

SCIENCE AND ITS ROLE IN CHANGES IN ISLAMIC LEGAL
THOUGHT (AN ANALYSIS OF CHANGES IN THE FATWA OF
THE INDONESIAN ULEMA COUNCIL DUE TO RECENT
SCIENTIFIC FINDINGS)

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Abstrak: Penelitian ini mengajukan argumen bahwa temuan-temuan sains berperan dalam mendorong perubahan fatwa-fatwa Majelis Ulama Indonesia (selanjutnya disebut MUI). Penelitian ini merupakan penelitian pustaka (library research) yang menjadikan fatwa-fatwa MUI sebagai sumber primernya. Fatwa-fatwa tersebut yaitu Fatwa tentang Vasektomi/Tubektomi, Fatwa tentang Vaksin Meningitis untuk Jama'ah Haji dan Umroh, Fatwa tentang Penentuan/Penetapan Awal Ramadhan, Syawal dan Dzulhijjah, dan Fatwa tentang Arah Kiblat. Pengumpulan data dilakukan dengan menggunakan teknik studi dokumen. Selanjutnya analisis data dilakukan dengan metode *content analysis*. Hasil penelitian ini menunjukkan bahwa temuan-temuan sains berperan penting dalam mendorong perubahan fatwa-fatwa MUI ke dalam tiga pola perubahan, yaitu: Pertama, *rukhsab* yaitu perubahan fatwa dalam bentuk memberikan kelonggaran pada ketentuan hukum fatwa sebelumnya, sebagaimana perubahan fatwa MUI tentang vasektomi/tubektomi. Kedua, *nasakh* yaitu Perubahan fatwa dalam bentuk menghapus/membatalkan ketentuan hukum pada fatwa sebelumnya, sebagaimana perubahan fatwa MUI tentang Vaksin Meningitis untuk Jama'ah Haji dan Umroh. Ketiga, *takmil* yaitu perubahan fatwa dalam bentuk menyempurnakan /melengkapi ketentuan hukum pada fatwa sebelumnya, sebagaimana perubahan fatwa MUI tentang penentuan/penetapan awal bulan Ramadhan, Syawal, Dzulhijjah dan fatwa tentang arah kiblat. Secara metodologis, selain mempertimbangkan kajian-kajian sains mutakhir, fatwa-fatwa MUI juga dilengkapi dengan dalil-dalil syara' diantaranya ayat-ayat *al-Qur'an*, *Hadis*, pendapat ulama dan kajian *Uş ul al-Fiqh* yang memadai.

Kata Kunci: Sains, Perubahan, Fatwa, MUI

Abstract: This study argues that scientific findings play a role in encouraging changes in the fatwas of the Indonesian Ulema Council (henceforth referred to as MUI). This research is library research that takes the fatwas of MUI as its primary source. Those fatwas are Fatwa on Vasectomy/Tubectomy, Fatwa on Meningitis Vaccine for Hajj and Umrah Pilgrims, Fatwa on Determination of the Beginning of Ramadan, Shawwal and Dhul-Hijjah, and Fatwa on Qibla Direction. Data collection was conducted using document study techniques. The data analysis is



done with the content analysis method. The results of this study show that scientific findings play an important role in encouraging changes in fatwas of MUI into three patterns of change, namely: First, *rukhsah*, which is the change of fatwa in the form of giving leeway to the legal provisions of the previous fatwa, as the change of fatwa of MUI on vasectomy/tubectomy. Second, *nasakh* is the change of fatwa by eliminating/canceling the legal provisions in the previous fatwa, such as the change of fatwa of MUI on Meningitis Vaccine for Hajj and Umrah Pilgrims. Third, *takmil* is the change of fatwa in the form of perfecting/completing the legal provisions in the previous fatwa, as the change of fatwa of MUI on the determination of the beginning of Ramadan, Shawwal and Dhul-Hijjah, and fatwa of MUI on Qibla direction. Methodologically, in addition to considering the latest scientific studies, fatwas of MUI are also equipped with *shara'* arguments including adequate verses of the *al-Qur'an*, *Hadis*, scholarly opinions, and *Uş ūl al-Fiqh* studies.

Keywords: Science, Change, Fatwa, MUI

INTRODUCTION

Islam as a sharia revealed by Allah has two dimensions, namely the dimension of sharia that is permanent, fixed, and unchanging as described in the verses of the *al-Qur'an* and *Hadis* of the Prophet Muhammad, and the dimension of sharia that is temporary, relative and adaptive to change. This dimension of sharia is represented by Islamic laws produced through the *ijtihad* of scholars also known as *fiqh*. *Fiqh* was born as a response of the scholars to the legal problems they faced. *Fiqh* as a product of *ijtihad* is strongly influenced by the context of the times and conditions that are constantly changing. This is what led to the birth of the *fiqh* schools of the classical era which illustrate the various views of *fiqh* on the same issue.¹ Because of this contextual nature, Islamic laws are always flexible and adaptive to change.

This flexibility of Islamic law characterizes (*kbashāis*) and is an inseparable part of Islamic law itself. The flexibility of Islamic law is something that is inevitable and has long been described by scholars as Ibn Qayyīm al-Jawziyah made a very popular *fiqh* rule which reads *tagayyur al-fatwā bi tagayyur al-aẓminah, wa al-amkinah wa al-ahwāl wa an-niat wa al-'awāid* (changes in fatwa due to changes in time, place, state of intention and habit). This rule shows that Islamic law in this case is a fatwa depending on changes in existing reality, so it is possible to change the fatwa from time to time.

Based on the study of Mayyadah (2013), the rules of flexibility and changes in fatwa as a product of *fiqh* or Islamic law can be found in fatwa products by contemporary scholars both from methodological and practical aspects. As Wahbah al-Zuhaili's fatwa on the law of foreign bank interest, Yūsuf al-Qaradāwī's fatwa on professional zakat, Quraish Shihab's

¹ According to Abdullah Ahmed An-Naim, *sharia* is essentially a product of intellectual, social, and political processes in Muslim history. It is the product of a process of analogical interpretation derived from the texts of the *al-Qur'an*, *Hadis*, and other traditions. Sharia, like any other regulatory system, follows the progress of human civilization. Abdullahi Ahmed An-Naim, *Toward Islamic Reformation; Civil Liberties, Human Rights and International Law* (New York: Syracuse University Press, 1990): 14. Also read Asman Asman, "The Red Yarn Of Contemporary Islamic Law Reform: A Critical Study Of Abdullahi Ahmed An-Na'im's Thought," *Syariah: Jurnal Hukum Dan Pemikiran* 21, No. 1 (22 Maret 2021): 26–27.

