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Research paper

Halalan Toyyiban Poultry Feed: an Appraisal from the Maqasid Shariah Perspective

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Abstract

Animal feed is one of the essential elements in the production of Halal food products. In choosing animal-based Halal food products, a Muslim should be concerned not only about the sources of the animals and the slaughtering process, but also the way the animals were raised and fed. This is due to the emerging issues related to animal feeding, in which animals were being fed with unsuitable, unnatural feed, mainly because of the so-called 'economic considerations'. Nevertheless, even though animal feed is an important element in Halal animal production, the position of Halalan toyyiban (permissible and safe) feed has often been neglected and less attention has been given to this matter. Halalan toyyiban poultry feed promises Halal and safe poultry meat and eggs for human consumption according to the injunctions of Shariah. Review of the literatures show that Halalan toyyiban issues include among others the issue of feed containing of non-Halal ingredients or filth, the development of pathogenic enteric microbes through antimicrobial resistance (AMR) bacteria in feed, genetically modified feed (GMF), the accumulation of mycotoxin, dioxin, heavy metals, pesticides and both medicated and non-medicated feed additives in poultry meat and eggs as well as physical hazards in farming areas. This paper attempts to examine the position of poultry feed from the Shariah point of view. More specifically, it appraises the position of current practice in poultry feed production from the Maqasid Shariah (Objectives of the Shariah) perspective. In so doing, it first reviews some of the literatures that highlight the emerging Halal and safety issues surrounding poultry feed. This is then followed by the description of the meaning and concept of Maqasid Shariah. Finally, the position of current practices in poultry feed production and feeding is appraised from the Maqasid Shariah viewpoint. It is further recommended that the safety, quality, cleanliness and the ingredients used in the production of animal feed must be regulated so as to ensure that poultry meat and its produce meet the safety requirements. To protect the interest of the Muslim consumers particularly in Malaysia, it is also recommended that a Halal standard for Animal Feed Production should be developed. By having this standard, growers of Halal livestock can have choices of feed and further, Muslim consumers can be rest assured that the poultry meats or its produce that they consumed are truly Halal.

***Keywords**: Poultry; Feed; Hazards;Halal; Halalan toyyiban; Maqasid Shariah; Objectives of the Shariah*

1. Introduction

Halal means lawful. Doing what is permitted, with respect to which no restriction exists, and the doing of which the Law giver, *Allah*, has allowed (1). In another perspective, *Halal* is an Arabic term meaning "permissible". In English, it always refers to food that is permissible and lawful to consume corresponds to the Islamic law. In the Arabic language, it refers to anything that is permitted and admissible under Islam (2–4). In Islam, there is an antonym of *Halal*, which is *haram* (4). *Haram* is anything that Law giver has absolutely prohibited. Anyone who engages in it is liable to incur the punishment of *Allah* in the Hereafter as well as a legal punishment in this world (1).

The laws affecting Muslims consumption behavior are governed by the Quranic philosophy of what is permissible (*Halal*) and what is not permissible (*Haram*) for Muslims (3). These include liquor, pork, adultery, interest on money, gambling, blood of animals and the meat of animal sacrificed in the name of other than *Allah* (1). Even though the list stated is simple and short, it does effects Muslims' consumption habits (5). Since the *Quran* and hadith have been the primary sources for Muslims, what is lawful (*Halal*) and unlawful (*Haram*) are mentioned several times in both references. Almighty *Allah* clearly states in the *Quran* regarding the issues of *Halal* and *Haram* (Qur'an, 2:173, 2:57, 2:172, 6:145). Likewise, the issues of *Halal* and *haram* are being mentioned in the Hadith narrated by Al-Bukhari and Muslim: "Verily *Allah* and His Messenger (PBUH) have prohibited sellling alcohol, dead meat, swine and idols." (Al-Bukhari Hadith no. 2236 and Muslim Hadith no. 1581).

Besides, *Halal* and *toyyib* are stated laterally in the *Quran*. *Toyyib* means good and pure (6). Therefore, *Halalan toyyiban* exemplifies 'lawful' and 'good' (7). The Almighty *Allah* says in Surah al-Baqarah, Surah al-Nahl and Surah al-Mu'minun and other Quranic verses stated earlier the command upon Muslim to eat only *Halal* and *toyyib* (good) food (Qur'an, 2:168, 16:114, 23:51).

