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HALAL NUTRACEUTICAL MARKET: ISSUES AND CHALLENGES

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ABSTRACT

The growing nutraceutical sector constitutes the interfacing of the food and the healthcare industries. The value worldwide is estimated to be USD 1.3 trillion and locally around RM 3.5 billion. The increased interest in quality healthcare products has generated new and innovative ways of presenting the products to the consumer. In halal products, apart from quality, safety and efficacy issues, the niche lies in the implementation of the concept of halalan toyyiban pertaining to the source and manner of preparation conforming to the tenets laid down by the teachings of Islam. Issues are related to sourcing, handling, processing, manufacturing and labeling adhering to rulings and standards like Hazard Analysis And Critical Point (HAACP) and Good Manufacturing Practices (GMP) established in regulating, control and registration of the products. The challenges to be addressed relate to standardizing procedures and generating acceptable parameter standards apart from specialized expertise and training of personnel befitting the needs of the industry.

1.0 Introduction

Nutraceuticals usually refers to healthcare products formulated in pharmaceutical dosage forms like capsules or tablets and carry a limited health claim. They are produced under GMP conditions and are currently used as evidence based healthcare products providing protection against chronic disease conditions or having physiological benefits. Examples are flavonoid antioxidants from various herbs (eg *misai kucing, pegaga*), beta-carotene from palm oil, anthocyanins from berries, etc. Many botanical and herbal extracts such as *lingzhi, tongkat ali, kunyit,* etc. have been developed as nutraceuticals.

Numerous claims on nutraceuticals are being researched and many citations are available via PubMed. Examples of claims made are, sinensetin flavonoids from *misai kucing* as an antioxidant, soluble dietary fiber products such as psyllium seed husk for reducing hypercholesterolemia, broccoli (sulforaphane) as a cancer preventative and soy isoflavonoids for arterial health.

The food and the pharmaceutical industries often add nutraceuticals as nutrient premixes or nutrient compositions in their products.

Burrill & Co. reported that the size of the global nutraceutical market hit USD 210 billion in the year 2006, with the functional food having 37% market share, health supplements 32%, natural and organic foods 22% and natural personal care 9%. The Burill Nutraceutical Index continued its upward trend with a 19% growth by the end of 2006. The same index has been outperforming the NASDAQ and DJIA Index, with an increase of 250% since 2002.

The Malaysian natural products industry was worth about RM 8 billion in 2005, consisting of Flavours/Fragrances at RM 2.5 billion, Pharmaceuticals/Nutraceuticals at RM 1.4 billion and Herbal Remedies at RM 3.3 billion. The market is expected to reach RM 10 billion by 2010. (Source MARDI/MHC)

In view of the huge economic value and potential of nutraceuticals, certain value added features must be looked into to ensure that unique niches areas and capabilities are in place for Malaysia to benefit greatly in this competitive area.

This article aims at looking into the composition of nutraceutical products and determines if any of the components present a problem for the Muslim consumers and the steps taken to overcome the problem.

Halal foods are food consumed by Muslims that meet the Islamic dietary code. Similarly, Jews consume kosher food. The terms *halal* and *haram* are used by Muslims to describe food. Permitted or lawful food is classified *halal* while forbidden and unlawful food is classified *haram*. The Islamic traditions allow one to consume a questionable product as a medicine under compulsion, but consumers generally avoid knowingly taking anything that is religiously doubtful, for example, taking a prescription medicine contained in a prohibited gelatin capsule made of pocine gelatin. Muslim consumers consider pocine gelatin *haram* and it is unacceptable.

Even though medicine is considered exempt from *halal* food regulations but various efforts are ongoing to research into the area of *halal* pharmaceuticals as seen in the case of *halal* vaccines. Alcohol-free products (e.g., cough syrups) are sought after by many Muslim consumers and they also may ask the pharmacist for tablets rather than gelatin capsules.

In *halal* products apart from quality, safety and efficacy issues, the niche lies in the implementation the concept of *halalan toyyiban* pertaining to the source and manner of preparation conforming to the tenets laid down by the teachings of Islam.

General guidelines for the production of nutraceuticals usually conform to standards of current GMP. Nutraceuticals often are composed of botanicals and plant extracts and formulations using ingredients that are animal-derived have to be avoided. The rich healthcare traditions of Islamic, Chinese and Indian civilizations utilize mostly botanical elements for centuries, such as black seed in the Islamic tradition, *ma huang* in Chinese culture and *gotu kola* in India.

1.1 Examples of Ingredients to Watch

INGREDIENTS	SOURCE	COMMENTS
Flavors and colorants	Alcohol or ingredients from *haram* animal origin, in the formulations.	*Halal* alternatives are available.
Beta-carotene	Often use small quantities of gelatin to encapsulate the beta-carotene and to protect its color and other characteristics.	Some companies use fish gelatin for encapsulation, which makes the product *halal*. Manufacturers also may use *halal* gelatin or plant gums as encapsulating materials.
Gelatin	Commonly used to make capsules, both softgel and two-piece hard shell from porcine gelatin.	Kosher-certified gelatin (bovine and fish) also is available. However, gelatin-free products made from vegetable materials could be *halal*, kosher as well as vegetarian (vegan)-all at the same time *Halal* gelatin, cellulose or starch can be used instead of porcine gelatin.
Stearates	From animal sources may be used as free-flow agents in powders or tableting aids in tablets.	For *halal* and kosher products, manufacturers can use stearates obtained from plant sources.
Tweens (a series of synthetic emulsifiers)	Sometimes used to coat and polish tablets.	Vegetable-derived tweens should be used in *halal* and kosher products.
Glycerin	From non *halal* sourced may be used in the manufacture of capsules and other products.	Glycerin of plant origin can be kosher and *halal*-suitable for such applications.

