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CATALYSING GLOBAL PEACE THROUGH THE
STRENGTHENING OF FORENSIC SCIENCE
APPLICATION IN *SHARĪ'AH* LAW

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Abstract

On 1 January 2016, the United Nations (UN) General Assembly promoted peace among the countries in the world through the 2030 Agenda for Sustainable Development Goals (SDGs). The Global Peace Index (GPI) 2018 however shows that such a goal is likely to be affected by the unresolved chaos the world has been experiencing for the past decade, which has brought about a gradual decline of peacefulness. This discussion involves the application of current legislation and how effective the legislation is in contributing to the peace agenda. In countries that practice Sharī'ah law, previous studies have shown that rejuvenation of the law could play an important role in this matter. Therefore, this study proposes the idea of catalysing global peace through the strengthening of forensic science application in Sharī'ah law. The qualitative study applies the inductive and deductive approach in obtaining general and specific conclusions from primary and secondary sources. The findings from this study show that forensic science application is relevant to Sharī'ah law based on precedent shariah cases. This specifically involves Islamic evidence law, civil law, criminal law and criminal procedure code which fulfils some of the suggestions in the UN's Sustainable Development Goals and the Positive Peace pillars issued by the Institute for Economics and Peace (IEP). It is hoped that the proposed suggestions will catalyse global peace, improve the GPI in the upcoming years and make the 2030 Agenda for Sustainable Development a reality.

Keywords: Positive Peace, Forensic science, *Fiqh* forensics, *Shari'ah* law, Sustainable Development Goals (SDGs)

Introduction

On 25 September 2015, 193 countries of the United Nations (UN) General Assembly adopted the 2030 Development Agenda entitled "Transforming our World: the 2030 Agenda for Sustainable Development".¹ The Sustainable Development Goals (SDGs) adopted by the UN at a summit meeting in New York lays out a sweeping vision for improving the lives of people around the world over the next 15 years.² It replaces and expands the UN's previous road map, the Millennium Development Goals adopted in 2000 which was aimed mainly at developing countries and received varying degrees of success.³ On 1 January 2016, the 17 SDGs of the 2030 Agenda for Sustainable Development adopted by world leaders in September 2015 officially came into force.⁴ The SDGs otherwise known as the Global Goals is a universal call for action to end poverty, protect the planet and ensure that everyone enjoys peace and prosperity.⁵

The Global Peace Index (GPI) 2018 was issued by the Institute for Economics and Peace (IEP)⁶ in June 2018. According to the GPI

¹ United Nations Sustainable Development, "Transforming Our World: The 2030 Agenda for Sustainable Development," Outcomes and Frameworks. September 1, 2015, <https://sustainabledevelopment.un.org/post2015/transformingourworld>. Accessed December 18, 2018.

² The New York Times, "Breakdown of U.N. Sustainable Development Goals," The New York Times, September 25, 2015. <https://www.nytimes.com/2015/09/26/world/breakdown-of-un-sustainable-development-goals.html>. Accessed December 12, 2018.

³ *Ibid.*

⁴ United Nations Sustainable Development, "The Sustainable Development Agenda," 17 Goals to Transform Our World. January 1, 2016, <https://www.un.org/sustainabledevelopment/development-agenda/>. Accessed December 13, 2018.

⁵ *Ibid.*

⁶ The institution is an independent, non-partisan, non-profit think-tank dedicated to shifting the world's focus to peace as a positive, achievable, and tangible measure of human well-being and progress.

2018 data, the average level of global peacefulness had declined for the fourth consecutive year falling by 0.27% in the year 2017.⁷ The levels of peacefulness from 163 independent countries and territories in the world had been assessed and evaluated, of which 92 of them had deteriorated while only 71 improved.⁸ The report further revealed that the Middle East and North Africa remained the world's least peaceful regions, while Europe as the world's most peaceful region since the inception of the index, had deteriorated in peacefulness for the third consecutive year due to increased political instability, the impact of terrorism and perceptions of criminality.⁹

These results show that more than 50% of the countries around the world were currently facing a reduction in peace and safety levels. Some of the salient factors that led to this reduction were armed conflicts, political instability, impact of terrorism and perceptions of criminality. If this level remains bearish, the 2030 SDG Agenda will adversely affected.¹⁰ Among the goals in the agenda the UN agenda is the promotion of peaceful and inclusive societies for sustainable development, providing access to justice for all and building effective, accountable and inclusive institutions at all levels.¹¹ There can be no sustainable development without peace and vice versa.¹² If the world is unable to maintain peace, the agenda will be stalled and fail in its implementation before reaching the target year of maturity in 2030.

⁷ Institute for Economics & Peace, "Measuring Peace in a Complex World." *Global Peace Index 2018*. June 2019. Sydney: Institute for Economics & Peace, 2018, 60. <http://visionofhumanity.org/app/uploads/2019/06/GPI-2019-web003.pdf>. Accessed July 13, 2019.

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ United Nations Sustainable Development, "The Sustainable Development Agenda," 17 Goals to Transform Our World. January 1, 2016, <https://www.un.org/sustainabledevelopment/development-agenda/>. Accessed December 13, 2018.

¹¹ United Nations Sustainable Development, "Transforming Our World: The 2030 Agenda for Sustainable Development," Outcomes and Frameworks. September 1, 2015, <https://sustainabledevelopment.un.org/post2015/transformingourworld>. Accessed December 18, 2018.; *Ibid.*

¹² *Ibid.*

UN's Sustainable Development Goals and IEP's Positive Peace

Among the UN's suggestions is to realise the goal of promoting peaceful and inclusive societies,¹³ *inter alia*, the governments, civil societies and communities working together to implement lasting solutions that reduce violence, deliver justice, combat corruption and ensure inclusive participation at all times. The freedom to express views privately or in public must be guaranteed; people should be able to contribute to decisions that affect their lives; laws and policies should be applied without any discrimination; disputes need to be resolved through functioning political and justice systems; national and local institutions must be accountable and need to be in place to deliver basic services to families and communities equitably and without the demand for bribes.¹⁴

The suggestions above are about the same as the eight Pillars of Positive Peace issued by the IEP.¹⁵ Positive Peace is defined as the attitudes, institutions and structures that create and sustain peaceful societies.¹⁶ The said pillars consist of a well-functioning government, high levels of human capital, free flow of information, low levels of corruption, good relations with neighbours, sound business environment, equitable distribution of resources and acceptance of the rights of others. All eight pillars are closely interconnected in varied and complex ways. These pillars interact together in a systemic way to build a society's attitudes, institutions and structures. High levels of positive peace occur where attitudes make violence less tolerated, institutions become more responsive to society's needs and structures underpin the non-violent resolution of

¹³ United Nations Sustainable Development, "Peace, Justice, and Strong Institutions: Why They Matter," Goal 16: Promote Just, Peaceful and Inclusive Societies. January 1, 2016.

https://www.un.org/sustainabledevelopment/wp-content/uploads/2017/01/16-00055p_Why_it_Matters_Goal16_Peace_new_text_Oct26.pdf. Accessed December 18, 2018.

¹⁴ *Ibid.*

¹⁵ Institute for Economics & Peace, "Measuring Peace in A Complex World." Global Peace Index 2018. June 2019. Sydney: Institute for Economics & Peace, 2018, 60. <http://visionofhumanity.org/app/uploads/2019/06/GPI-2019-web003.pdf>. Accessed July 13, 2019.