In this regard, Apriyantono (2001) describes that the most critical control point to prevent use of *haram* (prohibited) materials in food production is the purchase of raw materials and ingredients. Similarly, in animal based products, contamination can violate the *Halal* integrity of products through breeder to livestock farmer, distributor, slaughterhouse, meat processor, retailer, and consumers (9–11). However, Omar et al. [12] discovers that issues in sourcing are another important part of the supply chain which has often been overlooked. For instance, in poultry and meat industry,

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there are issues of animals being continuously fed with non-*Halal* feed, which may result in the meat becoming non-*Halal* for human consumption according to the Islamic law (12). Nevertheless, even though animal feed is an important element in *Halal* animal production, the position of *Halalan toyyiban* feed has often been neglected and less attention has been given to this matter. *Halalan toyyiban* poultry feed promises *Halal* and safe poultry meat and eggs for human consumption according to the injunctions of *Shariah.*

2. Literature Review

2.1. *Maqasid Shariah*: Meaning and Concept

Shariah is an arabic term which means the Path to be followed, or also give the same meaning to 'the way to a watering place'. In other words, it is the path leading to *Allah*, the Most High (13). *Shariah* is the Islamic law originated from the revelation of the Almighty *Allah* and *sunnah* of the prophet Muhammad (PBUH) (14) that covers the distinction between what is right and what is wrong (13), and outlines the lawful and the prohibited (13–15). Al-Qaradhawi defines *Shariah* as the judgments of *Allah* and his Prophet has laid down in the *Quran* and the *sunnah* (the life and teaching of the prophet Muhammad).

For Muslims, Islam is not only a religion but a way of life. *Shariah* or also known as Islamic Law, is a fundamental rule to refer in accordance with the dictates of *Quran* and *sunnah*. In Islam, *Allah* alone has the right to command for the guidance of mankind (13). Few things are specifically mentioned in the *Quran* and some matters are clear by referring to few sources of *Shariah* either by referring to primary or secondary sources depending on the condition(s) involved (16).

One of the primary principles of *Shariah* is the Goals of the *Shariah* (*Maqasid Shariah*). *'Maqasid'* (which is the plural for the term *'maqsid'*) refers to the purposes, objectives, principles, intents, goals and other similar definitions (17). Therefore, *Maqasid Shariah* are the objectives or purposes behind Islamic rulings (18). The main purposes of *Maqasid Shariah* are to achieve goodness (*maslahah*) and avoid evil (*mafsadah*) (19). On this point, according *Imam al-Ghazali* objectives of the *Shariah* connotes "beneficence intended by *Allah* for all mankind in this world and the hereafter, either through realization of benefits or elimination of evil". It is clear in Islam that the Holy *Quran* and the *sunnah* from Prophet Muhammad (PBUH) indicate that absolute devotion towards both sources are for the preservation of the goodness in the present life and the hereafter. (*Quran*, 10:15).

Meanwhile, (17) added in his book of *Maqasid al-Shariah* as Philosophy of Islamic Law that *Maqasid Shariah* is an alternative definiton for *masalih* (public interests) (*masalih*, plural for *maslahah*). According to the *al-Muʿjam al-Wasit* dictionary, the word *Maslahah* comes from the Arabic root word صلح which conveys the meaning of good, beneficial, nice and eliminates evilness. At the same time, it also brings the meaning of loss of damage, something useful and reasonable (20). In tandem with Jasser (2010), Muhammad al-Tahir (2006) further categorizes *maslahah* into two kinds namely; *maslahah ammah* (public interest), and *maslahah khassah* (private interest). He elaborates that *maslahah ammah* gives benefits for the whole community rather than individual concern. In contrast, *maslahah khassah* include anything that benefits the individuals.