1.2 Examples of Types of Products

PRODUCTS TYPE	ISSUE	COMMENTS
Tablets	Tablets may be coated with gelatin (gel tabs) or with specialty lipids such as polysorbates.	Manufacturers should use *halal*-or kosher-certified gelatin and/or plant-originating lipids. Sugars and plant proteins such as zein also may be used as a tablet-coating material in both kosher and *halal* products.
Liquid supplements and drinks	Many liquid formulations are standardized with ethyl alcohol, as a preservative or solvent.	Alternatives such as mixtures of propylene glycol and water may be used. Whereas there are minimal restrictions for ethyl alcohol in kosher products, the amount of residual alcohol in the final *hala*l finished product must be reduced to an insignificant level.
Softgel capsules	One-piece soft capsules used to be made exclusively from gelatin.	They also can be made with vegetable ingredients such as modified starch, cellulose gum and other plant gums. *Halal*-and kosher-certified bovine and fish gelatin also is available for this purpose. Besides the main ingredient, softgel capsules may also contain glycerin or fat-derived chemicals, which, for *halal* and kosher products, should be from plant sources.

Two Piece Hard-shell Capsules	Hardgel capsules used to be made exclusively with gelatin.	Vegetarian capsules especially for nutritional supplements made from modified cellulose, modified starches or other plant materials. Glycerin and other ingredients may be used as processing aids. All such ingredients should be from vegetable or petroleum sources. *halal*-or kosher-certified bovine or fish gelatin also may be used. Other incidental ingredients should also be *halal*-and/or kosher-suitable.

Halal-labeled products are much sought after in many countries, including the U.S. Muslim consumers are looking for and demanding *halal* certification as an authoritative, reliable and independent testimony to support a food/nutraceutical manufacturer's claim that his products meet certain religious requirements. Consuming such products or foods develops greater customers' confidence spiritually.

2.0 *Halal* Nutraceuticals: Opportunities for Malaysia

Malaysia aspires to be the global reference centre for *halal* integrity. As in the Third Industrial Master Plan, the Malaysian Government has envisaged that by 2008 Malaysia will be the centre for:

- The production and distribution of *halal* products;
- *Halal* service providers;
- Reference on the *halal* standard; and
- R&D for *halal* matters.

Therefore, rightfully, the *Halal* Hub Master Plan identifies two development objectives for Malaysia. Firstly, Malaysia will become a global hub in *halal* know-how, focusing on R&D and best practices in products, processes, standards and certification.

Secondly, to create greater economic impact, Malaysia will focus on accelerating growth in a number of consumer goods industries that are relevant to *halal* value proposition, namely specialty premium processed food, organic/natural personal care products and *halal* ingredients.

These two objectives are inter-related and equally important. In order to achieve sustainable economic impact, Malaysia needs to develop key industries that will enable it to become a leading producer of identified *halal* products. And in order to generate international confidence and distinction of the products produced in Malaysia, it is important that Malaysia practices absolute *halal* integrity based on a complete but pragmatic '*halal*ness' that is adhered to at each level of the production value chain. At the same time, Malaysia must be seen to uphold the true fundamentals of *halal* – a value that has clear benefits to the consumers (be they Muslim or not) in that it promotes good health, hygiene and nutrition standard. This standard must be strictly enforced and monitored that it should enable an acceptance without doubt of Malaysian products and services.

Although it cannot be confidently ascertained that Malaysian products are currently accepted without doubts by Muslims globally (given a few issues such as our stance on stunning and use of alcohol in food; and the fact that Muslims differ in their understanding of *halal* due to different cultural practices, beliefs etc), Malaysia is gaining recognition as a force to be reckoned with in the development of *halal* both in terms of knowledge and industry. The establishment and continued promotion of *halal* undertaken by Malaysia via various international events such as World *Halal* Forum (WHF) and Malaysian International *Halal* Showcase (MIHAS), represents the commitment of Malaysian Government to lead in the development of *halal*-related industries.

More importantly, the setting up of *Halal* Industry Development Corporation (HDC) in 2006 formalised this commitment and positioned Malaysia in the lead in promoting *halal* globally.

At the same time, Malaysia already has a few established institutions committed to the development of *halal* knowledge locally and internationally. Institutes such as *Halal* Product Research Institute (HPRI), Universiti Putra Malaysia; *Halal* Industry Research Centre, International Islamic University of Malaysia (IIUM) and the Institute of Islamic Understanding of Malaysia (or *Institut Kefahaman Islam* Malaysia, IKIM) are already actively involved in the development of *halal* knowledge locally and internationally. Additionally, the Department of Chemistry of Malaysia (DOC) has been playing an active role in *halal* product composition analysis. Backed by deep experience in composition analysis (average DOC researcher has 15-20 years of experience in traceability study), it is now regarded as one of the key research centres in the region and has been appointed Asean Reference Lab for GMO testing (which has 99% similarity to *halal* testing) since 2002.

However, there are still many challenges that need to be addressed before Malaysia can fully develop itself as the global reference centre for *halal* knowledge. Currently Malaysia faces challenges in many fronts – R&D, standards, certification, education and enforcement and monitoring and these challenges must be critically addressed and improved whilst moving forward.

Undoubtedly, it is only when Malaysia is able to develop and apply the concept of absolute *halal* integrity that we mentioned above, that it can start to build an 'absolute *halal* integrity'.

In order to create an absolute *halal* integrity, Malaysia must be able to position itself as the global reference centre for *halal* know-how and be able to address all aspects of *halal* knowledge and its applications. We envisage six important elements that make up *halal* knowledge creation and its application to the industry and the consumers.

They are:

I. Pragmatic formulation of fatwa on *halal* especially in emerging areas such as genetic engineering of plant and animals and use of porcine based growth promoters in *halal* animals; undertaken by knowledgeable *ulamas* and well supported by research;

II. Research and development to support formulation of *fatwa* - strengthen traceability analysis and identify new potential for *halal* in both products and processes;
III. Development of *halal s*tandards/guidelines that address emerging *halal* issues and are up-to-date with new technologies while remaining true to the fundamentals of *Shariah* certification process, procedures and people;
IV. Strict enforcement and monitoring of standards and certification issued; and
V. Education programmes to communicate and educate both producers and consumers on *halal m*atters.

Description of the mentioned elements.

