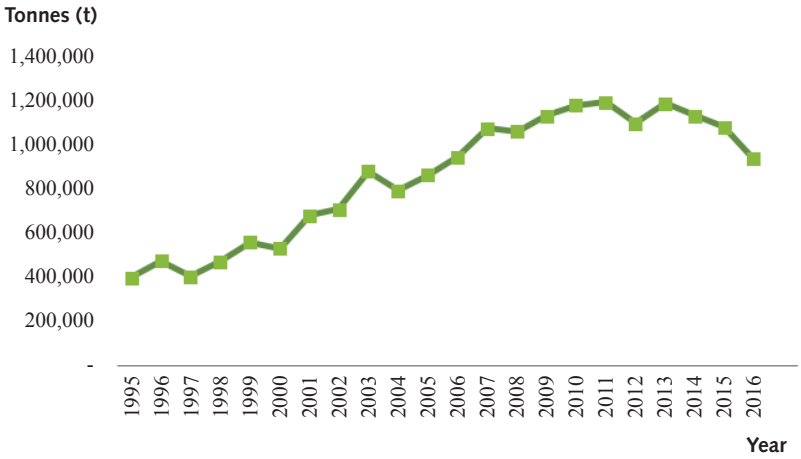
CURRENT ISSUES IN CODEX THAT HAVE A BEARING ON PALM OIL TRADE

CCFO is responsible for developing international standards for fats and oils of animal, vegetable and marine origin, including margarine and olive oil (FAO and WHO, 2016b). Through this Committee, Malaysia initiated the development of the requirements for palm oil and its fractionated products (namely palm olein, palm stearin and palm superolein) as well as for palm kernel oil and its fractionated products (namely palm kernel olein and palm kernel stearin) to be included in the *Codex Standard for Named Vegetable Oils-Codex STAN 210-1999*. The inclusion of the provisions on palm oil and palm kernel oil and their products has been successful in



Source: MPOB (2017).

Figure 2. Exports of palm oil (t) from Malaysia, 1995-2016.



Source: MPOB (2017).

Figure 3. Exports of palm kernel oil (t) from Malaysia, 1995-2016.

facilitating international trade in these products. *Figures 2* and *3* show the increase in the respective exports of palm oil and palm kernel oil (including exports of the fractionated products) from Malaysia in the period from 1995 to 2016 (MPOB, 2017).

Currently, there are 24 vegetable oils under this Standard. Besides palm oil, the Standard also covers other vegetable oils such as Arachis (or groundnut oil), babassu, coconut, cottonseed, grapeseed, maize, mustardseed, rapeseed, low-erucic acid rapeseed (or canola oil), rice bran, safflowerseed, high oleic acid safflowerseed, sesameseed, soybean, sunflowerseed, high oleic acid sunflowerseed and mid oleic acid sunflowerseed oils. The Standard provides for the essential composition and quality factors such as fatty acid composition, food additives allowed for use, the requirements for labelling the products, and the methods of analysis. In addition to the essential composition, there are also other quality and compositional factors that are supplementary to the essential composition, such as peroxide and acid values (FAO and WHO, 2015a).

Acid value is a parameter for acidity in the specifications of fats and oils. It is the number of mg of potassium hydroxide (KOH) required to neutralise the free fatty acids (FFA) in 1 g of the substance (WHO, 2016). In the *Standard for Named Vegetable Oils*, acid value is expressed in terms of acid value of 10.0 mg $KOHg^{-1}$ oil (FAO and WHO, 2015a). However, in current

international trade practice for palm oil, the specification used to express acidity is in terms of percentage of FFA with a maximum value of 5% (as palmitic acid). According to ISO, acidity is defined as the content of FFA in an oil or fat determined according to the method specified in ISO 660:1996, or by equivalent methods, and is expressed as a percentage by mass of FFA (ISO, 1996). The expression of acidity varies according to the type of fatty acid most dominant in the oil. For example, for palm oil, acidity is expressed as palmitic acid while for palm kernel, coconut and similar oils, acidity is expressed as lauric acid. For soft oils such as sunflower, soybean, rapeseed and maize, it is expressed as oleic acid (being the major fatty acid in these oils). Acid value may be converted to percent FFA by using a conversion factor. Therefore, to convert acid value in terms of FFA as a percentage of lauric, palmitic or oleic, the value is divided by 2.81, 2.19 or 1.99, respectively (AOCS, 2009). The difference in the value for the conversion factors arises from the difference in the molecular weight of the different fatty acids.