² Ibn Qayyim al-Jauziyyah, *I'lam al-Muwaqqi'in an' Rabbal 'Alamin* (Beirut: Dar al-Kutub al-Ilmiyah, 1996): 14.

fatwa on the use of contraceptives, and Sahal Mahfudh's fatwa on women's leadership, all of which apply the rules of fatwa flexibility as guidelines in determining fatwas.³

In addition to several factors such as social change, according to Abdullah Saeed (2006), the presence of science with its latest findings is also a factor that encourages powerful changes and significantly affects the patterns and systems of human life. In the field of religion, science often goes beyond the provisions set by religious norms or laws.⁴ In the context of Islamic law, the latest scientific products often raise new issues that have no legal provisions in the *al-Qur'ān*, *Hadīṣ*, or classical *fiqh* books. Findings in the field of science also make the concept of classical *fiqh* irrelevant and inadequate.⁵ This situation requires today's scholars to formulate relevant Islamic laws so as not to lose touch with the existing reality. This is also revealed by Yūsuf al-Qaradāwī that the progress of science and technology is one of the important factors in the change of Islamic legal thought. According to al-Qaradāwī, if the progress of science and technology facilities experienced by the classical scholars, then surely they will make fatwas like contemporary scholars today.⁶

Changes in fatwas due to the development and progress of modern science can be seen in the fatwas of MUI, a fatwa institution in Indonesia. Muhyiddin (2021) specifically portrays changes in fatwas of the MUI on the issue of Vasectomy/Tubectomy, which is a contraceptive method to prevent pregnancy for both men and women. This issue was ruled by MUI four times, namely in 1979, 1983, 2009, and finally, in 2012, where there was a change in fatwa from absolutely forbidding to permissible with conditions. According to Muhyidin, the change in fatwa of MUI on Vasectomy/Tubectomy was influenced by the advancement of science and technology.⁷ The next change in fatwa of MUI was also revealed by Asrorun Ni'am Sholeh (2023) in the case of Meningitis Vaccine for Hajj and Umrah Pilgrims. In Fatwa Number 05 of 2009, MUI allowed Meningitis vaccines that used ingredients from pigs because halal vaccines were not yet available. Furthermore, the fatwa was revoked by MUI with the issuance of Fatwa Number 06 of 2010 which only forbids the Meningitis vaccine that uses pigs because a halal vaccine has been found. According to Sholeh, the change in fatwa applies the rules of fatwa flexibility.⁸

Based on the studies above, show that the findings of modern science have a big influence on the changes in fatwas of MUI, but those studies have not conducted a comprehensive study of the influence of the latest science findings on the changes that occurred in fatwas of MUI as a whole and the pattern of fatwa changes caused by science

³ Mayyadah, "Kaidah Fleksibilitas Fatwa (Studi terhadap Fatwa Ulama-ulama Kontemporer)" (Tesis, Makassar, Universitas Islam Negeri Alauddin, 2013): 127.

⁴ Abdullah Saeed, *Interpreting the Qur'ān: Towards a Contemporary Approach* (Abingdon [England]; New York: Routledge, 2006): 2. Ma'sum Anshori dan Teten Jalaludin Hayat, "Islamic Universality for Global Goodness: Integration of Fiqh and Sufism," *Al-Banjari*: *Jurnal Ilmiah Ilmu-Ilmu Keislaman* 22, no. 1 (11 Juli 2023): 87–105, <https://doi.org/10.18592/al-banjari.v22i1.7846>.

⁵ Ali Sodiqin, "Fiqh Sains: Elaborasi Konsep Illat Menuju Pembentukan Hukum Islam yang Aktual," *Al-Maḥāhib: Jurnal Perbandingan Hukum* 1, no. 1 (1 Juni 2012): 3.

⁶ Ali Sodiqin, "Fiqh Sains: Elaborasi Konsep Illat Menuju Pembentukan Hukum Islam yang Aktual," *Al-Maḥāhib: Jurnal Perbandingan Hukum* 1, no. 1 (1 Juni 2012): 3.

⁷ Muhyiddin Muhyiddin, "Fatwa Mui Tentang Vasektomi Tanggapan Ulama dan Dampaknya terhadap Peningkatan Medis Operasi Pria (MOP)," *Al-Abkām* 24, no. 1 (23 April 2014): 76–79

⁸ Asrorun Ni'am Sholeh, "Living Fatwa; Transformasi Fatwa dalam Perilaku dan Kebijakan Publik di Era Milenial" (Pidato Pengukuhan Guru Besar UIN Syarif Hidayatullah, Jakarta, 22 Februari 2023): 21–23.

findings. Therefore, the author will conduct a comprehensive study of the changes in fatwas of MUI caused by the latest scientific findings and studies and portray the pattern of changes in fatwas of MUI.

METHOD

This paper will research changes in the fatwas of the MUI as many as 9 fatwas. Those fatwas are Fatwa on Vasectomy/Tubectomy in 1979, Fatwa on Vasectomy/Tubectomy in 2009, Fatwa on Vasectomy/Tubectomy in 2012, Fatwa on Determining the Beginning of Ramadan, the Beginning of Shawwal/Edul Fitri, the Beginning of Dhul-Hijjah/Edul Adha in 1980, Fatwa Number 02 of 2004 on Determining the Beginning of Ramadan, Shawwal and Dhul-Hijjah, Fatwa Number 05 of 2009 on the Use of Meningitis Vaccine for Hajj and Umrah Pilgrims, Fatwa Number 06 of 2010 on the Use of Meningitis Vaccine for Hajj and Umrah Pilgrims, Fatwa Number 03 of 2010 on Qibla and Fatwa Number 05 of 2010 on Qibla Direction. These fatwas are the primary sources in this research, while books, journals, and other research results are secondary sources in this research. These fatwas will be analyzed using content analysis techniques by examining the legal arguments, scholarly opinions, and expert opinions in the fatwas. This research aims to reveal the involvement of modern science in the considerations of fatwas of MUI and its influence on changes in fatwas of MUI. This research will also portray the pattern of changes in fatwas of MUI caused by the findings and studies of modern science.

RESULTS AND DISCUSSION

Theory of Change in Islamic Law

The term Islamic law which is popularly used in the Indonesian language is almost unknown in the *al-Qur'an* and *Hadis*, as well as in classical Islamic literature. The term Islamic law is derived from the word Islamic law, a term used by Western researchers of Islam (orientalists) that refers to the teachings of Islam and its legal provisions.⁹

Legal scholars have different views on understanding Islamic law. This view of Islamic law falls into two groups. The first group understands Islamic law more closely to the notion of sharia which is oriented towards the meaning of God's law that regulates the lives of Muslims from various aspects of life. This opinion is as conveyed by Joseph Schacht in his work *An Introduction to Islamic Law*, which understands Islamic law as a collection of God's commands containing religious obligations that regulate all aspects of

⁹ Rohidin, *Pengantar Hukum Islam; dari Semenanjung Arabia sampai Indonesia* (Yogyakarta: Lintang Rasi Aksara Books, 2016), h. 1. Baca juga Mardani, *Hukum Islam; Pengantar Ilmu Hukum Islam di Indonesia*, III (Yogyakarta: Pustaka Pelajar, 2018): 14. Noor Efendy, Ahmadi Hasan, dan Masyithah Umar, "Membangun Hukum Yang Adil Dalam Bingkai Moralitas Pancasila," *Indonesian Journal of Islamic Jurisprudence, Economic and Legal Theory* 1, no. 4 (15 Desember 2023): 656–78; Salafuddin Noor, Ahmadi Hasan, dan Nuril Khasyi'in, "Review of Political Theory of Islamic Law Abul 'Ala Al Maududy Positive Perspective of the Political System of Indonesian Islamic Law," *Syariah: Jurnal Hukum Dan Pemikiran* 23, no. 1 (27 Juni 2023): 36–49, <https://doi.org/10.18592/sjhp.v23i1.9626>.