I. Formulation of the *Fatwa*

I.1 Overview

Formulation of fatwa is one of the most important elements in *halal* knowledge creation and application. A product is only *halal* (or *haram*) when a fatwa has been formulated and published to determine that it is such. As *fatwas* are considered official views of the Government in religious matters, they are put under the strict purview of the *Jawatankuasa Fatwa Majlis Kebangsaan Bagi Hal Ehwal Ugama Islam Malaysia* (the National Fatwa Council) which reports directly to the Yang Dipertuan Agong through the *Majlis Raja-Raja* (Council of Rulers). *Jabatan Kemajuan Islam Malaysia* (JAKIM) acts as the Secretariat to the *Fatwa* Council and its Research Division is tasked with the preparation and compilation of all research papers required for the formulation of *fatwas*. The Fatwa Council also coordinates *fatwas* passed at state level when these *fatwas* are to be applied nationally (Note: religious matters fall under the purview of state governments and religious rulings are passed through *Dewan Undangan Negeri* after they have been discussed at state-level *Jawatankuasa Perundingan Hukum Syarak*. However, the *Fatwa* Council is responsible to coordinate all the rulings to ensure consistent adoption at the national level).

I.2 Challenges

Although no specific detailed assessment of the *Fatwa* Council or fatwa formulation process was undertaken by Ethos, we believe that there are a few key challenges that need to be addressed moving forward. These challenges include people and research support required.

• People issues. The members of the *Fatwa* Council are made up by Islamic scholars with deep understanding of *Shariah*. More specifically, they include a Chairman (Collectively appointed by the members); all state *Muftis* or the person responsible for religious matters in the state; five Islamic scholars appointed by the *Majlis Raja-Raja*; a Muslim law practitioner; and the Director General of JAKIM. While the members are currently very knowledgeable Islamic scholars, there exist contentions among members in terms of their understanding of *halal* especially in the gray areas such as stunning, use of alcohol and emerging areas such as genetically modified products. At the same time, it is also argued that the *Fatwa* Council is very strict in their understanding of religious matters and not pragmatic enough to understand the delicacy of issues as far as the industries or consumers are concerned. This is so because there is currently limited representation from the industry

that can assist Council members to understand better the requirements and challenges faced by the industries. It is argued that while being strict can be good, it may impose some negative impacts on the industry if this "strictness" cannot be well supported by strong and practical research/understanding.

• Research support. In order for the *Fatwa* Council to be able to make informed decision on the *halal* and *haram* of a product, services, processes, or procedures; they must be well supported by strong research conducted on the specific matter. We believe that currently this research support is still lacking especially in the emerging areas such as porcine based hormones injected in *halal* animals; plants that are implanted with the genes of *haram* animals; use of *haram*-animal droppings in fertilizers, genetically modified animals or plants and so on. Currently, although research is undertaken via various agencies involved, such as DOC, and MOH; it is very much dictated and coordinated by JAKIM which may not have the scientific knowledge required. Although JAKIM is assisted by other bodies including local universities, the structure is ad-hoc and may not be able to produce required understanding in a timely manner.

I.3 Strategies Moving Forward

We believe that moving forward; the National *Fatwa* Council can be further strengthened via the following recommendations:

• Deepen skills and relevancy of fatwas through collaboration with industry players, academics and other international fatwa councils.

- We believe that the National *Fatwa* Council should invite industry experts/consumer representative on a case-by-case basis where such need arises in order for them to formulate *fatwas* that are more relevant and are in line with the requirements and needs of the producers and consumers. While this practice is arguably ongoing, a more structured approach is required.
- At the same time, stronger coordination and partnership must be developed with other Islamic scholars locally and internationally. Locally, there should be a more structured partnership with various academic institutions such as HPRI and IIU to ensure that knowledge shared is up-to-date and relevant to the industry and the consumers. Internationally, more cohesive and structured relationships need to be developed with various Islamic councils, research institutes, and renowned Islamic scholars to ensure that the stance taken by Malaysia are in line with views adopted by Muslims internationally. This is also important to ensure that we are up-to-date in our understanding and view of the global issues. This is undoubtedly key if Malaysia is to become the global reference centre for *halal* knowledge. If our understandings are very narrow and are not in line with the global views, it may not be possible for Malaysia to project itself as the global centre for *halal* products.
- Malaysia to create a reference centre for *halal* matters which can potentially include a databank of *fatwas* passed on *halal* or *haram* globally – to be fully aware of the different understandings and views and to be able to provide a constructive comparison on the matters based on strong fundamentals of *Shariah* knowledge and research.

• Fatwas formulated to be strongly supported by R&D.

- We propose that a specific body (an R&D centre) be appointed to undertake research on *halal* matters and this shall not be generally placed with other *Shariah* matters in JAKIM. As research on *halal* for example in food and cosmetics are more scientific and would require the expertise of food technologists/scientists, biologists, pharmacists and so on, we believe that a body such as Department of Chemistry (via a specific *halal* unit) and HPRI (working together with Ministry of Health and other relevant authorities) be specifically tasked to conduct the research. The research conducted must be able to effectively address emerging issues in *halal* such as use of porcine based growth promoter in *halal* animals. In other words, research must be conducted by a body that has all the relevant expertise and skills required working very closely with the industry/consumer on one hand and the National *Fatwa* council on the other.
- HDC will be responsible to coordinate the research work required and to feed the information to the National *Fatwa* Council anytime a finding is made and not only when a request for clarification is put forward by the Council of Rulers or the public. In short, HDC will undertake the coordination role and act as a mediator between the National *Fatwa* Council, producers/consumers and the research institutes and to provide necessary funding for research activities.

II. Research and Development in Building *Halal* Related Knowledge

II.1 General Overview

R&D in *halal* can generally be divided into three areas:

I. product traceability/composition analysis;
II. research on product/process development i.e. research on potential of doubtful products/processes to be made *halal*; and
III. scientific proof of *halal* requirements. Malaysia has developed some expertise in this area especially in traceability/composition analysis with both DOC and HPRI conducting various researches in this area.

DOC has been in existence since 1946 and is key in supporting the government in analytical science that provides solutions to various issues from crime investigations to food safety and composition analysis to product specification evaluation. It is now a well established research institution with 11 labs nationwide that are fully equipped with state-of-the-art technology and strong human capital expertise and skills with 350 science officers (with more than 10 years of experience on average) and 530 technical support staff. It has been accredited with ISO 17025 for lab set-up and methodologies used. At the same time, it has been appointed Asean Reference Lab for GMO testing (99% similarity to *halal* testing) since 2002.