In view of the differences in the value of the conversion factors, acid value of 10.0 mg $KOHg^{-1}$ oil is only equivalent to an FFA content of 5% (as oleic acid), and is applicable to soft oils such as sunflower, soybean, rapeseed and maize oils where the major fatty acid is oleic acid, and is not equivalent to the FFA content of 5% (as palmitic acid) for palm oil. As the Codex standards are being used as the main reference in the development of a country's regulations, this inconsistency and mismatch have resulted in some trade issues for palm oil in countries which use the acid value to express acidity of palm oil in their standards because conversion from the FFA content of 5% does not match the acid value of 10.0 mg $KOHg^{-1}$ oil for palm oil. To address this trade matter, Malaysia (through the initiation of the National Codex Sub-Committee on Fats and Oils) has submitted a *Discussion Paper on the Replacement of Acid Value with Free Fatty Acid for Virgin Palm Oil in the Standard for Named Vegetable Oils*, and has proposed an amendment in the Standard to replace acid value with FFA for virgin palm oil (the terminology used at Codex for crude palm oil) to be consistent with the international trade practice at the 25th Session of CCFO in 2017 (FAO and WHO, 2017a). CCFO agreed to start a new work on this issue (FAO and WHO, 2017b) and this has been approved by CAC at its meeting in July 2017 (FAO and WHO, 2017c).

CCFO has also developed the *Code of Practice for the Storage and Transport of Edible Oils and Fats in Bulk-CAC/RCP 36-1987* (FAO and WHO, 2015b). This Code is applicable to the handling, storage and transport of all crude or processed edible oils and fats in bulk, including those of palm oil and palm oil products. Under this Code of Practice, recommendations on the practices to avoid contamination of oils and fats during transportation were elaborated through the development of a *Codex List of Acceptable Previous Cargoes* and a *Codex List of Banned Immediate Previous Cargoes* in the Appendices to the Code. These Lists have been developed by CCFO, and during the adoption of the *List of Acceptable Previous Cargoes* in 2011, CAC directed CCFO to review the list according to the following four criteria: i. The substance is transported in an appropriately designed system with adequate cleaning routines; ii. Residues of the substance should not result in adverse health to humans; iii. The substance should not be of known food allergens unless the identified allergens can be adequately removed by subsequent processing; and iv. The substances should not react with edible fats or oils. CCFO agreed to review the Acceptable List as a standing agenda at every subsequent CCFO meeting. Any proposal for the removal of any substances allowed as previous cargoes may impact the transportation of palm oil and palm oil products as it affects the availability of cargo space for shipment of these products.

Apart from CCFO, there are also other Codex Committees the discussions of which currently have implications on palm oil and palm oil products. For example, the Codex Committee on Food Additives (CCFA) is aligning the food additive provisions in the General Standard for Food Additives (GSFA) which is under its purview with the food additives allowed for use in the Standards for fats and oils. In this regard, the food additives used in all the commodity standards developed by CCFO (which include those for fat spreads and margarine) will be reviewed for their technological justifications and functions. The Codex Committee on Nutrition and Foods for Special Dietary Uses (CCNFSDU) is currently deliberating on a *Discussion Paper on a Claim for 'free' of Trans Fatty Acids* for which CCNFSDU will be developing a condition for 'free' of *trans* fatty acids claims. CCNFSDU is also working with the Codex Committee on Methods of Analysis and Sampling (CCMAS) on methods of analysis for the determination

of *trans* fatty acids which should be practical and internationally accepted as well as reliable and consistently reproducible (FAO and WHO, 2016c). This condition once developed will have an impact on claims for 'free' of *trans* fatty acids for palm oil and palm oil products. The Codex Committee on Contaminants in Foods (CCCF) is also currently proposing a new work to CAC on a Code of Practice for the reduction of 3-monochloropropane-1, 2-diol esters (3-MCPD esters) and glycidyl esters (GE) in refined oils. Malaysia supports this initiative as the country has already embarked on the development of good practices to reduce 3-MCPD esters and GE for the palm oil industry. During the 11th Session of the CCCF meeting, it was agreed to establish an electronic Working Group (eWG) to be chaired by the United States, and this eWG will be co-chaired by the EU and Malaysia (FAO and WHO, 2017d).

CONCLUSION

International trade in food has evolved over the years. It is no longer a simple commercial transaction between a buyer and seller but it has grown into a complex business operation which in addition to the price and specifications agreed upon by the two commercial parties, there is a need for the products to comply with the food standards set by the authorities of the importing country. Oils and fats are important commodities in global trade, and because more than 80% of the edible oils traded are consumed as food (Ahmad, 2003), meeting the regulatory requirements of the importing countries is critical to ensure market access. Palm oil is one of the major vegetable oils that contribute significantly to the world's oils and fats market. Palm oil accounted for 43.76 million tonnes (55%) of the global trade in oils and fats in 2016 (Oil World, 2017). In view of the fact that more and more countries are harmonising their national standards with those of *Codex Alimentarius*, (FAO and WHO, 2016a), Codex standards have serious implications on exports of palm oil and its products. Therefore, the government's and industry's continued active participation in Codex activities locally and internationally are necessary to ensure that palm oil and its products moving in the international market are accepted, and that the standards being developed are based on science to protect consumer health and are not used as non-tariff barriers.

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