From the above, it is clear that the purpose and intents of the *Shariah* or Islamic law is to setting things rights (*Quran*, 2:205). The attainment of *maslahah* (benefits) and the rejection of *mafsadah* (evil) are the substances that cause the existence of *Maqasid Shariah*. The protocol of *Maqasid Shariah* is to eliminates any damage or harm for both in this life and hereafter (21). Therefore, it is important to preserve righteousness not only in acts of ritual worship, but also in this worldly condition and social affairs (19). It follows that any events that are associated and connected with *mafsadah* should be avoided and *maslahah* should prevail. As guided by the *Quran* in *Surah al-Baqarah*, verse 195, "...and do not throw (yourselves) with your (own) hands into destruction (by refraining)...".

As far as the *Maqasid Shariah* is concerned, it has been classified by the Jurists of Islamic law in many different ways, using different approaches and according to various dimensions. Some classified *maqasid* into general purposes (*al-Maqasid al-'Ammah*) and particular purposes (*al-Maqasid al-Khassah*), while the other categorize it into definitive goals (*al-Maqasid al-Qat'iyyah*) and speculative goals (*al-maqasid al-Zanniyyah*). However, despite their different ways of classifying *al-Maqasid*, it has been agreed upon by the Jurists of Islamic Law that *al-Maqasid* is divided into three main divisions according to the degree of their importance, in descending order (Ibn Qayyim, n.d.). The first one is called *Daruriyyat* (Essentials to human life), then comes the second: *Hajiyyat* (the necessities) and followed by the third category: *Tahsiniyyat* (The embellishments).

According to Ibn Qayyim, *Daruriyyat* are essentials or necessary elements of those which the lives of human being depend, and without which the existence of an individual or society becomes impossible. Majority of the Islamic Jurists agreed that this category comprises of five fundamentals which include: protection and preservation of life; of faith; of intellect; of lineage and finally protection of property. *Hajiyyat* refers to interests that are less essential for human life but whose neglects leads to hardship but not to total disruption of normal life. *Tahsiniyyat* refers to interests whose realization leads to improvement and the attainment of that which is desirable (Ibn Qayyim, n.d.).

From the above discussion, it is apparent that the attainment of *maslahah* (benefits) and the rejection of *mafsadah* (evil) are integral to the goals of *Shariah*. Protection and preservation of life; of faith; of intellect; of lineage and of property are given top priority when the Almighty *Allah* sets His law for the human being and the universe. As such, preservation of these five fundamentals are obligatory and should be reflected in man's life individually and collectively.

3. Methodology

This paper attempts to examine the position of poultry feed from the *Shariah* point of view. More specifically, it appraises the position of current practice in poultry feed production from the *Maqasid Shariah* perspective. In so doing, it first reviews some of the literatures that highlight the emerging *Halal* and safety issues surrounding poultry feed. This is then followed by the description of the meaning and concept of *Maqasid Shariah.* Finally, the position of current practices in poultry feed production and feeding is appraised from the *Maqasid Shariah* viewpoint. In the following section, focus shall be given to the issues surrounding the production of poultry feed, and current feeding practices practiced by poultry growers particularly in the context of Malaysia. The issues and practices shall then be discussed and therefrom, their positions from the *Maqasid Shariah* point of view shall be appraised and duly determined.

4. Results and Findings

4.1. Current Practices in Poultry Feed Production and Feeding: The *Maqasid Shariah* Perspective

4.1.1. Definitions

Codex Alimentarius Commission Code of Practice on Good Animal Feeding defines feed as "animal feedstuffs, ingredients, additives and supplements given to the animals". According to Section 2 of the Feed Act 2009 (Act 698), the term 'animal feed' implies to any single or multiple materials whether processed,

semi-processed or raw, which is intended to be fed to the animals. Similarly, a somewhat similar definition is given by Clause 3 of the Malaysian Standard, MS 2208:2009 Animal Feeding Stuffs – Code of Practice. In this standard, animal feed is defined as "any single of multiple materials, whether processed, semi-processed or raw, which is intended to be fed directly to food producing animals". Section 2 of the Feed Act 2009 (Act 698) interpret the word Animals as follow:

"(a) any mammal other than human;
(b) any aquatic animal and includes fish, mollusc and crustacea;
(c) any amphibian;
(d) any reptile;
(e) any bird and includes chicken, duck, quail and ostrich; and
(f) any insect,

kept in captivity or under control for any purpose of human usage"

Poultry is defined in Clause 3.6 of the Malaysian Protocol for the Halal Meat and Poultry Productions as 'birds' which include domestic fowls, ducks, chickens, geese, turkeys, guinea fowls and pigeons of any sex and age. (23). In Malaysia, specifications for chicken (*Gallus domesticus*) feeds, whether it is in mash, crumbles or pellets form is prescribed under the Malaysian Standard MS20:2008 – Poultry Feeds-Specification (Fourth revision).