DOC is currently used by JAKIM to conduct product composition analysis on various products and it also offers this service directly to the private sector. However, JAKIM believes that DOC is not very efficient and untimely in providing their assessment. It is claimed that DOC takes 2-3 months to provide a conclusive assessment/analysis when this can potentially be done in 1-2 weeks. JAKIM also claims that given its many other commitments, DOC may not be able to continue to provide strong commitment to *halal*

analysis and that potentially a new organisation should be set up directly under JAKIM to undertake this role.

HPRI was established in 2006 under UPM after the restructuring of the Institute of *Halal* Food and it is dedicated to the R&D of *halal* products. The Institute of *Halal* Food came about following the introduction of "*Halal* and *Haram* in Food Processing" course in UPM in 1996.

HPRI is now recognised as one of the leading institutions in *halal* research in the region with many scientific findings under its belt such as the e-nose (an instrument that comprises an array of electronic chemical sensors and appropriate pattern recognition system, capable of recognizing simple or complex odour or smell); the FTIR Spectroscopy (used to provide information on the molecular composition and structure of a diverse range of materials such as fats and oils) and Molecular Biology Techniques which uses DNA for species identification in food, among other things.

However, our assessment indicates that HPRI remains research driven and mainly academics. While it can play a strong role in *halal* research, it lacks the ability to commercialize its innovations and is not focused on applicability of the innovations to the industry. Additionally the team is very small (less than 10 at any one time) and mainly made up of research students. As such we believe that it should remain a research institute although its research scope can be expanded to include focus on product and process development and scientific proof of *halal* requirements.

II.2 Challenges

We believe that R&D in *halal* matters is still very limited and mainly issue driven. There are several challenges that must be addressed before Malaysia can effectively move forward and build its strength in *halal* research and development. Key challenges identified include:

- No dedicated *halal* laboratory
- Lack of skills and expertise
- Limited innovations and commercialization of technologies

II.3 Strategies Moving Forward

Given the importance of R&D in building strong know-how in *halal* and related matters, it is critical that this aspect of the development of an absolute *halal* integrity be given utmost attention by the Government. We believe that the following strategic initiatives will enable the creation of greater R&D expertise in *halal* in the country:

- Specify *halal* R&D as one of the focus areas for DOC and UPM;
- Build skills and expertise in *halal* R&D at both public and private research institutions; and
- HDC to manage R&D funds, identify research areas and assist in commercialisation of technologies.

Set up dedicated *halal* research institutes:

• While we are not recommending that a completely new dedicated *halal* laboratory to be established (as in JAKIM's proposal to develop *halal* research centre in Enstek in Nilai, Negeri Sembilan), we propose that DOC and HPRI be appointed as key research institutes for *halal* matters for Malaysia.

DOC will focus on product traceability and to develop more advanced traceability methodologies beyond specific product composition analysis they are undertaking now. They will form part of the *halal* inspection body under JAKIM and will be responsible in developing traceability research to support the National *Fatwa* Council and JAKIM; while continue to provide and promote their services to the private sector on a commercial basis. In order to strengthen DOC capabilities, a dedicated *halal* team will be established and will be funded by both MOSTI (as in current funding arrangement as DOC sits under MOSTI) and more specifically through R&D fund that will be channeled through HDC.

We believe that this recommendation will enable greater success in traceability research. As it is, product composition analysis is a very complicated and sophisticated research area with very high liability (if the findings are not correct, researcher can be brought to court for disseminating misleading or inaccurate information by both producers and consumers). We believe that DOC has existing capabilities to ensure greater integrity of the analyses conducted. It is not advisable for JAKIM to set up its own *halal* lab as testing requires strong human capital capabilities (and not just the financial ability to build a lab and purchase the equipment) that cannot be developed overnight.

• HPRI, on the other hand, will focus on *halal* research.

R&D initiatives relating to *halal* products and processes need to be stepped up e.g. research on *halal* alternatives for typically non-*halal* ingredients; and research on emerging issues in *halal* such as genetically modified organisms involving porcine or human genes. We believe that HPRI has ready expertise to lead in these researches. Although it is acknowledged that HPRI has also developed come capabilities in traceability analysis, the capabilities are still very academic and may take time before it can be commercially used. We believe that the strength of HPRI is in *halal* research and this should be further strengthened moving forward. In order to further develop HPRI as a leading *halal* research centre in the region, investments are required to upgrade its capabilities in terms of human capital, technological facilities and other infrastructures.

Develop skills and expertise in *Shariah* and science:

• Key to the development of Malaysia as a global reference centre for *halal* knowledge is the availability of skills and expertise in both Shariah and science that are related to *halal*. It is truly critical for Malaysia to develop high calibre Islamic scholars that are experts in scientific and religious matters.

• We propose that a scholarship scheme be established to develop high calibre Islamic scholars. HDC will manage the scholarship schemes and will select qualified Malaysian students to study at renowned universities locally and internationally. At the same time, strong collaboration will need to be established with the learning institutions to ensure that

courses offered are relevant to the requirements of the industry and are able to fully expose the students to different technologies that can be adopted for the benefits of *halal* research. HDC to manage funds for R&D and assist in commercialization of technologies

• HDC will coordinate all research effort and will provide the required funding to support the investments to upgrade facilities and strengthen human resources and acquire technologies for DOC and HPRI. At the same time HDC will also manage and disburse funds for relevant research activities. It will also be responsible to coordinate and ensure relevancy of scientific studies to the industry and the consumers.

• HDC will assist research institutes to successfully commercialize the technologies developed to ensure that the technologies created are able to reach wider user base. Additionally, we propose that public universities and research institutes be allowed to have privatized R&D arm to be more open to accept contract research work locally and internationally. Undoubtedly these commercial activities can further develop and promote Malaysia as a leading *halal* R&D centre internationally.