Muslim life.¹⁰ Likewise, the opinion expressed by Asaf A.A Fyzee that Islamic law (canon of Islam) is the whole of God's commandments covering all human actions.¹¹

The second group understands Islamic law as *fiqh*. This opinion was conveyed by Amir Syafruddin and Hasbi Ash-Shiddieqy, Indonesian Islamic jurists. According to Amir Syafruddin, what is meant by Islamic law used in Indonesian is *fiqh* as known in Islamic literature. Islamic law is a set of rules that are explored based on the revelation of Allah and the *Hadis*' of the Prophet which regulates the behavior of humans who are *mukallaf*.¹² Similarly, the opinion conveyed by Hasbi Ash-Shiddieqy that Islamic law is a collection of power and efforts of scholars in applying Islamic law based on the needs of society. This definition is closer to the notion of *fiqh*, rather than sharia. Ash-Shiddieqy argues that *fiqh* is more relative, has the opportunity to be updated and flexible. This trait is also inherent in Islamic law.¹³

Thus, the use of the term Islamic law so far refers to two meanings, namely: First, Islamic law as Islamic sharia which contains a set of rules from Allah and the Prophet Muhammad sourced from the *al-Qur'an* and *Hadis* whose truth is transcendent, absolute, permanent, universally applicable and unchanging. Islamic law in this sharia frame is a legal provision that is explained and determined by the *na* in detail in the texts of the *al-Qur'an* and *Hadis* concerning creed, worship, and other laws. Second, Islamic law as *fiqh* law which is a set of sharia laws produced based on the *ijtihād* of the *fuqahā'* which is immanent, relative, flexible, and changes due to changes in place and time.¹⁴ Islamic law that falls into this category is a legal product produced through the *ijtihad* of scholars, both on issues that already have legal provisions, legal issues that are not explained in detail by *na qat'i*, or new issues that have never been mentioned or explained in the *na*.

In its history, Islamic law in the sense of *fiqh* has experienced a dynamic and flexible nature to adapt to the conditions of the times and places. The birth of the schools of *fiqh* is an indication of the dynamism of thought in Islamic law. The occurrence of change and flexibility of Islamic law is formulated by scholars into *fiqh* rules including *lā yunkaru tagayyur al-abkām bi tagayyur al-aẓmān* (it cannot be denied that the law changes due to changes in the times). Ibn Qayyīm al-Jawziyah made a very popular *fiqh* rule which reads *tagayyur al-fatwā bi tagayyur al-aẓminah, wa al-amkinah wa al-abwāl wa an-niat wa al-'awāid*¹⁵ (changes in fatwa due to changes in time, place, circumstances and habits).

This flexibility of Islamic law is a characteristic and an inseparable part of Islamic law itself. Islamic law has a dogma that is not rigid, hard, and coercive, instead, Islamic law has a flexible and adaptive character to change. Normatively, the flexibility of Islamic law is based on four components that are interrelated with each other, namely changes in the *'illat* of law, social changes, the existence of emergency conditions, and the element of benefit.

¹⁰ Joseph Schacht, *An Introduction to Islamic Law* (Clarendon Press, 1964): 1.

¹¹ Asaf Ali Asghar Fyzee, *Outlines of Muhammadan Law* (Oxford University Press, 1974): 15.

¹² Prof Dr H. Amir Syarifudin, *Ushul Fiqih Jilid I, V* (Jakarta: Prenada Media, 2011): 6.

¹³ Muhammad Hasbi Ash Shiddieqy, *Filsafat Hukum Islam* (Semarang: PT. Pustaka Rizki Putra, 2001): 91-95.

¹⁴ Muhammad Na'ih 'Ulwan, *Islam Syari'at yang Abadi*, trans. oleh Daud Rasyid, I (Bandung: Usamah Press, 1992), 49–50.

¹⁵ al-Jauziyyah, *I'lam al-Muwaqqi'in an' Rabbil 'Alamin*: 14.

First, there is a change in the *'illat* (reason) of the law. The position of *'illat* has an important role in determining Islamic law. *'Illat* becomes the basis as well as an important part that cannot be separated from the law itself. In the study of *Uḥūl al-Fiqh*, *'illat* has several meanings. Asy-Syāhibī understands *'illat* as a cause or wisdom that contains benefit and is used as a basis for a command or prohibition in religion. asy-Syāfi'ī understands *'illat* as a clue or sign. Ibn Qayyīm al-Jawziyah defines *'illat* as the nature or condition attached to the law.¹⁶ From some of the definitions of the scholars above, it can be concluded that *'illat* is the basis or cause behind the existence of a law. The importance of the position of *'illat* in a law, formulated by scholars a rule that reads *al-bukmu yadūru ma'a al-illatibi wujūdan wa 'adāman* (the law depends on the presence or absence of *'illat*). According to Abdul Karīm Zaidān, from this rule, it can be understood that the law exists and its absence depends on the presence or absence of *'illat*.¹⁷ Knowledge of the *'illat* of the law is useful for understanding the basis and purpose of determining the law by Allah, so that it can be projected to understand and determine a law on other similar issues. In addition, understanding the *'illat* also aims to know the validity and changes in the law because of the underlying *'illat*.¹⁸ Thus, the existence of *'illat* is very important in translating Islamic teachings into new situations that are more contextual and relevant. *'Illat* becomes a consideration in formulating and updating Islamic law.

Second, there are social changes in society. According to the sociology school, law is part of social transformation that affects each other.¹⁹ Under certain conditions, the law can bring about social change, and vice versa, social change affects legal change.²⁰ Based on historical studies, it shows that Islamic law brings changes to social society as happened to the Arabs. Islamic laws brought great changes to the Arabs in various aspects of their lives. The Arabs were previously never known in world civilization, the lives of the people were immoral and deviant beliefs. Islam is present to regulate the moral life and creed of the community and turn it into a moral nation and has a high civilization to date. In this case, Islamic law is present as a social control tool (social control) as well as a social engineering tool to bring changes in the social life of the community. On the other hand, social change also affects changes in Islamic law. The existence of the theory of *nāsikh wa al-mansūkh* in the verses of the *al-Qur'ān* and the Prophet's *Hadīṣ* shows the existence of legal changes caused by social changes in society.²¹ Changes in Islamic law due to social change are also evident in the treasures of jurisprudence (*fiqh*) with the emergence of two opinions of asy-Syāfi'ī in the same legal issue, namely what is known as *qaul qadīm* (old legal opinion) and *qaul jadīd* (new legal opinion). *Qaul qadīm* (old legal opinion) is the legal opinion of asy-Syāfi'ī when he was in Iraq, while *qaul jadīd* (new legal opinion) is a new opinion delivered by asy-Syāfi'ī when he moved to Egypt.²² The change of opinion from

¹⁶ Sodiqin, "Fiqh Sains," 14.

