Islamic Ethics in Governing Modern Biotechnology in Malaysia

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Abstract: - The development of modern biotechnology has increased rapidly. In the 8th and 9th Malaysia Plan (RMK-8 and RMK-9), the Malaysian government has endorsed the use of modern biotechnology technologies especially in genetic engineering techniques to improve the agricultural sector. Unfortunately, this technology with both its risks and benefits are strongly debated by many consumers, environmental groups and some scientists who have warned Malaysia to be more careful before implementing it in Malaysia. Because of that, some parties suggested that the government should draft an Islamic code of ethics to guide the development of biotechnology in Malaysia. To draft an Islamic code of ethics in modern biotechnology, specific policies from the verses of al Quran and quotations from Sunnah must be referred to. Since modern biotechnology is a contemporary issue that may not have any direct explanation in al Quran and Sunnah, other Islamic sources like ijmak should also be taken into account when drawing up this code of ethics. To strengthen the code, the use of Qawaid Fiqhiyyah is useful and relevant to achieve the objective of Syariah (Maqasid Syariah). In this paper, these Islamic sources which can provide solutions to this issue will be discussed.

Key-Words: - Islamic ethics, modern biotechnology, Islamic legal maxim

1 Introduction

Biotechnology has been identified as one of the five strategic technologies expected to accelerate Malaysia's transformation into a highly industrialized nation by 2020 [1]. In 28th April 2005, the forth Prime Minister of Malaysia Tun Abdullah Ahmad Badawi had launched National Biotechnology Policy which will focus on three major field; agriculture, health care and industry [2]. As the Malaysian government strongly believes that biotechnology will propel the country into the new frontier of economic growth, biotechnology has received strong government support and commitment with significant funding for R&D, infrastructure, and human resource development [1].

In RMK-8, RM574.4 million was invested in agriculture sector to carry out research and development (R&D) in biotechnology. While RM2 billion allocations were received to implement research project and development biological science and biotechnology studies within RMK-9 [3]. Besides, the government also stimulates and promotes biotechnology industry growth by establishing Biotechcorp as the center point of biotechnology industry, BioNexus to promote and support R&D in biotechnology focus areas [4], Biovalley to create a world-class research facilities in genomics, pharmaceuticals, nutraceuticals and agribiotech [5] and lately, biotechnology was expected to lead the push in the development of the five economic corridors in Malaysia [6].

However, this technology with both of its risks and benefits [7] are strongly debated by many consumers, environmental groups and some scientists who have warned Malaysia to be more careful before implementing it in Malaysia.
nobody can predict the long term impact of this powerful technology, therefore, the safety of modern biotechnology products need to be analyzed in a careful scientific procedure [8] and has to be controlled with Islamic ethics to ensure that this technology can guide us to happiness with healthier life and harmonious environment [9].

2 Islamic Ethics and Modern Biotechnology

Most developments in science and technology are pioneered and mastered by non-Muslims. They are doing good researches but unfortunately, many disregard the ethical and moral values related to their discoveries. According to BABAS [8], ethics can usefully be defined as

“The branch of philosophy concerned with how we should decide what is morally wrong and what is morally right”

As modern biotechnology has the potential for the betterment of human beings, Muslims can adopt develop this technology but it should be applied within the rules and ethics in Islam.

Ethic in Islam called akhlak is based on al Quran and Sunnah. It is not only theoretical but the medieval have before, practiced it in their whole life. Al Quran and Sunnah do not describe the entire ethics in Islam directly. Most verses related to modern biotechnology in al Quran merely mention the basic rules in Islam while quotations from Sunnah describe how Muslims should conduct their life [10] and guide Muslims to behave towards being a good person and beware that unethical behavior will result in negative impact or punishment [11].

According to Mohamad Akram [12], there are two concepts that are to be taken into a moral sense. Firstly, it is called by Muslim scholars as husn (good, beauty and what is morally acceptable must be done). Secondly is qubh (bad, ugliness and what is morally reprehensible must not be done). However man cannot identify what is the absolutely husn and qubh without referring to the al Quran and the Sunnah in order to determine what is husn and qubh and thereby resolving the above legal question.

Since modern biotechnology is a contemporary issue that may not have any direct explanation in al Quran and Sunnah, other Islamic sources like ijmak should also be referred to [13], [14], [15] when drawing up this code of ethics. Apart from that, Qawaid Fiqhiyyah is useful to strengthen the code to achieve the objective of Syariah [16]. The combination of these Islamic sources is so important to evaluate the ethical aspect of modern biotechnology from the Islamic perspective in Malaysia.

2.1 Specific policies from the verses from al Quran and quotations from Sunnah

al Quran is the first and main source in Islamic law [12]. It is defined as the Holy Book containing everything words revealed by Allah to Prophet Muhammad [13], [14], [15], [17]. According to Anwar (1973), it also called as al Furqan (distinguisher of truth from the falsehood), Huda (guidance) and Dastur al amal (complete way of life). Most of the verses in al Quran are concerned with matters of beliefs, morality and varieties of other themes [12], [13].