III. *Halal* Standards and Guidelines

III.1 Overview

MS 1500 was first introduced in 2000 and revised in 2004. It is currently the only specific standard that governs and prescribes the *halal* requirements for food production and food trade in Malaysia. It outlines the requirements for production, preparation, handling and storage of food and other food products that must be adhered to for the products to be considered *halal*. It is normally used together with MS: 1480 that covers food safety regulations according to HACCP and MS: 1514 that outlines the general principles of food hygiene. There are undoubtedly other guidelines and control mechanisms used to monitor and ensure consistency and compliance of *halal* food in the domestic market such as Trade Description Act 1972, Section 15(1); Trade Description (use of Expression "*Halal*") Order 1975; Trade Description (Marking of Food) Order 1975 and so on. Nevertheless it is a very general trade Act and does not cover specificity of *halal* requirements. It is argued that MS: 1500 is one the most comprehensive *halal* standard available locally and internationally and that it has been used as a reference by many other countries such as Singapore and Thailand in developing their *halal* standards. It is well documented and fully endorsed by the Government as the governing *halal* standard for the country.

III. 2 Challenges

However, we believe that although MS: 1500 is comprehensive and accurately covers all the fundamentals of *halal* food production requirements; there are a few challenges that need to be addressed.

These challenges include:

• MS: 1500 is mainly for food and does not cater for non-food consumer products such as nutraceuticals, cosmetics and personal care products; services such as logistics and new emerging technologies/industries such as biotechnology.

• There exist a few contentions for example on stunning of animals before slaughtering and level of alcohol content allowed in processed food and beverages. MS: 1500 currently

permits stunning of animal and mechanical slaughter of poultry which are not acceptable by Muslims in other countries such as the Middle East. At the same time JAKIM only allows an alcohol content of 0.01% in food products which is argued to be impossible to achieve especially in ingredients and flavourings of food products. Other countries such as Brunei allows higher alcohol content of 0.05% on the argument that this amount will still not intoxicate the consumers.

• *Halal* standard is currently associated with Muslim requirements and not an assurance of health, safety and quality especially among non-Muslims. There is a perception that the standard is simply 'religious' and is not directly associated with the requirements on safety, hygiene and nutrition. While 69% of non-Muslims are aware that *halal* food does not contain pork or alcohol, only around 40% of Muslims relate *halal* to high quality.

III.3 Strategies Moving Forward

In order to address the challenges outlined above, we have identified the following strategic initiatives:

• Develop specific *halal* standards for different industries such as *halal i*ngredients standard; *halal* logistics standards and *halal* cosmetics and personal care standard and they should strongly emphasis the elements of health and quality that are very important in the concept of *halal* and toyyiban. Development of these standards will allow the authority to have proper control mechanisms on the products that they are strictly examined before they can be made available to the consumers.

• HDC and JAKIM, supported by DOC, HPRI, DSM and SIRIM, must work together to resolve the contentions that exist with the standard. Key to the resolution process is a scientific research that would provide proof of whether, for example, stunning is really beneficial to the animal or not. If it is proven that it is not, potentially Malaysia should not allow such practice to be adopted.

• Link *halal* standard with other recognised international standards such as HACCP and GMP. We believe that this will promote awareness of the health and safety aspect of *halal*. In other words, while *halal* provides endorsement from *Shariah* perspective, making it permissible for Muslim consumption, HACCP provides endorsement of hygiene and quality of the products and GMP provides endorsement of processes involved in the manufacturing of the products. JAKIM can work together with Ministry of Health (MOH) to coordinate and implement the standards. Additionally for animal husbandry industry, there is a potential for the *halal* standard to be combined with certification system known as Veterinary Health Mark (VHM) currently implemented by Department of Veterinary Services (DVS). DVS is also in the process of launching Good Veterinary Hygiene Practices which will help in enhancing hygiene requirements in meat based food products.

III.4 Global *Halal* Standard

Different *halal* standards continue to be adopted by different countries and there exists serious confusion on the standards amongst Muslims and non-Muslims alike. Muslims around the world differ greatly in their understanding and interpretation of *halal* and *haram*. These differences arise from different *mazhab*s, school of thoughts, cultural

practices and lifestyles adopted by Muslims globally. While theoretically it is beneficial for all Muslims to adopt and adhere to a unanimous *halal* standard, there is limited evidence currently to suggest consumers and certification bodies, or government to that matter, would willingly adopt this global standard.

Before such effort can be confidently undertaken, we need to be able to assess data on consumer awareness and their valuation of different *halal* standards; consumers' ability to differentiate the different standards and whether they appreciate the differentiation enough to affect the purchasing decisions. Currently no such data is available. Additionally, analogous examples suggest that certification bodies that do not adopt the global standard and be accredited can also gain acceptance. They can continue to conduct their own branding and promotion efforts to differentiate themselves, creating acceptance of their standard/certification above and beyond accreditation.

Thus, we believe it does not make an economic sense for the Government of Malaysia to invest in creating a global *halal* standard as the investments and efforts required would be too significant and that potentially other Muslim country will also want to lead the integration of *halal* standards. Nevertheless, the Government can support private sector efforts if such initiative is to be undertaken. We believe that the development of Malaysia as a global reference centre for *halal* does not require Malaysia to develop a unanimous global *halal* standard. What is more important is for our standard to be accepted as true to the fundamental of *Shariah* while being highly dynamic and pragmatic in that it addresses changing technologies and needs of the Muslims.

IV. Strengthening Public Service Delivery in *Halal* Certification

IV.1 Overview

Halal certification represents the interface between standards set and their applications to the producers and becomes a symbol of guarantee for the consumers. Currently *halal* certification is done by both JAKIM and JAIN (*Jabatan Agama Islam Negeri*), although JAKIM has been appointed as the sole certification agency for the country. More specifically, JAKIM handles applications of *halal* certification for products destined for national and international markets; while JAIN handles applications for products meant for local consumption or local markets. Policies relating to certification are formulated by JAKIM's *Halal* Technical Committee with members that include *Shariah* experts, food scientists, conformity assessment experts and representatives from industry and consumer associations. *Halal* certification is undertaken by JAKIM mainly for the purpose of serving the Muslim community with *halal* products, produced and supplied in accordance to *Shariah* principles and not for profit motives.

The application for *halal* certification begins with the applying firm or individual filling out the appropriate forms. Different formats are used for different categories of applications – food products (producer of consumer products, distributor/trader, sub-contract manufacturer, repacking), food premise (operator of a food outlet e.g. restaurant or café), or abattoir. Essential to the completion of the application is the requirement that the applicant furnishes all the necessary documentation attesting to it as a registered entity, possesses the applicable prerequisite quality documentation (such as HACCP or GMP), as well as documentary proof of the *halal* status of ingredients contained in the products to be

certified. Applicants will be informed of any incomplete documentation before their application is processed followed with the payment of a fee.