¹⁷ Abdul Karim Zaidan, *al-Wajiz fi Ushul al-Fiqh* (Baghdad: ad-Dar al-Arabiyyah li at-Tiba'ah, 1997): 200-201.

¹⁸ Sodiqin, "Fiqh Sains," 5.

¹⁹ Danu Aris Setiyanto, "Fatwa Sebagai Media Social Engineering (Analisis Fatwa MUI di bidang Hukum Keluarga Pasca Reformasi)," *Al-Abkam; Jurnal Ilmu Syari'ah dan Hukum* 3, no. 1 (2018): 88.

²⁰ Fathurrahman Azhari, "Dinamika Perubahan Sosial Dan Hukum Islam," *Al-Tahrir: Jurnal Pemikiran Islam* 16, no. 1 (24 Juni 2016): h. 210-211, <https://doi.org/10.21154/al-tahrir.v16i1.322>.

²¹ Suansar Khatib, "Eksistensi Nasakh dalam Implementasi Elastisitas Hukum Islam," *Jurnal Madania* XVIII, no. 1 (Juni 2014): 82-83.

²² Azhari, "Dinamika Perubahan Sosial Dan Hukum Islam," 215.

qaul qadim to *qaul jadid* occurred due to differences in the social conditions of the people of Iraq and the people of Egypt. The existence of changes in the application of Islamic law illustrates that Islamic law is flexible and adaptive to social changes, time, and conditions of society to adjust the interests and benefits of humans.

Third, there is an emergency condition. Emergency conditions or in Arabic called *dharar* is a condition or situation that is urgent. In *fiqh* terminology, *dharar* is a difficulty that is very decisive for human existence and survival which, if not resolved, threatens religion, soul, mind, lineage, property, and human honor. In Islam, this emergency opens up opportunities for the permissibility of doing actions that were previously prohibited but must not exceed the limits of the emergency. This is as the *fiqh* rule that reads *adh-dharūratu tubīhu al-mahzūrāt* (emergency conditions allow doing prohibited acts). By the scholars, this emergency is limited to several conditions including: 1). Emergency food and medicine (*adh-dharūrah al-gidā wa ad-dawā*); 2). Under pressure or threat (*al-ikrah*); 3). Forgetfulness or ignorance of the law (*an-Nisyān wa al-Jahl*); 4). In travel or illness (*as-safar wa al-marad*); 5). Difficulty (*al-'usr*).²³ This emergency condition can bring relief in carrying out a law/obligation (*rukhsah*). *Rukhsah* is an exemption or provision of relief for a *mukallaf* from carrying out legal demands in an emergency either in the form of doing what is prohibited or leaving what is ordered.²⁴ Thus, emergency conditions are the reason for changes in Islamic law to provide solutions to solve the problems of Islamic law.

Fourth, there is an element of benefit. This element of benefit is the core and purpose of Islamic law. The establishment and change of Islamic law also boils down to this aspect of benefit. Najmuddin at-Thūfi states that the essence of the whole teaching of Islam is for the benefit of mankind and all creatures on Earth.²⁵ According to Wahbah al-Zuhaili, the standard of benefit is everything that can guarantee the maintenance of the universal basics of human needs, namely the maintenance of religion, soul, mind, offspring, and property. Maintaining and realizing the benefit is the goal aspired by *sharā'* as confirmed by the *al-Qur'an*, *Hadīs*, and *ijmā' ulamā*.²⁶ This aspect of benefit is contextual and actual so the standard of this benefit may be different or change from one place to another. Changes in the standard of this benefit will lead to changes in the law. This aspect of benefit is what makes Islamic laws universal, grounded, and accepted by various communities in various parts of the place and time.

The Role of Science in Understanding Islamic Law

The term science that is popular in Indonesian is an English translation of the word science which is absorbed from the Latin *scientia* which means knowing, knowing, or understanding.²⁷ According to The Liang Gie, before the XVII century, the term science (science) was used to refer to any knowledge learned about farming, horse riding, sewing, and so on. After the XVII century, science is understood as a science that studies the

²³ Husnul Khatimah dan Syarifuddin Syarifuddin, "Darurat & Realisasinya," *Lisan al-Hal: Jurnal Pengembangan Pemikiran Dan Kebudayaan* 8, no. 2 (9 Desember 2014): 230-236. Also read Wahbah az-Zuhaili, *Naẓariyat al-Darūrah al-Shar'īyah* (Beirut: Mu'assasah al-Risalah, 1982).

²⁴ Sulastri Caniogo, "Azimah dan Rukhsah; Suatu Kajian dalam Islam," *Jurnal Juris* 13, no. 2 (2014): 116-117.

²⁵ Jaser Audah, *al-Maqasid untuk Pemula* (Yogyakarta: SUKA-Press, 2013), 7.

²⁶ Wahbah az-Zuhaili, *Fiqhu al-Islami wa Adillatuhu*, trans. oleh Abdul Hayyie al-Kattani, vol. 1 (Jakarta: Gema Insani, 2011): 99.

²⁷ Biyanto, *Filsafat Ilmu dan Ilmu Keislaman* (Yogyakarta: Pustaka Pelajar, 2015): 154.

phenomena of the universe and its contents systematically obtained through observation and testing in the field.²⁸ Science in this sense can be found in the definition of science according to experts including A.F. Chalmers defines science simply as knowledge based on facts established by observation and experiment (scientific knowledge is based on the facts established by observation and experiment).²⁹ Likewise, Bertrand Russel defines science as an attempt to discover knowledge through observation and reasoning based on certain facts about the world.³⁰ The emergence of an understanding of science in the modern sense was inspired by Francis Bacon (1561-1626), a philosopher and scientist who initiated the idea of empiricism which is the foundation of modern science today.³¹

Modern science as it is known today is one type of knowledge that has a very close relationship with philosophy. Before the presence of science, philosophy was already used as a method of thinking to understand and explain the reality of the universe and the phenomena that accompany it. This philosophy then became the foundation for the birth of various fields of science known today. The important role of philosophy in the birth of science is why philosophy is nicknamed the mother of modern science. The close relationship between the two, experts around the 16th century, often used the term science to refer to natural philosophy (natural philosophy) or vice versa. Isaac Newton wrote a work entitled *Philosophiae Naturalis Principia Mathematica* which translates to "Mathematical Principles of Natural Philosophy". Entering the XVII century, the study of natural philosophy separated itself from the study of the discipline of Philosophy. Natural Philosophy is then popularly known as Natural Science.³² This is the reason modern science is identified with the natural sciences. These natural sciences are divided into two, namely: First, the pure sciences (basic sciences) including Astronomy, Biology, Chemistry, Physics, and so on. Second, the applied sciences, including medicine, pharmacy, agriculture, and so on.³³