4.1.2. Sources of Poultry Feeding Stuffs

Poultry feeding stuffs that are mostly utilized, are from conventional and non-conventional sources. Conventional poultry feed can be from a source of maize, soybean meal, rice, wheat or the mixture of those ingredients (24). Meanwhile, non-conventional poultry feed can be from the by-products derived from the industry and feed crops – crops that are utilized as fresh or processed for the usage of animal feeding (25). Global major ingredients for poultry feed include maize or also known as grain maize or corn. While the second largest sources for poultry feed are soybean meal, rice bran and fishmeal (25).

Feed supply is central to all animal production systems and any factor that affects the security of the feed supply is a significant constraint to production (26). European Food Safety Authority (EFSA) disclosed that feed is categorized as unsafe if it has an adverse effect on human or animal health (27). From the supply chain perspective, the feed safety for poultry or livestock may affect the food safety for consumers.

4.1.3. Uncontrolled Usage of Antibiotics

Studies have shown that the uncontrolled usage of antibiotics onto poultry as growth boosters (28,29) and disease prevention (29) may cause the development of antimicrobial resistance (hereinafter known as AMR) bacteria (30). AMR bacteria such as *Salmonella* or *Listeria monocytogenes*, are among the well-known AMR bacteria grown on corn poultry feed and can spread from animals to man via food chain. The problem of this AMR occurs when the antibiotics which can treat the infection at home is no longer effective due to the bacteria become resistant towards the antibiotics (31). Likewise, since April 2016, the Ministry of Health (MOH) Malaysia through the Ministry of Agriculture and Agro-based Industry have been considering the usage of antibiotics in agro-based industry particularly in animal feed since it is seen to affect vaccination against human antibiotics and causing it to be identified as a major threat to global health.

From the perspective of the *Maqasid Shariah*, even though the use of antibiotics in poultry gives certain benefits for the purpose of preventing disease in poultry so as to prevent it from spreading into human via food chain and therefore acceptable, but the uncontrolled usage of antibiotics is unacceptable as it may be harmful to human. This practice apparently contradicts with the spirit of the *Maqasid Shariah* that protects human life and linage, and rejects any infliction of *mafsadah* (evil) against human. This is also in line with the *Qaidah al-fiqh* (Islamic Legal Maxim) *al-darar yuzal* that harms must be eliminated. In *Surah al-Baqarah* verse 195 *Allah* says "And spend of your subtance in the cause of *Allah*, and make not your own hands contribute to your destruction; but do good; for *Allah* loves those who do good". Eliminating harms and evils are also in conformance with the hadith of the Prophet (PBUH) that: "Harm shall not be inflicted nor reciprocated". As such, even though the use of antibiotics is seen as necessary under certain circumstances but *al-darurat tuqaddaru bi qadriha* (Necessity is determined by the extent thereof) to the effect that its use in poultry must be controlled, restricted and well regulated by the respective authority.

4.1.4. Genetically Modified Feed

Another concern relating to feed that has raised some ethical issues all over the world is Genetically Modified Feed (hereinafter known as GMF). GMF is a product where the genetic material (DNA) has been altered through several methods using advanced technology (32). In this technique, a product undergoes reconfiguration of genetic material which may be from a source of plants or animals through selective breeding or mutation breeding. The gene from those sources is taken and then inserted into another different species(32). The most top list for GMF are maize or corn, soybean and rice. In Malaysia, most of the poultry feed which comprise 95% of the source are imported and only 5% from them are obtained locally (25). Corn or also known as maize and soybean for Malaysian poultry feed are obtained by importing it from other countries (33) such as U.S. (25) or Argentina.