It takes 2-3 months for certification agency to issue certification though many argue that it sometimes takes up to six months or longer to obtain a certification leading to many companies issuing their own *halal* logo (which is currently allowed under the Trade Description Act).

Currently there are many challenges faced by Malaysia as far as *halal* certification is concerned. Mainly these challenges involve public service delivery issues such as inefficient processes, unclear guidelines with lack of assistance from certification agency and unskilled officers, among other things. While we claim that our certification is sought by many, domestic and international data point that very few companies, even locally, come forward to apply for certification each year. Less than 1,000 companies do so each year and even then around 15-40% of applications failed or are rejected each year.

For Malaysia to develop itself as a global reference centre for *halal*, it is extremely important that these public service delivery issues be immediately addressed. While we believe that HDC can play a strong role in resolving these challenges, we do not propose that it takes over certification role from JAKIM for domestic certification, but to mainly focus on international certification. We believe that HDC should not be bogged down by certification issues especially at the domestic level. However it is hoped that the two agencies are able to work synergistically to enable effective and efficient transfer of knowledge for the benefits of the industry, the consumers and the country as a whole.

It is believed that HDC can develop a more efficient process for international certification, assist in upgrading skills of certification officers and provide consultancy services to companies needing specialized assistance in applying for certification. HDC can undoubtedly play a role in promoting a more efficient certification process for international companies. This efficiency can then be replicated in JAKIM through a collaborative transfer of know-how.

IV.2 Challenges

While many companies that we interviewed claimed that *halal* certification is very important to them and that it would help increase their sales (30% of 410 companies surveyed by Merdeka Centre claim that sales increased by 1-25% after certification; 36% by 26-50%; 8% by 51-75% and 19% by 76-99%), number of applications for certification remain low. In 2005, 959 companies applied and this was merely 25% of estimated number of food and beverage companies of 3,811 for the year (assuming all applicants were in the food processing industry, which they were potentially not. Other source indicates that less than 1% of food service companies are certified). In 2006, the number dropped to 719 applicants. Additionally, while number of applicants remained small, number of applications approved was even smaller. In 2005, only 60% of applications were approved. The highest percentage for approval was only 85% in 2002. Given the findings above, we believe that *halal* certification in Malaysia faces many challenges that must be immediately resolved.

IV.3 Key Challenges Include:

• Inefficient process. While application time may take 2-3 months on average, for larger companies with extended product lines, the application process can drag longer and take up to nine months or one year. Larger producers tend to view JAKIM as being very inefficient and lack proactiveness in assisting them with their applications. JAKIM often do not provide timely notice when there are deficiencies in the applications made.

• Unclear application guidelines. While general procedures and guidelines exist in terms of what applicants must do when submitting applications, the guidelines remain very broad. Some producers are faced with unique circumstances or unique products that are not adequately covered in the general instruction. It was argued that JAKIM was not able to provide more specified assistance and guidance on a case-by-case basis resulting to many applications being rejected. At the same time, there is confusion in terms of JAKIM and JAIN's certification requirements. According to SIRIM report, while the Cabinet has decided that JAKIM is the sole *halal c*ertification body for the country, certification is still done at state level with some differences in the requirements, processes and procedures. Although the states have agreed to harmonize their certification procedures by aligning fully to JAKIM's system, there appears to be lack of effective coordination and enforcement of the policy. Also many states have yet to fully enforce the requirements of MS1500:2004 in their certification regimes

• Limited number of personnel and limited knowledge of personnel in charge of the industry. Based on the interviews conducted by Merdeka Centre, there are approximately only 200-odd officers presently deployed within certification agencies (both JAKIM and JAIN) throughout the country. JAKIM (at the time of the interview in October 2007) was in the process of expanding its staff strength from 28 to 165 and this number would be expanded further to 228 certification officers by end 2008. In JAIN agencies the number is much smaller. Certain states such as Penang and Kedah only have 2 officers in charge of certification. This limited number of staff undoubtedly imposes strong limitation on the efficiency of the certification agencies. Additionally, it is argued that certification officers lack both *Shariah* and industry/scientific knowledge. They are normally unable to explain why certain requirements are imposed nor are they able to understand the complexity of manufacturing processes involved or the scientific ingredients used.

IV.4 Strategies Moving Forward

In order to address the challenges outlined above, we propose the following strategies moving forward:

• Develop a more efficient certification process. We propose that the following initiatives are adopted:

- Application process to be made fully online including notification of deficiencies, acceptance or rejection. (While JAKIM claims that certification application is now fully online, applicants still need to send in supporting documents by mail and there have been many cases when these documents were 'lost in delivery'). However companies that do not have access to internet can still be allowed to

apply manually and must be made to understand that their applications will take longer time.

- Introduce a fast-track, self-assessment option for compliant companies. Companies that have applied for certification more than 3 times and have proven to be compliant can be allowed to do self assessment for certification. They will only need to inform JAKIM of the product and the ingredients used for a record. However, random checks need to be conducted to ensure that these companies are constantly monitored.

- Reduce time required for site inspection. Given more manpower, time required to do site inspection can be greatly reduced and more officers will be able to conduct it. At the same time, better cooperation with other agencies such as DOC and Ministry of Domestic Trade and Consumer Affairs (MDTCA) can provide more coordinated and structured approach to this procedure.

- HDC to develop more specific and efficient process for international certification (which can be replicated for domestic certification if required).
  Note: Given that DOC capacity will also be increased via the setting up of a dedicated *halal* team, time taken for product composition analysis, which forms part of the application procedures, will also be greatly reduced.

• Provide clearer guidelines to applicants. The following initiatives can be adopted:

- Provide timely assistance to applicants on a case-by-case basis. We propose the setting up of a professional Customer Service Centre to cater for the needs and provide required assistance for the applicants. The centre can be run on a 24-hr basis if needed, staffed with highly trained personnel that are able to provide real time advice to the applicants. At the same time, HDC can offer consultancy services for companies that require more specialized assistance in complying to *halal* requirements be they international or local companies.