Science as a method to understand and explain phenomena in the universe, in its later development, was also applied to understand and help religious issues. David King, an expert on Islamic astronomy, notes that scientific methods began to be used by Muslims in the ninth century for the determination of worship such as determining the Qibla direction, prayer times, and the moon at the beginning of the month. Muslims at that time were very familiar with various scientific disciplines such as astronomy, geography, mathematics, geometry, physics, and others that were used to assist in the implementation of their worship.³⁴ Because of the close relationship between scientific studies and Muslim worship, Ebrahim Moosa calls it an epistemic coherence between Islamic law and science.³⁵ According to Mahdi Ghulshani, the involvement of Muslims in the field of science is due to the encouragement of the *al-Qur'an* and *Hadis'* as the source of Islamic teachings

²⁸ The Liang Gie, *Sejarah Ilmu Ilmu; Dari Masa Kuno Sampai Zaman Modern* (Yogyakarta: PUBIB Yogyakarta dan Sabda Persada Yogyakarta, 2003): 20.

²⁹ Alan Chalmers, *What Is This Thing Called Science?*, III (Australia: University of Queensland Press, 1999): 2.

³⁰ Bertrand Russel, *Religion and Science* (New York: Oxford University Press, 1974), h. 8.

³¹ Yeremias Jena, *Filsafat Ilmu; Kajian Filosofis atas Sejarah Dan Metodologi Ilmu Pengetahuan* (Yogyakarta: Deepublish, 2015): 59-60.

³² Jena, 58.

³³ Sodikin, "Fiqh Sains," 6.

³⁴ David A. King, *Astronomy in the Service of Islam* (Great Britain: Variorum, 1993), h. 245.

³⁵ Ebrahim Moosa, *Interface of Science and Jurisprudence: Dissonant Gazes at the Body in Modern Muslim Ethics dalam God, Life, and the Cosmos; Christian and Islamic Perspectives*, Ed. Ted Peters (Surrey: Ashgate Publisher, 2003): 329.

that emphasize science and motivation to study natural phenomena and all its regularities.

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Science studies have an important role in Islam, in addition to being a tool to understand the teachings in the contemporary era with the emergence of various new issues related to Islamic law due to new findings in the field of science itself, science also plays a role in encouraging changes in Islamic legal thought. New findings in the field of science and technology today make the concept of classical *fiqh* irrelevant and inadequate. Ma'ruf Amin stated that the advancement of science and technology is an important factor that urges the need for a review of Islamic law in the current era in addition to changes in societal conditions and the emergence of various complex contemporary problems. According to Amin, the study of science in understanding Islamic law including fatwa has three important roles, namely: First, determining the *rājih* (strongest) legal opinion among the opinions of the classical *fuqahā'* where at that time scientific findings had not developed as rapidly as today. Second, the current studies and findings of science and technology can be applied to review the legal views of previous scholars to be adapted to the current situation and conditions of the world whose dynamics are much more complex. Third, it explains new issues of Islamic law due to the development of scientific and technological findings that have never been mentioned in classical *fiqh* books.³⁷

Some facts show that science plays a role in encouraging changes to Islamic thought that are relevant and contextual. Quraish Shihab gave an example of how Embryology helps interpret the word *al-'alaq* in the *al-Qur'ān* found in surah *al-Mu'minūn* verse 14 which relates to the stages of human creation. The previous scholars interpreted the word *al-'alaq* as a clot of blood or frozen blood (*al-dām al-jamid*). This kind of interpretation is almost found in every classic tafsir book. Based on the results of Embryology studies show that the process of human events in the womb consists of 3 phases, namely the ovum phase (the process of fertilization and implantation of the zygote), the embryo phase (the formation of organs), and the fetus phase (development and perfection of organs). In these phases, no component contains blood as understood by the scholars based on their understanding of the word *al-'alaq*. What exists is the stage of attachment or attachment of the zygote to the wall of the uterus in the embryonic phase which is referred to as implantation. In Arabic, *al-'alaq* can also be interpreted as something that hangs, sticks, or sticks. Thus, the word *al-'alaq* is more accurately interpreted as the attachment of the zygote to the wall of the uterus.³⁸ In this case, Embryology helps in understanding the verses of the *al-Qur'ān* as well as straightening out the interpretations of previous scholars.

During the Covid-19 pandemic, scientific studies helped in dealing with the problem of transmission of the Covid-19 virus and its solution as well as the basis for the flexibility of Islamic law. Based on the consideration of scientific studies, the scholars both

³⁶ Mehdi Golshani, *The Holy Quran and The Science of Nature* (Tehran-Iran: Islamic Propagation Organization, 1986): 5 & 56.

³⁷ Mar'uf Amin, *Solusi Hukum Islam (Makharj Fiqhiyyah) Sebagai Pendorong Arus Baru Ekonomi Syariah di Indonesia (Kontribusi Fatwa DSN-MUI dalam Peraturan Perundang-undangan RI)* (Malang: UIN Maulana Malik Ibrahim Malang, 2017): 12.

³⁸ Quraish Shihab, *Membumikan al-Qur'an; Fungsi dan Peran Wahyu dalam Kehidupan Masyarakat* (Bandung: Penerbit Mizan, 2013): 85-87.

individually and collectively issued fatwas that were flexible and adaptive to the COVID-19 pandemic. In Saudi Arabia and Iraq, scholars prohibit people infected with Covid-19 from attending places of worship. In Maroco and Kuwait, the clerics issued fatwas on the suspension of congregational prayers in places of worship and the closure of places of worship during the pandemic. In Indonesia, the Indonesian Ulema Council issued a fatwa for healthy people living in the red zone not to perform Friday prayers and simply replace them with Zhuhur prayers, and areas in the red zone of the spread of COVID-19 are prohibited from performing congregational prayers.³⁹

The importance of the role of science is so that according to M. Amin Abdullah today *fiqh* cannot leave or reject the involvement of science. If it cannot be integrated, at least *fiqh* and science must dialogue and communicate with each other, provide input, and criticize each other. Understanding Islamic law must involve scientific studies so as not to lose touch with the existing reality.⁴⁰

The Influence of Science on Fatwa Changes of the Indonesian Ulema Council (MUI)

The Indonesian Ulema Council (MUI) is a religious institution in Indonesia that was established on July 26, 1975. One of the important roles of MUI's presence in Indonesian society is as a fatwa giver (*mufti*) on religious issues to provide advice, guide, guide people by Islamic law based on requests or not, individually or collectively. The fatwas issued by MUI are collective (the collective fatwa), where the fatwa is issued not by one *mufti* but by a group of *mufti* who have agreed on a particular issue.⁴¹ MUI and its fatwas have an important role and position among Muslims in Indonesia to provide religious guidance and influence government policies and regulations.⁴²

The fatwa products issued by MUI can be viewed from two aspects, namely from the aspect of the theme of discussion and the aspect of the forum that determines the fatwa. In terms of the theme of discussion, fatwas of MUI are divided into three themes, namely religious issues (consisting of fatwas on worship, faith/religious beliefs & socio-culture), food, medicine, cosmetics (POM) and science & technology issues, and sharia economic issues. Meanwhile, in terms of the forum that determines the fatwa, the fatwa is determined based on several forums, namely the Fatwa Commission forum, the National Sharia Council (DSN) forum, the *Ijtima' Ulama'* of Fatwa Commission forum and the

³⁹ Ali Sodikin, "Science-based Ijtihad: Religious and scientific dialectic on fatwas regarding congregational worships amid the COVID-19 pandemic," *Ijtihad: Jurnal Wacana Hukum Islam dan Kemanusiaan* 21, no. 1 (2021): 85-86.