¹⁶ *Ibid.*

grievances.¹⁷

These recommendations indicate the existence of a strong relationship between peace and the UN’s idea of SDGs. There can be no sustainable development without peace and vice versa. The peacefulness of a country can be determined through the GPI and it can be maintained or improved by fulfilling the UN’s suggestions and those of the Pillars of Positive Peace.

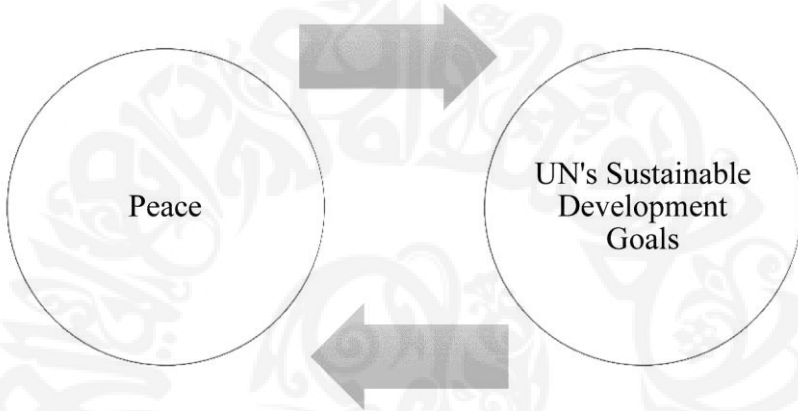


Figure 1: Connection and Relationship between Peace and the UN's Sustainable Development Goals

Fiqh Forensics: A New Terminology of Forensics Jurisprudence in Islam

Linguistically, ‘*fiqh*’ refers to a deep understanding on a certain matter;^{18,19} technically, it refers to the science of the derived legal rules acquired or extracted from their particular legal sources.²⁰ *Fiqh* forensics in this study relates to the jurisprudence of forensics which

¹⁷ *Ibid*, 64

¹⁸ The word ‘*فقه*’ (*fiqh*) in the Qur’ān can be found in *Sūrah al-Nisā*:78’, *Sūrah al-A’rāf*:179 and *Sūrah Hūd*:91. It is also referred to the highest level of understanding as in *Sūrah al-Tawbah*:122 and Hadith 71 of *Ṣaḥīḥ al-Bukhārī* (2001).

¹⁹ Ahmad Faris Ibnu Faris, *Mu’jam Maqāyis Al-Lughah* (Damascus: Dār Al-Fikr, 1979), 4/442.

²⁰ Muhammad Muhammad Al-Ghazālī, *Al-Mustasfā*, 1st ed. (Beirut: Dār Al-Kutub Al-‘Ilmiah, 1993), 5.

represents a deeper understanding of its theory and philosophy. This covers all basic knowledge about forensic science specifically the scientific and legal aspects of it from the civil and *Sharī'ah* law viewpoints. Thus, the term includes deep understanding, relevant application, advanced research and innovation in the specific areas of the forensic science discipline within the legislative. It also encompasses aspects of philosophy, civilisation, advanced technology in forensic science and related legal affairs. This advancement is due to the emergence of sources necessitating a detailed discussion of the evolution of *fiqh* to signify the importance of the growth of knowledge first through its jurisprudence i.e. the theory or philosophy of law. In comparing the literary meanings of 'jurisprudence' and '*fiqh*', both terminologies are correct in describing the knowledge and understanding of a certain matter. There is no difference whether it is termed as jurisprudence or *fiqh* because the properties of each need to be justified.

At the beginning of Islam, the meaning of *fiqh* was quite similar to the meaning of *sharī'ah* and *dīn*. This included the rules and provisions of '*aqīdah*, *akhlāq*, '*ibādāt* and *mu'āmalāt* until Abū Ḥanīfah classified and characterised '*ilm al-tawḥīd* as '*ilm al-kalām*'. *Fiqh* was later termed as '*al-'ilm bi al-aḥkām al-shar'iyyah al-'amaliyyah min adillatihā al-tafṣīliyyah*' i.e. the practical knowledge of revealed rulings derived from detailed evidences or scripts as explained by al-Zarkashī (d. 794 AH/ 1392 CE). *Fiqh* covers a vast scope relating to the practicality of human life such as in *mu'āmalāt* (transaction), *munākaḥāt* (marriage), *mawārīth* (inheritance), '*ibādāt* (worship) and even *aṭ'imah* (food). Traditional scholars divided *fiqh* into two parts namely, '*ibādāt* and *mu'āmalāt*. Recent scholars have expanded the division of *mu'āmalāt* into six sub categories which consist of *aḥkām al-usrah* (family law), *al-mu'āmalāt al-māliyyah*, *al-siyāsah al-shar'iyyah*, *al-'uqūbāt*, *al-murāfa'āt* and *al-sīr wa al-maghāzī*. These divisions were added according to the needs of *maṣlahah* in the present time and context. The book '*Aḥkām ahl-Dhimmah*' by Ibn al-Qayyim al-Jawziyy (d. 751 AH/ 1351) is one example of written *fiqh* literature that explains

the new philosophy of *fiqh* in the transactions between Muslims and *ahl al-dhimmah*.²¹

Besides connecting *fiqh* with the theory and philosophy of forensic science, it should also be based on etymology and epistemology. The origin of forensics is derived from the Latin word *forensis* meaning 'pertaining to the forum'.²² The Roman forum to which forensics relates was a multidimensional space of politics, law and economy but the word has since undergone a strong linguistic drift. The forum progressively became a reference exclusive to the court of law and forensics to the use of medicine and science within it.²³ Forensics in today's modern understanding means the science tests used by the police and courts in solving a crime.²⁴

A concise description of forensics is science in the service of the law or science applied to legal matters or problems.²⁵ These matters may be associated with criminal law, for instance in a case involving a perpetrator accused of murder; with civil law in a case determining liability in an industrial accident; or with governmental regulations, such as the random drug testing of government employees.²⁶ Thus any science used for the purpose of the law is considered forensic science. Historically forensic science is attributed to Hans Gross' *Handbook for Magistrates, Police Officials, Military Policemen (Handbuch für Untersuchungsrichter,*

²¹ Ahmad Syukran Baharuddin, "The Integration of Forensic Science Fundamentals and *Al-Qarīnah* Towards Achieving *Maqāsid Al-Sharī'ah*," (PhD dissertation, Universiti Teknologi Malaysia, 2017) 182-184.

²² Henry Campbell Black. *Black's Law Dictionary*, 9th ed. (United States: Thomson Reuters, 2009).

²³ Ahmad Syukran Baharuddin *et al.*, "*Fiqh* Forensics: Integration between Sciences and Islamic Law for Autopsies and Identification of Deceased," *Sains Humanika* 4, no. 2 (2015): 1-2.; Eyal Weizman, "Introduction: Forensics," in *Forensics: The Architecture of Public Truth*, edited by Forensic Architecture (Sternberg Press and Forensic Architecture, 2014).

²⁴ *Oxford Learner's Dictionary of Academic English*, 10th ed. (United Kingdom: Oxford University Press, 2018).