- Standardize *halal* certification procedures at state and national levels and make MS: 1500 as mandatory national *halal* standards to be adopted by both federal and state certification agencies. Potentially this can be done via the development of the *Halal* Act which MS: 1500 will be part of.

• Increase number of officers and provide structured training to build knowledge/skills in both S*hariah* and industry matters. JAKIM is already working towards increasing the number of certification officers. As mentioned earlier, JAKIM plans to have 228 officers by 2008. Potentially the number of officers can be increased to around 300 by 2009 assuming 1000-1500 applications will be made each year (on average one officer will handle 3-5 cases each depending on the complexity of the applications). Additionally, while staff strength is important in ensuring speed of response, staff skills and knowledge are extremely critical to ensure quality of the response provided. Thus it is important *halal* certification officers be well trained in both *Shariah* and industry/scientific matters. We propose that HDC undertake this important role of providing training and other education

programmes required to increase the skills of *halal* officers. This can be done, amongst other things, by developing a more structured cooperation with higher education institutes locally (such as UPM and IIU) or internationally (such as Al-Azhar) whereby officers can spend a few months at these institutes to update their knowledge. At the same time, via public-private partnership, officers can be sent to a company/factory for a set period of time, to specifically learn about manufacturing operations, ingredients and so on.

IV.5 International Certification

As part of Malaysia agenda to develop itself as the global reference centre for *halal* knowledge, it is inevitable that Malaysia may be requested to offer certification services to companies internationally. However, at time of writing, there is limited data to substantiate that broad based demand and support for *halal* certification exists outside Malaysia. More specifically, the following issues are present:

• Lack of evidence to support that Malaysia certification is demanded in other Muslim markets. We believe that consumers are generally nationalistic and would prefer a certification provided by a local CB. At the same time, not many consumers are able to differentiate the differences between different *halal* certification i.e. all *halal* is the same.

• *Halal* as a value proposition is still very weak except for food products and this is also mainly for meat or meat-based products. It is argued that *halal* does not strongly impact purchasing decisions – functionality, quality and prices are more important determinants of the decision to purchase.

• Malaysia is unique in having high *halal* awareness. Malaysia consumers are willing to pay up to 5% more for *halal* products such as personal care, but it cannot be ascertained that consumers in other countries are similar.

HDC has currently been tasked to undertake the role of issuing *halal* certification internationally. While we do not propose that this idea be abandoned because of the issues outlined above, we believe that it must be strategically implemented. There are a few factors involving scope, structure, and funding that must considered moving forward. In more details we believe that:
• Scope: It must be decided, especially in the short term, whether Malaysia will offer *halal* certification to

o All international companies, or
o Only Malaysian companies with international presence, or
o International companies in sectors that Malaysia are not promoting (for e.g. not for those in specialty processed food, specialty ingredients or natural/organic cosmetics or personal care)
o Only international companies with presence in Malaysia.

We believe that in the short term, Malaysia should not offer *halal* certification to all international companies. More importantly, it should not be provided for industries that Malaysia is promoting for FDI. If the argument that our *halal* certification holds a premium internationally is true, than rightfully this should be used as a competitive advantage for

Malaysia to promote our own companies or companies that are willing to commit to having Malaysia as their manufacturing base and able to directly contribute to our economic development agenda, at least in the short term. Thus, initial focus for international certification can be only for

(i) Malaysian companies operating abroad and
(ii) MNCs operating in Malaysia with manufacturing presence abroad. Gradually this constraint can be lifted as required.

• Structure: In order to implement international certification more effectively and optimize cost, we propose that HDC develop partnership/joint venture with qualified foreign CBs to assist in certification of companies in their country. Currently JAKIM recognises 44 CBs from 22 countries which can potentially work together with HDC. However, as currently there are no clear criteria used to assess the CBs, we propose that HDC first develop a strict set of criteria that can be used to assess the CBs. They can be appointed as auditors and consultants but not to issue certification. The final issuance of certification must be done by HDC.

• Funding. No Government incentives to either service provider or applicants will be given out as the spillover effects are limited. Service provider must be self-sustaining and able to commercially provide the services.

V. Enforcement and Monitoring of *Halal* Requirements

V.1 Overview

Certification for *halal* is carried out via a compliance inspection regime which entails site inspections of plants or premises for which *halal* certification is applied for. The inspections are normally carried out upon the applicant fulfilling all documentary requirements and once payment has been received. At least two inspecting officers (one Islamic affairs officer and one food technology officer, or technical staff for abattoirs) will be assigned to conduct site inspection. Once inspection has been completed and found satisfactory, the premise will be approved and subject to further monitoring for two years (in the case of abattoirs, approvals are granted for a one-year period only).

Surveillance activities are then undertaken to ensure compliance. These activities entail visits by certification agency officials accompanied by personnel from other related bodies such as the Ministry of Agriculture, MDTCA, Ministry of Science, Technology and Innovations (MOSTI), and the local government. The composition of the team would depend on the type of facility being visited and the product type certified. Frequency of surveillance visits ranges from once a month to once a year depending on the states. Sarawak and Perlis report monthly visits while Negeri Sembilan and Penang only conduct inspections once a year. JAKIM has an average surveillance interval of every six months.

V.2 Challenges

A few key challenges are faced by the authority in enforcing *halal* requirements and monitoring compliance of certified companies. They are:

• Lack of legal sanction. At present, JAKIM only has the power to conduct inspection but need to report a manufacturer's non-compliance to MDTCA as it does not have powers to prosecute.

• Monitoring is sometimes ad-hoc, lack coordination and not properly recorded. Lack of systematic monitoring has resulted in differences between standards established and what is practiced by companies e.g. use of warm water bath (to take our feathers from the birds) in poultry industry.

• Lack of capacity to undertake more frequent visits.

Currently there is limited number of officers in charge of enforcement (surveillance and complaints). Some agencies (especially at JAIN level) do not even have a dedicated monitoring team, while those that do have between 2-3 officers.