⁴⁰ M. Amin Abdullah, *Multidisiplin, Interdisiplin, & Transdisiplin; Metode Studi Agama & Studi Islam di Era Kontemporer* (Yogyakarta: IB Pustaka, 2021): 79-81.

⁴¹ Jakob Skovgaard-Petersen, "A Typology of Fatwas," *Die Welt Des Islams* 55, no. 3-4 (26 November 2015): 278-85

⁴² Based on Wahiduddin Adams' research, it is revealed that although MUI's fatwa is not legally binding, historically since its establishment until now many fatwa products and advice of the Indonesian Ulema Council (MUI) have been absorbed in several existing laws and regulations in Indonesia, especially laws relating to Islam. Read more Wahiduddin Adams, *Fatwa MUI Perspektif Hukum dan Perundang-Undangan dalam Asruram Ni'am Sholeh*, dkk, *Fatwa Majelis Ulama Indonesia Majelis Ulama Indonesia (MUI) dalam Perspektif Hukum dan Perundang-Undangan* (Jakarta: Puslitbang Lektur dan Khazanah Keagamaan Badan Litbang dan Diklat Kementerian Agama RI, 2012): 587-600.

National Conference (Munas) forum, the National Muzakarah, the Rakernas of MUI, and the Alim Ulama Workshop and the Ulama National Conference.⁴³

Fatwas of MUI are determined based on three approaches, namely: First, the *qath'i* approach that refers directly to the *al-Qur'an* and *Hadis*. Second, the *qawli* approach, which is the extraction of fatwas based on the opinions of previous scholars contained in trusted fiqh books (*mu'tabarab*). Third, the *manhaji* approach is done if a problem does not have evidence in the *al-Qur'an* and *Hadis* or has never been discussed in the fiqh books of the scholars, or there are contradictions in the views of the scholars then, in this case, MUI uses the *manhaji* approach, an approach that uses methods of extracting Islamic law that uses four methods, namely *al-jam'u wa al-taufiq* (looking for common ground from several contradictory scholarly opinions), *tajribi* (looking for the strongest opinion), *ilbaqi* (analogizing a case with its equivalent case found in the *fiqh* books) and *istinbathi* (conducting *ijtihad* with recognized *U'ul al-Fiqh* methods).⁴⁴

In addition to using the above approach, MUI also considers other arguments, namely the results of science and technology studies. In certain issues, Fatwa Commission of MUI meetings present experts or experts in various fields of science that are closely related to the issue to be fatwaed.⁴⁵ The scientific approach in fatwas of MUI can be found in some of its fatwas related to halal products or related to science and technology issues. However, this scientific perspective is not the only consideration in the formulation of fatwas of MUI. In addition to considerations from scientific studies, fatwas of MUI are also strengthened by the arguments of the *al-Qur'an*, *Hadis*, *U'ul al-Fiqh* studies, and the opinions of scholars in classical texts as well as the influence of other factors.

Based on the author's findings, scientific studies in some cases become the main consideration in determining fatwas, especially regarding new issues that are not found in classical *fiqh* books, such as the fatwa on consuming crabs in 2002. To understand the law of consuming crabs and the original habitat of the crabs, the commission meeting considered two papers, namely papers prepared by Prof. Dr. H. Hasanuddin AF who is a member of the Fatwa Commission of MUI, and Dr. Sulistiono who is a lecturer at the Faculty of Fisheries and Marine Sciences, Bogor Agricultural University (IPB). Prof. Dr. H. Hasanuddin AF delivered a paper entitled *Crab, Halal or Haram?* which focused more on the *fiqh* aspect. Meanwhile, Dr. Sulistiono delivered a paper entitled *Eco-Biology of Mangrove Crab*. In the paper, he described various types of crabs and their natural habitats. It was concluded that crabs are animals that live in water for three reasons: they live in water, breathe with gills, and never lay eggs on land. Based on these considerations, the Fatwa Commission determined that crabs are animals that live in water, not animals that live in two realms. In this fatwa, it is clear that the main consideration in determining the fatwa on the permissibility of consuming crabs is based on the results of scientific studies submitted by Dr. Sulistiono regarding the habitat of the origin of crab life. The issue of crabs as consumed animals is new and has never been mentioned before in the books of

⁴³ Asrorun Ni'am Sholeh, *Metodologi Penetapan Fatwa Majelis Ulama Indonesia; Penggunaan Prinsip Pencegahan dalam Fatwa* (Jakarta: Emir, 2016): 84 & 107.

⁴⁴ Mar'uf Amin, *Solusi Hukum Islam (Makharij Fiqhiyyah) Sebagai Pendorong Arus Baru Ekonomi Syariah di Indonesia (Kontribusi Fatwa DSN-MUI dalam Peraturan Perundang-undangan RI)*: 15–17.

⁴⁵ Tim Penyusun, *Pedoman Penyelenggaraan Organisasi Majelis Ulama Indonesia*, Revisi 2018 (Jakarta: Majelis Ulama Indonesia, 2018): 271 & 272.

fiqh. The Qur'anic proofs, *Hadis*, and scholarly opinions quoted in the fatwa are still very general regarding the commandment to eat halal food, which includes animals that live in water and the prohibition of consuming animals that live in two realms. Because of the absence of *fiqh* law on this matter, other considerations are needed, namely scientific studies on the issue.⁴⁶

Similarly, the fatwa on the law of consuming snails, the fatwa on luwak coffee, the fatwa on the purification of yeast extract from the rest of beer processing, the fatwa on eating and cultivating worms and crickets, the fatwa on the law of food and beverage coloring from cochineal insects, fatwa on genetic engineering and its products, and fatwa on swallow's nest. To determine the status of halal or forbidden, MUI invites experts or experts in their fields as the main consideration in determining the legal status.⁴⁷

The author also found that there is a change of fatwa made by MUI due to the consideration factor of scientific studies and the latest scientific findings. Those fatwas are: fatwa about vasectomy/tubectomy, fatwa about the determination of the beginning of Ramadan, Shawwal, and Dhul-Hijjah, fatwa about meningitis vaccine for Hajj and Umrah pilgrims, and fatwa about Qibla direction. The changes in MUI fatwas are mapped by the author in the following table:⁴⁸