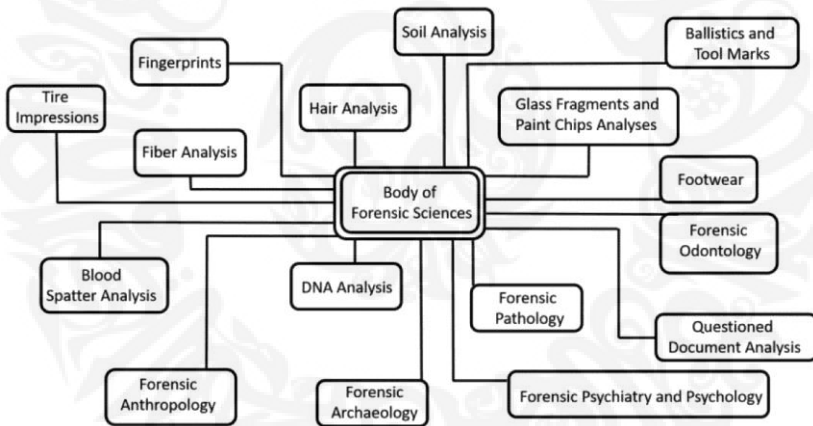
²⁵ Robert E. Gaensslen, Howard A. Harris, and Henry C. Lee, *Introduction to Forensic Science & Criminalistics* (New York: McGraw-Hill, 2008).

²⁶ D M Gialamas, "Criminalistic in the Forensic Science," in *Encyclopedia of Forensic Sciences*, edited by Jay Siegel, Geoffrey Knupfer, and Pekka Saukko (Academic Press, 2000), 471.

Polizeibeamte, Gendarmen) published in 1893 although forensic medicine and forensic toxicology were much older.²⁷ Discourse on forensic medicine was published in China on or around A.D. 1250 and forensic toxicology around the years 1787-1853 when Mathieu J.B. Orfila, a French medicolegalist and the father of forensic toxicology was one of the most renowned figures of that time.²⁸

Forensic science involves utilising knowledge and technology from different scientific disciplines in jurisprudence²⁹ which include biology, chemistry, medicine and pharmacy. Each discipline is relevant today in complex legal proceedings where the knowledge and skill of experts are required in these areas to prove offences.³⁰ There are about 16 categories of forensic sciences which can be summarised in the following chart:

Figure 2: Bodies of Forensic Sciences³¹



²⁷ Victor W. Weedn, "Recent Developments in the Forensic Sciences," in *United States Attorneys' Bulletin: Forensic Science and Forensic Evidence I*, edited by K Tate Chambers (Columbia: Executive Office for U.S. Attorneys, 2017), 3.

²⁸ Gaensslen, Harris and Lee, *Introduction to Forensic Science & Criminalistics*, 10.

²⁹ Siniša Franjić, "Legal Aspects of Forensics," *Forensic Science Today* 4, no. 1 (2018): 9; Ahmad Syukran Baharuddin *et al.*, "Forensik Biologi Dalam Penjagaan Nasab (Hifz Al-Nasab/Nasl)," *UMRAN-International Journal of Islamic and Civilizational Studies* 2, no. 2 (2015): 12.

³⁰ *Ibid.*

³¹ Terrence F. Kiely, *Forensic Evidence: Science and the Criminal Law* (Florida: CRC Press LLC, 2001).

These 16 categories are divided into several fields of studies such as forensic chemistry, forensic biology, forensic anthropology, forensic medicine, forensic materials science, forensic engineering and computational forensics.³²

Presently this area of forensic science is well known to the general public but people have also misunderstood it because Hollywood produces every pseudo-real-life crime drama within one hour with commercials included. When the actual real-life judicial system needs science to resolve a question in the courtroom, the person who is often called is a forensic scientist.³³

It may appear that law and science do not mix.³⁴ Reality however proves otherwise where forensic science is intimately involved in the judicial system, and in the interest of justice must be completely objective and reliable.³⁵ It is undeniable that forensic evidence sometimes does not always add value or is helpful to an investigation or a prosecution even with strongly exclusive or inclusive evidence. For example, the DNA profile from a cigarette butt found on a street where a robbery getaway car was parked without a suspect may or may not be related to the crime scene or the perpetrator.³⁶ This is because any kind of evidence including scientific evidence is subjected to the admissibility test before being tendered in court. If the evidence does not pass the test then its admissibility will be quashed and rejected.³⁷

³² Evgeny Katz and Jan Haláček, "Forensic Science – Chemistry, Physics, Biology, and Engineering – Introduction," in *Forensic Science: A Multidisciplinary Approach*, ed. Evgeny Katz and Jan Haláček (Germany: Wiley-VCH Verlag GmbH & Co, 2016), 1.

³³ Christopher J. Plourd, "Science, the Law, and Forensic Identification," in *Forensic Dentistry*, edited by David R. Senn and Paul G. Stimson (Boca Raton: Taylor and Francis Group, 2010), 1.

³⁴ *Ibid.*

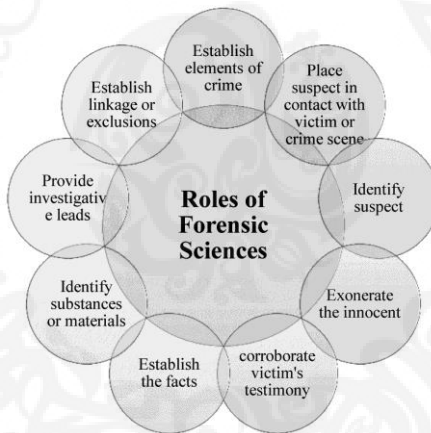
³⁵ Claire K. Muro et al., "Forensic Applications of Vibrational Spectroscopy," in *Forensic Science: A Multidisciplinary Approach*, edited by Evgeny Katz and Jan Haláček (Germany: Wiley-VCH Verlag GmbH & Co, 2016), 5.

³⁶ James M. Anderson et al., "Research Report: The Unrealized Promise of Forensic Science: An Empirical Study of Its Production and Use," (Santa Monica: RAND Corporation, 2018), 22.

³⁷ G Edmond and SA Cole, "Legal Aspects of Forensic Science," in *Encyclopedia of Forensic Sciences*, edited by Jay A. Siegel, Pekka J. Saukko, and Max M. Houck

Nonetheless, this does not deny the significant roles of forensic science and evidence in the judicial system as the collection of forensic evidence and the application of forensic science have become important to criminal investigations and prosecutions.³⁸ Furthermore, forensic evidence complements forensic science in criminal investigations by proving that a crime has been committed, or by establishing the key elements of a crime, connecting the suspect to the victim or to the crime scene, establishing the identity of persons associated with a crime, exonerating the innocent, corroborating a victim's testimony and establishing the facts of the crime.³⁹ In addition it also identifies substances or materials, providing investigative leads and establishing linkages or exclusions.⁴⁰

Figure 3: The Roles of Forensic Sciences



(United States: Elsevier Ltd., 2013), 466-67.

³⁸ Tom McEwen, "The Role and Impact of Forensic Evidence in the Criminal Justice System - Final Report," (Alexandria: Institute for Law and Justice, 2010), 3.