V.3 Strategies Moving Forward

We propose the following recommendation moving forward:

• Provide legal sanction for *halal* enforcement and monitoring. Among the recommendations raised by certification agencies during the survey/interview exercise conducted by Merdeka Centre, include the need to address the lack of authority to enforce the terms of certification. There is a need for a *Hala*l Act to be developed to give relevant authority(s) powers to enforce the rules under which the certification were issued.

• Develop structured and standardized monitoring. We propose that a more structured and standardized monitoring/surveillance process be developed to ensure a more systematic monitoring procedure is put in place. While currently surveillance intervals differ between states, we propose that moving forward these intervals are differentiated based on companies' profile. For examples, for new and problematic companies, monitoring regime can be made more rigorous with potentials for monthly inspections to be conducted. While companies that have been given many *halal* certifications and have proven to be compliant, monitoring can be done every 6 months or 1 year. These procedures are to be unanimously adopted and practiced at both national and state levels to ensure greater clarity in the process and enable better coordination of resources. We also propose that findings made from inspections conducted are recorded electronically to enable easy access and better tracking of all the companies involved.

• Increase capacity of the inspection team. We propose that the monitoring activities at both national and state levels be strengthened via the development of dedicated monitoring teams and be expanded via the recruitment of more competent officers with required skill sets. Skills of existing officers must also be frequently updated via a structured training programme.

VI. Education Programmes to Promote *Halal* Awareness and Strengthen *Halal* Knowledge

VI.1 Overview

It is argued that while *halal* is fast becoming a requirement for many Muslims globally, there is still a lack of understanding in terms what exactly does *halal* mean and what are the requirements that must be fulfilled for a product to be *halal*. Many consumers tend to define *halal* simply as a religious requirement i.e. for Muslims to consume, eat or use a product or service, it must first be acknowledged as *halal*. They fail to associate *halal*,

which means permissible, to *toyyiban* which means wholesome, in the sense that the product, especially food, must be safe, healthy, nutritious and hygienic.

One of the reasons why there are still limited applications for *halal* certification is that producers do not exactly understand the benefits of *halal.* In the case that they do, they do not understand the requirements to fulfill *halal.*

Additionally, as *halal* is still largely viewed as a religious matter, *halal* knowledge is very much constrained to *Shariah* rather than scientific understanding. As such, it is important that *halal* education programmes be developed. This is not just to increase understanding of *halal* requirements and get more producers be certified as *halal*, but more fundamentally to educate both producers and consumers the importance of *halal* in terms of it being a requirement for health, hygiene, and safety. At the same time, scientific knowledge to support *halal* requirements must be simultaneously developed via effective R&D programmes in composition analysis, traceability study, analytical techniques, product research (that includes, inter alia, development of alternatives for non-*halal* ingredients), scientific proof of *halal* requirements and such. In terms of educating the industry and public (i.e. producers and consumers), HDC has come up with HDC *Halal* Training Programmes which include three core courses: *Halal* Awareness Programme (HAP); *Halal* Industry Programme (HIP) and *Halal* Professional Programme (HPP).

HAP is structured as a general knowledge course for both producers and consumers covering topics on 'understanding *halal*', 'understanding *halal* industry' and 'MS 1500:2004'. HIP is targeted mainly for *halal* food producers covering topics such as 'best *halal* practices in food industry', 'effective *halal* operations in food industry' and '*halal* internal auditing workshop'.

HPP is specific for *halal* professionals' i.e. consultants, and trainers. It covers topics such as 'professional *halal* trainers' workshop', 'professional *halal* auditors' workshop' and 'refresher course for *halal* consultants'.

On the academic/research *front, UPM is offering Masters and PhD programmes on halal food analysis and halal* food management. HPRI, more specifically, offers PhD programmes in areas of research that include new techniques for *halal* products authentication, as well as innovations on alternative *halal* products. It also provides analytical services for *halal* authentication and verification of food and non-food products, and *halal* training and consultancy to food industries. However, as mentioned earlier, these services are still very limited and most activities that take place in HPRI are mainly academic.

VI.2 Challenges

While Malaysia has made a head start in offering education programmes specific to *halal* matters, we believe that there are still a few challenges that need to be addressed:

• Limited courses available. In order for Malaysia to effectively develop itself as the global reference centre for *halal* knowledge, it is important that Malaysia is seen to be at the forefront of *halal* education programmes. Currently the courses offered are still limited.

• Ad-hoc offerings of courses. Various institutions are offering piecemeal programmes on *halal* with no coordination provided.

VI.3 Strategies Moving Forward

• Offer more relevant *halal* courses. We propose that more *halal* courses are developed and offered to both students and researches internationally. UPM and IIUM can be tasked to lead in developing academic courses in *halal* – potentially even at a first degree level.

These courses, once developed, can also be offered by other established local universities such as *Universiti Sains Islam Malaysia* (USIM) with some specialised areas added, as and when required. Additionally, while HDC can continue to offer its *halal* industry intensive programmes, potentially these can be further strengthened to ensure that topics covered are directly relevant to the requirements of the industry and the consumers both locally and internationally. At the same time, institutions such as IKIM can be further leveraged to assist in the development of courses (potentially short courses) that more specifically cover the *Shariah* aspects of *halal* focusing on changing trends and understanding of *halal* in the light of emerging issues and challenges.

• HDC to coordinate all education programmes. We propose that HDC take the role of coordinating all the *halal* courses offered in Malaysia by forming close partnerships with all the institutions involved. HDC can act as a one-stop-centre that cohesively promotes all the education programmes available and to be able to assist/advice interested parties as to what courses are available, where to do them and how best to do so.

3.0 Conclusion

The nutraceutical industry specifically is a growing industry worldwide and Malaysia being endowed with a rich tropical biodiversity and bio resources have huge opportunities and potential to offer the world *halal* nutraceutical products. Apart from conforming to current regulations related to quality, safety and efficacy, the *halalan toyyiban* factor is the niche that differentiates Malaysian nutraceuticals from the rest of the world. Problems related to the various issues and challenges in realizing Malaysia as a centre for *halal* nutraceutical production and distribution, *halal* service providers, *halal* standards and *halal* R&D have to be solved. In creating an absolute *halal* integrity hub, six elements needs to be addressed namely formulation of fatwa, R&D in formulating fatwa, *Halal* guidelines and protocols, *halal* certification, enforcement and monitoring of standards and educating producers and consumers.

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