No.	Fatwa Theme	Fatwa Change	Legal Provisions
1.	Fatwa on Vasectomy/Tubectomy	Fatwa on Vasectomy/Tubectomy in 1979	▪ It is absolutely haram
		Fatwa on Vasectomy/Tubectomy in 2009	▪ It is absolutely haram
		Fatwa on Vasectomy/Tubectomy in 2012	▪ It is haram with the exception
2.	Fatwa on the Determination of the Beginning of the Months of Ramadan, Shawwal and Dhul-Hijjah	Fatwa on the Determination of the Beginning of Ramadan, the Beginning of Shawwal/Idul Fitri, the Beginning of Dhul-Hijjah/Idul Adha in 1980	<ul style="list-style-type: none"> ▪ For the determination of the beginning of Ramadan and Shawwal, global rukyah applies. ▪ For the determination of the beginning of Dhul-Hijjah / Eid al-Adha, the <i>mathla'</i> of each country applies.
		Fatwa Number 02 of 2004 on the Determination of the Beginning of Ramadan, Shawwal and Dhul-Hijjah	▪ Determination of the beginning of Ramadan, Shawwal and Dhul-Hijjah based on <i>bisab</i> and <i>ru'yah al-bilal</i> methods by the Ministry of Religious Affairs of the Republic of Indonesia which applies nationally
3.		Fatwa Number 05 of 2009 on the Use of	▪ The Mencevax™ ACW135Y vaccine is haram

⁴⁶ Read more Fatwa MUI tentang Kepiting dalam Ma'rif Amin dkk., *Himpunan Fatwa Majelis Ulama Indonesia (Edisi Terlengkap)* (Jakarta: Penerbit Erlangga, 2019): 979-985.

⁴⁷ Interview with Miftahul Huda, Secretary of MUI Fatwa Commission on January 10, 2022 at the Ministry of Religious Affairs Office, Jakarta

⁴⁸ The fatwas of the Indonesian Ulema Council can be found in Amin dkk., *Himpunan Fatwa Majelis Ulama Indonesia (Edisi Terlengkap)*.

	Fatwa on Meningitis Vaccine for Hajj and Umrah Pilgrims	Meningitis Vaccine for Hajj and Umrah Pilgrims	because it uses media from enzymes and pork fat, but it may be used because there is an urgent need and there are no other vaccine products.
		Fatwa Number 06 of 2010 on the Use of Meningitis Vaccine for Hajj and Umrah Pilgrims	▪ Mencevax™ ACW135Y vaccine is absolutely haram and only halal meningitis vaccines can be used.
4.	Fatwa on Qibla Direction	Fatwa Number 03 of 2010 on Qibla	▪ The Qibla direction for Indonesia is the direction of the Kaaba (<i>jibad al-Ka'bah</i>).
		Fatwa Number 05 of 2010 on Qibla direction	▪ The Qibla direction for Indonesia is Northwest with positions varying according to the location of the region.

The influence of science on the changes in fatwas of MUI above shows three patterns of change, namely: 1). *Rukhsah*, which is a change in fatwa in the form of providing leeway/relief on the legal provisions of the previous fatwa; 2). *Nasakh*, namely the change of fatwa in the form of deleting/canceling the legal provisions in the previous fatwa; 3). *Takmil* is a change in a fatwa in the form of perfecting/completing the legal provisions in the previous fatwa.

First, *rukhsah* is a change in a fatwa in the form of providing leeway in the legal provisions of the previous fatwa. The role of science in changing fatwas of MUI in this category is found in the fatwa on vasectomy/tubectomy. Vasectomy or tubectomy is a method of contraception performed on men and women to prevent pregnancy with a very high success rate.⁴⁹ The Fatwa Commission of MUI in 1979 issued a fatwa on the prohibition of vasectomy and tubectomy because both are attempts at spaying and neutering, and this is forbidden in religion. The prohibition of vasectomy/tubectomy was reaffirmed by MUI through the Ijtima Ulama forum of the Fatwa Commission in 2009 in Padang Panjang, West Sumatra with the same argument that vasectomy results in sterility.⁵⁰ In 2012, the issue of vasectomy was raised again because of the latest findings in the field of medicine that vasectomy can be restored by recanalization (reconnection) through surgery by Urologi experts with the help of a microscope. This recanalization effort has successfully restored the function of the spermatozoa ducts and has proven to restore fertility as before. This finding was conveyed by the Ministry of Health and reinforced by some evidence in the field submitted by the Population and Family Planning Agency (BKKBN) as well as a statement from the Indonesian Urologists Association (IAUI). Based on this consideration, MUI through the forum of Ijtima Ulama Fatwa Commission IV in Cipasung Islamic Boarding School, Tasikmalaya, West Java in 2012 re-issued a fatwa on the law of vasectomy. If in the previous fatwas in 1979 and 2009, MUI determined the absolute prohibition on vasectomy, in this latest fatwa, MUI gave a little leeway by giving exceptions, namely the purpose of vasectomy does not violate the *shari'ah*, does not cause

⁴⁹ Nastangin Nastangin, "Vasektomi Dan Tubektomi Perspektif Maqasid al-Syari'ah," *Mahakim: Journal of Islamic Family Law* 3, no. 1 (1 Juli 2019): 58-61.

⁵⁰ Amin dkk., *Himpunan Fatwa Majelis Ulama Indonesia (Edisi Terlengkap)*, 1020-1027.

permanent sterility, can be done recanalization and does not cause harm to the person concerned. If these conditions are met then vasectomy does not become haram.⁵¹

Second, *nasakh* is a fatwa change in the form of deleting/canceling the legal provisions in the previous fatwa. The role of science in the change of fatwa of MUI in this category is as in the fatwa on Meningitis Vaccine for Hajj and Umrah Pilgrims. In mid-2009, MUI issued Fatwa Number 05 of 2009 on the Use of Meningitis Vaccine for Hajj and Umrah Pilgrims. This fatwa is specifically related to the law on the use of the Meningitis Vaccine brand Mencevax™ ACW135Y produced by Glaxo Smith Kline Beecham Pharmaceutical-Belgium. Based on the explanation of the manufacturer directly and also reinforced by Prof. Dr. Hj Anna P. Roswien, Head of the Halal Research Center of Yasri University that in the process of making the vaccine has been touched with enzymes from pork fat and pancreas. Until then, there was no other brand of vaccine that did not use media ingredients mixed or touched by enzymes from pork pancreas or fat. Meanwhile, Meningitis vaccination is required by the government of Saudi Arabia for Hajj and Umrah pilgrims. Based on this consideration, MUI determined that the law on the Meningitis vaccine brand Mencevax™ ACW135Y is haram, but its use is still allowed due to urgency and the absence of other halal vaccines. In the following year, Meningitis vaccine products were found that were declared halal because the manufacturing process did not come into contact with enzymes from pig fat or pancreas. These vaccines include Novartis Vaccine & diagnostics S.r.l and Zheijiang Tianyuan Bio-Pharmaceutical. Based on this finding, MUI issued Fatwa Number 06 of 2010 on the Use of Meningitis Vaccines for Hajj and Umrah Pilgrims which revoked the permissibility of using the Mencevax™ ACW135Y brand Meningitis vaccine and only requires the use of halal vaccines that are not contaminated with enzymes from pig fat or pancreas.