And We shall bring thee as a witness against these (thy people): and We have sent down to thee the Book explaining all things, a Guide, a Mercy, and Glad Tidings to Muslims

(al Nahl: 16:89)

While Sunnah is the second source of Islamic law which refers to all the Prophet’s personal acts and sayings of others tacitly approved by him [13], [14], [15], [17]. It is so important because al Quran always maintains the importance of following the Sunnah and emphasizes the need to refer it in order to resolve any matters related to Islam. Sunnah is also a main important role to
explain and elaborate the concise Qur’anic injunctions [12], [15].

O ye who believe! Obey Allah, and obey the Messenger, and those charged with authority among you. If ye differ in anything among yourselves, refer it to Allah and His Messenger, if ye do believe in Allah and the Last Day: That is best, and most suitable for final determination.

(an Nisa’: 4:59)

al Quran and Sunnah contain the basic principles which mankind must follow all the orders and perform the duties as well as must avoid all the forbidden things and whatever that leads to haram (prohibited act) to safeguard themselves from falling into the forbidden acts. Understanding and practicing these principles may lead mankind to live a better and practical life, and help mankind to fulfill their obligations in the right way to achieve success and happiness in the world and in the hereafter [18].

“Allah commands justice, the doing of good, and Liberality kith and kin, and He forbids all shameful deeds, and injustice and rebellion: He you, that ye may receive admonition.”

(an Nahl:16:90)

Abu Hurairah, Abd al-Rahman bin Sakhr, raddiAllah ‘anhu, reported that the Messenger of Allah, sallallahu ‘alayhi wasallam, said:

"Do not be envious of one another; do not artificially inflate prices against one another; do not hate one another; do not shun one another; and do not undercut one another in business transactions; and be as fellow-brothers and servants of Allah.”

(Narrated by Muslim)

“And cover not Truth with falsehood, nor conceal the Truth when ye know (what it is).”

(al Baqarah:2:42)

He also reported: I heard the Messenger of Allah, sallallahu ‘alayhi wasallam, said:

“Avoid that which I forbid you to do and do that which I command you to do to the best of your capacity. Verily the people before you were destroyed only because of their excessive questioning and their disagreement with their Prophets.”

(Narrated by Al-Bukhari & Muslim)

“Do no mischief on the earth, after it hath been set in order, but call on Him with fear and longing (in your hearts): for the Mercy of Allah is (always) near to those who do good.”

(al A’raf: 7:56)

“For those who believe and work righteous deeds, there will be Gardens of Bliss, to dwell therein. the promise of Allah is true: and He is Exalted In power, wise.”

(Luqman: 31:8-9)

2.2 Ijma’

If one cannot find either a passage from the al Quran or Sunnah bearing on the matter in hand [12], [13], then one turns to a third source which is Ijma’- the general consensus among Islamic scholars of a particular age in relation to the legal rulings correctly applicable to the situation [19]. According to Amidi [13], Ijma’ is the unanimous agreement of mujahidin of the Muslim community of any period following the demise of Prophet Muhammad on any matter. This definition includes the agreement on all matters pertaining to Islam whether it is in the subject of belief or moral and legal matter [12].
In drafting ethical code of modern biotechnology, the government should consider and refer the present consensus such as:

i. It is permitted by the shari’a to use cloning techniques and genetic engineering in the fields of microbiology, botanic and zoology and thus within the limits prescribed by Shari’a, in order to serve general interest and prevent inconvenience. [20], [21].

ii. Goods, foods and drinks which are made from the process of the pork’s DNA biotechnology contravened with the syarak is prohibited. Using the pork’s DNA biotechnology in the goods, foods and drinks industries is not yet reach the level of dharurat (emergency) as there are many other alternatives [22].

2.3 Islamic Legal Maxim (Qawaid Fiqhiyyah)

Islamic legal maxims are general rules of fiqh. The actual wordings of these maxims are taken from the al Qur’an and Sunnah. Islamic scholars compiled and developed it into a simple format which can be applied to various cases that come under the common rulings [12]. These principles are usually use by many Islamic scholars who treat them as a branch of the Syariah objectives [16]. Some underlying principles of Islamic Legal Maxims which can strengthen the ethical code related to modern biotechnology are:

1. Matters are determined according to intention (al Umur bi Maqasidiha)

All human action will be judged through his or her intention [23]. Good intention can guide someone to do the right thing while bad intention can give more harm and negative impact to others. Intention and effect of an action will determine whether the action is permitted or prohibited in Islam [12].

As an example, modern biotechnology gives advantage as well as profit to industry especially transnational companies [24]. Farmers in United States use genetically modified seeds such as Roundup Ready soybean product for the perceived benefits of yield increase, more flexibility in crop management, reduce herbicide usage and decrease pest management cost [25]. However, for using this soybean seeds, they have to sign an agreement restricting the seeds use, pay technology fees and were not allowed to save and replant the seed [25]. Oppose to the claim that the use of Roundup Ready soybean can reduce pesticide use and increase growers’ profits, a report by Benbrook [26] showed that the farmers are still largely dependent on herbicides and hence are not likely to reduce herbicide use or reliance. The farmers also need to use 2 to 5 times more herbicide measured in pounds applied per acre, compared to the other popular weed management systems used on most soybean fields not planted with Roundup Ready varieties in 1998. These situations if true are absolutely not acceptable in Islam. Any application in modern biotechnology should be based on good intention and must be applied kindly and honestly.