³⁹ Barry A. J. Fisher, *Techniques of Crime Scene Investigation*, 7th ed. (Boca Raton: CRC Press LLC, 2004), 27-31; Henry Campbell Black. *Black's Law Dictionary*, 9th ed. (United States: Thomson Reuters, 2009); Ahmad Syukran Baharuddin *et al.*, "Tinjauan Awal Terhadap Modul Teras Fiqh Forensik Bagi Kegunaan Pegawai-Pegawai Syariah Di Malaysia," *UMRAN - International Journal of Islamic and Civilizational Studies* 6, no. 2-2 (2019): 195-209.

⁴⁰ Gaensslen, Harris and Lee, *Introduction to Forensic Science & Criminalistics*, 1st edition (McGraw-Hill Education; 2007), 8-10.

An illustration will give a clearer understanding of the roles of forensic science in the judicial system.⁴¹ For example, suspect A has been accused of committing murder based on his hostility to victim B. In the investigation by forensic scientists, there were several strands of hair with a small amount of foreign blood found under the victim's nails. This indicates the possibility of an incursion and struggle at the time of crime. During the court proceeding, the forensic scientist will report the results of his investigation i.e. the type of hair and foreign blood group found on the victim subsequently proving that the physical evidence does not belong to suspect A but instead to his acquaintance Mr. C. This will assist the authorities in investigating further until the real criminals are caught. Clearly from this simple example, the role of forensic scientists in helping to solve criminal cases is crucial and cannot be ignored.

Research Methodology

This study uses the content analysis method to evaluate primary and secondary sources of data. By using documentary research methodology for data collection, it focuses on related data found in the GPI, SDG, forensic science and prominent classical Islamic literatures, particularly the discussion on *Sharī'ah*, Islamic jurisprudence and *al-ithbāt* (evidentiary) which are associated in the chapter on prosecution and evidence in *al-Da'āwā wa al-Bayyināt*. Hence, the data is analysed using the qualitative content analysis (QCA) method and a deductive approach on the literature that matched the study and module framework. Deductive reasoning is a testing process that seeks to establish a particular theory or generalisation could be applied to specific instances.⁴² An inductive approach on the other hand is used on the secondary source of data which generates general conclusions from specific data. Inductive reasoning is often described as drawing inferences from a specific observation or phenomena from general rules.⁴³ Subsequently, both

⁴¹ Umi Kalthom Ahmad and Abdul Rahim Yacob, *Pengenalan Sains Forensik*, 1st ed. (Johor: Penerbit Universiti Teknologi Malaysia, 2003), 1.

⁴² Kenneth F. Hyde, "Recognising Deductive Processes in Qualitative Research," *Qualitative Market Research: An International Journal* 3, no. 2 (2000): 83.

⁴³ William Thomas Worster, "The Inductive and Deductive Methods in Customary

are the two general approaches to reasoning which may result in the acquisition of new knowledge.

Strengthening Forensic Science Application in *Sharī'ah* Law

The word '*sharī'a*' according to linguists means 'a way to the watering-place'.⁴⁴ The Arabs then used this phrase to mean a straight path or a path to seek felicity and salvation.⁴⁵ Technically, it refers to all laws that are promulgated on people, nations and tribes, the law to guide faith, worship, morals, social interactions, life rules, the regulation of human relations with Allah (ﷻ) and between humans, and to seek the happiness of life in this world and in the hereafter.⁴⁶ Generally, shariah law consists of four quarters namely, rituals or acts of worship; social interactions; crime, punishment and judiciary; and sales and economics.⁴⁷

The arrangement of these quarters differs according to the respective Sunni schools of law.⁴⁸ In the Hanafi school, the arrangement is of rituals or acts of worship, social interactions and crime and punishment.⁴⁹ In the Maliki school, the arrangement is of rituals or acts of worship, marriage, sales and transactions, and judiciary and crime.⁵⁰ In the Shafi'i school, the arrangement is of

International Law Analysis: Traditional and Modern Approaches," *Georgetown Journal of International Law* 45 (2014): 448.

⁴⁴ Mannā' al-Qaṭṭān, *Tarikh al-Tashrī' Al-Islāmī: Al-Tashrī' Wa Al-Fiqh*, 2nd ed. (Riyadh: Maktabah Al-Ma'arif, 1996), 13.

⁴⁵ Mohammad Hashim Kamali, *Shari'ah Law: An Introduction* (England: Oneworld Publications, 2008), 2.

⁴⁶ Yusuf Al-Qaraḍāwī, *Madkhal Li Dirāsah Al-Sharī'ah Al-Islamiyah*, 1st ed. (Beirut: Muasasat Al-Risalah, 1993), 9.

⁴⁷ Ministry of Awqaf and Islamic Affairs, "Shurū'," in *al-Mawsū'āt al-Fiqhiyyah al-Kuwaitiyyah*, edited by Ministry of Awqaf and Islamic Affairs (Kuwait: Dār al-Ṣafwah, 1992), 92-97.

⁴⁸ Abdul Wahab Ibrahim Abu Sulaiman, *Tartīb al-Mawḍū'āt al-Fiqhiyyah wa Munāsabatuhu fi al-Mazāhib al-Arba'ah* (Mecca: Research Center for Islamic Studies Umm al-Qura University, 1988), 12.

⁴⁹ Muhammad Amin Umar Ibnu 'Abidin, *Radd al-Muḥtar alā al-Durr al-Mukhtar*, vol. 1 (Beirut: Dar al-Fikr, 1992), 79.

⁵⁰ Abu Sulaiman, *Tartīb al-Mawḍū'āt al-Fiqhiyyah wa Munāsabatuhu fi al-Mazāhib al-Arba'ah*, 45.

rituals or acts of worship, sales and transactions, marriage, and judiciary and crime.⁵¹ Lastly in the Hanbali school, the arrangement is of rituals or acts of worship, sales and transactions, marriage, crime and punishment, and judiciary and dispute settlements.⁵²

Under crime, punishment and judiciary, there is another branch called *al-ithbāt* (evidentiary) which is usually covered in the chapter on prosecution and evidence in *al-Da'āwā wa al-Bayyināt*. *Al-Bayyinah* is the equivalent term to *al-ithbāt* and the two are often used interchangeably.⁵³ Literally *al-bayyinah* means evidence and argument;⁵⁴ however there are three views on its technical meanings.⁵⁵ The first view is that of the Hanafī, Maliki, Shafī'i and Hanbali schools of law where it is referred to as witnesses and testimonies.⁵⁶ The second view is that of Ibnu Farḥūn, Ibnu Qayyim, Ibnu Taymiyyah and Ibnu Ḥajar Al-'Asqalānī who refer to it as everything that explains and clarifies the truth.⁵⁷

The third view comes from Ibnu Ḥazm al-Zāhiri that *al-bayyinah* includes the testimony, witness and the knowledge of the judge before or after his appointment.⁵⁸

⁵¹ Muhammad bin Ahmad Al-Ramli, *Nihāyat al-Muḥtāj ila Sharḥ al-Minhāj*, vol. 1 (Beirut: Dār al-Fikr, 1984), 59.

⁵² Abu Sulaiman, *Tartīb al-Mawḍū'āt al-Fiqhiyyah wa Munāsabatuhu fi al-Mazāhib al-Arba'ah*, 73.