There are several circumstances where certain GM products are identified as hazardous. One of the instances is where the parent crop is associated with any hazardous issue or potential toxicity or allergenicity. In this case, the risk for GM produce to inherit the same hazards from its parent crop is high. Besides, the unexpected alterations could also take place in certain circumstances for GM crops, at which it may resulting in compositional changes for their toxicological, allergenic or nutritional factors (34). These situations would jeopardize GMF security for poultry and hence, affecting poultry meat and egg industry, and ultimately may be hazardous to human's healthy if consumed.

Again, as in the case of uncontrolled usage of antibiotics, the use of parent crop which is associated with any hazardous issue or potential toxicity or allergenicity could be regarded as not meeting the *Maqasid Shariah* as it may be detrimental to human's health and even life. Furthermore, clause 2.3 of the Malaysian Standard for Food Production (MS1500:2009) defines *Halal* food and drinks and/or its ingredients to include among others; food and drinks and/or its ingredients that are "(c) safe for consumption, non-poisonous, non-intoxicating or non-hazardous to health".

From another perspective, GMF does not only involve safety issues but may also contain non-*Halal* materials such as recombinant DNA (hereinafter known as rDNA) from swine (35). Research done by Pariza & Cook (2010) indicates that enzyme are often used in feed processing, and most of the enzymes are developed through the process of genetic recombination at which the sources of DNA are taken from pancreatic tissues, fore-stomachs, stomach and pancreas. The sources of DNA used, also appear to be doubtful to Muslims as the requirement for labelling does not include requirement to disclose the detailed information of the source of recombinant DNA used in GM feed (33).

As elaborated earlier, Protection of Religion is one of the objectives of the *Shariah* and Muslim are ordained to adhere to all commands of *Allah* and the instructions of the prophet (PBUH). In the *Quran*, there are a number of evidences on the command to only consume what is lawful (*Halal*) and pure (*tayyib*). For instance, *Allah* says "O mankind, eat from whatever is on earth (that is) lawful and pure" (*Quran* 2:168). In addition, Muslims are also commanded to avoid things that are doubtful when *Allah* says in *Surah Yunus* verse 36 "But most of them follow nothing but fancy, truly fancy can be of no avail against Truth. Verily *Allah* is well aware of all that they do". The instruction to stay away from doubtfulness in order to prevent one from falling into *haram* (the

prohibited) can also be seen in the *Hadith* of the Prophet (PBUH) narrated by Muslim: "What is lawful is evident and what is unlawful is evident, and in between them are the things doubtful which many people do not know. So he who guards against doubtful things keeps his religion and honour blameless, and he who indulges in doubtful things indulges in fact in unlawful things, just as a shepherd who pastures his animals round a preserve will soon pasture them in it. Beware, every king has a preserve, and the things God his declared unlawful are His preserves. Beware, in the body there is a piece of flesh; if it is sound, the whole body is sound and if it is corrupt the whole body is corrupt, and hearken it is the heart." (Muslim, *Hadith* no.1599).

Clause 2.3 (a) of the MS1500:2009 also outlines that *Halal* food and drinks and/or its ingredients must originates from *Halal* sources, and in the case of animal based food the meats must come from *Halal* animals and slaughtered in accordance with the *Shariah* slaughtering rituals according to *Imam al-Ghazali*.

4.1.5. Physical, Chemical and Biological Contamination

Animal feed production increasingly depends on the global supply of feed material, increasing the risk of chemical and microbiological contaminants being transferred into food-producing animals (Fink-Gremmels, 2012). Animal feeds may also contain endogenous toxins arising principally from specific primary and secondary substances produced by fodder plants. Thus, feed toxins include compounds of both plant and microbial origin (D'mello, n.d.).

The most crucial issues when highlighting the poultry feed safety in terms of chemical hazard, is toxin contamination. The toxin produced in poultry feed is introduced by fungi or mold. Examples of toxic substances are dioxin, mycotoxins, heavy metals and pesticides. These toxic substances have high potential to be found in animal feed at which the residues contents can be measured in meat, organs, milk or eggs (Kan & Meijer, 2007; Zakiah & Fadilah, 2014). With regards to the potential adverse effects of these toxins, according to a research done by Anadón & Martínez-Larrañaga and Barton (1999), mycotoxins, dioxin, heavy metals and the accumulation of feed additives in poultry meat and eggs can cause the risk of cancer. Additionally, the usage of antibiotics as growth promoters to improve feed utilization and production also relates to the accumulation of antibiotics in products from treated animals (38).