2. Hardship begets facility (al Mashaqqah Tajlub al Taisir)

This maxim indicates that, there are alternatives and way out which can be resorted to in order to overcome difficulties and hardship [12], [27]. But, if there are two difficulties, the bigger problem must be avoided rather than the less problematic.

As a case study, millions of people worldwide suffer from malnutrition and starvation [28] especially in the African countries like Zambia. But, the Zambian’s Government decided to reject donations of GM food for nearly three million of its people hit by drought and famine. This decision is based on a scientific report on the implications of using GM food on the health and economic welfare of the country [29], [30]. In Islam, there is a theory that difficulty can become a cause of facility. This theory seems to look relevant to develop...
modern biotechnology in poor country like Africa.

In Malaysia, there is a need to identify major problems faced by the people and analyze whether modern biotechnology is the most effective way to solve that problem. At the same time, if the implementation of this technology can give rise to more dangers, risks and other unexpected problems, the government needs to be more cautious before developing and commercializing modern biotechnology products in Malaysia.

3. Harm should not be inflicted nor reciprocated (Ladarara wa la dirar)

This maxim indicates the importance to prevent any kind of harm from happening. All kind of harm which involves individual, society, environment or any other things and the harm that will cause or incur further harm must be avoided [12], [23], [27].

As an example, Bt crop has a gene taken from the soil bacterium, Bacillus thuringiensis. In a laboratory assay, Losey et.al. [31] found that larvae of the monarch butterfly reared on milkweed leaves dusted with pollen from Bt corn, ate less, grew more slowly and suffered higher mortality than larvae reared on leaves dusted with untransformed corn pollen or on leaves without pollen. Some insects also are very important component in other animal and insect food chain. If the crops are harmful to other untargeted insects these can cause the decline in the number of bird population [32].

Another research claim, this technology can also disturb nature balance [33]. For example, the herbicide resistant transgenic crops which were said to reduce and decrease the uses of herbicide. But on the other hand, it can also become “superweed” [24], [34], [35]. These superweeds could evade control by the repeated and the common use of the same herbicide will become more difficult to control [7].

So, scientists and industries has the responsibility to carry out proper scientific risk assessments to ensure the safety of modern biotechnology products to human, other living organisms and the environment.

4. What is certain cannot be removed by doubt (al Yakin la Yazulu bi al Shakk)

If there is doubt in any matter, there is a need for a fact or evidence to clear the doubt [12]. In the case of modern biotechnology, there are many critics and doubts about the safety of its products to human, environment and society. For example, in 1999, a study on the possible effects genetically modified on human health has been carried out by Ewen & Pustzai (1999). This research found that transgenic potato can damage the vital organs, immune systems and increase in lymphocytes in the intestinal wall of lab rats and some lab rats even died after feeding on transgenic potato.

Unfortunately, there are limited scientific studies and little information about the safety of genetically modified food. According to Kuiper, et.al. [39] & Pustzai, et al. [40] most of the publications referred to were non-peer-reviewed institutional opinions and mostly attempts to establish the safety of GM food have been indirect. Towards developing modern biotechnology in Malaysia, all safety and ethical concerns should be handled effectively by overcoming these identified dangers and try to develop and create new alternative which can give more benefits without causing any problem.

5. Custom is arbitrary (al Adah Muhakkamah)

Adah or custom in this maxim means general practices of the people or the practices of certain group of people including their actions and sayings [23]. Therefore, if any dispute arise among them in a particular transaction, the normal practice in that particular transaction should be the arbitrator’s responsibility to resolve the dispute [12].
The future development and commercialization of modern biotechnology products in Malaysia depends heavily on public acceptance [41]. The acceptance or social rejection on using modern biotechnology needs to be considered and scrutinized before developing any modern biotechnology in Malaysia. Complete information on both the pros and cons of modern biotechnology should be informed to the public accurately and honestly. The real facts about the impact of modern biotechnology usage are very important to respect the consumer’s right to information and to choose their consumptions.

3 Conclusion

Islam believes that Allah created mankind and already provided the laws and regulations comprising belief, laws and moral system that are suitable to be implemented by mankind to govern their lives. In this modern age, humans have to face many challenges in their life such as modern biotechnology issues. As Islam is a complete, dynamic and holistic religion, everything that happens definitely can be handled by Islamic ethics properly guided by verses from *al Quran*, quotations from *Sunnah* and other Islamic sources. *Akhlaq* or ethics in Islam teaches human how to conduct in a good manner and shun the wrong. So, Islamic ethics is the best solution as a guideline to govern modern biotechnology that can give benefits to everybody without harming anything. Looking at the complexity of modern biotechnology issues there is a need to document and analyze all the risks and benefits of modern biotechnology application and products. There is also a need to carry out more safety assessment research as there are limited studies in this area.

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