⁵³ Muhammad Mustafa Al-Zuhayli, *Wasā'il al-Isbāt fi al-Syar'ah al-Islāmiyyah fi al-Mu'āmalāt al-Madaniyah wa al-Aḥwāl al-Syakhsiyyah* (Damascus: Maktabah Dār Al-Bayān, 1982), 26.

⁵⁴ Muhammad Rawwās Qal'ahjī and Hamid Sadiq Qunaybī, *Mu'jam Lughah al-Fuqahā'*, 2nd ed. (Beirut: Dar Al-Nafā'is, 1988), 115.

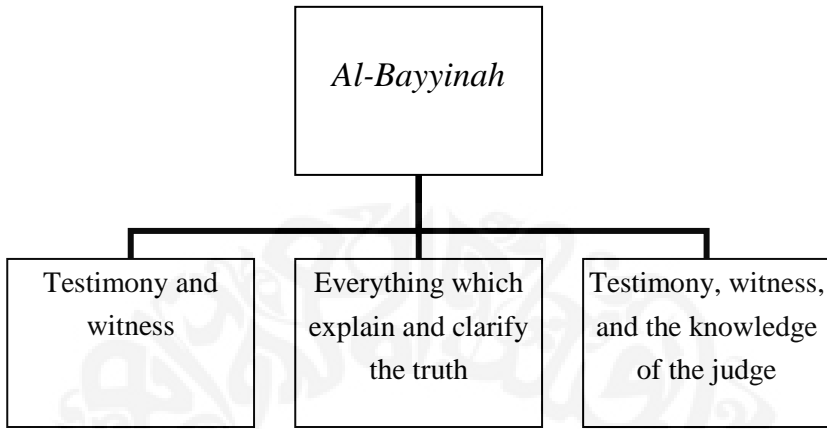
⁵⁵ Ahmad Syukran Baharuddin, Aminuddin Ruskam, and Abdul Rahim Jacob, "Prinsip Asas Sains Forensik Dari Perspektif Islam: Suatu Sorotan Literatur," *Sains Humanika* 4, no. 2 (2015): 8-9.; Al-Zuhayli, *Wasā'il al-Isbāt fi al-Syar'ah al-Islāmiyyah fi al-Mu'āmalāt al-Madaniyah wa al-Aḥwāl al-Syakhsiyyah*, 25.

⁵⁶ Muhammad Ali Al-Tihanawi, *Mawsū'ah Kashf Iṣtilāḥāt al-Funūn Wa Al-'Ulūm*, 1st ed., vol. 1 (Beirut: Maktabah Lubnan Nāsyirūn, 1996), 357.

⁵⁷ Nasir 'Aqil Jasir Al-Ṭarīqī, "Taḥqīq Risālah 'Umar bin Al-Khaṭṭāb," *Majallah al-Buhūth al-Islāmiyyah* 17 (1985-1986): 243.

⁵⁸ Ali Ahmad Ibnu Hazm, *Al-Muḥallā Bi Al-Āthār*, 1st ed., vol. 8 (Beirut: Dār al-Kutub al-'Ilmiyyah, 2003), 523-27.

Figure 4: Views on *al-Bayyinah*



With regards to this research, the second view of *al-bayyinah* is preferred as it provides a wider context of evidence and at the same time does not limit the methods of proving a case. In legal institutions, the primary role of forensic science is to assist with proof. It provides evidence that assists judges to determine guilt in a criminal beyond reasonable doubt, or liability in civil proceedings on the balance of probability. This mostly involves routine analytical and comparative processes to produce reports which help investigations and the confirmation of guilty pleas.⁵⁹

The application of forensic science in *Sharī'ah* law may be in the form of *al-Bayyinah*.⁶⁰ Consequently forensic science may also be considered as part of expert evidence⁶¹ where *Sharī'ah* law calls it *ahl al-khibrah*.⁶² The legality of *ahl al-khibrah* is provided for in *Sūrah al-Nahl* verse 43 and *Sūrah al-Anbiyā'* verse 7, with regard to

⁵⁹ Edmond and Cole, "Legal Aspects of Forensic Science," 466.

⁶⁰ Ahmad Syukran Baharuddin, Aminuddin Ruskam, and Abdul Rahim Yacob, "Prinsip Asas Sains Forensik Dari Perspektif Islam: Suatu Sorotan Literatur," *Sains Humanika* 4, no. 2 (2015): 9; Ahmad Syukran Baharuddin *et al.*, "Fiqh Forensics Module for Malaysia Shariah Officers: A Preliminary Analysis," *European Proceedings of Social & Behavioural Sciences EpSBS* 68 (2019): 448-57.

⁶¹ Franjić, "Legal Aspects of Forensics," 009.

⁶² Al-Zuhaylī, *Wasā'il Al-Isbāt fī Al-Syarī'ah Al-Islāmiyyah fī Al-Mu'āmalāt Al-Madaniyah Wa Al-Aḥwāl Al-Syakhsiyyah*, 594.

Allah's command to refer to expert knowledge if there is no expertise in the particular field among the community.⁶³ These verses call on the general public who have no knowledge, skills or expertise in a given field to refer to the available experts in that field. This emphasises the fact that knowledge and experience can be enhanced by training and is a precondition to becoming an expert.⁶⁴

Sometimes the application of forensic science may also be in the form of *al-qarīnah* which refers to circumstantial evidence. Literally it means connection, conjunction, relation, union, affiliations, association, linkage or indication. Forensic science investigates cases such as when the criminal is not found or when identity cannot be ascertained to explain the true facts of the case.⁶⁵ For example, if people see a person outside the house in a state of fear with a blood stained knife in his hand and upon entering the house they find slaughtered victims, automatically they will assume that the person they saw may be guilty of homicide even though they did not actually witness the murder; or if a person is found in possession of a stolen item in someone's house, it could either be presumed that the person had stolen it, or a thief had handed him the stolen item, or the host had bought the stolen item from the thief.⁶⁶ In legal terms, it is the logical inference drawn from something done or from circumstances by which the matter becomes definitive and certain.⁶⁷

⁶³ *Ibid.*, 595.

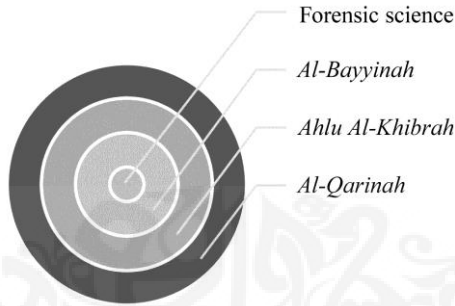
⁶⁴ Wahbah Mustafa Al-Zuhaili, *Al-Taḥsīn Al-Munīr Fī Al-'Aqā'idah Wa Al-Sharī'ah Wa Al-Manhaj*, 10th ed., vol. 17 (Damascus: Dār al-Fikr, 2009), 23.

⁶⁵ Ahmad Syukran Baharuddin, Aminuddin Ruskam, and Abdul Rahim Yacob, "Prinsip Asas Sains Forensik Dari Perspektif Islam: Suatu Sorotan Literatur," *Sains Humanika* 4, no. 2 (2015): 9.

⁶⁶ Abdul Karim Zaidan, *Niẓām Al-Qaḍā' fī Al-Sharī'ah Al-Islāmiyyah*, 3rd ed. (Damascus: Mu'assasāt Al-Risālat Nāsyirun, 2011), 185.