Third, *takmil* is a change in a fatwa in the form of perfecting or completing the legal provisions in the previous fatwa. Changes in fatwa in the form of perfecting or completing the legal provisions in the previous fatwa due to the influence of science can be found in the fatwa on the determination of the beginning of the month of Ramadan, Shawwal, and Dhul-Hijjah. On the issue of the determination of the beginning of Ramadan, Shawwal and Dhul-Hijjah, MUI has issued two fatwas, namely Fatwa on the Determination of the Beginning of Ramadan, the Beginning of Shawwal / Eid al-Fitr, the Beginning of Dhul-Hijjah / Eid al-Adha in 1980 and Fatwa Number 02 of 2004 on the Determination of the Beginning of Ramadan, Shawwal and Dhul-Hijjah. In the Fatwa on the Determination of the Beginning of Ramadan, the Beginning of Shawwal / Eid al-Fitr, and the Beginning of Dhul-Hijjah / Eid al-Adha in 1980, MUI only provides an opportunity to use the *ru'yah al-bilal* method as the basis for determining and determining the month. This can be seen in the fatwa provisions that allude to the issue of *mathla'* or the validity of *ru'yah al-bilal* testimony. In the legal provisions of the fatwa, it is stated that global rukyat is used to determine the beginning of Ramadan and Shawwal.⁵² While for the determination of the beginning of Dhul-Hijjah / Eid al-Adha, *mathla'* applies to each country. Whereas in Fatwa Number 02 of 2004 on the Determination of the Beginning of Ramadan, Shawwal, and Dhul-Hijjah, MUI opens the opportunity for the presence of the

⁵¹ Keputusan Ijtima Ulama Komisi Fatwa se-Indonesia Keempat Tahun 2012 dalam Amin dkk., 1571-1578.

⁵² Amin dkk., 181-182.

astronomical *bisāb* method whose position is parallel to the *ru'yah al-bilāl* method as the basis for determining the beginning of Ramadan, Shawwal and Dhul-Hijjah. This is as reflected in the dictum of the fatwa which reads that the determination of the beginning of Ramadan, Shawwal, and Dhul-Hijjah is based on the *bisāb* method and *ru'yah al-bilāl* by the Indonesian Ministry of Religion which applies nationally. The *bisāb* method is a scientific theory produced by analytical and empirical reasoning on the movement of celestial bodies carried out continuously from astronomical studies of the movement of celestial bodies. This *bisāb* method has an important role in assisting the implementation of *ru'yah al-bilāl*. *Hisāb* and *ru'yah al-bilāl* are recognized by MUI as complementary methods in determining and determining the beginning of the month of Muslim worship.⁵³ The change of fatwa in the form of perfecting or completing the legal provisions in the previous fatwa is also found in the MUI fatwa on Qibla's direction.⁵⁴ On February 1, 2010, MUI issued Fatwa Number 03 of 2010 on Qibla. This fatwa is present as a guide for determining the Qibla direction for people in Indonesia. In the fatwa, MUI emphasized that the Qibla direction for Indonesia is the direction of Ka'bah (*jibād al-Ka'bah*). Not long after its publication, this fatwa was criticized by some people. Although equipped with detailed arguments from the verses of the *al-Qur'ān*, *Hadīś*, and the opinions of scholars, this fatwa is considered not to provide space for science such as Falak Science and Astronomy as a consideration in the fatwa. The formulation of the fatwa seems hasty and does not involve relevant experts who are competent in this Qibla direction issue, namely falak experts and astronomers. With the emergence of many criticisms and differences of opinion of some parties in understanding the fatwa, MUI again conducted a review of its fatwa by inviting experts in the field of Falak Science by presenting KH. Ghozali Masruri, a Falak Expert from Nahdlatul Ulama presents his paper related to the determination of Qibla direction from the perspective of Falak Science. Through its Fatwa Commission, MUI re-issued Fatwa Number 05 of 2010 on Qibla Direction to improve the provisions of the previous fatwa on Qibla Direction. If in the dictum of the previous fatwa it reads that the Qibla direction of Muslims in Indonesia is the West, then in this latest fatwa it states that the Qibla direction of Indonesia faces the Northwest with varying positions according to the location of each region.⁵⁵ In this fatwa, MUI seems to try to have a dialog with related experts to understand the Qibla issue from the point of view of scientific studies. This fatwa shows that the consideration of science in the fatwa is even the main consideration in determining and revising the fatwa.

CONCLUSION

Based on the description above, it can be concluded that scientific findings play an important role as a factor in the flexibility of Islamic law. In the case of fatwas of MUI,

⁵³ Asrorun Ni'am Sholeh, ed., *Peran Fatwa MUI Dalam Berbangsa dan Bernegara; Pandangan Akademisi Terhadap Fatwa MUI* (Jakarta: Komisi Fatwa Majelis Ulama Indonesia, 2018): 146.

⁵⁴ Scholars agree that facing the Kaaba is obligatory during prayer, as it is one of the essential requirements for the validity of prayer. Therefore, Muslims are required to face the Qibla when performing prayers as an expression of unity and devotion to Allah. Hamdan Mahmud dkk., "Understanding Qibla Orientation through the 'Nagara' Artificial Compass: A Falak Legal Perspective," *Syariah: Jurnal Hukum Dan Pemikiran* 23, no. 1 (22 Juli 2023): 81.

⁵⁵ Asrorun Ni'am Sholeh (Ed), *Fatwa Majelis Ulama Indonesia dalam Pandangan Akademisi; Peran Fatwa MUI dalam Kehidupan Berbangsa dan Bernegara* (Jakarta: Majelis Ulama Indonesia, 2017): 753.

science findings play a role in encouraging changes in fatwas of MUI. The role of science in the change of fatwas of MUI shows three patterns of change, namely: First, *rukhsah*, which is the change of fatwa in the form of giving leeway to the legal provisions of the previous fatwa, such as the change of fatwa on vasectomy/tubectomy. Second, *nasakh* is the change of fatwa in the form of deleting/canceling the legal provisions in the previous fatwa, as the change of fatwa on Meningitis Vaccine for Hajj and Umrah Pilgrims. *Third, takmil* is the change of fatwa in the form of perfecting/completing the legal provisions in the previous fatwa, as the change of fatwa on the determination of the beginning of Ramadan, Shawwal and Dhul-Hijjah, and fatwa on Qibla direction. Methodologically, in addition to considering the latest scientific studies, fatwas of the MUI are also equipped with *sharā'* arguments including verses of the *al-Qur'an*, *Hadis*, views of scholars in *fiqh* books, and adequate *Ushūl al-Fiqh* studies.

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