Apparently, the effects of feed contaminants and toxins vary, ranging from reduced intake to reproductive dysfunction and increased incidence of bacterial diseases. Residues transferred to edible animal products represent another reason for concern. If not properly controlled and regulated seriously, adverse effects might take place in human and this is indeed not in line with the goal of the *Shariah* to safeguard the interests of human and the universe, to protect life and lineage, and to bring benefits and repelling harms.

Nevertheless, considering that contaminants are present everywhere, and that total elimination is almost impossible, however, taking proactive actions to reduce their presence to the minimum level possible is in compliance with the spirit of *Maqasid Shariah.* This could be done by putting in place a comprehensive legislation for the control of several of these chemical compounds and pathogens in feed, or by implementing feed safety management system such as HACCP in feed plants.

4.1.6. Use of *Najs* and Filth in Feeding Practices

In Malaysia, polemics has arisen in poultry industry in terms of the sanctity of poultry being fed with *najs* and filth. The issue related to the use of animal by-products has raised concern on the safety and also the *Halal* integrity of the animal served with such feed. Since 2006, repeated episodes of improper feeding practices are reported by the media. In 2009, it was revealed that some of the fish growers in the country were using cultivated fish to purify the wastewater of the swine farm (Sabapatty, 2009). Later in 2013, a farmer was convicted of feeding cultivated Patin with pig intestines (Ibrahim, 2013). Another case revealed when animal skulls and bones were spotted at the base of fish pond due to broken sewer line (Saifullah & Nurul Mazwana, 2014). The collected bone sample analysed was positive for swine DNA (Razif, 2014).

Evidently, the condition of the animal feed could affect the *Halal* integrity of the poultry meat or its produce such as eggs. From the *Shariah* perspective, animals that are fed with *najs* or *haram* (prohibited) materials until it undergoes physical, protein, structure, odor, taste or color changes are called *Jallalah* (39). Even though the juristic decree on meats and produces of *jallalah* origin varies between Islamic jurists, but the approach taken by the Malaysian Standard MS1500:2009 seems to prohibit them in total. This is clearly indicated in clause 3.5.1.1.1 (h) which categorize "farmed *Halal* animals which are intentionally and continually fed with *najs*" as non-*Halal* land animals. The Fatwa Committee of the National Council for Islamic Religious Affairs in its 73rd meetings on 4th to 6th April 2006 issued a *fatwā* that "Fish reared in unclean ponds containing *najs* or intentionally fed with unclean meat such as pork, carrion or others are prohibited" (40) also indicates the same. The same resolution was also announced in the Fatwa of Federal Territory on 3rd January 2007, Fatwa of Selangor on 25th October 2007 and Fatwa of Kelantan in 2007 (41). By way of analogy, poultry that are intentionally fed with *najs* are also prohibited. Hence, the practice of feeding poultry or any reared animals with *najs* and filth is not in concordance with the *Maqasid Shariah.*

5. Conclusion

From the above discussions, it can be concluded that the aim of the *Shariah* law is nothing else except to give benefits and to eliminate any kinds of harms and evils. This spirit should be well inculcated in human day to day activities and in this should also be taken into consideration in any industrial daily operations. One of the important aspects of cleanliness and sanitation which was given special emphasis in Islam is the food cleanliness. The important principle in Islam is that the food we consume will have a direct effect on not only our physical bodies but also our souls and mind. In addition, studies had shown that the safety and quality of feed being fed to animals may have certain effects to human body. Hence, the safety, quality, cleanliness and the ingredients used in the production of animal feed must be regulated so as to ensure that poultry meat and its produce meet the safety requirements. To protect the interest of the Muslim consumers particularly in Malaysia, it is also recommended that a *Halal* standard for Animal Feed Production should be developed. By having this standard, growers of *Halal* livestock can have choices of feed and further, Muslim consumers can be rest assured that the poultry meats or its produce that they consumed are truly *Halal*.

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