⁶⁷ Anwarullah, *Principles of Evidence in Islam*, 107.

Figure 5: The Application of Forensic Sciences in *Sharī‘ah* Law



Over 60 important references that debate the interactions between *al-qarīnah* and forensic science have been listed and discussed.⁶⁸ In summary, the four schools of law clearly show how forensic science is either accepted or rejected as one of the sources of evidence in *Sharī‘ah* law. The following table summarises the stand of various schools of thought:

Category		Reviews	
		Elements of Integration with Forensic Science	Acceptance and Rejection
Prominent Scholars' View	Hanafi	Classical literature has highlighted the elements of <i>al-Qarīnah</i> , some displayed examples and explanations. Specifically, the scientific and non-scientific elements have appeared disorganised and in unsystematic order.	Majority reject.
	Maliki		Majority accept.
	Shafi'i		Acceptance and rejection depends on each case.
	Hanbali		Classical scholars reject while contemporary scholars accept.

Table 1: General View on the Admissibility of Forensic Science as *al-qarīnah*.⁶⁹

⁶⁸ Ahmad Syukran Baharuddin, "The Integration of Forensic Science Fundamentals and *Al-Qarīnah* Towards Achieving *Maqāṣid Al-Sharī‘ah*." (PhD dissertation, Universiti Teknologi Malaysia, 2017), 37-44.

⁶⁹ Ahmad Syukran Baharuddin, Wan Abdul Fattah Wan Ismail, Fuadah Johari, and Muhammad Aunurrochim Mas'ad. "A Preliminary Framework of Forensic Science

Historically in Islam there were several events that show the application of forensic evidence in *Sharī'ah* law as a matter of *al-qarīnah* and *al-bayyinah*.⁷⁰ First and foremost is the story of Prophet Ya'qūb (p.b.u.h.) with his other children after they left Prophet Yūsuf (ﷺ) in a well. This story was in *Sūrah Yūsuf* verses 16 to 18 of how Prophet Ya'qūb (ﷺ) had behaved like a forensic investigator in his determination to find out what happened to Prophet Yūsuf's clothes which were brought home by his sons. He discovered that the shirt was in good condition and there were no tears which could have been made by wolves.⁷¹ The blood found on the garment was not human blood but possibly belonged to a goat or a deer that had been slaughtered.⁷²

Second is ḥadīth 6770 reported by al-Bukhārī from other narrators who said that Mujazziz al-Mudlij, a well-known *qā'if* among the Arabs, had declared that Usāmah (ﷺ) and Zaid (ﷺ) were father and son for having similar looking limbs. Based on ḥadīth 4747 also reported by al-Bukhārī from other narrators, Rasulullah (ﷺ) had also been a *qā'if* in the case of *li'an* done by Hilal bin 'Umayyah in denying the paternity relationship between him and the child who is conceived by his wife. After that, the Prophet had stated if the child born had black pupils, big thighs and solid calves, the attributes were more similar to those of Shuraik bin Saḥma'. The baby born turned out to have the features described by the Prophet which led to the conclusion that the baby belonged to Shuraik bin Saḥma'. *Qā'if* refers to an expert in analysing human traits and trails⁷³ while *qiyāfah* is a follow up action or research on trails and similarities or resemblances.⁷⁴ In today's era of technology, this *qā'if*

Fundamentals Based on its Elements in Shariah Manuscripts" *Journal of Fatwa Management and Research* (2018): 76-85.

⁷⁰ Ahmad Syukran Baharuddin. *Di Sebalik Fiqah Forensik*, 1st ed. (Kuala Lumpur: Telaga Biru Sdn Bhd, 2017), 6-9.

⁷¹ Ismail Umar Ibnu Kathir, *Tafsīr Al-Qur'ān Al-'Azīm*, 2nd ed., vol. 4 (Riyadh: Dār Ṭaybah, 1999), 375.

⁷² Muhammad Ahmad Al-Qurthubi, *Jāmi' Li Ahkām Al-Qur'ān*, 2nd ed., vol. 9 (Cairo: Dār al-Kutub al-'Ilmiyyah, 1964), 149.

⁷³ Muhammad Ahmad Al-Sharbini, *Mughī Al-Muḥtāj Ilā Ma'rifah Ma'anī Alfāz Al-Minhāj*, 1st ed., 6 vols., vol. 6 (Beirut: Dār al-Kutub al-'Ilmiyyah, 1994), 438.

⁷⁴ Muhammad Ahmad Al-Ramli, *Nihāyat Al-Muḥtāj Ilā Sharḥ Al-Minhāj*, vol. 8

expertise can be analogous to the expertise of genetic inheritance, footwear impression, footprint analysis and tire track examination.⁷⁵

Last but not least is the famous story of ‘Alī (ﷺ) exposing a slander by a woman who was brought to ‘Umar (ﷺ). Her love was rejected by a man and so she had falsely admitted to ‘Alī (ﷺ) that they had sexual intercourse. She had taken an egg, got rid of the yolk and put the egg white on her dress and between her legs. She then went to ‘Umar (ﷺ) shouting that the young man had assaulted and disgraced her by showing the false mark to ‘Umar (ﷺ). When ‘Umar (ﷺ) wanted to punish the man, ‘Alī (ﷺ) then interfered and performed an analysis on the said mark. He ordered boiling water and poured it onto the dress causing the egg white to solidify. ‘Alī (ﷺ) then smelled and tasted it proving that the stain was false as it was actually egg white (albumen).⁷⁶ The boiling water used in the test conducted by ‘Alī (ﷺ) is known as reactant or reagent in chemistry analysis.⁷⁷

As mentioned earlier the application of forensic science as evidence may be in the form of *ahl al-khibrah*. When a forensic scientist is called to testify in court, his testimony is considered as expert opinion (*ra’y al-khabīr*). *Ahl al-khibrah* can either be a Muslim or non-Muslim man or woman, or a sinner (*fāsiq*) with knowledge, skill and expertise in the field. There is no specific number (of persons) required as it can be more than one person unless it involves *hudūd* or specific cases that require a certain number of witnesses by law.⁷⁸

The application of forensic science in shariah law is divided into civil and criminal cases which can be viewed in the tables below:

(Beirut: Dār al-Fikr, 1984), 375.

⁷⁵ Ahmad Syukran Baharuddin, *Di Sebalik Fiqah Forensik*, 8.

⁷⁶ Muhammad Abu Bakar Ibnu Qayyim, *Al-Ṭuruq Al-Ḥukmiyyah Fi Al-Siyāsah Al-Shar’iyyah*, 1st ed., vol. 1 (Mecca: Dār ‘Alam al-Fawā’id, 2011), 120.

⁷⁷ Ahmad Syukran Baharuddin, *Di Sebalik Fiqah Forensik*, 9.

⁷⁸ Muhammad Mustafa Al-Zuhaili, *Al-Tanzīm Al-Qaḍā’ī Fī Al-Fiqh Al-Islāmī Dirāsah Muqāranah Bayna Al-Madhāhib Al-Fiqhiyyah Wa Al-Anzīmah Wa Al-Qawānīn Fī Sūriyah Wa Al-Sa’ūdiyyah Wa Al-Imārāt Al-‘arabiyyah*, 2nd ed. (Damascus: Dār al-Fikr, 2002), 449.

Category	Division of <i>Fiqh</i>	Subdivisions	Case/occasion from QCA Method	Forensics Application/ sub areas
Civil	<i>Aḥkām al-Uṣrah</i>	Determination of <i>nasab</i>	The case of Usāmah and Zayd	Forensic Biology – Trait Inheritance Paternity Observation
		Declination of <i>nasab</i>	The case of red camel and fair colour of child	
		<i>Li'ān</i> accusation	The case of Shuraik bin Saḥmā'	
		Determination of <i>al-lāqit</i>	Commentary in classical literature which suggests for <i>al-lāqit</i> from its <i>ziyy</i>	Forensic Pathology – Peculiar Characteristic Examination
		Saving human life	To save a baby's life in womb	
		Determination of religion of unknown deceased	The case of mingled deceased in war	
			The case of discovered unidentified deceased	
Determination of impotency in marriage	The case of a spouse with hypothesised comparison between semen and egg white	Forensic Biology – Serological Presumptive Test		

Table 2: The Application of Forensic Science in Accordance with the Division of *Fiqh* through QCA Method

Category	Division of fiqh	Subdivisions	Case/occasion from QCA Method	Forensics Application/ sub areas
Civil	<i>Mu'āmalāt al-Māliyyah</i>	The law of debt	The case of autopsy to get one's lavish property	Forensic Pathology / Document Examination
		The law of inheritance		
		The law of <i>waqf</i>	The case of <i>waqf</i> signature upon left building after a war	Forensic Handwriting / Document Analysis
		Determination of <i>al-Luqāṭah</i>	The case of discovered coins from pathway	Forensic Physical Analysis
The case of discovered pouches from pathway				

Table 3: The Application of Forensic Science in Accordance with the Division of *Fiqh* through QCA Method

Category	Division of <i>Fiqh</i>	Sub divisions	Crimes	Case/occasion from QCA Method	Forensics Application / Sub areas
Criminal	<i>'Uqūbāt al-Shar'īyyah</i>	<i>Hudūd</i>	Apostasy	Scholars' opinion regarding the one's apparel through hadith <i>man tashabbaha biqawmin...</i>	Forensic Pathology / Peculiar Characteristic Examination
			Adultery	The case of Prophet Yūsuf and a woman	CSI / Physical Analysis
			Drunkenness	The case of Mā'iz and Rasulullah	Presumption Test for Alcohol
			Theft	The case of property found in Bunyāmin's caravan	CSI / Physical Analysis
			Accuse of adultery	The case of desperate woman and a wise man	Forensic Biology / Serology
			Robbery	The case of people from bani 'Uraynah	Forensic Biology / Geo-forensic
			Aggression	-	-

Table 4: The Application of Forensic Science in Accordance with the Division of *Fiqh* through QCA Method

Category	Division of Fiqh	Sub divisions	Crimes	Case/occasion from QCA Method	Forensics Application / Sub areas
Criminal	<i>'Uqūbāt al-Shar'īyyah</i>	<i>Qiṣāṣ</i>	Murder	The case of killing attempt on Rasullah and companions through poisonous dishes	Forensic Toxicology / Food Forensic / Halal Forensics
		<i>Ta'zīr</i>	Practising black magic	The case of magic against Rasulullah / The case determination of black magic practitioner through apparel	Forensic Toxicology / Forensic Pathology / Forensic Serology

Table 5: The Application of Forensic Science in Accordance with the Division of *Fiqh* through QCA Method

Civil cases are categorised into two divisions namely *aḥkām al-usrah* and *mu'āmalāt al-māliyyah* while criminal cases are only in one category, *'Uqūbāt al-Shar'īyyah*. Each category has its own set of cases with a few applicable forensic sciences. This finding indicates that forensic science can be associated and assimilated within civil and criminal cases in shariah law based on precedent cases.

We can furthermore infer that the definition of *fiqh* forensics covers the philosophical aspect when forensic science is applied from the Islamic legal perspective. It is likely to develop other new modern diciplines of *fiqh* such as *fiqh al-istiḥālah*, *fiqh al-awlawiyyāt*, *fiqh al-muwāzanāt*, *fiqh al-musīq*, and *fiqh al-waṭaniyyah*. This balances the relationship between complying with practical knowledge derived from Quranic revelations and adopting forensic science applications

in *Sharī'ah* law. The application of forensic evidence in line with the divisions of *fiqh* shows that the role of forensic science in legal cases is not limited to criminal offences only but also covers non-criminal cases.⁷⁹ Applying forensic science in traditional Islamic law shows that it can be used on its own merit and distinction without being complicated by other means of evidence.

The degree of proof to secure a conviction other than in a *hudūd* case is *zan min qarīb al-yaqīn* which is similar to "beyond reasonable doubt".⁸⁰ *Hudūd* cases are exceptional as they require a higher degree of proof which is *yaqīn* or amounting to "beyond any shadow of doubt".⁸¹ Forensic science could be used in civil and criminal cases as the best evidence or corroborative evidence but it is still subject to the admissibility test carried out by the courts albeit the certainty of degree for scientific evidence is much higher than other kinds of evidence.⁸² The utilisation of forensic science as a means of proof should be considered an undeniable necessity in the current modern era with the development and advancement of science and technology.

***Fiqh* Forensics Application towards Catalysing Global Peace**

Catalysing global peace can be done through the idea of strengthening forensic science in *Sharī'ah* law. As discussed earlier, there is a strong connection and relationship between peace and the UN's SDGs. There can be no SDGs without peace and vice versa.⁸³

⁷⁹ Ahmad Syukran Baharuddin, "The Integration of Forensic Science Fundamentals and Al-Qarīnah Towards Achieving Maqāṣid Al-Sharī'ah." PhD dissertation, (Universiti Teknologi Malaysia, 2017), 192-193; Muhammad Hazim Ahmad *et al.*, "Analisis Awal Terhadap Isu-Isu Kebolehterimaan Asid Deoksiribonukleik DNA Sebagai Bahan Bukti Di Mahkamah Syariah," *UMRAN - International Journal Of Islamic And Civilizational Studies* 6, no. 2-2 (2019): 165-81.

⁸⁰ Shamrahayu A Aziz, *Criminal Procedure in the Syariah Courts* (Selangor: Thomson Reuters Malaysia Sdn. Bhd., 2011), 115.

⁸¹ This is because in *hudūd* cases, even the slightest doubt may be used to drop the case, as mentioned in the famous hadith that *hudūd* punishments should be averted by the slightest doubts or ambiguities

⁸² Edmond and Cole, "Legal Aspects of Forensic Science," 466.

⁸³ Development, "Transforming Our World: The 2030 Agenda for Sustainable Development".

Reflecting on the UN's proposal to implement one of the SDGs in promoting peace and the Positive Peace pillars, the idea of strengthening forensic science in shariah law may fulfil several of the suggestions which will result in a higher peace index at the global level.

The government, civil society and communities must work together to implement lasting solutions so that forensic science in *Sharī'ah* law can work to deliver justice, reduce violence, ensure inclusive participation at all times and combat corruption. This approach focuses more on the human capital in the *Sharī'ah* legal and Islamic institutions. Applying forensic science in *Sharī'ah* law of evidence will produce more accurate data, sources and proof or evidence which will help concerned parties. Furthermore advancements in science and technology as well as forensic science can detect the root problem, identify the closest perpetrators, and investigate the database to ensure transparency in the state administration and many other sectors. This will indirectly mitigate the levels of violence, deliver a better judgement and aggressively combat corruption. In fact laws and policies may be applied without any discrimination and disputes will be resolved through functioning political and justice systems.

Looking back at the eight pillars of positive peace, each pillar requires the contribution and enforcement of law to support and complement it. For instance, a well-functioning government delivers high quality public and civil service, engenders trust and participation, demonstrates political stability and upholds the rule of law.⁸⁴ With the rule of law upheld, the formal laws will guarantee basic human rights and freedom. The informal social and cultural norms relating to a citizen's behaviour serves as the benchmark of tolerance between different ethnic, linguistic, religious and socio-economic groups within the country. With the enforcement of formal laws, countries around the world will have good and positive

⁸⁴ Institute for Economics & Peace, "A Compilation of The Leading Research On Positive Peace And Resilience." *Positive Peace Report*. August 2016. Sydney: Institute for Economics & Peace, 2016.
<http://economicsandpeace.org/wp-content/uploads/2016/09/Positive-Peace-Report-2016.pdf>. Accessed July 14, 2019.

external relations with one another; consequently they will become more peaceful and politically stable, will have better functioning governments, are regionally integrated and will have reduced levels of organised internal conflict.⁸⁵

Effective law enforcement will see the rate of corruption dramatically decreasing with efficiently allocated resources and enhanced funding for essential services. Without corruption, the level of human capital will rise and lead to stronger economic conditions, increased support for private sector operations from formal institutions, and a better business environment. When the law is fairly implemented, it will result in an improved flow of information as provocative and *mala fide* content is restricted and stopped while citizens will be better informed by gaining access to beneficial and bona fide information. This leads to better decision-making and more rational responses in times of crisis. This is what was meant by the IEP on the concept of positive peace. In this one of the formal laws which can be included is the application of forensic science in *Sharī'ah* law.

According to the GPI 2018, the Middle East and North Africa (MENA) regions remain the world's least peaceful areas by with the lowest level of peacefulness.⁸⁶ Specifically mentioned are 13 countries from the MENA that have the lowest peace index which are Nigeria, Turkey, Pakistan, Sudan, Central African Republic, Democratic Republic of the Congo, Libya, Yemen, Somalia, Iraq, South Sudan, Afghanistan and Syria.⁸⁷ It is also reported that the MENA region continues to experience a series of conflicts and humanitarian crises and aftermath following the Arab Spring of 2011 and the civil wars in Libya, Yemen and Syria. Although the situation is particularly acute in Syria, Libya, Yemen and Iraq almost every country in the region has been affected in varying degrees. The continuous conflict and upheaval has had a significant effect on

⁸⁵ Institute for Economics & Peace, "Ten Years of Measuring Peace." Global Peace Index 2016. June 2016. Sydney: Institute for Economics & Peace, 2016.
<http://www.secourmag.com/assets/downloads/public/bonusweb/sm38-bonusweb-GPI-2016-Report.pdf>. Accessed July 13, 2019.

⁸⁶ Peace, "Global Peace Index 2018: Measuring Peace in a Complex World," 6.

⁸⁷ *Ibid.*, 9.

positive peace. For instance, Syria and Libya are facing prolonged civil wars with their annual average positive peace scores deteriorating since year 2013. The most notable deterioration in these two countries is in the area of *hostility to foreigners* as indicated in the *good relations with neighbours*. Hostility to foreigners escalated by 61.5% in Libya from 2013 to 2016 while in Syria this indicator reached the least peaceful score possible at five out of five over the same period.⁸⁸

Being able to fulfil several suggestions and pillars, the application of forensic science in *Shari'ah* law will prove that the idea can be an important catalyst for global peace. If the suggestions and pillars are successfully implemented and enforced, the level of Global Peace Index will theoretically be improved through time. Even so, it is sincerely hoped this improvement will have positive developments in the countries around the world especially the Middle East and North Africa. This will in turn lead to the global attainment of positive peace which will help to realise the SDGs within the prescribed year of 2030.

Conclusion

There are many possibilities for forensic science to be applied in *Shari'ah* law. Furthermore such applications should be constantly strengthened and streamlined from in line with the advancement and development of science and technology in this modern era. The implementation should be optimised as a catalyst to improve the global peace index. This study suggests that more research needs to be conducted in order to fulfil the research gaps in this field.

Acknowledgment

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⁸⁸*Ibid.*, 67-68.

expresses its appreciation to the members of the Centre of Research for Fiqh Forensics and Judiciary (CFORSJ), Islamic Science Insititute (ISI), Universiti Sains Islam Malaysia (USIM) and the Malaysian Syariah Judiciary Department (JKSM) for their cooperation.



TRANSLITERATION TABLE

CONSONANTS

Ar=Arabic, Pr=Persian, OT=Ottoman Turkish, Ur=Urdu

Ar	Pr	OT	UR	Ar	Pr	OT	UR	Ar	Pr	OT	UR	
ء	ء	ء	ء	ز	z	z	z	گ	—	g	g	g
ب	b	b	b	ژ	—	—	ʀ	ل	l	l	l	l
پ	—	p	p	ژ	—	zh	j	م	m	m	m	m
ت	t	t	t	س	s	s	s	ن	n	n	n	n
ث	—	—	ṭ	ش	sh	sh	ʃ	ه	h	h	h ¹	h ¹
ث	th	th	th	ص	ṣ	ṣ	ʃ	و	w	v/u	v	v/u
ج	j	j	c	ض	ḍ	ḍ	ʒ	ی	y	y	y	y
چ	—	ch	çh	ط	ṭ	ṭ	ṭ	ة	-ah	—	—	-a ²
ح	ḥ	ḥ	ḥ	ظ	ẓ	ẓ	ẓ	ال	al ³	—	—	—
خ	kh	kh	kh	ع	‘	‘	‘	—	—	—	—	—
د	d	d	d	غ	gh	gh	ğh	—	—	—	—	—
ڈ	—	—	d	ف	f	f	f	—	—	—	—	—
ذ	dh	dh	dh	ق	q	q	q	—	—	—	—	—
ر	r	r	r	ك	k	k/g	k/ñ	—	—	—	—	—

¹ – when not final
² – at in construct state
³ – (article) al - or l-

VOWELS

	Arabic and Persian	Urdu	Ottoman Turkish
Long	ا	ā	ā
	آ	Ā	—
	و	ū	ū
	ي	ī	ī
Doubled	ي	īyy (final form ī)	īyy (final form ī)
	و	uww (final form ū)	uvv
	و	uvv (for Persian)	uvv
Diphthongs	و	au or aw	ev
	ی	ai or ay	ey
Short	ا	a	a or e
	ا	u	u or ū
	ا	i	o or ö
	ا	i	i

URDU ASPIRATED SOUNDS

For aspirated sounds not used in Arabic, Persian, and Turkish add h after the letter and underline both the letters e.g. چ jh گ gh

For Ottoman Turkish, modern Turkish orthography may be used.

AL-SHAJARAH

Special Issue

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